Investors' choices between cash and voting rights: Evidence from dual-class equity crowdfunding

Douglas Cumming[a], Michele Meoli[b], Silvio Vismara[b,c]

[a] *York University, Schulich School of Business, Canada*

[b] *University of Bergamo, Italy*

[c] *University of Ghent, Belgium*

Abstract

This paper examines for the first time dual-class equity crowdfunding as a digital ownership model. Unique to this context, companies can set an investment threshold under which no voting rights are granted, making the issuance of Class A vs. Class B shares, depending on individual investors. Using a sample of 491 offerings on the UK platform Crowdcube from 2011 to 2015, we find that a higher separation between ownership and control rights lowers the probability of success of the offering, the likelihood of attracting professional investors, as well as the long-run prospects. Different from small investors, professional investors care about the implementation of a threshold for the attribution of voting rights and often bid the Class A threshold exactly. Family businesses, although less attractive to small investors, are relatively safer investments, because of their lower chances of failure.

Keywords:

Equity crowdfunding, Crowdfunding, Corporate Governance, Entrepreneurial Finance, Voting Rights, Ownership and Control.

Douglas J. Cumming, College of Business, Florida Atlantic University; 777 Glades Road, Boca Raton, FL 33431, US. Ph. +1 (561) 297-3225. Email: cummingd@fau.edu.

Michele Meoli, Department of Management, Information and Production Engineering, University of Bergamo, Italy; viale Marconi 5, 24044 Dalmine (BG), Italy. Ph.: +39.035.2052093. Email: michele.meoli@unibg.it.

Silvio Vismara, Department of Economics and Technology Management, University of Bergamo, Italy; viale Marconi 5, 24044 Dalmine (BG), Italy. Ph.: +39.035.2052352. Email: silvio.vismara@unibg.it. Department of Accountancy and Corporate Finance, Ghent University, Belgium. Sint-Pietersplein 7 9000 Ghent, Belgium. Email: vismara.silvio@ugent.be.

We thank participants for their comments at the Uddevalla Symposium 2016, at the CGIR workshop 2017, at the Workshop on Economic Growth, Innovation, and Finance, at seminars at EMLyon Business School, University of Trier, Utrecht University, Skema Business School, University of Essex, Ghent University, Nanjing Normal University, University of Bath, as well as Philippe Aghion, Fabio Bertoni, Joern Block, Peter-Jan Engelen, Christian Fisch, Rients Galema, Alexander Groh, Christian Haddad, Lars Hornuf, Gaël Leboeuf, Florencio López-de-Silanes, Stefano Lugo, Joana Pestana, Friedmann Polzin, Naciye Sekerci, Armin Schwienbacher, Andrea Signori, Erik Stam, Tom Vanacker, Mike Wright, and Lu Zhang.

1. Introduction

A growing interest in crowdfunding is shared by practitioners, policymakers, the media, and scholars alike. As a new and powerful tool for entrepreneurs, crowdfunding can help push the boundaries of existing theories and help develop new ones (Block et al., 2018). In fact, new digital technologies have transformed the nature of uncertainty inherent in entrepreneurial processes and outcomes as well as the ways of dealing with such uncertainty (Nambisan, 2017; Nambisan et al., 2017). While in reward-based crowdfunding backers pre-purchase a product or a service, in equity-based crowdfunding firms raise equity capital from investors who take ownership rights over the business (e.g., Ahlers et al., 2015; Hornuf and Schwienbacher, 2018; Vismara, 2016; 2018; Walthoff-Borm et al., 2018a; 2018b).[1] The implications of this process are significant. In particular, the information asymmetry concerning the start-up's ability to generate future cash flows governs the crowdfunder's decision to become a shareholder. As equity crowdfunders consider becoming minority shareholders, governance concerns arise from the separation between ownership and control. In this paper, we examine for the first time the implications of the separation of ownership and control through a digital financing platform.

The opportunity to raise public equity has been traditionally granted by stock exchanges. In initial public offerings (IPOs), the ownership base of firms going public is opened, often for the first time, to external shareholders. This typically represents the first event in a firm's history that requires careful consideration of how to deal with the agency conflicts arising from both the separation between ownership and control (principal-agent) and between controlling and minority shareholders (principal-principal). Firms undergoing IPOs thus face crucial governance decisions. Coherently, a large body of

[1] Equity-based crowdfunding is intrinsically different from donation- and reward-based crowdfunding. First, while the motivations to donate may be philanthropic, a marked characteristic of equity crowdfunding is the possibility to generate financial returns (Vismara, 2016). Second, while in equity crowdfunding the proponent is by definition a company, reward-based campaigns are launched mostly by individuals. Third, the monetary value of an equity crowdfunding offering is also higher on average.

literature has developed studying the ownership and control of IPO firms. Empirical evidence is supportive of the existence of a positive link between the level of quality of a firm's corporate governance mechanisms and success in securing funding for IPOs.

Equity crowdfunding platforms allow firms to raise capital from a diversified set of shareholders in a similar, though less regulated, way. As sound corporate governance practices are valued by outside investors in IPOs, these attributes should also be decisive in investors' decisions to bid in equity crowdfunding offerings, as they share the same agency concerns. While collective action problems limit investors' monitoring incentives, entrepreneurs can be tempted to engage in self-dealing. Equity crowdfunding offerings are, therefore, a privileged area where we can investigate whether or not the findings of ownership and control studies on traditional stock markets hold in such a loosely regulated context.

To the best of our knowledge, no previous study has investigated the ownership structure of firms raising capital through crowdfunding. This lack is arguably due to the paucity of empirical settings where it is possible to investigate the entry of new shareholders with voting rights. In some countries, such as the United States or Germany, firms are forbidden to offer shares carrying voting rights in crowdfunding. In other countries, such as France and Italy, the number of successful offerings is low. We overcome this limit by focusing on the United Kingdom, where a large number of firms have already raised funds issuing new shares on equity crowdfunding platforms. Crowdcube, on which we focus, provides companies with the possibility of placing both Class A (carrying voting rights) and Class B (not carrying voting rights) shares directly with small investors. Owners of Class B shares do not have voting rights, but they do have equal rights to capital distributions and dividends. The peculiarity of this setting is that it serves as an investment threshold to discriminate between the two classes. Class A differs from Class B shares only in terms of voting and preemption rights attached to A-shares. Those investing more than

the threshold set by the company receive A-shares; only B-shares are assigned to investors who bid below the threshold. This approach, in the intention of the platform, strikes a balance between investor protection and capital formation. However, the result is that investors pay the same price for two different asset classes. Equity crowdfunding offerings, indeed, define the ownership and control of firms by opening to outsiders and, at the same time, allowing shareholders to enroll in different classes based on the provision or not of voting rights.

While traditional private deals are limited to a relatively small group of investors, equity crowdfunding allows issuers to advertise to the general public. Differently from what happens in IPOs, however, investors in equity crowdfunding face a general lack of liquidity in secondary markets. Indeed, although equity crowdfunding provides investors with a disintermediated entry into venture financing, the prospects for exiting a successful venture are unclear outside of acquisitions or IPOs. Equity crowdfunding, therefore, is distinct from both IPOs and venture capital (VC) investments, as it occupies a middle space between public and private finance.

Corporate finance studies typically find that firm values increase with the cash-flow rights of controlling shareholders but decrease when voting rights exceed cash-flow rights (e.g., Claessens et al., 2002; La Porta et al., 2002). Research also shows that countries where there are more conflicts between minority and majority shareholders usually have a more severe separation of voting power and cash flow (La Porta et al., 2006). In line with this literature (e.g., Faccio and Lang, 2002), we measure the degree of separation between ownership and control as the ratio of voting to cash-flow rights, which approximates the divergence from the one-share-one-vote ownership structure. This measure is typically used to proxy for the owner's possibility of extracting private benefits from the firm at the expense of minority shareholders. As a consequence of differentiated voting power, indeed, shareholders without a commensurate economic stake in a corporation are more likely to "tunnel" away a disproportionate part

of firm value (Johnson et al., 2000). Similarly to stock exchange investors, crowdfunding investors may be reluctant to invest in inferior voting shares, because they anticipate the risk of expropriation. Indeed, prior work is largely consistent with the view that separation of ownership from control at the time of an IPO is associated with insiders extracting private benefits and maximizing agency costs (Bebchuk et al., 2000; Gompers et al., 2010; Smart et al., 2008; Bebchuk and Kastiel, 2017). Chemmanur and Jiao (2012), however, argue that the offering of non-voting shares delivers the opportunity for talented executives to focus on a firm's performance without distractions from outsiders.

The study of dual-class shares is interesting in the context of equity crowdfunding as it provides an additional, novel test-bed to traditional studies on the separation of ownership and control. Second, as mentioned above, we are able to study, for the first time, the behavior of investors who can choose to invest above a threshold in order to obtain voting power. Although our analysis is essentially a firm-level study, we observe and discuss the evidence of investor-level bids. Third, equity crowdfunding is also of great interest for the heterogeneity of investors. Over the last two decades, indeed, three quarters of the IPOs in Europe took place in second markets, such as London's AIM. Most of these IPOs are offered exclusively to institutional investors and are equivalent to private placements, which frequently raise only a few million euros and rarely develop liquid trading (Vismara et al., 2012). With institutional investors being allocated the largest fraction of IPO shares (Aggarwal et al., 2002), crowdfunding investors are likely to be more diverse than shareholders of newly listed companies (Cumming and Vismara, 2017). In particular, equity crowdfunding markets attract bids from both small and professional investors; e.g., eleven venture capitalists invested in offerings listed in Crowdcube in 2014 (Signori and Vismara, 2018).

In this paper, we make use of detailed information on the ownership structure of 491 offerings listed between 2011 and 2015 on Crowdcube, where proponents can decide whether to issue A-shares,

and, in this case, whether to provide voting rights only to bidders offering an amount greater than a certain threshold. Our goal is to investigate whether the alignment of interests between the entrepreneur and the investors and the separation between ownership and control affects the success of crowdfunding offerings, in terms of probability to successfully reach the target, to attract professional investors, and to achieve long-term success, as proxied by either the ability to raise further financing or to deliver an exit opportunity through IPO or merger and acquisition (M&A).

The structure of the paper is as follows. Section 2 describes the institutional setting and motivates our choice to focus on the UK crowdfunding market. Section 3 presents our research design. Section 4 reports our results. Section 5 concludes the paper.

2. Institutional Setting

The UK, by far the largest market for equity crowdfunding, provides the best opportunity to explore this form of alternative finance.[2] The largest equity crowdfunding platform in the UK is Crowdcube.[3] Established in 2011, Crowdcube is, as of November 2018, the world's largest platform, with £500 million successfully raised from more than 600,000 investors from over 100 countries. Each project's business plan is vetted before listing (according to Crowdcube statistics, the due diligence team, on average, verifies 28 entrepreneur claims for each admitted project), whereas no ongoing reporting is required to the company. This platform works in an "all-or-nothing" fashion, which means that if the target amount

[2] The regulation of equity crowdfunding in the UK is often put forward as an important ingredient of its development, so that it serves as a model for other legislation (Steinhoff, 2015). Some other countries, such as Germany, allow for certain profit-sharing arrangements but forbid the sale of shares carrying voting rights through crowdfunding platforms. In countries where pure equity crowdfunding is permitted, such as France and Italy, the amount of capital raised to date is considerably lower than in the UK (Vismara, 2016).

[3] Crowdcube has raised more capital than all other competing platforms (AltFi.com, 2015). Different sources agree on the leading role of Crowdcube. Beauhurst names Crowdcube as the leading equity investor in 2015 and the most prolific investor in the e-commerce sector. Crowdsurfer estimates Crowdcube's share in the UK investment crowdfunding market in 2015 at 52%.

is reached, the campaign is successful, and investors become direct shareholders in the company; otherwise, if the target is not reached, the money is returned at no monetary cost to bidders. Entrepreneurs are, therefore, incentivized to set an achievable target. The overfunding option, however, provides them with the possibility to raise more funds than the initial target. Investors who bid during the overfunding phase have exactly the same rights as investors who invested before the offering became overfunded.

The direct involvement of a large number of small investors makes Crowdcube particularly suitable for studies in corporate finance (e.g., Cumming et al., 2016; Vismara 2016; 2018; Vulkan et al., 2016; Walthoff-Borm et al., 2018a; 2018b). The choice of this platform is appropriate to study ownership and control of listing firms, as a comparison with alternatives clarifies. SyndicateRoom, the second largest equity crowdfunding platform in the UK (AltFi.com, 2015), is not a pure equity crowdfunding platform, as it requires at least 25% of the target capital already be committed by institutions and other professional arms-length investors. Both Seedrs and VentureFounders use unified nominee structures, meaning the platforms themselves remain the representative of their investors throughout the investment period, rather than each individual backer becoming a shareholder. The average successful equity offering in Crowdcube, by comparison, gives a direct ownership stake to 145 investors (Signori and Vismara, 2018).

The regulation of equity crowdfunding is currently defined in the UK by the FCA's Policy Statement PS14/4, which delegates the FCA to "mitigate the liquidity risk investors face when investing in the equity or debt securities of small and medium enterprises, which are difficult to price and for which there is no, or only a limited, secondary market." Both professional and retail investors are allowed to trade on crowdfunding platforms. Professional investors include high net worth investors (i.e., annual income over £100,000 or net assets over £250,000) and certified sophisticated investors (i.e., business angels, professionals in the private equity sector, or directors of a company with an annual turnover of at

least £1 million).[4] An investor who is neither high net worth nor sophisticated is classified as a "restricted investor." In this case, the fraction of money that he or she can invest in non-readily realizable investments, including crowdfunded securities, cannot exceed 10% of his or her net assets. In such cases, the platform requires certification that they are informed regarding investment opportunities and risks or have received independent advice.

3. Research Design

3.1. Sample

The initial population of our study is made of 597 equity crowdfunding offerings posted on Crowdcube since its inception in 2011 to the end of 2015. We exclude 12 mini-bond offerings and 94 equity offerings conducted by companies that had already raised funds in the same platform. The final sample is made of 491 offerings.[5]

3.2. Outcome variables

We analyze the impact of ownership and control variables on offering and post-offering outcomes. First, offering success is identified by O*ffering Success*, a dummy variable equal to 1 for campaigns that collected at least the target amount of money. Second, we define the *Long-run outcome* of crowdfunding

[4] An investor is certified as professional if a qualified firm assesses the investor's capability of understanding the risks associated with engaging in non-readily realizable investments, or the investor is in presence of a "Self-Certified Professional Investor" statement, in which the investor declares him- or herself as a member of a network of business angels, has worked in the business finance sector over the previous two years, or has served as a director of a company with at least £1 million in revenues. The definition of the types of investors in equity crowdfunding in the UK is available on the crowdfunding website. For instance, in Crowdcube, it is available at: www.crowdcube.com/pg/investor-categories-1554.

[5] In the first stage of our analysis, a selection mechanism between Crowdcube and Seedrs platforms is performed in order to take into account the potential bias induced by the platform selection mechanism. A sample of 818 offerings listed in the UK between July 2012 (establishment of Seedrs) and the end of 2015 has been used only in this first step of the analysis.

campaigns through a hierarchical criterion: first, failures are identified when firms are insolvent, liquidated, or dissolved following a campaign; alternatively, a firm is identified as successful when, after successfully raising equity in crowdfunding offerings, it either attracts further equity financing or delivers an exit opportunity to crowdfunding investors, either in the form of IPO or M&A.[6] In order to identify long-run outcomes, we monitor companies in the sample from the closing date of their initial offering to January 2017 using Crunchbase to identify capital infusions following the crowdfunding offering.[7] Crunchbase is a database of startup companies operated by TechCrunch that records information about their characteristics and relevant events. We collect information on the equity offerings carried out by each company, including the type of transaction and identity of the investors. Crunchbase is increasingly used in entrepreneurial finance studies (e.g., Cumming et al., 2016; Hellmann and Thiele, 2015; Signori and Vismara, 2018). This dataset assures a large coverage, as it comprehends all the offerings in Crowdcube, as well as most private equity deals involving crowdfunded companies. Indeed, companies that receive VC financing after crowdfunding have incentives to make this news public, as this contributes to an increase in their visibility and decreases the uncertainty about their quality. Failures are identified using Companies House. We use the first announcement date of the insolvency or liquidation as the failure event.

Additionally, we look at how voting and cash-flow rights affect investor participation in crowdfunding offerings. Our main outcome variable here is *Professional investors*, a dummy variable equal to 1 if a professional investor (VC or business angels) has participated in the campaign. Professional investors include self-certified sophisticated investors (i.e., business angels, professionals

[6] This hierarchical criterion is empirically irrelevant in our sample, given that we do not have in our sample cases of refunded firms that went bankrupt over the sampling period. Conceptually, though, this definition allows for the mutual exclusivity of the outcomes. We are thankful to an anonymous referee for pointing this out.

[7] In our framework, older campaigns are observed for a longer time compared to more recent offerings. While this diversity is taken into account by the multi-level, multi-process hazard model, because hazard rates are estimated on the basis of the changing population available at different point in time, we provide a different approach in our robustness checks, where long-run outcome is defined by monitoring the two years following each campaign.

in the private equity sector, or directors of a company with an annual turnover of at least £1 million) and high net worth investors (i.e., annual income over £100,000 or net assets over £250,000). We also consider the *Number of investors* participating in the offering as an alternative dependent variable assessing the success in terms of investor participation. In addition, we look at *Bid HHI*, a measure of bid concentration, measured as a Hirschman-Herfindhal index, calculated for the bids of all participants in the offering; i.e., the sum of squares of all bids, measured as a percentage of the total amount bid in a campaign. This variable allows us to investigate whether and how the delivery of voting rights affects concentrated bids rather than a crowd of small participants. Last, *Average bid (non-professional)* is the average amount bid by non-professional investors, identifying the average size of investment for the non-professionals.

3.3. Ownership and control variables

Our empirical analysis implements ownership and control variables that are uniquely observable for crowdfunding proposals on Crowdcube, where companies are provided the possibility of placing both Class A (carrying voting rights) and Class B (not carrying voting rights) shares directly with small investors. Companies can set an investment threshold under which no voting rights are granted, making the issuance of Class A vs. Class B shares depending on the decision of the individual investor. The variable *A-shares threshold* measures the minimum investment required to obtain A-shares. In our empirical analysis, we use natural logarithms, while, *A-shares threshold/Target Capital* is used in our robust tests.

We employ two variables to test for the effect of alignment and separation between ownership and control on the valuation of IPO companies. First, we compute *cash-flow rights (C)* by measuring the controlling shareholder's percentage ownership of the profits and dividends of the firm. In corporate

governance studies, if there exist multiple chains of ownership, the cash-flow rights, along each chain, are the products of all ownership rights in the intermediate companies along that chain. The total cash-flow rights are then equal to the sum of all cash-flow rights from all ownership chains (Faccio and Lang, 2002). In the case of crowdfunding proposals, we define the measure of cash-flow rights to be equal to 1 minus the percentage of equity offered when A-shares are distributed. Second, we measure the controlling shareholder voting rights (V), in accordance with the procedure used by Faccio and Lang (2002). In corporate finance literature, when multiple control chains exist, the voting rights are the sum of the voting rights along each chain with the weakest link among all holding layers. In the case of crowdfunding offerings, *V* is equal to 1 if no right is distributed (only B shares are issued). If only A-shares are issued, the calculation of *V* depends on the existence of a threshold for the attribution of voting rights. If no threshold is set, *V* is simply given by 1, minus the percentage of equity offered (and is equal to *C*). If a threshold is set, we cannot determine *ex ante* whether the offering participants will receive voting shares or not, such that *V* can be precisely determined only when the proportion of shares sold with voting rights is known[8]. In this case, we calculate the following:

$$V = 1 - [(\text{equity\_offered}) * \gamma] \quad (1)$$

where the parameter γ identifies the fraction of shares sold with voting rights, which, in the case of a campaign with a voting threshold, is given by the ratio of shares sold above threshold divided by the total number of sold shares. Such ratio runs from 0 to 1: γ is equal to 0 when no share is sold above threshold, such that *V* is equal to 1, because the controlling shareholder is distributing no voting rights; γ, vice versa, is equal to 1 when all shares are sold with voting rights (i.e. because all bids where above threshold); therefore, *V* is equal to *C*, namely the controlling shareholder's cash-flow right.

[8] Indeed, this implies in our empirical model the simultaneous estimation of V/C and Campaign Success, given that investors' choices determine both of them at the same time.

The *V* measure is used to calculate the ratio of the controlling shareholder's *voting to cash-flow rights (V/C)*, which approximates the divergence from the one-share-one-vote ownership structure and is used to proxy for the controlling owner's motive to extract wealth from the firm. An alternative measure for the same concept, used in our robustness test, is the *ownership wedge* dummy, equal to 1 if *V* is greater than *C* (i.e., the *V/C* ratio is above 1) and 0 otherwise.

Finally, in accordance with former literature supportive of the importance of controlling shareholders' identities, our analysis implements a dummy variable, *Family*, equal to 1 for offerings that were posted by family firms. To the best of our knowledge, this is the first empirical study to investigate the family ownership in equity crowdfunding. In line with the empirical literature on family firms, we identify as family businesses those with two members in the top management team with the same family name (Kotlar et al., 2018). This information was collected by scrutinizing the team page on Crowdcube and the business plan of each offering.[9]

3.4. Endogenous variables

A number of variables used in our empirical analyses are likely to raise endogeneity concerns, which are dealt with in our research design by implementing instrumental-variable techniques. A large body of corporate governance literature argues that the choice related to the issue of a dual-class share is endogenous with respect to firm value and performances (see Gompers et al., 2010). This is why, in the regression analyses, *Threshold*, cash-flow rights (*C*), and voting to cash-flow rights (*V/C*) are

[9] While we identify family firm ownership, we do not know the exact ownership structure prior to crowdfunding. We note that the ownership structure prior to the deal has been largely neglected in the related literature on VC investments (for a review of related VC work, see Manigart and Wright, 2003, and Cumming and Johan, 2013); however, there have been important studies that are indicative of prior ownership based on spin-offs and related topics (Lockett et al., 2005; Wilson et al., 2018; Wright et al., 2006; 2015) similar in spirit to our identifying family ownership. Further work may investigate this issue with ownership structures prior to crowdfunding and venture capital.

instrumented with three variables that identify mimicking behavior[10]. Mimicking variables are defined as the reference variable (i.e., *Threshold*, *C*, or *V/C*) and measured for each firm as the average of all equity offerings in the same industry in the previous 12 months[11]. Mimicking is a common behavior to achieve legitimacy (Deephouse and Carter, 2005). Mimicking variables have already been used in finance studies on IPOs, in order to instrument ownership and control decisions at the time of the IPO (Bell et al., 2012). Their inclusion in our specification for the potentially endogenous variable allows us to better describe the role of mimicking in crowdfunding offerings and, at the same time, allows identification of our full model.

Further, recent crowdfunding literature highlights the potential endogeneity between the *Target capital* (namely, the amount of capital to be raised in the offering, in thousands of British pounds) and the likelihood of an offering to be successfully funded (Cumming et al., 2015; Cumming et al., 2017). In practice, while the offering target amount is primarily determined by real needs, proponents are likely to make adjustments for strategic purposes based on the desire to signal commitment, as well as on entrepreneurial expectations about their individual capability to attract crowdfunding investments. Therefore, following Cumming et al. (2015), we control for the endogeneity of a target amount, which is instrumented with a mimicking variable measured for each firm as the average of all target amounts in the same industry in the previous 12 months.[12]

[10] With any proposed instrument, it is important to assess whether it satisfies the two criteria for an instrument's validity, namely (i) relevance and (ii) exogeneity and excludability. As far as relevance is concerned, the strength of the instrument is assessed in each of the instrumental regressions by verifying the coefficient significance. As far as exogeneity and excludability are concerned, we regard our variables as fully exogenous, given that our probability measures depend on the choice of competitors; i.e., different firms with respect to the reference; our measures are also likely to be excludable, given that we do not expect investors to determine the success of an offering based on the ownership and control mechanisms of competitors.

[11] In order to maximize the number of observations at use, mimicking variables have been set to the average value during the first 12 months covered by our sample for all offerings listed during that period. We also tested the significance of our instruments when dropping these observations and when extrapolating instrument values based on future observations. Results are qualitatively unchanged.

[12] Cumming et al. (2015) do not name their variable as "mimicking behaviour," although their instrument is calculated in accordance.

3.5. Control variables

In all our analyses, we include a series of variables concerning the issuing firm, collected through the presentation pages for each project made available by Crowdcube, to control for a potential impact on the different outcome variables in use, along the line suggested by Vismara (2018). *Age* is the proponent company's age (in months). *Positive sales* is a dummy variable equal to 1 if the company has already reported positive sales. *Patents* is a dummy variable equal to 1 if the company owns or is filing patents. *TMT Size* is the firm's number of management team members. *Non-executive directors* is a dummy variable equal to 1 if at least one member of the board is a non-executive member. *Founder Experience* is a dummy variable equal to 1 if the founder has previous work experience. *SEIS* equals 1 if the offering is eligible for the UK Seed Enterprise Investment Scheme (SEIS) tax incentive, which is designed to encourage seed investment in early-stage companies with up to £150,000 capital raised. *Exit IPO* equals 1 if the firm declares the intention to conduct an IPO at a future date, according to what the proponents declare at the moment of listing, with regard to exit policies. In all our analyses, we also control for a linear trend, by including a variable set to 0 for 2011 issues (earlier issues in our sample), increasing by 1 each year. Finally, we control for industry starting from Crowdcube classification. Offerings are classified as pertaining to 8 industries: 1) Art, Music, Media, & Education; 2) Environmental & Ethical; 3) Fitness, Leisure, & Sport; 4) Food & Drink; 5) Internet, IT, & Technology; 6) Manufacturing; 7) Professional Business & Services; and 8) Retail & Consumer Products.

3.6. Descriptive statistics

Table 1 reports descriptive statistics for our sample of 491 campaigns listed on Crowdcube[13] between 2011 and 2015, distinguishing between campaigns offering A-shares (i.e., with voting rights) (405 observations); or, B shares only (i.e., with no voting rights provided) (86 cases), as well as between successful cases (189) and unsuccessful cases (302). Looking at the outcome variables in our analysis, successful cases are more frequent among B-shares-only offerings (43%), rather than for A-shares-only offerings (37%), though the difference is not statistically significant. Among successful offerings, we identify 6.35% of failures and 23% of long-run successful offerings, with no statistical difference between A-share and B-share campaigns. In addition, professional investors are more frequent for B-shares-only offerings (34% vs. 26%), which are also characterized by a higher concentration of bidders (13% vs. 6%). Professionals are also much more frequent in successful campaigns (42% vs. 10%).

[INSERT TABLE 1 HERE]

As far as the use of a threshold for the attribution of voting rights is concerned, this practice characterizes most A-share offerings (83.5%). The average threshold applied is slightly higher than £9,000, with the median value being £5,000. As reported in Figure 1, the preference for round numbers also applies to values such as £10,000 and £15,000. There is also a handful of offerings requiring more than £25,000 for the attribution of voting rights. The threshold level is, on average, around 4% of the

[13] Table A1 in the Appendix provides additional details on all variables used in our analysis; i.e., mean, standard deviation, and max and min values over the full sample. Descriptive statistics comparing our main sample with the sample of 818 offerings on Seedrs, used for the first stage of our analysis, is provided in Table A2 in the Appendix.

target capital. Interestingly, this value is larger (almost 6%) for successful campaigns than for unsuccessful ones (less than 3%), the difference being significant at less than 1%.

[INSERT FIGURE 1 HERE]

The average crowdfunding offering distributes less than 15% of voting rights, meaning the controlling shareholder cash-flow rights (C) is above 85%. The voting to cash-flow ratio (V/C) is significantly higher for B-shares-only offerings (1.18 vs. 1.06), as well as for unsuccessful campaigns (1.12 vs. 1.05). The same result is found when comparing groups by the ownership wedge dummy. No statistical difference is found in terms of belonging to a family, which characterizes 16% of successful offerings, 19.86% of other offerings, and target capital (£231,000 vs. £288,000).

The average firm in our sample is around 3 years old at the offering. The age is similar for A-share and B-share firms but significantly smaller for successful than for unsuccessful offerings. Successful campaigns are also characterized more frequently (61% vs. 40%) by positive sales recorded at the time of the proposal, while no statistical evidence is found with respect to patenting activity. The presence of non-executive directors is similar in A-share and B-share offerings but smaller in successful campaigns (6.6%) compared to non-successful campaigns (14%). A-share offerings are characterized by less experienced founders (3.5 vs. 5 previous experiences); they are more frequently eligible for SEIS tax relief (40% vs. 22%); and, they are more frequently aimed at an IPO exit (22% vs. 9.4%).

3.7. Professional investors and investment thresholds

Preliminary evidence reported above shows that the use of a threshold for the distribution of A-shares is more likely to be found in unsuccessful offerings (88% vs. 80%), although successful campaigns are characterized by higher threshold levels, both in absolute values (£9,600 vs. £8,500) and in relative percentage of the target capital (5.7% vs. 2.9%). These results provide preliminary evidence that thresholds, like other tools employed to separate ownership and controls, are not attractive, in general, for investors. At the same time, a high threshold level may attract qualified professional investors, who, when selecting the campaign, lead the offering to a likely success.

In order to preliminarily test whether this assertion is grounded in our data, we plot in Figure 2 the frequency of issues characterized by different threshold levels for the attribution of voting rights, distinguishing cases with the participation or not of professional investors. What we find is that professional investors bid in about one fourth of the offerings that do not deliver voting rights or that deliver voting rights above thresholds of up to £5,000. Vice versa, their presence is much more frequent when the threshold is above $5,000, where they bid in about half of the offerings.

[INSERT FIGURE 2 HERE]

If professional investors are attracted by the distribution of voting rights, we are likely to find them offering an amount equal to or above the threshold. We thus plot in Figure 3 the amount bid by the professional investors in all offerings characterized by a threshold. We find that professional investors always bid above threshold and, therefore, choose their investment in such a way that grants the attribution of voting rights. In a few cases, professional investors bid the exact amount of the threshold.

[INSERT FIGURE 3 HERE]

3.8. Models

3.8.1 Success of equity offerings

Our analysis firstly analyzes whether ownership and control variables affect the likelihood of success for crowdfunding campaigns; i.e., to collect at least the target capital. Our first specification is as follows:

$$\text{Offering success} = \alpha_1 + \gamma_{1,1}\text{Threshold} + \gamma_{1,2}\ \text{C} + \gamma_{1,3}\ \text{V/C} + \overline{\delta_1}\ \overline{\text{Controls}} + \varepsilon_1 \quad (2)$$

where *Offering success* is a dummy variable equal to 1 for offerings that collect at least the target amount of money. *Threshold*, *C* (cash-flow rights), and *V/C* (voting to cash-flow rights) are the main variables we are investigating, whose effects are estimated by the coefficients γ_1 and γ_2, respectively, while $\overline{\delta_1}$ is a vector of coefficients estimated with respect to all control variables, α_1 is a constant, and ε is the vector of regression residuals.

As in all studies of corporate control mechanisms, we need to address endogeneity concerns, and this is why we take an instrumental variable approach. Corporate finance theory maintains indeed that ownership and governance factors should be examined as bundles when determining outcomes (Filatotchev and Wright, 2017). As described in Section 3.4, we treat four variables as endogenous in our analyses, namely the *Threshold*, cash-flow rights (*C*), voting to cash-flow rights (*V/C*), and *Target Amount*.

The above setup poses two sample selection concerns. First, given that Crowdcube is the only platform allowing proponents to decide whether to issue A-shares, and, in this case, whether to use a threshold, there is the possibility that offering features are pre-selected. In order to consider this potential source of sample selection bias, we analyze the selection process of offerings posted in Crowdcube with respect to those listed on the main alternative in the UK: Seedrs. Second, given that the provision of a

threshold[14] is available only when the proponent decides to issue A-shares, we need to take into account this second selection process in our analysis. Both selection mechanisms depend on unobservable offering characteristics that are potentially related to the unobservable determinants of offering and post-offering success. These two selection issues can be treated with the standard methods proposed by Lee (1978) and Heckman (1979), if the two selection rules are strictly independent. However, in our case, the selection rules (i.e., the likelihood of posting an offering on Crowdcube versus Seedrs and the propensity to issue voting rights) are unlikely to be independent. Indeed, the likelihood of posting an offering in Crowdcube compared with the alternatives might be a determinant of the propensity to issue voting rights. Therefore, we are dealing with a double selection rule, which can be addressed with the methodology proposed by Ham (1982) and Tunali (1986). This implies the inclusion of two first-stage equations, to be added to the second stage; i.e., the outcome equation described above (Equation 2). Additionally, we need four instrumental regressions for the four variables (*Threshold*, *C*, *V/C*, and *Target Amount*) that we treat as potentially endogenous.

As far as the two selection equations are concerned, we run a bivariate probit regression on the likelihood of posting an offering on Crowdcube with respect to Seedrs (Equation 3), and on the probability of issuing voting rights in the campaign; i.e., A-shares dummy (Equation 4). In order to allow identification, Equation 2 includes a Platform preference variable, measured as the number of offerings listed on the Crowdcube, divided by the number of offerings posted on Seedrs, in the same industry, in the 12 months prior to each observation. As far as the second selection process is concerned, we follow Gompers et al. (2010) in choosing possible determinants of rights distribution, and we add *TMT Size* (a proxy of internal competition for control), *number of M&As* in the same industry (a proxy of the market for corporate control in the industry), and *Mimicking Variables* (namely, the probability to issue A-shares

[14] The determinants of the provision of a threshold are also analysed. Results are reported in Table A4 in the appendix.

calculated as the ratio of crowdfunding offerings which offered voting rights amongst all previous offerings on the same platform).[15] The two selection equations are used to construct estimates of two Inverse Mills Ratios ($IMR_{platform}$ and IMR_{voting}), to be included in all regressions belonging to the second stage.

The second stage is a system of five equations, where the dependent variables are the *Threshold Amount* (Equation 5); the controlling shareholder's cash-flow rights, *C* (Equation 6); the voting to cash-flow rights, *V/C* (Equation 7); the *Target Amount* (Equation 8); and the *outcome* variable, the success dummy (Equation 9). The three ownership variables (*Threshold*, *C*, *V/C*) and *Target Amount* are treated as endogenous (i.e., instrumented). For each observation, identification variables (i.e., instruments) are measured as the average value of the investment threshold required to receive A-shares (*Pr. Threshold*), of the control variable (*Pr. C*), of the separation between ownership and control (*Pr. V/C*), and of the *Target Amount* (*Pr. Target* amount) calculated by using equity offerings in the 12 previous months in the same platform (see 3.4 for details).

[15] As pointed out by Tunali (1986, pp. 245), the bivariate selectivity model requires additional exclusion restrictions to properly identify the parameter estimate on the correlation coefficient between the error terms of the selection equations. That is, at least one determinant of each selection process must not be related with the outcome variable (the dependent variable in the second stage). Moreover, in order to allow complete identification, at least one variable included in the second equation must not influence the first selection process, nor the outcome equation.

Taken together, our system of equations is as follows:

$$\text{Crowdcube}_{\text{dummy}} = \alpha_3 + \beta_{3,1}\text{Platform\_preference} + \overline{\delta_3}\ \overline{\text{Controls}} + \varepsilon_3 \quad (3)$$

$$\text{A} - \text{Shares}_{\text{dummy}} = \alpha_4 + \beta_{4,1}\text{TMT\_Size} + \beta_{4,2}\text{M\&As} + \beta_{4,3}\ \text{Mimicking}(\text{A} - \text{Shares}) + \overline{\delta_4}\ \overline{\text{Controls}} + \varepsilon_4 \quad (4)$$

$$\text{Threshold} = \alpha_5 + \beta_5\ \text{Mimicking Variables} + \rho_{5,1}\text{IMR}_{\text{platform}} + \rho_{5,2}\text{IMR}_{\text{voting}} + \overline{\delta_5}\ \overline{\text{Controls}} + \varepsilon_5 \quad (5)$$

$$\text{C} = \alpha_5 + \beta_6\ \text{Mimicking Variables} + \rho_{6,1}\text{IMR}_{\text{platform}} + \rho_{6,2}\text{IMR}_{\text{voting}} + \overline{\delta_6}\ \overline{\text{Controls}} + \varepsilon_6 \quad (6)$$

$$\frac{\text{V}}{\text{C}} = \alpha_7 + \beta_7\ \text{Mimicking Variables} + \rho_{7,1}\text{IMR}_{\text{platform}} + \rho_{7,2}\text{IMR}_{\text{voting}} + \overline{\delta_7}\ \overline{\text{Controls}} + \varepsilon_7 \quad (7)$$

$$\text{Target Amount} = \alpha_8 + \beta_8\ \text{Mimicking Variables} + \rho_{8,1}\text{IMR}_{\text{platform}} + \rho_{8,2}\text{IMR}_{\text{voting}} + \overline{\delta_8}\ \overline{\text{Controls}} + \varepsilon_8 \quad (8)$$

$$\text{Offering success}_{\text{dummy}} = \alpha_9 + \gamma_{9,1}\ \text{Threshold} + \gamma_{9,2}\ \text{C} + \gamma_{9,3}\ \frac{\text{V}}{\text{C}} + \gamma_{9,4}\text{Target Amount} + \rho_{9,1}\text{IMR}_{\text{platform}} + \rho_{9,2}\text{IMR}_{\text{voting}} + \overline{\delta_9}\ \overline{\text{Controls}} + \varepsilon_9 \quad (9)$$

For estimation, we use a generalized structural equation model (GSEM). We opt for a structural equation model due to the need to simultaneously estimate an equation for the selection process, four equations for the instruments[16], and an outcome equation. The presence of dummy variables among our dependent variables implies a GSEM, whereas (simple) structural equation modeling (SEM) requires continuous outcomes.

3.8.2. Post-offering outcomes

[16] Among these, *V/C* is simultaneously determined with *Offering Success*.

After modelling the determinants of the success of the offerings, our analysis focuses on the effects of ownership and control variables on post-offering outcomes, identifying cases of long-run success and firm failure as possible outcomes. Among the alternative solutions for estimating a competing risk model, we opted for a multi-level, multi-process hazard model, which has been largely used to adjust regression estimates for both endogeneity (see Section 3.4) and selection issues (see Section 3.8.1). The multi-level, multi-equation modeling framework accommodates the joint estimation of hazard and probit equations to account for the endogeneity of dummy explanatory variables that appear in the hazard equation of primary interest (Lillard et al., 1995). The joint estimation accounts for the correlation of the random effects and allows us to control for the effects of unobserved offering features (Bartus and Roodman, 2014).

Specifically, in this new setting, we are estimating[17] two equations for the hazard rate of the two potential outcomes; i.e., long-run success ($\ln h^{long-run\ success}$) and firm failure ($\ln h^{failure}$) (Equations 10 and 11), while instrumenting four variables; i.e., *Threshold*, *C*, *V/C*, and *Target Capital* (as in Equations 5-8). As far as the selection processes are concerned, in order to keep our model parsimonious, we use a single selection equation for *Offering Success* (Equation 12), given that only successful offerings are observed in our data in the following years. In this equation, identification condition is granted by the inclusion of the number of competing offerings; i.e., offerings open in the same equity crowdfunding platform at the time of the opening of each campaign.

[17] Estimation is feasible via the cmp command implemented in Stata by Roodman (2011). The multi-level, multi-process presented here implies the estimation of a lognormal survival model for the hazard rates, a probit model for the selection equation, and a set of simultaneous instrumental equations for the endogenous variables.

$$\ln h^{\text{long-run success}} = \gamma_{10,1}\ \text{Threshold} + \gamma_{10,2}\ \text{C} + \gamma_{10,3}\ \frac{\text{V}}{\text{C}} + \gamma_{10,4}\text{Target Amount} + \overline{\delta_{10}}\ \overline{\text{Controls}} + \varepsilon_{10}\ \text{if Offering Success} = 1 \quad (10)$$

$$\ln h^{\text{failure}} = \gamma_{10,1}\ \text{Threshold} + \gamma_{10,2}\ \text{C} + \gamma_{10,3}\ \frac{\text{V}}{\text{C}} + \gamma_{10,4}\text{Target Amount} + \overline{\delta_{10}}\ \overline{\text{Controls}} + \varepsilon_{10}\ \text{if Offering Success} = 1 \quad (11)$$

$$\text{Offering Success}_{\text{dummy}} = \alpha_{12} + \beta_{12}\ \text{Competing Offerings} + \text{Threshold} + \gamma_{12,2}\ \text{C} + \gamma_{12,3}\ \frac{\text{V}}{\text{C}} + \gamma_{12,4}\text{Target Amount} + \varepsilon_{12} \quad (12)$$

3.8.3. Investor composition

Additionally, our analysis aims to test whether the ownership and control variables introduced above influence the participation of professional and other types of investors. Our reference model is the full model with two selection processes and four instrumental variables described above (Equations 3-9), where we replace the outcome variable *Offering Success* with the following alternatives: a dummy equal to 1 in case a professional investor has joined the campaign (*Professional Investors*); the Hirschman Herfindahl index, calculated for the bids of all offering participants (*Bid concentration*); and the average bid offered by non-professional investors (*Average bid*).

3.8.4. Moderating effect of Founder experience

While our analysis considers the endogenous determination of the *target amount*, *ownership*, and *control* variable, it is also interesting to assess whether contingent variables may play a role on the effect of our measure. In particular, extant literature on corporate governance suggests that the separation between *ownership* and *control* may raise investor concerns because of the so-called "entrenchment hypothesis." Indeed, some of the proposal features (i.e., Founder experience) could convey signals mitigating such concerns (Ahlers et al., 2015; Vismara, 2018). This is why in all our analyses we consider the role of *Founder Experience* as a potential moderator of *V/C*, assessing whether this is a signal effectively mitigating investor concerns due to the separation between *ownership* and *control*.

4. Results

4.1. Success of equity offerings

Table 2 reports our results on how ownership variables affect the success of equity crowdfunding offerings.[18] In the first stage, Models 1 and 2 allow analysis of the selection processes. In Model 1, we find that, besides our measure of Platform preference, identifying an effect of previous choices within the same industry on the selection of the crowdfunding platform, older proposals seem to prefer Crowdcube, in that *Age* has a positive and statistically significant coefficient. As far as the issue of voting rights is concerned, Model 2 shows that the variables chosen to identify the process significantly

[18] Table A3 in the appendix reports a reduced version of this model, where the effect of *Threshold* is ignored, and no selection correction is used. Our results on the role of C and V/C are confirmed on the full sample. This analysis, though, does not consider the selection process due the presence of offerings with or without rights, with or without a threshold. There is a variety of threshold choices represented in our sample: for example, 14% of our sample refers to A-shares issues without thresholds; while 10% of the observations are A-shares issues with a threshold equal or above £25,000. In Table A4 in the appendix, we report an analysis of threshold determinants (in terms of probability to set a threshold, threshold level, probability to set a threshold above £25,000, and threshold/target capital level). What we find is that founder's experience is positively related to the probability to set a threshold, and to set it to a high level. Larger campaigns (in terms of target capital) are more likely to be characterized by threshold, more likely to have a high threshold, indeed with a smaller threshold/target capital ratio.

determine the probability of issuing A-shares; in particular, the larger the *TMT Size*, the more likely the probability is for issuing voting rights; conversely, the issuing of A-shares is less frequent in those sectors characterized by active M&A markets. Lastly, we find further evidence that voting rights choices are taken by imitating the behavior in previous offerings, as testified by the statistical significance of the *Mimicking* (Pr. A-shares) variable. Among the control variables, we find that *Experienced Founders* are less likely to distribute voting rights.

In the second stage, we run a system of five equations, where the *Threshold*, *C*, *V/C*, and *Target Capital* are endogenously estimated. These instrumental equations allow us to identify the determinants of ownership and control mechanisms in crowdfunding offerings. Model 3 shows that offering firms mimicked the decisions in previous offerings, carried out within the same industry in the previous year, when deciding where to set *Threshold*, so that the amount required for the issuing of A-shares is strongly correlated with the average amount required by previous offerings in the same industry. The *Threshold* level is also positively affected by *Family*, while *Founder Experience* is negatively correlated. Interestingly, issues by older companies are likely to show higher *C* and lower *V/C*, while issues eligible for SEIS tax incentives show smaller *C* and higher *V/C*. As expected, the choices of *C* and *V/C* in each offering are largely affected by a mimicking behavior, so much so that levels observed in earlier campaigns (*Pr. C* and *Pr. V/C*) are strongly significant in both equations.

Our results on the success of the offering (Model 7a) show that a higher level of cash-flow rights (i.e., a smaller level of equity offered in the offering), is positively linked to the likelihood of success. The coefficient is 1.138, statistically significant at less than 5%, and implies that, for a one-standard deviation change in cash-flow rights, equal to 7.8%, there would be an increase in the probability of success of by 3.2%. This result shows that the more the interest alignment between proponent and investors (high C), the more likelihood the success. This evidence confirms the validity retained equity

as a signal that attracts external investors. The associated increased demand of shares translates in higher valuations and/or higher probability of success of equity offerings (Leland and Pyle 1977). Our findings extend the evidence from initial or follow-on offerings in stock markets to crowdfunding offerings.

While equity retention has a positive effect, the probability of success is negatively affected by the ratio between voting and cash-flow rights. The coefficient is -3.589, statistically significant at less than 5%, and implies that, for a one-standard deviation change in V/C, equal to 0.08, there would be a decrease in the probability of success by 10.8%. Given that this ratio is a proxy for the separation between *ownership* and *control* (see Faccio and Lang, 2002), this result is evidence that the probability of success for a crowdfunding offering is negatively related to the potential rise of agency cost. As far as the control variables are concerned, our results show that younger issues are more likely to succeed, as well as proposals reporting positive sales in the presentation report. A negative time trend suggests that the increase in the number of recent offers has led to a decrease in the relative probability of success. Across the models, we notice that both selection processes (the choice of Crowdcube and the choice to issue voting rights) affect the results. In particular, unobservable determinants of platform choices are correlated with unobserved determinants of *C* (positively) and *V/C* (negatively), while the choice to issue voting rights is correlated both with the separation between ownership and control (V/C) and the likelihood of success.

Last, Table 2 reports the result for the outcome variable, *Success*, introducing an interaction term between the *V/C* variable and the *Founder Experience* (selection and instrumental models are not reported for the sake of brevity). The interaction term is positive and significant, showing that the signal provided by an experienced proponent mitigates the concerns arising from the separation between *ownership* and *control*. All other results are qualitatively unchanged.

[INSERT TABLE 2 HERE]

4.2. Post-offering outcomes

Our analysis focuses on post-offering outcomes by analyzing two competing scenarios (i.e., long-run success and failure). We report our results in Table 3, where we implement a multi-level, multi-process hazard model, with two hazard rate equations for long-run success (Model 2) and failure (Model 3), and a selection equation for successful offerings (Model 1). In order to grant identification, Model 1 is enriched with a parameter, *Competing Offerings*, measuring the number of offerings open in the same equity crowdfunding platform at the time of the opening of each offering. Further, this setting allows us to treat ownership and control variables (*Threshold*, *C*, and *V/C*,) and *Target Capital* as endogenous.

Model 1, identifying successful offerings, reports results qualitatively analogous to our previous findings. Model 2a reports our analysis of the likelihood of each offering to be successful in the long run and provides evidence that interest alignment improves the likelihood of post-campaign success, while there is weak evidence that separation between ownership and control reduces such opportunities. *Age* and expectations of IPO exit negatively affect long-run success, while positive sales before the offering increases the likelihood of such a scenario. A positive time trend is statistically significant in describing the phenomenon.

Model 3a presents evidence on the covariates increasing the likelihood of firm failure following the offering: *C* is strongly negative and *V/C* weakly positive in affecting this probability. In a complementary way to our previous findings, these results support that *C*, measuring the interest alignment between controlling shareholders and investors, reduces the likelihood of offering failure in the long-run, while *V/C*, measuring the separation between ownership and control, increases the

probability of such a scenario. Among control variables, we find a negative effect of *Target Capital*, *Family*, *Age*, and *Positive Sales*. These results suggest that larger firms, mature and with a positive sales track record, are less likely to fail.

We find that family businesses launching crowdfunding campaigns are relatively safer investments, as they exhibit higher survival rates ($p<0.01$). This is in line with the arguments of family business literature, which has typically portrayed family firms as long-term oriented and more conservative than non-family firms (e.g., Westhead and Howorth, 2006; Zellweger, 2007). We argue that this feature is particularly relevant in the context of crowdfunding. Firms raising funds in equity crowdfunding are relatively smaller and younger than in other public equity markets. Hence, the involvement of a family, associated with long-term orientation and risk aversion, might be perceived by external investors as a signal mitigating the uncertainty on the prospects of the firm.

[INSERT TABLE 3 HERE]

4.3. Investor composition

Our analysis also addresses whether decisions on the distribution of voting rights affect investor participation regarding crowdfunding offerings. Table 4 reports the results of a double selection model with instrumental variables, where the system of Equations 3-9 is replicated by replacing the outcome variable *Success* with four alternatives: a dummy equal to 1 in case a professional investor has joined the offering (*Professional Investors*)[19], the number of investors participating in the offering (*Number of*

[19] The participation of Professional Investors is jointly determined with the success of an offering, and this is why, in this model, we treat it as an alternative outcome variable. According to an alternative view, the participation of professionals may

Investors), the Hirschman Herfindahl index calculated for the bids of all participants in the offering (*Bid HHI*), and the average bid offered by non-professional investors (*Average Bid*, non pr.)[20]. This set of outcome variables is reported both in the baseline specification (Models 1a-4a) and in a specification including the interaction term between the *V/C* variable and *Founder Experience* (Models 1b-4b).

In Model 1a, where the dependent variable is equal to 1 if the equity offering receives bids from professional investors, the *Threshold* variable becomes significant, while results related to *C* and *V/C* are confirmed. This shows that professional investors are sensitive to interest alignment, through the share of cash-flow rights, to the separation between *ownership* and *control*, through the voting to cash-flow rights parameter, and they are attracted by issues where a threshold limits the dispersion of ownership. The evidence that professional investors are more likely to bid in offerings in which higher thresholds are required to achieve voting rights point to their preference for more concentrated share ownership. Anecdotal evidence confirms this intuition. In interviews, indeed, a number of professional investors declare that they are more likely to invest in offerings that deliver voting rights above a certain threshold compared to those that deliver voting rights to every investor. Furthermore, if they invest after the offering, they report the preference to repay small investors and provide them with an exit opportunity, so as not to have to deal with them in shareholders meetings.

Results related to control variables are in line with our findings on the success of crowdfunding offerings. Model 2a also shows that the number of investors is positively correlated with *C* and negatively affected by *V/C*. Interestingly, the *Family* dummy is negatively related to the number of investors. As

be seen as a determinant of success of an offering. This is why, in Table A5 in the Appendix, we replicate the results reported in Table 2, by adding a further endogenous variable (*Professional Investors*) as a determinant for *Success*. The instrumental variable chosen for the identification of this additional endogenous variable is the *TMT Size*. Results show that, in this framework, *Professional Investors* are positively correlated with *Success*, also when considering the interaction term between *V/C* and *Founder Experience*. Most results are qualitatively unchanged.

[20] The table reports only the models for the outcome variables, given that all other results are qualitatively unchanged. All results are, indeed, available on request.

this variable does not affect the chances for success of crowdfunding offerings nor their attractiveness for professional investors; family businesses appear to be less attractive to small investors.

In Model 3a, coherently with our previous results, we show that the concentration of bids is higher when the threshold is higher. In Model 4a, finally, we show that neither the distribution of voting rights nor the presence of a threshold affects the average size of the bids for non-professional investors, which is only sensitive to the size of the offering and to the presence of non-executives among the member of the TMT.

Models 1b-4b show that the moderating effect of *Founder Experience* on *V/C* is positive and statistically significant both with respect to the presence of Professional Investors and a large number of investors.

[INSERT TABLE 4 HERE]

4.4. Robustness tests

In this section, we report the outcome of robustness tests run in order to test the sensitivity of our results to the definitions of two key variables and to an alternative specification of long-run outcome.

In Table 5, we report the results of our analysis when changing the definition for the threshold level and the ownership variables. First, in Model 1, *Threshold/Target Capital* replaces *Threshold* (ln) employed in all former analyses. We report the results for the outcome variable, *Succes*s, here, as in Model 7a, Table 2, showing that our results are unaffected. Second, in Model 2, we replace the *voting to cash-flow rights* variable with the *ownership* wedge, a dummy variable equal to 1 when the voting rights are greater

than the cash-flow rights. Once again, we report the results for the outcome variable, *Success*, as in Model 7a, Table 2, showing that our results are also confirmed when changing the proxy for the separation between ownership and control.

Last, we assess the robustness of our results when changing the empirical design of the long-run outcome from a survival model (multi-level, multi-process hazard model) to a multinomial setting. In this analysis, we ignore the time to the event, and rather analyze the determinants of a qualitative outcome, which can take three values: *failure*, identified when firms are insolvent, liquidated, or dissolved within two years from the initial campaigns; among firms that did not fail, a firm is identified as successful (*long-run success*) when, after successfully raising equity in crowdfunding offerings, either attract further equity financing or deliver an exit opportunity to crowdfunding investors, either in the form of IPO or M&A; if none of the above conditions took place in the two years after the initial campaign, a firm is simply identified as surviving (*survival*). In Table 6, we report the marginal effects for each outcome (*long-run success*, *failure*, and *survival*) estimated in a multinomial logit model with a selection equation[21] for *Offering Success* (identification condition is granted by the inclusion of the number of competing offerings), and where *ownership* and *control* variables (*Threshold*, *C*, *V/C*) and *Target Capital* are treated as endogenous (i.e., instrumented), as in the former models presented in the paper. Results show that *C* increases the probability of long-run success and decreases the probability of failure, in both cases at a 10% level of significance; *V/C* decreases the probability of long-run success at 5%, while it increases the probability of failure at 1%; this latter result is mitigated (see Columns 1b and 2b) by the founder's experience. While all these results confirm our earlier findings, here we also have weak evidence that the

[21] We use a single selection equation in order to keep as parsimonious as possible our setting, as well as in analogy to the multi-level, multi-process hazard model presented earlier in the paper.

threshold for the issue of voting-rights weakly affects the probability of success. Most results on control variables are qualitatively in line with the model presented earlier in the paper.

[INSERT TABLE 5 HERE]

[INSERT TABLE 6 HERE]

5. Conclusions

This paper investigates for the first time the ownership and control mechanisms in firms raising equity capital through crowdfunding. By using a sample of 491 offerings on Crowdcube from 2011 through 2015, we focus on how the setting of a threshold for voting rights distribution, the concentration of cash-flow rights, and the separation between ownership and control affect the probability of success. This is done both at the offering level and in terms of post-offering outcomes. Our results show that a high separation between ownership and control negatively affects the probability of success of the offering and the likelihood of long-run success, while it decreases the likelihood of survival after the offering. The negative effects due to such separation are mitigated for those issues where the proponent is an experienced founder. Investments in crowdfunding offerings by family firms are safer, as they have lower probabilities of failure. However, they attract a lower number of investors.

Our findings add to the corporate governance literature by providing first-time evidence in the context of equity crowdfunding. By analyzing the impact of cash-flow and voting rights on the probability of success of crowdfunding offering, we find support for the alignment of interest hypothesis and for the entrenchment hypothesis that are validated in extant corporate finance literature for initial public offerings. While crowdfunding investors rely on the controlling shareholder's cash-flow stake to assess how the potentially divergent interests are aligned, at the same time they are concerned for the

potential misbehaviors performed when controlling shareholders control a larger stake with respect to their direct ownership. This is a novel finding that characterizes equity crowdfunding as similar to traditional public equity markets.

Second, our empirical setting allows us to analyze a unique context where it is the individual investor who determines the attribution of voting rights. It is a unique case in which a single price is attributed to two theoretically different asset classes. Indeed, in most offerings, investors can achieve voting rights by investing over a threshold, while the price of the shares is the same between shares carrying or not carrying voting rights. Future corporate finance studies can further investigate entrepreneurs' and investors' choices between ownership and investment. In this respect, our empirical analysis shows that a category of professional investor pays attention to this attribute and often bids the exact amount of money necessary to be assigned A-shares. This finding opens new research perspectives in the growing crowdfunding literature, which has so far considered the demand of shares as originated from a rather homogeneous group of relatively unsophisticated investors. Taking into account the heterogeneity in the experience and background of equity crowdfunding investors, future research should explore whether and how various forms of unaccredited investor experience influences funding rates, performance, and failure in crowdfunded startups.

We believe that our paper carries important implications for policy and practice. Our evidence contributes to better the understanding of how the features of a crowdfunding platform such as Crowdcube may play a role in stimulating the financing of entrepreneurial activity (Autio et al., 2014), and, in particular, how the provision of voting rights' thresholds enhances the attractiveness for professional investors, a feature that might be of interest for other platform managers as well. Entrepreneurs find evidence that ownership structure decisions affect the outcome of their financial initiatives and, therefore, find support for strategies that try to mitigate investors' concerns by aligning

potentially conflicting interests. In this regard, experienced founders are helped in their activity because of the reliability acknowledged for their offering, given that prior acquaintance with a crowdfunding platform significantly decreases concerns, due to the separation between ownership and control. Indeed, mitigating the conditions for access to financing is a topic of dramatic importance, especially for innovative firms, which are, in general, more likely to be turned down for finance than other firms (Lockett et al., 2002), especially in the wake of the financial crisis (Lee et al., 2015).

From a policy perspective, our paper may support policy makers who aim to find a balance between the objectives to facilitate capital formation and the need for investor protection. The development of equity crowdfunding can indeed stimulate knowledge ecosystems in technology hotspots (Clarysse et al., 2014). The rapid expansion of crowdfunding has, however, raised concerns regarding the fit of this type of investment opportunity for the crowd, resulting in an active debate whether crowdfunding regimes should promote equity crowdfunding or tighten regulations. We show that differences exist in the investment decisions between professional and small investors. Their exposure to risk is currently constrained by investment limits that are based on income and net worth. The introduction of corporate governance requirements and increased transparency on the contractual terms can further benefit small investors. Indeed, although the use of dual-class shares may be beneficial to entrepreneurs, who encounter fewer distractions than from interacting with numerous small investors, our findings show that small investors are often not able to achieve voting rights.

Admittedly, we need to acknowledge that our results have limitations, due to an important boundary condition, in that firms in our sample chose crowdfunding over alternative options. The choice of focusing on Crowdcube allows for variation in the contractual terms between cash flow and control rights. However, while our design models the preference for Crowdcube over an alternative platform, at this stage it is unfeasible to implement a further step back to endogenize the choice of crowdfunding

relative to alternatives. Still, we are aware that this choice sets a boundary to the generalization of our results, and we acknowledge this as a limitation for our study. Differently from the case studied in this paper, other platforms, such as Seedrs, act as a trustee who manages pooled voting rights on behalf of investors. The level of a minimum investment thresholds and co-investment requirements also vary across platforms. While most platforms ask for symbolic minimum investment thresholds, some require investors to make relatively large investments. In the UK, SyndicateRoom requires the involvement of accredited investors in order to open the offering to small investors. These differences in the functioning of platforms are likely to affect many aspects of the matching between the supply and demand of entrepreneurial finance (Dushnitsky and Zunino, 2018). The investigation of how the choice of a funding source interacts with the ownership structure design is definitely an interesting topic, and we leave this to further research for investigation.

References

Aggarwal, R., Prabhala, N. R., & Puri, M. (2002). Institutional allocation in initial public offerings: Empirical evidence. Journal of Finance, 57(3), 1421-1442.

Ahlers, G.K., Cumming, D., Günther, C., & Schweizer, D. (2015). Signaling in equity crowdfunding. Entrepreneurship: Theory and Practice, 39(4), 955-980.

AltFi.com (2015). AltFi Data Analytics, http://analytics.altfidata.com/data/analytics/volume.

Anand, A. (2018). Governance Complexities in Firms with Dual Class Shares. Annals of Corporate Governance, 3(3), 184–275.

Autio, E., Kenney, M., Mustar, P., Siegel, D., & Wright, M. (2014). Entrepreneurial innovation: The importance of context. Research Policy, 43(7), 1097-1108.

Bartus, T., & Roodman, D. (2014). Estimation of multiprocess survival models with cmp. The Stata Journal, 756.

Bebchuk, L.A., Kraakman, R., & Triantis, G. (2000). Stock pyramids, cross-ownership, and dual class equity: The mechanisms and agency costs of separating control from cash-flow rights, NBER Chapters, in: Concentrated Corporate Ownership, pages 295-318 National Bureau of Economic Research, Inc.

Bebchuk, L.A., & Kastiel, K. (2017). The untenable case for perpetual dual-class stock, Virginia Law Review, 103(4), 585-631.

Bell, R. G., Filatotchev, I., & Rasheed, A. A. (2012). The liability of foreignness in capital markets: Sources and remedies. Journal of International Business Studies, 43(2), 107-122.

Block, J.H., Colombo, M.G., Cumming, D.J. & Vismara, S. (2018). New players in entrepreneurial finance and why they are there. Small Business Economics, 50, 239-250.

Chemmanur, T. J., & Jiao, Y. (2012). Dual class IPOs: A theoretical analysis. Journal of Banking & Finance, 36(1), 305-319.

Clarysse, B., Wright, M., Bruneel, J., & Mahajan, A. (2014). Creating value in ecosystems: Crossing the chasm between knowledge and business ecosystems. Research Policy, 43(7), 1164-1176.

Cumming, D. J.,, & Johan, S. A. (2013). Venture Capital and Private Equity Contracting: An International Perspective (2nd Ed.), San Diego: Elsevier Science Academic Press.

Cumming, D. J., Leboeuf, G., & Schwienbacher, A. (2015). Crowdfunding models: Keep-it-all vs. all-or-nothing. Available at SSRN: http://dx.doi.org/10.2139/ssrn.2447567.

Cumming, D. J., Leboeuf, G., & Schwienbacher, A. (2017). Crowdfunding cleantech. Energy Economics, 65, 292-303.

Cumming, D. J., & Vismara, S. (2017). De-segmenting research in entrepreneurial finance. Venture Capital, 19(1-2), 17-27.

Cumming, D. J., Walz, U., & Werth, J. C. (2016). Entrepreneurial spawning: experience, education, and exit. Financial Review, 51(4), 507-525.

Deephouse, D. L., & Carter, S. M. (2005). An examination of differences between organizational legitimacy and organizational reputation. Journal of management Studies, 42(2), 329-360.

Dushnitsky, G., & Zunino, D., (2018). The Role of Crowdfunding in Entrepreneurial Finance. SSRN working paper.

Faccio, M. & Lang, L. H. (2002). The ultimate ownership of Western European corporations. Journal of Financial Economics, 65: 365–395.

Filatotchev, I., & Wright, M. (2017). Methodological issues in governance research: An editor's perspective. Corporate Governance: An International Review, 25(6), 454–460.

Gompers, P., Ishii, J., Metrick, A., (2010). Extreme governance: an analysis of dual-class firms in the United States. Rev. Financ. Stud. 23 (3), 1051–1088.

Ham, J. C. (1982). Estimation of a Labour Supply Model with Censoring Due to Unemployment and Underemployment, Review of Economic Studies, 49, 335-354.

Heckman, J. J., 1979, Sample selection bias as a specification error, Econometrica 47, 153-162.

Hellmann, T., & Thiele, V. (2015). Friends or foes? The interrelationship between angel and venture capital markets. Journal of Financial Economics, 115(3), 639-653.

Hornuf, L., & Schwienbacher, A. (2018). Market mechanisms and funding dynamics in equity crowdfunding. Journal of Corporate Finance, 50, 556-574.

Johnson, S., La Porta, R., Lopez-da-Silanes, F., & Shleifer, A. (2000). Tunneling. American Economic Review, 90, 22-27.

Kotlar, J., Signori, A., De Massis, A., Vismara, S. (2018). Financial wealth, socioemotional wealth and IPO underpricing in family firms: A two-stage gamble model. Academy of Management Journal. 61(3), 1073-1099.

La Porta, R., Lopez-da-Silanes, F., Shleifer, A, Vishny, R.W. (2002). Investor Protection and Corporate Valuation. Journal of Finance, 57(3), 1147–70.

La Porta, R., Lopez-da-Silanes, F., & Shleifer, A. (2006). What Works in Securities Laws? Journal of Finance, 61(1), 1–32.

Lee, L. (1978). Unionism and Wage Rates: A Simultaneous Equations Model with Qualitative and Limited Dependent Variables, International Economic Review, 19, 415-433.

Lee, N., Sameen, H., & Cowling, M. (2015). Access to finance for innovative SMEs since the financial crisis. Research policy, 44(2), 370-380.

Lillard, L. A., Brien, M.J., & Waite, L.J. (1995). Premarital cohabitation and subsequent marital dissolution: A matter of self-selection?" Demography 32: 437–457.

Lockett, A., Murray, G., & Wright, M. (2002). Do UK venture capitalists still have a bias against investment in new technology firms. Research Policy, 31(6), 1009-1030.

Lockett, A., Siegel, D., Wright, M., & Ensley, M.D. (2005). 'The Creation of Spin-off Firms at Public Research Institutions: Managerial and Policy Implications', Research Policy 34 (7), 981-993.

Manigart, S., & Wright, M. (2013). Venture capital investors and portfolio firms. Foundations and Trends in Entrepreneurship, 9(4–5), 365-570.

Nambisan, S. (2017). Digital entrepreneurship: Toward a digital technology perspective of entrepreneurship. Entrepreneurship Theory & Practice (forthcoming).

Nambisan, S., Lyytinen, K., Majchrzak, A. & M. Song. (2017). Digital innovation management: Reinventing innovation management research in a digital world. MIS Quarterly, 41(1), 223-238.

Roodman, D. (2011). Fitting Fully Observed recursive Mixed-process Models with CMP. The Stata Journal, 11(2), 159-206.

Signori, A., & Vismara, S. (2018). Does success bring success? The post-offering lives of equity-crowdfunded firms. Journal of Corporate Finance, 50, 575-591.

Smart, S. B., Thirumalai, R. S., & Zutter, C. J. (2008). What's in a vote? The short-and long-run impact of dual-class equity on IPO firm values. Journal of Accounting and Economics, 45(1), 94-115.

Steinhoff, R. H. (2015). The Next British Invasion Is Securities Crowdfunding: How Issuing Non-Registered Securities Through the Crowd Can Succeed in the United States. University of Colorado Law Review, 86, 661.

Tunali, I. (1986). A general structure for models of double selection and an application to a joint migration/earnings process with remigration, Research in Labor Economics, 8B, 235-283.

Vismara, S. (2016). Equity retention and social network theory in equity crowdfunding. Small Business Economics, 46(4), 579-590.

Vismara, S. (2018). Information cascades among investors in equity crowdfunding. Entrepreneurship Theory and Practice, 42(3), 467 - 497.

Vismara, S., Ritter, J. R. & Paleari, S. (2012). Europe's second markets for small companies. European Financial Management, 18(3), 352-388.

Vulkan, N., Åstebro, T., & Sierra, M. F. (2016). Equity crowdfunding: A new phenomena. Journal of Business Venturing Insights, 5, 37-49.

Walthoff-Borm, X., Vanacker, T. & Collewaert, V. (2018a). Equity Crowdfunding, Shareholder Structures, and Firm Performance. Corporate Governance: An International Review. Forthcoming.

Walthoff-Borm, X., Schwienbacher, A., &Vanacker, T. (2018b). Equity crowdfunding: First resort or last resort? Journal of Business Venturing. Forthcoming.

Westhead, P.; Howorth, C. (2006). Ownership and management issues associated with family firm performance and company objectives. Family Business Review, 19, 301–316.

Wilson, N., Wright, M. & Kaceer, M. (2018). The equity gap in knowledge-based firms. Journal of Corporate Finance, forthcoming.

Wright, M., Clarysse, B., Lockett, A., & Binks, M. (2006). University spin-out companies and venture capital, Research Policy, 35, 481–501.

Wright, M., & Fu, K. (2015). University Spin-outs: What Do We Know and What are the Policy Implications? Evidence from the UK. Journal of Innovation Management, 3(4), 5-15.

Zellweger, T. M. (2007). Time horizon, costs of equity capital, and generic investment strategies of firms. Family Business Review, 20(1), 1–15.

Tables and Figures

Figure 1. Number of equity offerings by investment threshold required in each bid to receive A-shares

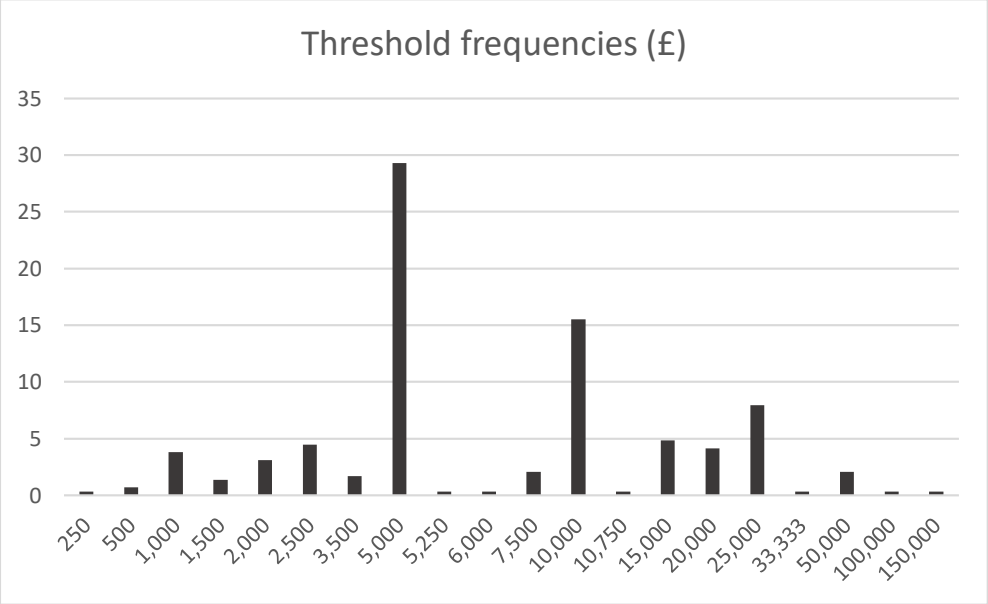
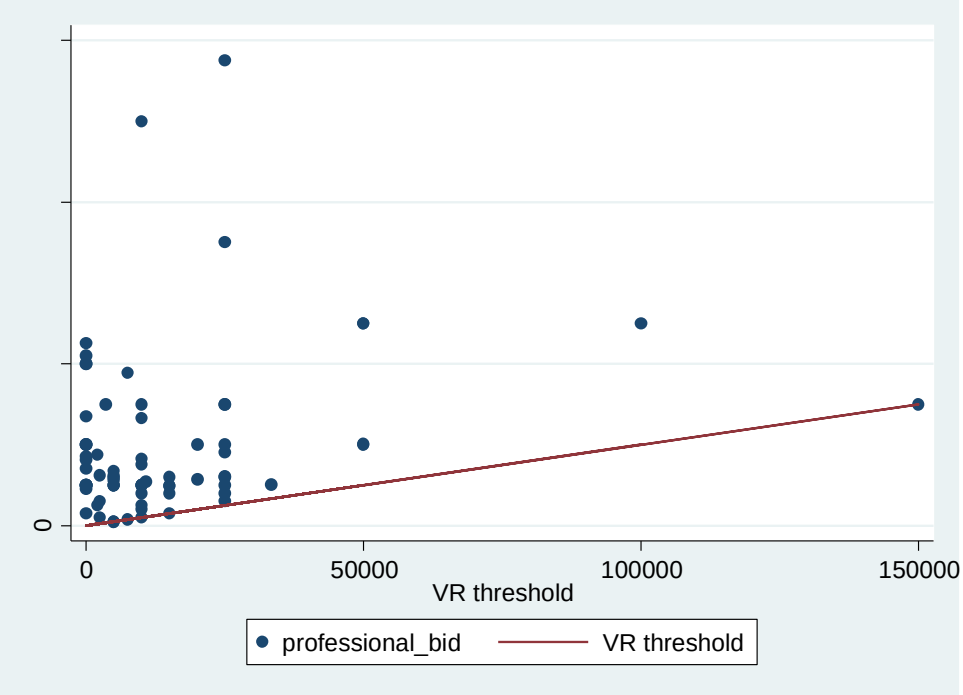


Figure 2. Levels of investment threshold for Class A shares and investment by professional investors at the crowdfunding offering

Figure 3. Relationship between threshold level and professional investors' bids

(All thresholds, all professional investors' bids)



(Threshold ≤ £50,000, professional investor's bid ≤ £200,000)

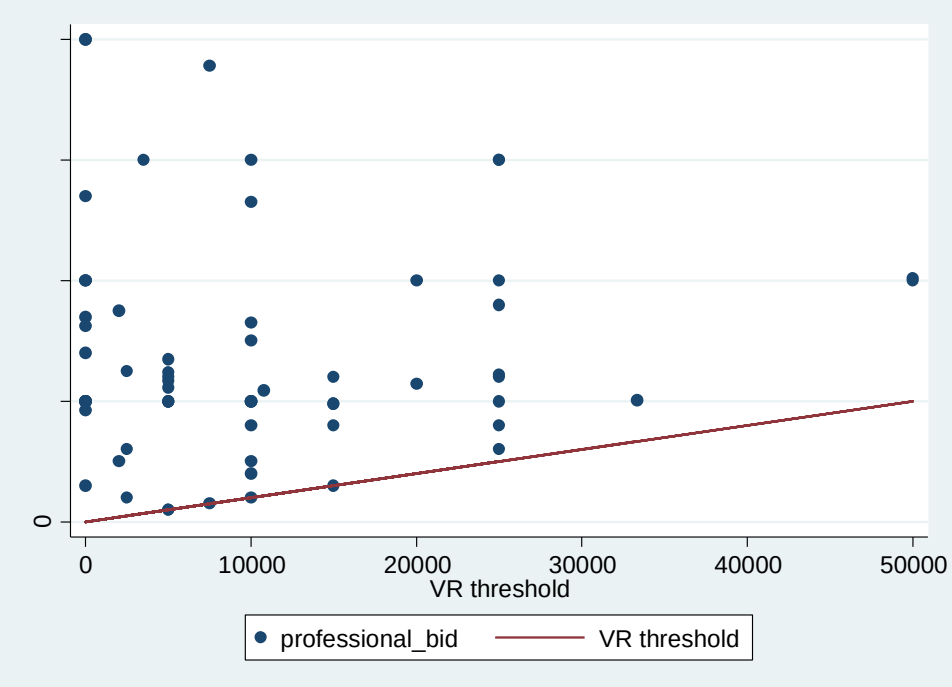


Table 1. Descriptive statistics by share type

Descriptive statistics on the sample of 491 Crowdcube offerings between 2011 and 2015. A-shares are firms issuing A-shares both with and without a minimum investment threshold (i.e., granting voting rights). B-shares only are firms issuing shares only without voting rights. Success is a dummy variable equal to 1 for offerings that collected at least the target amount of money. Professional investors is a dummy variable equal to 1 if a professional investor (VC or BA) has participated in the offering. Professional investors include self-certified, sophisticated investors (i.e., business angels, professionals in the private equity sector, or directors of a company with an annual turnover of at least £1 million), and high net worth investors (i.e., annual income over £100,000 or net assets over £250,000). Bid concentration is the Hirschman Herfindahl index calculated for the bids of all participants in the offering; i.e., it is the sum of squares as a percentage of weights for all bids in an offering. Average bid (non-professional) is the average amount bid by non-professional investors. Long-run success is a dummy variable equal to 1 for all firms that, after successfully raising equity in crowdfunding offerings, either attract further equity financing or deliver an exit opportunity to a crowdfunding investor, either in the form of an initial public offering (IPO) or of a merger and acquisition (M&A), at time t after their first successful offering. Failure is a dummy variable equal to 1 for firms that went insolvent, were liquidated, or were dissolved at time t after their first successful offering. A-shares threshold is the minimum investment required to obtain A-shares, as a percentage of the target amount, or in thousands of British pounds. Block threshold equals 1 in case the threshold is set to £25,000 or higher. Cash-flow rights (C) are measured as the controlling shareholder's percentage of ownership for the profits and dividends of the firm; they are set to 1, minus the equity offered in the proposal, in accordance to the methodology in Faccio and Lang (2002). V/C is the post-offering ratio between the controlling shareholder voting to cash-flow rights, where voting rights are estimated using the procedure used by Faccio and Lang (2002). V is equal to 1 if no right is distributed; 1 minus the equity offered if rights are offered with no threshold; 1 minus equity offered, times γ when a threshold is set for the distribution of rights, where γ is the fraction of shares sold to investors who bid above the threshold. Ownership wedge is a dummy variable equal to 1 if B-shares are issued, or an A-shares threshold is set, and 0 otherwise. Age is the age (in years) of the company. Positive sales equals 1 if the company has already reported positive sales. Patents equals 1 if the company owns or is filing patents. Non-executive directors is a dummy variable equal to 1 if at least one member of the board is a non-executive member. Founder Experience is the founder's number of previous work experiences. SEIS equals 1 if the offering is eligible for the Seed Enterprise Investment Scheme (SEIS) tax relief. Target capital is the amount of capital to be raised in the offering in thousands of British pounds. Exit IPO equals 1 if the firm declares the intention of conducting an IPO at a future date. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively, of the t-test (z-test for dummy variables) for the difference in means between the two groups.

Observations	A-shares 405		B-shares Only 86		Test on the Difference A- vs. B-shares		Successful Offerings 189		Unsuccessful Offerings 302		Test on the Difference Succ. vs. Unsuccessful	
	mean	median	mean	median	mean	median	mean	median	mean	median	mean	median
Panel A. Outcome variables												
Offering Success (%)	37.53	0.00	43.02	0.00	-5.49	0.00	1.00	1.00	-	-	-	-
Long-run Success (%)	9.13	0.00	9.30	0.00	0.17	0.00	23.80	0.00	-	-	-	-
Failure (%)	5.92	0.00	8.11	0.00	-2.18	0.00	6.35	0.00	-	-	-	-
Professional Investors (%)	26.12	0.00	33.93	0.00	-7.81	0.00	41.80	0.00	10.12	0.00	31.68***	0.00
Number of Investors	88.70	54.00	129.21	58.50	-40.61**	-4.50	148.48	107.00	62.82	34.5	85.66***	72.5***
Bid concentration (HHI)	6.05	0.00	12.87	0.00	-6.83***	0.00**	7.83	0.00	6.33	0.00	1.50	0.00
Average Bid (non-professional) (£k)	1.71	1.25	1.69	1.01	0.02	0.24	1.65	1.24	1.78	1.21	-0.13	0.03
Panel B. Ownership and control variables												
A-shares Threshold (%)	83.50	100.00	-	-	-	-	80.42	100.00	87.97	100.00	-7.55*	0.00*
A-shares Threshold (£k)	9.09	5.00	-	-	-	-	9.60	5.00	8.52	5.00	1.08	0.00
Block Threshold (%)	11.89	0.00	-	-	-	-	11.29	0.00	8.59	0.00	2.70	0.00
Threshold/Target Capital (%)	3.96	2.00	-	-	-	-	5.72	4.00	2.89	0.00	2.82***	4.00***
C (%)	85.55	87.00	86.30	87.50	0.74	-0.50	85.21	86.00	86.22	90.00	-1.01	-4.00*
V/C	1.06	1.10	1.18	1.14	-0.12***	-0.04***	1.05	1.08	1.12	1.11	-0.07***	-0.03***
Ownership Wedge (%)	88.15	100.00	100.00	100.00	-11.85***	0.00	80.95	100.00	96.02	100.00	-15.07***	0.00
Target Capital (£k)	230.97	150.00	288.40	100.00	-49.87	50.00	249.10	145.00	226.96	150.00	22.13	-5.00
Family (%)	18.02	0.00	19.76	0.00	-1.74	0.00	15.87	0.00	19.86	0.00	-3.99	0.00
Panel C. Control variables												
Age (years)	2.94	2.63	3.09	1.95	-0.15	0.68	2.71	1.97	3.63	2.12	-0.92**	-0.16*
Positive Sales (%)	53.05	100.00	51.11	100.00	1.94	0.00	61.29	100.00	39.67	0.00	21.62***	100.00***
Patents (%)	9.16	0.00	2.22	0.00	6.94	0.00	8.06	0.00	8.26	0.00	-0.20	0.00
Non-executive Directors (%)	9.38	0.00	10.46	0.00	-1.08	0.00	6.62	0.00	14.28	0.00	-7.66***	0.00
Founder Experience (no.)	3.49	3.00	5.20	4.00	-1.71***	-1.00***	4.04	3.00	3.28	2.00	0.76*	1.00**
SEIS (%)	39.69	0.00	22.22	0.00	17.47**	0.00**	65.05	100.00	59.50	100.00	5.55	0.00
Exit IPO (%)	21.65	0.00	9.43	0.00	12.22**	0.00	18.30	0.00	23.10	0.00	-4.8	0.00

Table 2. The effect of voting rights' thresholds on the success of equity offerings

The table reports the results of a double selection model with instrumental variables. The first stage is a bivariate probit model on the likelihood of issuing an offering in Crowdcube, with respect to Seedrs (Model 1) and issuing A-shares (Model 2). The identification conditions are identified as follows: in Model 1 we include Platform preference, measured as the number of offerings listed on the Crowdcube, divided by the number of offerings listed on Seedrs, in the same industry, in the 12 months prior to each observation; in Model 2, similar to Gompers et al. (2010); we include TMT Size, the number of M&As in the same industry, and a mimicking variable (Pr. A-shares), calculated as the ratio of crowdfunding offerings, which offered voting rights amongst offerings listed in the previous 12-months on the same platform. The second stage is a system of five equations estimated using a generalized structural equation model (GSEM). The dependent variables are the threshold amount (Model 3), the controlling shareholder's cash-flow rights (Model 4), the voting to cash-flow rights (Model 5), the target capital (Model 6), and the success dummy (Model 7a). Model 7b is a replacement of Model 7a, where the interaction of V/C with Founder Experience is included (no instrumental equation is reported). Two Inverse Mills Ratios are estimated from the first stage equations and included in all second stage equations. In the second stage, the ownership and control variables (Threshold, C, V/C) are treated as endogenous (i.e., instrumented). For each observation, identification variables (i.e., instruments) are measured as the average value of the investment threshold required to receive A-shares (Pr. Threshold), of the control variable (Pr. C), of the separation between ownership and control (Pr. V/C), and of the target capital (Pr. Target) calculated using all equity offerings in the same industry in the previous year. When estimating 7b, an additional instrumental variable for V/C × Founder Experience is included, as is interaction between Pr. V/C and Founder Experience. See Table 1 for the definition of the variables. Time trend is a variable set to 0 for 2011 issues and increased by 1 each year. Industry effects are included in all regressions, starting from Crowdcube classification. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

	(1)	(2)	(3)	(4)	(5)	(6)	(7a)	(7b)
	Crowdcube	A-shares	Threshold (ln)	C	V/C	Target capital	Offering Success	Offering Success
C	-	-	-	-	-	-	1.138**	1.180**
							(0.548)	(0.530)
V/C	-	-	-	-	-	-	-3.589***	-4.641**
							(1.481)	(2.016)
V/C × Founder Experience	-	-	-	-	-	-	-	0.468**
								(0.225)
Threshold (ln)	-	-	-	-	-	-	-0.085	-0.096
							(0.136)	(0.141)
Target Capital	-	-	-	-	-	-	-0.083	-0.101
							(0.141)	(0.142)
Family	0.556	-0.394	-0.011	0.003*	0.017	-0.011	-0.306	-0.299
	(0.303)	(0.271)	(0.010)	(0.001)	(0.092)	(0.010)	(0.243)	(0.243)
Age	0.781***	-0.108	0.019***	-0.031***	0.016	0.019***	-0.337**	-0.323**
	(0.215)	(0.132)	(0.005)	(0.007)	(0.048)	(0.005)	(0.137)	(0.138)
Positive Sales	0.373	0.116	-0.002	0.019*	-0.001	-0.002	0.998***	0.987***
	(0.317)	(0.211)	(0.008)	(0.011)	(0.073)	(0.008)	(0.210)	(0.211)
Patents	-0.173	0.532	-0.026	0.062***	0.264*	-0.026	0.600	0.603
	(0.554)	(0.495)	(0.036)	(0.022)	(0.141)	(0.036)	(0.416)	(0.415)
Non-executive Directors	0.104	0.155	-0.007	0.026	0.155	-0.007	-0.088	-0.038
	(0.361)	(0.347)	(0.012)	(0.017)	(0.108)	(0.012)	(0.295)	(0.299)
Founder Experience	-0.056	-0.100***	0.003	-0.010***	0.007	0.003	-0.006	-0.364
	(0.047)	(0.029)	(0.002)	(0.003)	(0.021)	(0.002)	(0.065)	(0.384)
SEIS	0.209	0.223	-0.019**	0.037***	-0.453***	-0.019**	-0.102	-0.088
	(0.317)	(0.240)	(0.009)	(0.013)	(0.083)	(0.009)	(0.251)	(0.251)
Exit IPO	0.352	0.174	-0.002	-0.006	0.156*	-0.002	0.139	0.122
	(0.357)	(0.284)	(0.010)	(0.015)	(0.093)	(0.010)	(0.255)	(0.256)
Time Trend	0.155	-0.136	-0.012	-0.002	-0.203*	-0.012	-0.783***	-0.768***
	(0.218)	(0.209)	(0.013)	(0.018)	(0.117)	(0.013)	(0.171)	(0.171)
Platform Preference	0.252**	-	-	-	-	-	-	-
	(0.123)							
TMT Size	-	0.091**	-	-	-	-	-	-
		(0.045)						
M&As in the industry	-	-0.215*	-	-	-	-	-	-
		(0.106)						
Pr. A-shares	-	3.275***	-	-	-	-	-	-
		(0.867)						

Pr. Threshold	-	-	0.749**	0.134*	0.039	0.042	-	-
			(0.354)	(0.069)	(0.079)	(8.097)		
Pr. C	-	-	-3.123	1.042***	0.048	-1.926		-
			(2.468)	(0.302)	(0.117)	(1.920)		
Pr. V/C	-	-	5.555*	-0.386	0.072**	-0.813	-	-
			(2.890)	(0.232)	(0.039)	(2.866)		
Pr. Target	-	-	-0.263	-0.186	-0.009	0.744***	-	-
			(0.288)	(0.253)	(0.017)	(0.191)		
$IMR_{platform}$	-	-	0.689	-0.167	0.201	-0.713	-0.187	-1.201
			(1.650)	(0.262)	(0.332)	(1.158)	(0.384)	(1.656)
IMR_{voting}	-	-	5.448	-0.159*	0.229**	4.385	2.368	2.233
			(5.022)	(0.081)	(0.103)	(3.735)	(2.226)	(2.197)
Constant	-5.425***	2.895**	0.346	-0.033	2.008***	7.075	11.754**	12.910**
	(1.452)	(1.236)	(0.441)	(0.555)	(0.635)	(6.533)	(5.072)	(5.191)
Log-likelihood	0.148						-412.8	-409.2
Observations	1,309						405	405

Table 3. The effect of interest alignment and voting rights' thresholds on post-offering scenarios

The table reports the results of a multi-level, multi-process hazard model, with two hazard rate equations for long-run success (Model 2a) and failure (Model 3a), a selection equation for Offering Success (Model 1), and where ownership and control variables (Threshold, C, V/C) and Target Capital are treated as endogenous (i.e., instrumented). In Model 1, identification condition is granted by the inclusion of the number of competing offerings; i.e., offerings open in the same equity crowdfunding platform at the time of the opening of each offering. For each observation, identification variables (i.e., instruments) are measured as the average value of the investment threshold required to receive A-shares (Pr. Threshold), of the control variable (Pr. C), and of the separation between ownership and control (Pr. V/C), calculated using all offerings listed in the previous 12-months on the same platform. The equations for instrumented variables are omitted, as they are qualitatively the same reported in Table 2. Time trend is a variable set to 0 for 2011 issues and increased by 1 each year. Models 2b and 3b are replacements of Models 2 and (3a, where the interaction of V/C with Founder Experience is included. Industry effects are included in all regressions, starting from Crowdcube classification. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

	(1)	(2a)	(3a)	(2b)	(3b)
	Offering Success	Long-run Success	Failure	Long-run Success	Failure
C	1.848*	2.964**	-6.829**	3.049**	-4.296*
	(0.973)	(1.347)	(2.886)	(1.284)	(2.459)
V/C	-4.963**	-5.923*	5.980*	-5.409**	7.185*
	(2.698)	(3.119)	(3.197)	(2.575)	(3.991)
V/C × Founder Experience	-	-	-	0.137	-3.726*
				(0.523)	(2.103)
Threshold (ln)	-0.008	0.590	1.614	0.584	0.328
	(0.154)	(0.401)	(1.058)	(0.404)	(0.458)
Target Capital	-0.079	0.063	-1.961***	0.043	-1.561***
	(0.154)	(0.363)	(0.499)	(0.346)	(0.549)
Family	-0.352	-0.472	-3.955***	-0.472	-4.737***
	(0.268)	(1.151)	(1.129)	(1.153)	(2.054)
Age	-0.289**	-1.394**	-1.547***	-1.410**	-1.449*
	(0.138)	(0.646)	(0.487)	(0.679)	(0.835)
Positive Sales	1.082***	2.539**	-2.150***	2.548**	2.164***
	(0.224)	(1.039)	(0.660)	(1.056)	(0.723)
Patents	0.499	0.842	-2.203	0.840	-2.455
	(0.377)	(0.714)	(1.577)	(0.705)	(2.209)
Non-executive Directors	-0.032	1.964**	2.462	2.009**	3.943
	(0.326)	(0.802)	(1.945)	(0.888)	(2.622)
Founder Experience	0.066*	0.085	0.034	-0.066	-7.141
	(0.035)	(0.057)	(0.190)	(0.577)	(4.707)
SEIS	-0.140	0.973	-0.510	0.983	-1.243
	(0.247)	(0.871)	(1.024)	(0.850)	(1.535)
Exit IPO	0.178	0.542	-0.821	0.534	-0.940
	(0.285)	(0.530)	(1.336)	(0.526)	(1.869)
Time Trend	-0.891***	-1.470***	0.139	-1.473***	0.512
	(0.195)	(0.556)	(0.664)	(0.568)	(1.201)
Competing Offerings	-0.019***	-	-	-	-
	(0.006)				
Constant	12.669**	-	-	-	-

	(5.683)			
Log-likelihood	-9.161		0.176	0.181
Observations	491		405	152

Table 4. The effect of voting rights' thresholds on the participation of sophisticated and other types of investors

The table reports the results of a double selection model with instrumental variables. The first stage (omitted) is a bivariate probit model on the likelihood of issuing an offering in Crowdcube, with respect to Seedrs, and issuing A-shares (as in Models 1 and 2 in Table 2). The outcome variables in the second stage is, in Model 1a, a dummy equal to 1 in case a professional investor bid shares at the offering; in Model 2a, the number of investors participating in the offering; in Model 3a, a measure of bid concentration, calculated as an HHI (i.e., HHI=1 if the entire offering is subscribed by only one investor); and in Model 4a, the average bid of non-professional investors. In all cases, in the second stage, ownership and control variables (Threshold, C, V/C) and Target Capital are treated as endogenous (i.e., instrumented). Models 1b-4b are a replacement of Models 1a -4a, where the interaction of V/C with Founder Experience is included (no instrumental equation is reported). For each observation, identification variables (i.e., instruments) are measured as the average value of the investment threshold required to receive A-shares (Pr. Threshold), of the control variable (Pr. C), and of the separation between ownership and control (Pr. V/C), calculated using all equity offerings in the same industry in the previous year. When estimating 1b-4b, an additional instrumental variable for V/C × Founder Experience is included, as is interaction between Pr. V/C and Founder Experience. The equations for instrumented variables are omitted as qualitatively the same as in Table 2. Two Inverse Mills Ratios are estimated in the first stage and included in all equations of the second stage. See Table 1 for the definition of the variables. Time trend is a variable set to 0 for 2011 issues and increased by 1 each year. Industry effects are included in all regressions, starting from Crowdcube classification. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

	(1a)	(2a)	(3a)	(4a)	(1b)	(2b)	(3b)	(4b)
	Professional Investors	Number of Investors	Bid HHI	Average Bid (non pr.)	Professional Investors	Number of Investors	Bid HHI	Average Bid (non pr.)
C	4.191**	1.895***	0.179	-0.041	4.022**	1.909***	0.112	-0.048
	(2.123)	(0.661)	(0.143)	(2.757)	(2.111)	(0.692)	(0.164)	(2.410)
V/C	-4.715***	-0.108**	-0.096	2.523	-5.815***	-0.145**	-0.084	2.461
	(1.657)	(0.048)	(0.131)	(2.742)	(2.409)	(0.061)	(0.120)	(2.328)
V/C × Founder Experience	-	-	-	-	0.285**	0.095***	0.012	-0.190
					(0.139)	(0.025)	(0.023)	(0.413)
Threshold (ln)	0.408**	-0.072***	0.016**	-0.061	0.404**	-0.060***	0.015**	-0.048
	(0.201)	(0.016)	(0.007)	(0.50)	(0.205)	(0.006)	(0.007)	(0.57)
Target Capital	0.529	0.033**	-0.003	1.151***	0.115	0.409***	-0.003	1.154***
	(0.365)	(0.015)	(0.014)	(0.145)	(0.250)	(0.008)	(0.008)	(0.145)
Family	-0.431	-0.437***	-0.004	-0.300	-0.425	-0.438***	-0.004	-0.298
	(0.541)	(0.020)	(0.015)	(1.604)	(0.539)	(0.020)	(0.015)	(1.609)
Age	0.050	-0.176***	-0.001	0.131	0.037	-0.168***	-0.001	0.129
	(0.245)	(0.008)	(0.008)	(0.133)	(0.247)	(0.008)	(0.008)	(0.133)
Positive Sales	0.962**	0.428***	0.007	-0.059	0.973**	0.422***	0.006	-0.058
	(0.420)	(0.014)	(0.012)	(0.211)	(0.424)	(0.014)	(0.012)	(0.211)
Patents	-5.309	0.462***	0.006	-0.566	-5.223	0.455***	0.007	-0.575
	(344.023)	(0.019)	(0.021)	(0.383)	(345.101)	(0.019)	(0.021)	(0.383)
Non-executive Directors	0.070	0.110***	-0.019	-0.642**	0.120	0.135***	-0.016	-0.663**
	(0.407)	(0.017)	(0.017)	(0.299)	(0.423)	(0.017)	(0.017)	(0.302)
Founder Experience	0.159**	0.009***	-0.001	0.017	-0.111	-0.197***	-0.023	0.228
	(0.080)	(0.003)	(0.002)	(0.039)	(0.567)	(0.022)	(0.021)	(0.461)
SEIS	-0.292	-0.131***	-0.009	0.239	-0.267	-0.121***	-0.008	0.231
	(0.445)	(0.018)	(0.014)	(0.249)	(0.450)	(0.018)	(0.014)	(0.250)
Exit IPO	0.493	0.019	-0.003	0.185	0.462	0.006	-0.005	0.196
	(0.365)	(0.015)	(0.015)	(0.251)	(0.370)	(0.015)	(0.015)	(0.252)
Time trend	-0.327	-0.010	-0.007	-0.706***	-0.301	-0.007	-0.006	-0.715***
	(0.310)	(0.011)	(0.010)	(0.195)	(0.316)	(0.011)	(0.010)	(0.196)
$IMR_{platform}$	0.056	-0.460***	0.022	-0.103	0.026	-0.465***	0.022	-0.099
	(0.623)	(0.026)	(0.023)	(0.187)	(0.630)	(0.027)	(0.023)	(0.178)
IMR_{voting}	-2.353	-0.231***	-0.058	-0.263	-2.277	-0.256***	-0.057	-0.286
	(2.177)	(0.064)	(0.049)	(0.858)	(2.184)	(0.064)	(0.049)	(0.859)
Constant	-4.155	2.086***	0.179	-13.598***	-2.515	2.897***	0.252	-5.486
	(7.870)	(0.279)	(0.241)	(4.090)	(8.577)	(0.294)	(0.251)	(4.598)
Log-likelihood	-411.8	-395.7	-446.1	-409.2	-410.3	-394.2	-446.1	-408.9

Observations	405	405	405	405	405	405	405	405

Table 5. Robustness test on the definition for the threshold level and the ownership variables

These are the same models as in Table 3 but with different definitions of ownership variables. In Model 1, *Threshold/Target* replaces *Threshold* (ln). In Model 2, *Ownership Wedge* replaces (*V/C*). Selection and instrumental equations are not reported, as they are qualitatively analogous to those reported in Table 2.

	(1)	(2)
	Offering Success	Offering Success
C	1.031**	1.069**
	(0.485)	(0.491)
V/C	-4.573**	-
	(2.212)	
Threshold/Target	0.064	-
	(0.148)	
Ownership Wedge	-	-0.526**
		(0.251)
Threshold (ln)	-	0.009
		(0.096)
Target Capital	-0.062	-0.076
	(0.131)	(0.142)
Family	-0.318**	-0.307**
	(0.137)	(0.137)
Age	0.973***	0.964***
	(0.210)	(0.210)
Positive Sales	0.501	0.520
	(0.419)	(0.419)
Patents	-0.116	-0.114
	(0.295)	(0.294)
Non-executive Directors	-0.000	-0.007
	(0.065)	(0.066)
Founder Experience	-0.122	-0.109
	(0.250)	(0.250)
SEIS	0.177	0.178
	(0.256)	(0.255)
Exit IPO	-0.318**	-0.307**
	(0.137)	(0.137)
Time Trend	0.973***	0.964***
	(0.210)	(0.210)
$IMR_{platform}$	-0.156	-0.121
	(0.384)	(0.380)
IMR_{voting}	2.156	2.419
	(2.200)	(2.233)
Constant	13.311***	5.246**
	(4.899)	(2.421)
Log-likelihood	-413.0	-412.5
Observations	405	405

Table 6. Robustness test on the definition of long-run outcome

The table reports the marginal effects after regressing a multinomial logit model, with three possible outcomes 2 years after the offering campaign, i.e. long-run success (Model 1a), failure (Model 2a), survival (Model 3a), a selection equation for Offering Success, and where ownership and control variables (Threshold, C, V/C) and Target Capital are treated as endogenous (i.e., instrumented). In the Offering Success equation, identification condition is granted by the inclusion of the number of competing offerings; i.e., offerings open in the same equity crowdfunding platform at the time of the opening of each offering. For each observation, identification variables (i.e., instruments) are measured as the average value of the investment threshold required to receive A-shares (Pr. Threshold), of the control variable (Pr. C), and of the separation between ownership and control (Pr. V/C), calculated using all offerings listed in the previous 12-months on the same platform. The equations for instrumented variables are omitted, as they are qualitatively the same reported in Table 2. The offering success equation is omitted, as they are qualitatively equivalent to results reported in Table 3. Time trend is a variable set to 0 for 2011 issues and increased by 1 each year. Models 1b, 2b, and 3b are replacements of Models 1a, 2a, and 3b, where the interaction of V/C with Founder Experience is included. Industry effects are included in all regressions, starting from Crowdcube classification. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

	(1a)	(2a)	(3a)	(1b)	(2b)	(3b)
	Long-run Success	Failure	Survival	Long-run Success	Failure	Survival
C	0.852*	-0.568*	-0.284	0.815*	-0.328**	-0.487
	(0.461)	(0.291)	(0.365)	(0.414)	(0.149)	(0.385)
V/C	-0.890**	1.240***	-0.350	-1.671***	2.114***	-0.443
	(0.357)	(0.468)	(0.309)	(0.617)	(0.701)	(0.372)
V/C × Founder Experience	-	-	-	0.145**	-0.159**	0.015
				(0.058)	(0.068)	(0.039)
Threshold (ln)	0.036*	0.033	-0.069	0.036*	0.033	-0.069**
	(0.020)	(0.022)	(0.047)	(0.020)	(0.023)	(0.030)
Target Capital	0.005	-0.041**	0.036	0.003	-0.056**	0.053*
	(0.022)	(0.018)	(0.028)	(0.022)	(0.024)	(0.032)
Family	-0.009	-0.447***	0.456	-0.018	-0.414***	0.432
	(3.043)	(0.159)	(43.716)	(1.893)	(0.138)	(32.647)
Age	-0.080***	-0.033*	0.113***	-0.083***	-0.038*	0.121***
	(0.029)	(0.017)	(0.033)	(0.030)	(0.020)	(0.035)
Positive Sales	0.161***	0.071	-0.231***	0.165***	0.091	-0.256***
	(0.061)	(0.049)	(0.077)	(0.061)	(0.056)	(0.081)
Patents	0.082	-0.028	-0.053	0.087	-0.030	-0.058
	(0.058)	(0.045)	(0.071)	(0.059)	(0.048)	(0.075)
Non-executive Directors	0.086**	0.036	-0.122***	0.091**	0.044	-0.135***
	(0.035)	(0.032)	(0.046)	(0.036)	(0.039)	(0.052)
Founder Experience	0.007	0.002	-0.009	-0.009	0.151	0.160
	(0.005)	(0.004)	(0.007)	(0.044)	(0.111)	(0.123)
SEIS	0.044	-0.083**	0.039	0.044	-0.112**	0.068
	(0.043)	(0.039)	(0.056)	(0.043)	(0.051)	(0.065)
Exit IPO	0.018	-0.365	0.347	0.007	-0.274	0.267
	(2.036)	(31.284)	(29.248)	(1.486)	(27.132)	(25.646)
Time Trend	-0.118**	-0.027	0.144**	-0.122**	-0.045	0.166***
	(0.049)	(0.030)	(0.058)	(0.050)	(0.035)	(0.060)
$IMR_{offering\_success}$	0.113	0.086	-0.199	0.125	0.147	-0.272*
	(0.123)	(0.086)	(0.150)	(0.124)	(0.097)	(0.155)
Log-likelihood		-62.556			-58.918	
Observations		405			405	

Appendix

Table A1. Descriptive statistics. Details.

Descriptive statistics (mean, median, standard deviation, maximum and minimum values) on the sample of 491 Crowdcube offerings between 2011 and 2015.

	mean	median	st. dev.	max	min
Panel A. Outcome variables					
Offering Success (%)	38.49	0.00	48.17	100.00	0.00
Long-run Success (%)	9.16	0.00	28.88	100.00	0.00
Failure (%)	6.31	0.00	24.35	100.00	0.00
Professional Investors (%)	27.38	0.00	44.65	100.00	0.00
Number of Investors	95.79	54.00	183.41	2,906	1
Bid Concentration (HHI)	7.15	2.00	14.51	100.00	0.01
Average Bid (non-professional) (£k)	1.70	1.24	1.89	22.90	0.02
Panel B. Ownership and control variables					
A-shares Threshold (%)	83.50	100.00	37.19	100.00	0.00
A-shares Threshold (£k)	9.09	5.00	4.36	150.00	0.00
Block Threshold (%)	11.89	0.00	30.30	100.00	0.00
Threshold/Target Capital (%)	3.96	2.00	7.06	75.00	0.00
C (%)	86.11	88.00	7.81	0.98	0.15
V/C	1.08	1.04	0.10	1.81	1.00
Ownership Wedge (%)	90.22	100.00	29.73	100.00	0.00
Target Capital (£k)	277.80	150.00	481.47	6,000.00	12.00
Family (%)	18.32	0.00	38.73	100.00	0.00
Panel C. Control variables					
Age (years)	3.05	3.20	2.01	22.44	0.03
Positive Sales (%)	52.77	100.00	50.00	100.00	0.00
Patents (%)	8.14	0.00	27.39	100.00	0.00
Non-executive Directors (%)	9.57	0.00	30.80	100.00	0.00
Founder Experience (no.)	3.74	3.00	3.53	30.00	0.00
SEIS (%)	36.92	0.00	48.33	100.00	0.00
Exit IPO (%)	19.76	0.00	39.88	100.00	0.00

Table A2. Comparison of Crowdcube and Seedrs samples

Descriptive statistics on the sample of 491 Crowdcube offerings between 2011 and 2015 and on the matched sample of 818 Seedrs UK offerings between 2012 and 2015. Variables are defined as in Table 1. Ownership variables are not available for Seedrs offerings. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively, of the t-test (z-test for dummy variables) for the difference in means between the two groups.

Observations	Crowdcube 491		Seedrs 818		Test on the Difference Crowdcube vs. Seedrs	
	mean	median	mean	median	mean	median
Control variables						
Age (years)	2.97	2.20	3.16	2.59	-0.19	-0.39
Positive Sales (%)	52.71	100.00	52.20	100.00	0.51	0.00
Patents (%)	7.94	0.00	7.44	0.00	0.54	0.00
Non-executive Directors (%)	9.57	0.00	8.46	0.00	-1.08	0.00
Founder Experience (no.)	3.79	3.00	4.20	3.00	-0.41	0.00
SEIS (%)	36.63	0.00	33.57	0.00	3.06	0.00
Exit IPO (%)	19.52	0.00	19.43	0.00	0.03	0.00

Table A3. Determinants of success for the equity offerings (for the full model of issues; no threshold analysis)

This table reports the results of a system of four equations estimated using a generalized structural equation model (GSEM). The dependent variables are the ultimate shareholder's cash-flow rights (Model 1), the separation between ownership and control (Model 2), the target capital (Model 3), and the Offering Success dummy (Model 4). In Model 4, ownership and control variables (C, V/C) and target capital are treated as endogenous (i.e., instrumented). For each observation, identification variables (i.e., instruments) are measured as the average control (Pr. C), separation between ownership and control (Pr. V/C), and target capital (Pr. Target), calculated using all offerings listed in the previous 12-months on the same platform. See Table 1 for the definition of the variables. Time trend is a variable set to 0 for 2011 issues and increased by 1 each year. Industry effects included in all regressions, starting from Crowdcube classification. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

	(1) C	(2) V/C	(3) Target Capital	(4) Offering Success
C	-	-	-	1.484***
				(0.573)
V/C	-	-	-	-2.224***
				(0.826)
Target Capital	-	-	-	0.004
				(0.115)
Family	-0.015	0.010*	0.019	-0.230
	(0.010)	(0.006)	(0.090)	(0.221)
Age	0.018***	-0.023***	0.024	-0.268**
	(0.005)	(0.007)	(0.044)	(0.116)
Positive Sales	0.003	0.008	0.005	0.889***
	(0.008)	(0.011)	(0.071)	(0.182)
Patents	-0.011	0.022	0.276**	0.307
	(0.014)	(0.021)	(0.129)	(0.323)
Non-executive Directors	-0.001	0.009	0.156	-0.220
	(0.012)	(0.017)	(0.105)	(0.253)
Founder Experience	-0.001	0.003*	0.008	0.043
	(0.001)	(0.002)	(0.010)	(0.027)
SEIS	-0.014	0.020	-0.456***	-0.237
	(0.009)	(0.013)	(0.079)	(0.198)
Exit IPO	0.006	-0.022	0.170*	-0.039
	(0.010)	(0.014)	(0.087)	(0.217)
Time trend	-0.001	0.022	-0.123	-0.866***
	(0.010)	(0.014)	(0.087)	(0.139)
Pr. C	1.233***	0.236***	-0.860*	-
	(0.480)	(0.079)	(0.491)	
Pr. V/C	-0.139***	0.366***	3.731	-
	(0.055)	(0.097)	(4.308)	
Pr. Target	-0.014**	0.015*	0.891***	-
	(0.006)	(0.008)	(0.052)	
Constant	-0.386	1.938***	-2.324	9.253***
	(0.512)	(0.588)	(4.608)	(3.566)
Log-likelihood				-583.6

Observations	491

Table A4. Dual-class shares decision and investment threshold

This table reports the results of a double selection model with instrumental variables using a bivariate probit model on the likelihood of issuing an offer in Crowdcube, with respect to Seedrs (Model 1) and issuing A-shares (Model 2). The identification conditions are identified as follows: in Model 1, we include Platform preference, measured as the number of offerings listed on the Crowdcube, divided by the number of offerings listed on Seedrs, in the same industry, in the 12 months prior to each observation; in Model 2, similarly to Gompers et al. (2010), we include the TMT Size, the number of M&As in the same industry, and a mimicking variable (Pr. A-shares), calculated as the ratio of crowdfunding offerings that offered voting rights amongst offerings listed in the previous 12 months on the same platform. The second stage models the investment threshold required to obtain A-shares. The dependent variables are the log of the monetary value of the threshold (Model 3); a dummy equal to 1 in case the threshold is greater than zero (Model 4); a dummy equal to 1 in case the threshold is set to £25,000 or higher (i.e., a 'block threshold') (Model 5); and the ratio between the monetary value of the threshold and the target capital of the proposal (Model 6). The Time trend is a variable set to 0 for 2011 issues and increases by 1 each year. Industry effects are included in all regressions, starting with Crowdcube classification. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

	First stage		Second step (A-shares threshold)			
	Crowdcube	A-shares	Ln(amount) (OLS)	Threshold>0 (probit)	Block Threshold (probit)	Threshold/ Target Capital (tobit)
	(1)	(2)	(3)	(4)	(5)	(6)
Family dummy	0.556	-0.394	0.247*	0.269*	0.333	0.025*
	(0.303)	(0.271)	(0.138)	(0.150)	(0.238)	(0.016)
Age	0.781***	-0.108	0.017	-0.067	0.059	-0.000
	(0.215)	(0.132)	(0.090)	(0.230)	(0.302)	(0.007)
Positive Sales	0.373	0.116	0.055	0.144	-0.248	-0.006
	(0.317)	(0.211)	(0.136)	(0.361)	(0.469)	(0.011)
Patents	-0.173	0.532	0.102	-0.699	-0.872	0.014
	(0.554)	(0.495)	(0.239)	(0.645)	(0.934)	(0.020)
Non-executive Directors	0.104	0.155	0.029	-0.034	-0.598	-0.006
	(0.361)	(0.347)	(0.195)	(0.506)	(0.688)	(0.016)
Founder Experience	-0.056	-0.100***	0.066**	0.080*	0.188**	0.004*
	(0.047)	(0.029)	(0.025)	(0.043)	(0.083)	(0.002)
SEIS	0.209	0.223	-0.217	0.229	-0.403	-0.007
	(0.317)	(0.240)	(0.150)	(0.438)	(0.619)	(0.013)
Exit IPO	0.155	-0.136	0.017	-0.318	-0.013	-0.012
	(0.218)	(0.209)	(0.090)	(0.431)	(0.552)	(0.013)
Platform Preference	0.252**	-	-	-	-	-
	(0.123)					
TMT Size	-	-	-	-	-	-
M&As in the industry	-	0.091**	-	-	-	-
		(0.045)				
Pr. A-shares	-	-0.215*	-	-	-	-
		(0.106)				
Time Trend	-	3.275***	0.179	0.108***	-0.061*	0.010
		(0.867)	(0.113)	(0.041)	(0.033)	(0.009)
$IMR_{platform}$		-	0.418	1.025**	0.182	0.041*
			(0.260)	(0.459)	(0.438)	(0.021)
IMR_{voting}		-	-0.334	-0.294	-0.273	-0.036
			(0.566)	(0.810)	(0.884)	(0.048)

Constant	-5.425***	2.895**	4.455***	0.575	-1.383***	0.209**
	(1.452)	(1.236)	(1.141)	(0.435)	(0.346)	(0.097)
Industry Effects	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo (adjusted) R^2	0.142		(0.139)	0.108	0.213	0.195
Observations	1,309		405	405	405	405

Table A5. Disentangling direct and indirect effect of voting rights' thresholds on the success of equity offerings

The table reports the results of a double selection model with instrumental variables. The first stage (omitted) is a bivariate probit model on the likelihood of issuing an offering in Crowdcube, with respect to Seedrs and issuing A-shares (as in Models 1 and 2 in Table 2). The second stage is a system of equations estimated using a generalized structural equation model (GSEM). The outcome variables are a dummy equal to 1 in case a professional investor bid shares at the offering (Model 1a) and the success dummy (Model 2a). Four variables, namely the threshold amount, the controlling shareholder's cash-flow rights, the voting to cash-flow rights, and the target capital are treated as endogenous. Instrumental equations are not reported, as qualitatively equivalent to Models (3-6) in Table 2. Models 1b and 2b are replacements of Models 1a and 2a, where the interaction of V/C with Founder Experience is included. When estimating 1b and 2b, an additional instrumental variable for V/C × Founder Experience is included, as is interaction between Pr. V/C and Founder Experience. The instrument for Professional Investors is the TMT Size. Two Inverse Mills Ratios are estimated from the first stage equations and included in all second stage equations. See Table 1 for the definition of the variables. Time trend is a variable set to 0 for 2011 issues and increased by 1 each year. Industry effects are included in all regressions, starting from Crowdcube classification. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

	(1a)	(2a)	(1b)	(2b)
	Professional Investors	Success	Professional Investors	Success
C	4.132**	0.864*	4.195**	0.912*
	(2.191)	(0.478)	(2.169)	(0.499)
V/C	-4.761***	-4.942**	-4.961***	-5.414**
	(1.756)	(2.414)	(2.152)	(2.864)
V/C × Founder Experience	-	-	0.196*	0.473*
			(0.106)	(0.280)
Threshold (ln)	0.388***	-0.212**	0.271**	-0.208**
	(0.127)	(0.094)	(0.121)	(0.089)
Target Capital	0.144	-0.089	0.125	-0.100
	(0.252)	(0.142)	(0.255)	(0.142)
Professional Investors	-	0.103**	-	0.121**
		(0.054)		(0.059)
Family	-0.373	-0.307	-0.356	-0.307
	(0.456)	(0.243)	(0.452)	(0.243)
Age	0.167	-0.337**	0.199	-0.336**
	(0.246)	(0.137)	(0.252)	(0.137)
Positive Sales	0.942**	0.999***	0.913**	0.999***
	(0.413)	(0.212)	(0.415)	(0.212)
Patents	-5.807	0.598	-5.504	0.598
	(275.960)	(0.418)	(121.809)	(0.418)
Non-executive Directors	0.265	-0.088	0.234	-0.088
	(0.420)	(0.295)	(0.423)	(0.295)
Founder Experience	0.240	-0.006	-0.017	-0.006
	(0.172)	(0.066)	(0.326)	(0.066)
SEIS	-0.834	-0.102	-0.845	-0.102
	(0.529)	(0.251)	(0.542)	(0.251)
Exit IPO	0.294	0.141	0.248	0.141
	(0.408)	(0.257)	(0.414)	(0.257)
Time Trend	-0.465	-0.783***	-0.407	-0.783***
	(0.523)	(0.171)	(0.531)	(0.171)
TMT Size	0.083**	-	0.096**	-
	(0.039)		(0.041)	
$IMR_{platform}$	-0.079	-1.568	-0.085	-0.187
	(0.595)	(1.588)	(0.595)	(0.384)
IMR_{voting}	-5.261	-1.476	-6.030	2.367

	(5.737)	(1.467)	(5.909)	(2.226)
Constant	6.844	13.477***	6.348	11.746**
	(12.361)	(5.023)	(12.944)	(5.071)
Log-likelihood		-413.1		-410.0
Observations		405		405