Gender in entrepreneurial finance:

matching investors and entrepreneurs in equity crowdfunding

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Abstract

The Internet has long promised the democratization of entrepreneurial finance by disintermediation of the interaction between those who want to invest money and those who need it. Equity crowdfunding platforms are one such mechanism. Using a sample of 58 equity offerings of UK crowdfunding platform Seedrs, we show that (1) gender diversity is higher in equity crowdfunding than in other entrepreneurial finance markets and that (2) gender impacts the interaction between demand and supply of equity capital. The number of female investors in campaigns by female-led businesses is almost twice that in male-led businesses. Although investors are predominantly men (78.5 percent), on average, women invest 34 percent more than men.

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1. Introduction

A significant amount of evidence shows that gender differences in capital markets do exist. Compared to men, women have greater limitations on access to personal savings (Boden & Nucci 2000). Women-led business access to debt capital has been inadequate when compared to men (Buttner & Rosen 1992; Coleman 2002; Orser & Foster 1994). Although there is no evidence of discrimination in terms of approval/turndown rates, few women apply for debt capital (Cavalluzzo et al. 2002; Fielden et al. 2003) and they are charged a higher interest rate on their loans or have greater collateral requirements compared to men (Coleman 2000; Fabowale et al. 1995; Riding & Swift 1990).

Gender skewness is more evident in accessing external equity. On one hand, female owners show a preference for internal versus external equity when compared with male owners (Bennett & Dann 2000; Chaganti et al. 1996; Haynes & Haynes 1999). On the other hand, women receive a substantially smaller proportion of private equity and venture capital than men do (Greene et al. 2001). Greene et al. (2001) report that women-led firms receive only 2.4 percent of all equity investments in the United States and 4.1 percent of venture capital. Brush et al. (2004) document that although women own more than 30 percent of US businesses, they receive less than 5 percent of venture capital funds distributed annually. Using the US SBIR project data program, Gicheva and Link (2013) find that women-owned firms are as much as 16 percentage points less likely to attract private investment dollars compared to male-owned firms, factors excluding the size of the SBIR award held constant. Gicheva and Link (2015) confirm that female-owned firms are disadvantaged in their access to private investment.

Part of the motivations of this situation is the result of demand-side (*entrepreneurs*) issues, pointing to gender differences in human capital, social capital or growth aspirations, or differences between men's and women's ventures (Carter & Rosa 1998). Audretsch et al. (2017) find that barriers based on personal characteristics, attitudes, cultural background and the entrepreneurial environment hinder latent and nascent female entrepreneurs to start new ventures. Stereotypically,

masculine characteristics associated with leader emergence (Fagenson 1993) may attract venture capitalists (VCs), as they expect a funded venture to grow rapidly in term of sales and profits. Women are less likely to have prior entrepreneurial or/and managerial experience and to participate in networks with high net worth individuals (Verheul & Thurik 2001). In a sample of 1866 US firms, Huang and Kisgen (2013) report that 94 percent of CEOs are men; Graham et al. (2013) conclude the same using statistics for US and non-US CEOs and CFOs.

On the other hand, Amatucci and Sohl (2004) point to investor assumptions or stereotyping regarding women owners' management potential, despite their extensive business backgrounds. Arguably, supply-side (*investors*) issues such as male dominance among VCs and traditions related to investment in male-dominated industries (Greene et al. 2001) impact the gender bias in entrepreneurial finance. The angel market is predominantly comprised of male investors. Only about 10 percent of VCs and less than 15 percent of business angels are women. Harrison and Mason (2007) observe that women business angels are less active than men (on average 3.3 investments during the period January 2001 to mid-2004 for men vs 2.6 for women). More broadly, Barber and Odean (2001) and Agnew et al. (2003) find that men trade more than women.[1]

The relationship between the demand side and the supply side emerges therefore as a major concern for researchers seeking to understand how gender affects new venture financing. Becker-Blease and Sohl (2011) document, for instance, that women are at the same time more likely to seek, and to a lesser extent receive, financing from women angels. Alsos and Ljunggren (2016) examine the interface between demand and supply to understand gender biases related to risk capital investments. Acknowledging the embeddedness of gender in entrepreneur–investor relationships is particularly relevant in the emerging context of crowdfunding. The Internet has

[1] It is clearly out of the scope of the present paper to review the extensive literature on gender issues in entrepreneurship. For reference, see Sara Carter's 'The effects of business ownership on people's lives' chapter in Audretsch and Lehmann (2016) or Maria Minniti's (2009) review for *Foundations and Trends in Entrepreneurship*.

indeed long presented the promise of entrepreneurial finance democratization (Vismara 2016a).[2] Advancements in information and communication technology have simplified interaction between those who want to invest money and those who need it. Accordingly, equity crowdfunding platforms are being established throughout the world to allow entrepreneurs to raise funds from diversified sets of investors. Despite the increasing popularity of crowdfunding in entrepreneurial finance, academic research is still emergent, arguably because very few platforms have a sufficient number of projects for quantitative analysis (Cumming & Vismara 2016). In particular, crowdfunding potentially offers a new and inclusive way to bring financing to startups, especially for under-represented types of investors in traditional equity financing. A few studies, however, have already, directly or indirectly, addressed gender issues in reward-based crowdfunding.[3]

Marom et al. (2016) find that women make up about 35 percent of the project leaders and 44 percent of the investors on the Kickstarter platform. While women enjoy higher rates of success in funding their projects, only about 23 percent of projects that men invested in had a female project leader. Conversely, more than 40 percent of projects that women invested in were led by women. Using data from a laboratory experiment, Greenberg and Mollick (2016) document that women are more likely to succeed at a reward-based crowdfunding campaign and this effect primarily holds for female founders proposing technological projects. A small proportion of female backers disproportionately supports women-led projects in areas where women are historically underrepresented. Radford (2016) uses data from DonorsChoose, a US-based crowdfunding website for public school teachers, to document that inequality only emerges after educators' identities were published. Deanonymization (teachers' identities were hidden until 2008) caused inequality to emerge across all types of gender difference.

[2] Initially, online auction IPOs were viewed as alternatives to the traditional book-building method of IPO underwriting. Despite being considered an efficient market mechanism to lower the costs of going public (Ritter 2013), the expectations of online auction IPOs were never realized.

[3] See Vismara (2016b) for a definition and a comparison of the motivation to invest in reward-based, donation-based and equity-based crowdfunding. See Moritz et al. (2015) for a review of the literature on crowdfunding. See Hornuf and Schwienbacher (2016) for a comparison between equity crowdfunding and business angels.

Equity-based crowdfunding is, however, intrinsically different from donation- and reward-based crowdfunding (Vismara 2016b). Early backers in non-equity crowdfunding campaigns are typically people with whom the proponent has social ties, such as close friends and family members, and they are often located in the same geographical area as the proponent (Agrawal et al. 2011). By contrast, according to the NESTA (2014) survey, equity crowdfunders rank supporting a family member, friend, or local business among the least important motivations to invest. Equity crowdfunding differs from other types of crowdfunding also in the nature of its proponents and in the size of the deals. While in equity crowdfunding, the proponent is by definition a company, reward-based campaigns are launched mostly by individuals. The governance and organizational implications of the process of raising capital through crowdfunding are arguably different (Cumming et al. 2016). While motivations to donate or bid in donation- or reward-based crowdfunding are philanthropic and refer to altruism, charitable giving and the provision of public goods (Kuppuswamy & Bayus 2014), investors in equity crowdfunding expect a financial return. In a direct comparison between reward-based and equity-based crowdfunding, Cholakova and Clarysse (2015) find that non-financial motives play no significant role in the latter. Relatedly, Vismara (2016a) finds that offering rewards to investors does not increase the probability of success of equity crowdfunding campaigns. In the same study, female founders show the same ability to attract investors as their male counterparts, but raise less money. These findings motivated the present explorative study.

The present study is based on two theories. First, according to gender socialization theory (Dawson 1997), men and women exhibit psychological and cognitive differences in moral principles. While men are guided by agentic goals, and therefore, focus more on the pursuit of personal achievement, women are guided by communal goals and put more emphasis on the development of interpersonal relationships (Carlson 1972). They also have stronger feelings than men about ethical issues concerning disclosure (Roxas & Stoneback 2004). Relatedly, in the accounting literature, Bruns and Merchant (1990) and Cohen et al. (1998) show that women are

more aware of ethical issues in making dilemma decisions. Second, the social role theory of leadership (Eagly et al. 1995) contends that female leaders are more likely to show concern for people, whereas male leaders are more likely to possess traits that reinforce competition. It is often reported in practice that women are better listeners, and, in turn, seek better listeners in matters of finance. Using these two theoretical lenses, we expect differences in sensitivities and morality concerns between women and men to be reflected in crowdfunding, where investors essentially like the business and trust its proponent. The motivation is that investors in crowdfunding cannot rely on certification or other information-asymmetries-reducing mechanisms, such as financial intermediaries and analysts (Khurshed et al. 2014), and have limited incentive to pursue due diligence and monitoring. Moreover, their investment, though financial in nature, is likely to be more linked to ethical motivation than in traditional financial markets.

We investigate a sample of 58 equity offerings in UK crowdfunding platform Seedrs from October 2015 to March 2016. We resort to gender resolution techniques to determine the gender of both entrepreneurs and investors. After confirming results of previous studies, in that smaller projects and campaigns with lower equity offerings show higher probability of success, we show that (1) gender diversity is higher in equity crowdfunding than in other entrepreneurial finance markets and that (2) gender impacts on the interaction between demand and supply of equity capital. While the number of male investors is slightly higher in campaigns launched by male-led firms, female investors strongly prefer firms led by females. The number of female investors in the latter is, indeed, almost twice that of the former.

The paper is organized as follows. In Section 2, we present the data, variables and methodology used in the study. In Section 3, we report the results. Section 4 concludes and discusses the implications of our findings.

2. Research design

2.1 Regulation of equity crowdfunding

Equity crowdfunding is most developed in the UK. On a European level, this is not surprising as it predominates entrepreneurial finance markets at large. For instance, London's Alternative Investment Market (AIM) for small firms is the most successful European second-tier market and has served as a model for other stock markets in continental Europe (Vismara et al. 2012). The regulation of equity markets in the UK, defined in the Financial Conduct Authority (FCA) Policy Statement PS14/4, requires investors who are neither 'sophisticated' nor 'high net worth' to simply certify online that they are not committing more than one-tenth of their net assets in a year. Although other OECD countries allow the sale of equity shares to small investors through crowdfunding platforms, the amount of capital raised successfully to date is considerably lower than in the UK. In 2013, Italy was the first country in Europe to implement complete regulation of equity crowdfunding (Decreto Legge no. 179/2012 – Decreto Crescita Bis), creating a national registry for crowdfunding operators. Since 2014, a similar regulation has been applied to French portals, with the Autorité des Marchés Financiers requiring registration of crowdfunding investment advisers (Conseiller en Investissements Participatifs). A high number of equity crowdfunding platforms are active in these countries, but only a few projects have been financed successfully (Vismara 2016a). In countries where equity crowdfunding is not yet legal, most legislative frameworks allow for certain profit-sharing arrangements. In Germany, for instance, crowdfunding platforms can only list debt instruments that do not carry voting rights.

After years of active reward-based crowdfunding in the UK, Seedrs was the first equity crowdfunding platform authorized by the FCA. It is an all-or-nothing platform where companies do not receive any funding unless they reach their declared investment target and pledges are then transferred from the escrow accounts to the project proponents' accounts. The platform works in a unified nominee structure, aimed at increasing investor protection and streamlining the process for crowdfunding companies. After the registration, investors can observe the list of available projects, with the name of the company, a description of the business idea and of the entrepreneurial team,

the investment target, as well as data on previous bids. Investors can also access a Q&A section, where they can interact with the entrepreneurs and between themselves.

2.2 Sample and variables

We monitored and automatically downloaded data at an investor level for the 58 equity crowdfunding campaigns in Seedrs from October 2015 to March 2016. Although the time span of this study is quite limited, it provides complete information on both successful and unsuccessful offerings. For each campaign, all textual data and videos have been downloaded. All our variables are measured in line with previous studies (for example, Ahlers et al. 2015; Vismara 2016a). Campaign success is a dichotomous variable, equal to 1 when the campaign reaches the target. The Funding_Amount variable is measured as the percentage of target capital collected. This variable is a fine-tuned measure of campaign success that indicates how much capital has been raised (when ≥1) or how close the pitch was to reaching the target. The No_Investors variable, measured at the end of each campaign, is an important measure of success, as crowdfunders aim to accumulate a large number of backers. Because this variable is measured in absolute terms, we examine offer size (Target_Capital) and the percentage of equity offered to investors (Equity_Offered), as visibly reported on the main page of each pitch. Although the duration of offerings in Seedrs is automatically set to 60 days, projects may be closed earlier and in some cases, at the platform's discretion, the duration can be extended to reach the target.

Existing crowdfunding studies proxy for project quality using several measures. Ahlers et al. (2015) employ three dimensions: human capital, social capital and intellectual capital. They use the number of board members to broadly capture the amount of human capital. We measure the size of the top management team (TMT_Size) by counting the number of team members in entrepreneurial ventures as reported on the 'Team' page of each project. Finally, we measure the length of the video used to promote the campaign.

We now move on to consider the variables related to gender, which is the core of our analysis. First, we measure the percentage of female members in the Top Management Team (Female_TMT_Members) and the gender of the CEO (Female_CEO). We resort to gender resolution techniques, that is, inferring the gender (of the participants active in the chosen online communities), otherwise undisclosed, from other pieces of information that are publicly available (such as their names or profile pictures). In particular, we opted for a name-based gender resolution approach, augmented with manual analysis, based on world-english.org lists. The manual process is based on inferring gender based on a person's avatar picture. We were also able to determine the gender of the investors for each project in the same way. The variables No_Male_Investors and No_Female_Investors measure the number of male and female investors in each campaign, respectively. The sum of No_Male_Investors and No_Female_Investors will be lower than No_Investors as investors are not required to disclose their identity and some of them are registered as 'anonymous'. Finally, we were able to access data on the size of each single bid. Male and female unit investments are measured accordingly.

2.3 Descriptive statistics

The descriptive statistics for our sample of 58 equity offerings are reported in Table 1. In our sample, 38 percent of the campaigns successfully achieve the target capital. This percentage is similar to previous studies in the UK equity crowdfunding setting. Vismara (2016b), for instance, finds a success percentage of 41 percent for projects listed in Crowdcube. The funding amount raised at the offering is on average 75 percent. Again, this is in line with previous findings, with Vismara's (2016b) obtaining 78 percent. The maximum value of the Funding_Amount variable is equal to 312 percent. As equity crowdfunding platforms typically work on an all-or-nothing basis, entrepreneurs are under pressure to set an achievable target. The overfunding option, however, provides them with the possibility to raise more funds than the initial target. With successful campaigns by definition at least equal to 100 percent, this means that most unsuccessful campaigns

are far from achieving the target. This evidence points to a 'success-breeds-success' dynamic, where projects able to collect bids within in the first days are deemed successful. On the contrary, in unsuccessful projects, a small number of investors in the first few days leads to even weaker demand later. The average number of investors per project in our sample is equal to 124, higher than the average reported by Ahlers et al. (2015) for ASSOB (7 investors) or by Vismara (2016b) for Crowdcube (84 investors). This high number of investors contributes to making the study of this platform, Seedrs, relevant for investigations focused on investor behavior. One campaign in our sample raised funds from 916 investors, which literally represents a study of crowdfunding. This is remarkable, as a number of crowdfunding platforms used in academic studies are actually on websites and platforms meant to network business angels and high net worth individuals. Such platforms only deliver a handful of investors in successful campaigns. In our sample, on the contrary, the minimum number of investors, including unsuccessful offerings, is nine.

The average target capital in our sample of equity offerings is £320 226, with a minimum of £20 000 and a maximum of £3.5m. These figures are lower than the average target amount reported by Ahlers et al. (2015) for ASSOB (AUD 1.78m), but similar to those of competing platforms in the UK (Vismara 2016a). In other types of crowdfunding, the amount of money raised is significantly lower, with reward-based campaigns typically under $100 000. In our sample, the average value of Equity_Offered is 11.15 percent. This means that, upon completion of a successful campaign, crowdfunders will hold, on average, 11.15 percent of the equity of the firm. The average duration of the campaigns (Duration) in our sample is 54.2 days; the minimum duration is 6 and the maximum 124. These numbers are slightly lower than those reported by Vismara (2016b) in Crowdcube. For most of them, however, the offering lasts for the standard 60 days.

The number of TMT members (TMT_Size) of each project varies in our sample from 1 to 13, with an average of 4.53. To provide a comparison, the average startup on the Australian crowdfunding platform ASSOB has 3.6 TMT members (Ahlers et al. 2015), while the average high-tech company going public in London in the period 1995–2003 had 5.11 (Bonardo et al. 2010;

2011). Our results are, however, in line with previous findings on other UK platforms (for example, Vismara 2016a; 2016b).

Women are less likely to have prior entrepreneurial or/and managerial experience and to participate in networks with high net worth individuals. Huang and Kisgen (2013) report that 94 percent of US CEOs are men; Graham, Harvey and Puri (2013) conclude the same using statistics for US and non-US CEOs and CFOs. Our sample exhibits higher gender diversity. Men are less than 83 percent of the CEOs in our sample and companies have on average about one-fourth female TMT members (23.5 percent). As far as the gender of investors is concerned, we find an average of 46.3 (78.5 percent) male investors per campaign vs 12.7 female investors. On average, women invest larger amounts. The average bid from a male investor is £1292. Female investors bid on average £1735, with a maximum of £31 250. This means that female investors invest on average 34 percent more than males. This evidence supports the claim that crowdfunding provides higher access to equity capital than traditional means of entrepreneurial finance.

[INSERT TABLE 1 ABOUT HERE]

Figure 1 further shows the diversity of crowdfunding investors, by showing their country of origin. Most investors are clearly based in the UK (2131; 82.8 percent). The distribution of investors in other countries is different from what one would expect in entrepreneurial finance. Portugal, Spain and Italy count together more than 200 investors (>8 percent). Even from a geographical standpoint, therefore, equity crowdfunding is successfully delivering investment opportunities to a diversified set of investors.

[INSERT FIGURE 1 ABOUT HERE]

3. Results

Table 2 compares the successful and unsuccessful offerings in our sample. By definition, successful projects reach their target capital. We find that on average successful offerings raise 45 percent more than their initial target, thanks to the overfunding option. Unsuccessful offerings only collect bids for less than a third of their target (on average, 31.14 percent). We note that only pledges in successful campaigns are transferred from the escrow accounts to the project proponents' accounts. Otherwise, if the target is not reached, all pledges are voided – at no monetary cost for bidders. As expected, given the incentives of an all-or-nothing framework, no project reaches between 80 percent and 100 percent of the target amount. The average number of investors in successful campaigns is 201.7, vs 71.6 in unsuccessful campaigns. These findings deliver support to the information cascade argument proposed by Vismara (2016b). Controlling for endogeneity, he finds that more early investors attract more late investors. These results are attributable to information cascades, but do not rule out alternative hypotheses not based on the reduction of information asymmetry. For instance, by 'tweeting' or posting links on social networks, early investors advertise the project that they pledged to. Thus, the pool of potential investors apprised of the project increases and, consequently, the project has a better chance of success.

Successful offerings have smaller target capital and, most importantly, offer less equity (on average, 8.57 percent vs 12.73 percent). This lends support to Vismara's (2016a) argument about signaling through equity retention. Although insiders' intentions are not observable, potential investors can deduce them from the characteristics of an offer. Retained equity, or overhang, is typically interpreted as a signal of entrepreneurial intentions, and is strongly associated with the probability of success of an initial or follow-on offer in stock markets (Leland & Pyle 1977). Consistent with the corporate finance literature, if growth is the primary goal of crowdfunders committed to long-term goals, they should be expected to retain control of a firm after an offering. Here, we confirm that previous results from different crowdfunding platforms hold in Seedrs. A

larger percentage of equity offered by founders reduces the probability of equity crowdfunding campaign success.

The duration of successful offerings is higher than that of unsuccessful offerings (on average, 62.3 vs 48.7 days). This is partly due to the overfunding option, where entrepreneurs can raise more money for their business in exchange for releasing more equity. However, the main driver of this result is the early closure of unsuccessful offerings. Proponents tend to close their campaign ahead of time if they do not receive support in the first days of the campaign.
More structured firms and campaigns have a higher probability of success. Indeed, successful offerings have a higher number of TMT members and longer presentation videos. While we do not find statistical support for these results, arguably due to the limited size of our sample, these measures are likely to proxy the quality of the project and the commitment of its proponents (Ahlers et al. 2015).

We now focus on gender issues, which is the core of the present study, as it has not been previously investigated. Rather surprisingly, we find higher success rates for firms with a female CEO. Indeed, the percentage of firms with a female CEO is higher in successful campaigns (18.2 percent vs 16.7 in unsuccessful offerings). On the contrary, the percentage of female members in TMTs is negatively associated with the chance of success. The number of male investors in successful offerings is substantially higher than female investors.

[INSERT TABLE 2 ABOUT HERE]

The novel research question addressed in this paper is whether gender impacts the interaction between demand and supply of equity capital in crowdfunding. Table 3 compares campaigns launched by firms with a female CEO with those launched by a male CEO. The rate of success of female-led businesses is slightly higher (40 percent vs 37 percent), as is the amount raised relative to the target (77.7 percent vs 73.6 percent). However, the number of investors is

higher when the CEO is male. These results are, however, likely to be endogenous with the nature of the firms. Indeed, male CEOs are associated with larger campaigns, which typically attract more investors, although with lower probabilities of success (Vismara 2016a). Female-led businesses offer less equity at listing on crowdfunding platforms (10.3 percent vs 11.3 percent). As a negative determinant of success, a smaller fraction equity offered from female-led firms leads to increased probability of success. The most important result of our study lies in the homophily between proponents and investors. While the number of male investors is slightly higher in campaigns launched by male-led firms (46.8 in firms with a male CEO vs 43.6 with a female CEO), female investors strongly prefer firms led by females. On average, female-led businesses attract bids from 20.0 female investors, while male-led businesses receive only 11.2 bids from female investors.

[INSERT TABLE 3 ABOUT HERE]

4. Discussion and conclusions

Technological advances are changing the ways in which entrepreneurial finance is provided (Audretsch et al. 2016). By easing the manner in which demand for capital meets supply, recent financial innovations are expected to improve the efficiency of financial markets. Among these innovations, crowdfunding is emerging as the most widely adopted financial alternative, whereby individuals supply funds directly to entrepreneurs without the costly interposition of intermediaries. In this setting, the study of gender issues delivers valuable insights. Crowdfunding is indeed expected to facilitate access to funding, especially for women and minority entrepreneurs. Recent changes in traditional stock markets further motivate the attention towards retail investors in equity crowdfunding platforms. Over the last two decades, three-quarters of the IPOs in Europe took place in second markets, such as London's AIM. As reported in Vismara et al. (2012), 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. 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 (Signori & Vismara 2016).

Researchers consider that gender differences in finance could be explained by supply-side practices that inadvertently disadvantage women business owners. This might be due to discrimination. Grounded in the liberal feminism tradition, some authors point to a differential treatment of women and men with otherwise equal abilities (Baker et al. 1997). Observed differences in business success would therefore be due to the unequal access to essential opportunities (for example, education, employment opportunities, social networks). Another explanation is based on differences in abilities and preferences. Grounded in the social feminism tradition, women and men are fundamentally different, yet with equally valid self-perceptions, motivations and belief structures. Observed differences would be the result of dissimilar experiences or socialization (Fischer et al. 1993). Others suggested that demand-side motivations constrained women from applying for funding. These include structural constraints, such as gender homophily in social networks. Adverse discrimination in the lending process, for instance, is found in a number of studies (for example, Brush 1992; Riding & Swift, 1990). Different degrees of risk-aversion is another well-investigated aspect (for example, Scherr et al. 1993). In this explorative study, we sought to bring some clarity within this framework by matching the demand side and supply side perspectives.

Using a sample of 58 equity offerings in UK platform Seedrs, we first confirm the characteristics of the offerings that matter to investors. For instance, smaller projects and campaigns with lower equity offered show higher probability of success. Second, we show that gender diversity is higher in equity crowdfunding than in other entrepreneurial finance markets. Less than 83 percent of the CEOs in our sample are men and companies have, on average, about one-fourth female TMT members (23.5 percent). As far as the gender of investors is concerned, we find an average of 46.3 (78.5 percent) male investors per campaign vs 12.7 female investors. On average, female investors

invest 34 percent more than males. This is evidence that supports the claim that crowdfunding provides higher access to equity capital than traditional means of entrepreneurial finance. Third, we find that gender impacts the interaction between demand and supply of equity capital. While the number of male investors is slightly higher in campaigns launched by male-led firms, female investors strongly prefer firms led by females. The number of female investors in the latter is, indeed, almost twice that of the former.

We conclude by identifying future research opportunities within gender studies applied to equity crowdfunding. As pointed out by Signori and Vismara (2016), since market failure can arise from collective action problems that limit investors' incentives to pursue ex-ante due diligence and ex-post monitoring, the future of these markets largely depends on the ability to prevent misconduct. Indeed, since crowdfunding is often a one-time event for entrepreneurs, their reputational incentive to behave correctly is low. They can be tempted to shirk and engage in self-dealing in the aftermarket, if not to pursue outright fraud. As a leading source of Internet fraud, Internet auctions have been characterized by the information system and criminology literature as highly criminogenic environments (Chua et al. 2007; Newman & Clarke, 2003). Moreover, relative to platforms such as eBay and Airbnb, the lack of repeated interaction in equity crowdfunding increases the potential for fraud (Agrawal et al. 2013). The role of gender diversity could be important to this extent. Indeed, based on ethicality, risk aversion and diversity, a recent study by Cumming et al. (2015) hypothesizes that gender diversity on boards can operate as a significant moderator for the frequency of fraud. They also advance that the stock market response to fraud from a more gender-diverse board is significantly less pronounced. Results based on data from a large sample of Chinese firms that committed securities fraud are largely consistent with their hypotheses. Evidence from studies of fraud in crowdfunding could deliver further support in this direction.

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Table 1

Descriptive Statistics

This table reports the descriptive statistics for the sample of 58 equity offering

Variables	Mean	Median	Std.Dev	Min	Max
Success	0.38	0	0.49	0	1
Funding_Amount (%)	74.98	56.53	66.48	0	312
No_Investors	124.0	79	142.2	9	916
Target_Capital (£000)	320.23	150.00	523.67	20.00	3500.00
Equity_Offered (%)	11.15	10.00	6.34	1.52	33.33
Duration (days)	54.2	60.0	22.3	6	124
TMT_Size	4.53	4	2.49	1	13
Video (min)	3.30	3.03	1.05	0.9	6.05
Female_CEO (%)	17.24	0	38.11	0	100
Female_TMT_members (%)	23.50	18.33	27.04	0	100
No_Male_Investors	46.3	27.5	51.46	1	316
No_Female_Investors	12.7	8	16.49	0	89
Male unit investment (£)	1292.04	485.48	3021.21	20.00	16 931.82
Female unit investment (£)	1735.07	316.91	4468.83	10.00	31 252.50

Table 2

Successful vs unsuccessful campaigns

This table compares 22 successful offerings with 36 unsuccessful offerings (average values)

Variables	Successful	Unsuccessful
Success	1	0
Funding_Amount (%)	145.30	31.14
No_Investors	210.7	71.6
Target_Capital (£000)	236.76	371.24
Equity_Offered (%)	8.57	12.73
Duration (days)	63.2	48.7
TMT_Size	4.68	4.44
Video (min)	3.42	3.21
Female_CEO (%)	18.2	16.7
Female_TMT_members (%)	21.4	24.8
No_Male_Investors	74.7	29.0
No_Female_Investors	18.1	9.5
Male unit investment (£)	1582	1115
Female unit investment (£)	831	2338

Table 3

Female vs male CEOs

This table compares 20 offerings by companies with a female CEO to 38 with a male CEO (average values)

Variables	Female	Male
Success	0.4	0.37
Funding_Amount (%)	77.7	73.6
No_Investors	117.4	127.5
Target_Capital (£000)	294.3	333.8
Equity_Offered (%)	10.3	11.3
Duration (days)	58.3	53.3
TMT_Size	4.68	4.50
Video (min)	1.92	3.59
Female_CEO (%)	1	0
Female_TMT_members (%)	27.6	22.6
No_Male_Investors	43.6	46.8
No_Female_Investors	20.0	11.2
Male unit investment (£)	1129	1326
Female unit investment (£)	1404	1826

Figure 1

Investors by country

This figure reports the countries of 2574 investors