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# In women, we trust! Exploring the sea change in investors' perceptions in equity crowdfunding

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## Abstract

**Purpose** – Women's entrepreneurial activity can significantly impact economic and social development globally, particularly in developing countries. The significant challenges entrepreneurial women face draw the attention of researchers and policymakers. This paper aims to analyse the impact of gender disparity on the likelihood of obtaining equity financing through crowdfunding. The equity crowdfunding industry was selected because it is a non-traditional financial market where gender bias may act differently for women.

**Design/methodology/approach** – To investigate the relationship between gender and equity financing through crowdfunding, this paper applies ordinary least squares regression. The analysis is based on a unique data set of 492 equity crowdfunding campaigns launched between 2013 and 2017 on all existing platforms in Brazil, Chile and Mexico.

**Findings** – The analysis reveals that the involvement of at least one woman on the board of firms seeking equity financing increases campaign success rates in terms of the investors' average pledge, the target amount reached at the end of the campaign and the percentage raised at the end of the campaign exceeding the initial fundraising goal. Altogether, this suggests that equity crowdfunding campaigns should be based on gender equality in the firms' boards. The research finds evidence that there is no gender disparity in the likelihood of a campaign being financed by a greater number of investors.

**Practical implications** – These findings have implications for Latin American female entrepreneurs when selecting funding sources and policymakers when defining political actions to remove the barriers at the root of this historic inequality in female entrepreneurs' access to finance.



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**Originality/value** – To the best of the authors' knowledge, this document analyses the gender disparity in the Latin American equity crowdfunding market, shedding light on women's access to crowdfunding financing for the first time.

**Keywords** Latin America, Equity crowdfunding, Female entrepreneurship, Entrepreneurial finance, Gender disparity, Signalling theory

**Paper type** Research paper

## 1. Introduction

The existence of gender-based differences in entrepreneurial activity is widely recognised in the entrepreneurship literature (Gupta *et al.*, 2009), although individual studies differ as to the origins and implications of the differences identified (Bruni *et al.*, 2004; Ahl, 2006; Hechavarria *et al.*, 2017; Kanze *et al.*, 2018). Women face substantial challenges in starting and leading businesses and are disadvantaged in accessing external equity (Greene *et al.*, 2001; Brush *et al.*, 2004; Gicheva and Link, 2013, 2015). Data from the last Global Entrepreneurship Monitor (2020) shows seven women entrepreneurs for every ten men entrepreneurs. Moreover, only 6 countries out of 54 surveyed in 2018 have shown equal Total Entrepreneurial Activity rates between women and men.

In Latin America, female entrepreneurship lags behind more advanced economies (Amorós and Pizarro, 2007; Allen *et al.*, 2008). Despite significant progress in the number of female entrepreneurs [1], new-business activity for women is endangered by the inadequacy of early-stage funding (Terjesen and Lloyd, 2015). Due to the lack of participation by females in new business activities, many Latin American countries are not realising their full entrepreneurial potential (Terjesen and Amorós, 2010). A lower number of female entrepreneurs results in less innovation, less export potential, fewer jobs created and, consequently, less economic growth in the country (Terjesen and Lloyd, 2015).

The fast spread of new financial companies based on technological platforms, known as Fintech, has generated significant challenges and opportunities in Latin America's financial markets (BID (Banco Interamericano de Desarrollo) and Finnovista, 2017). Beyond the traditional financial markets, equity crowdfunding (one of the most important Fintech segments) has expanded rapidly, reaching US$39.4m in 2017 and providing 7% of the equity-based business finance in the Latin American region (Ziegler *et al.*, 2017, 2019). The recent literature has recognised that equity crowdfunding has the potential to reduce the gender gap by democratising access to funding opportunities for female entrepreneurs who are disadvantaged in accessing traditional external financing compared to men (Cumming *et al.*, 2019). Early empirical observations from Europe and the USA reveal that in informal contexts such as crowdfunding – wherein a "crowd" of amateur investors make relatively small investments in a digital environment – women are perceived by investors as more trustworthy than man (Johnson *et al.*, 2018). Consequently, women may have a funding advantage in the crowdfunding context, especially in male-dominated industries (Greenberg and Mollick, 2017).

Overall, given the potential of equity crowdfunding financing for Latin American female-owned firms to overcome barriers to accessing capital (Herrera, 2016), it seems timely to shed light on women's access to equity crowdfunding financing, not yet considered so far, to understand whether a gender disparity exists in the likelihood of obtaining equity funds. Using a data set drawn from 492 projects listed on all existing equity crowdfunding platforms in Latin America between 2013 and 2017, this research investigates the relationship between the gender composition of the entrepreneurial team looking for funds and the probability of success of equity crowdfunded projects. Consistent with previous

papers, the results show that mixed teams (with at least one woman) are significantly more likely to be successfully funded than homogeneous teams composed entirely of women or men.

This article contributes to the literature in several ways. Firstly, it contributes to the entrepreneurial finance literature interested in understanding the link between gender and access to finance (Bruni *et al.*, 2004; Ahl, 2006; Brush *et al.*, 2009; Hechavarria *et al.*, 2017; Kanze *et al.*, 2018). Specifically, it relies on Signal Theory (Ahlers *et al.*, 2015) to explore an unexpected advantage of Latin American female entrepreneurs in the equity crowdfunding market. Secondly, it contributes to a growing body of equity crowdfunding literature by analysing Latin American markets for the first time.

The paper is organised as follows. Section 2 discusses the theoretical background on gender disparity in entrepreneurial finance and the gender-related difference in crowdfunding; Section 3 presents the research setting, data and analysis; Section 4 examines the results of the analysis, and Section 5 concludes and discusses the implications of our findings.

## 2. Theoretical background

A significant amount of previous research shows gender disparity in capital markets and that females are disadvantaged in accessing external equity (Greene *et al.*, 2001; Brush *et al.*, 2004; Gicheva and Link, 2013, 2015). For instance, women are less likely than men to attract private equity and venture capital funding (Becker-Blease and Sohl, 2007, 2011), and even if they obtain funding, they get a substantially smaller proportion compared to men (Greene *et al.*, 2001; Canning *et al.*, 2012). Greene *et al.* (2001) document that in the USA, female entrepreneurs receive only 2.4% of all equity investments and 4.1% of venture capital. Similarly, Canning *et al.* (2012) report that women-led firms receive only 1.3% of venture capital financing. According to Brush *et al.* (2004), women-owned firms receive less than 5% of venture capital funds distributed annually in the USA. Gicheva and Link (2013, 2015) confirm that female-led firms are less likely to obtain private investment.

Women also encounter many difficulties in securing business angel financing due to investor prejudices regarding their management capabilities (Becker-Blease and Sohl, 2007, 2011; Edleman *et al.*, 2018; Poczter and Shapsis, 2018). Regardless of work experience, women are attributed less legitimacy and lower leadership/management skills (Amatucci and Sohl, 2004). Women-led ventures are evaluated less favourably (Edleman *et al.*, 2018) and are attributed lower net present values (Poczter and Shapsis, 2018). Consequently, female entrepreneurs are forced to rely on their savings, loans from families and friends, or microloans to finance their entrepreneurial activity (Haynes and Haynes, 1999; Coleman and Robb, 2009; Gicheva and Link, 2013, 2015). On the supply side, a very small proportion of women is involved in making investments (Greene *et al.*, 2001). The male dominance among investors constrains the search for and access to capital by female entrepreneurs (Coleman and Robb, 2009), whose legitimacy and credibility are often questioned (Constantinidis *et al.*, 2006; Murphy *et al.*, 2007; Aristei and Gallo, 2016).

Researchers have also demonstrated that women have greater limitations in accessing debt capital and bank financing than men (Buttner and Rosen, 1992; Orser and Foster, 1994; Fabowale *et al.*, 1995; Coleman, 2000, 2002; Eddleston *et al.*, 2016). Gender affects the evaluation criteria that lending officers use when evaluating loan applications (Carter *et al.*, 2007). Accordingly, female entrepreneurs experience higher rejection rates than their male counterparts (Stefani and Vacca, 2015), and even if they manage to receive funding, they obtain lower amounts (Eddleston *et al.*, 2016), are charged with higher interest rates (Dorfleitner *et al.*, 2013; Mascia and Rossi, 2017) and have to provide greater collateral

(Fabowale *et al.*, 1995; Coleman, 2000, 2002; Wu and Chua, 2012). Gender discrimination in traditional financial markets makes women entrepreneurs seek alternative financing channels such as equity crowdfunding.

Equity crowdfunding can be defined as a new player in entrepreneurial finance (Block *et al.*, 2018a), providing companies with the possibility to raise capital from a large number of non-professional investors by issuing small equity stakes via online platforms (Estrin *et al.*, 2018) [2]. Given the rapid growth of crowdfunding as a novel form of financing for new businesses (Bruton *et al.*, 2015), increasing attention has been paid by researchers over the last few years. In particular, recent literature attributes to equity crowdfunding platforms a democratising force able to provide access to funding to underrepresented categories of entrepreneurs (Cumming *et al.*, 2019). Unlike traditional funding channels, which are limited to a relatively small group of private investors, equity crowdfunding platforms facilitate - through the use of the internet – the interaction between entrepreneurs and many non-professional small investors (Wang *et al.*, 2019; Zhao *et al.*, 2020). In this way, equity crowdfunding enables underrepresented groups of potential entrepreneurs (including female entrepreneurs) to raise funds from diversified sets of investors, democratising access to entrepreneurial finance. A number of studies have reported that, unlike in traditional financial markets, female entrepreneurs may be favoured in equity crowdfunding (Cicchiello, Kazemikhasragh and Monferrà, 2020).

Vismara *et al.* (2017) point out that equity crowdfunding provides higher access to equity capital than traditional means of entrepreneurial finance. Using a sample of 58 equity offerings of the UK crowdfunding platform Seedrs, the authors show higher success rates for firms with a female CEO. From the supply side, results show that women invest more and prefer female-led firms. Using equity offerings on the UK platform, Crowdcube, Barbi and Mattioli (2019) reveal that the gender composition of the entrepreneurial team plays a key role in the success of campaigns. Indeed, one additional woman on the entrepreneurial team increases the total funding by around 6%. Similarly, Cumming *et al.* (2019) find that female entrepreneurs attract a higher number of investors. Relying on Stereotype Content Theory and Warm-glow Theory, Zhao *et al.* (2020) find that female entrepreneurs are more likely to be funded through equity crowdfunding than their male counterparts.

Examining the effect of Title II of the JOBS Act, which legalised equity crowdfunding in the USA, McGuire (2020) find a reduction in the gender gap in external financing by three percentage points. According to these studies, equity crowdfunding can mitigate the gender gap in business financing, increasing women's ability to raise funds, especially in male-dominated industries (Greenberg and Mollick, 2017). This change can be explained by the different perceptions that the "crowd" of investors have concerning the gender of entrepreneurs in informal funding contexts such as crowdfunding.

Signalling Theory has recently gained prominence in studies of investment decisions in equity crowdfunding (Ahlers *et al.*, 2015). In this context, the theory is focused on the effectiveness of signals that entrepreneurs use to alleviate the information asymmetries faced by small investors and induce them to commit financial resources in equity crowdfunding campaigns. Signals concerning the entrepreneur and the entrepreneurial team's quality are typically related to human, social and intellectual capital, reputation and track record, and the entrepreneurial team's commitment and investments. For instance, according to Ahlers *et al.* (2015), the amount of equity offered and the provision of more detailed information about risks can act as effective signals and can, therefore, strongly impact the probability of funding success. The authors also demonstrate that human capital can enhance the likelihood of attracting investors and increase the capital-raising speed. Indeed, a higher number of board members and a percentage of board members with MBA degrees are

perceived by outside investors as a positive signal of the firm's ability to face market uncertainty. In line with these arguments, Block *et al.* (2018a) describe that the possession of a patent can act as an effective human capital signal in equity crowdfunding. Similarly, Ralcheva and Roosenboom (2016) highlight that entrepreneurs can signal their start-ups' quality by showing attributes such as having won governmental grants or having been financed by business angels. The early funding activity on the campaign was found to influence the probability of funding success, suggesting that early interest and investment pledges send to potential late investors a positive signal triggering a herding effect (Vismara, 2018). Similarly, public profile investors have been found to play a crucial role in attracting other investors in the initial days of the campaign, conveying to uninformed investors a strong signal of the quality of the venture (Vismara, 2018). In their study, Piva and Rossi-Lamastra (2018) argue that only human capital signals that have both a good fit with start-up quality and a low degree of ambiguity (i.e. entrepreneurs' business education and entrepreneurial experience) significantly contribute to entrepreneurs' success in equity crowdfunding. Kleinert, Volkmann and Grunhagen (2020) find evidence that prior financing – especially from venture capitalists – positively affects campaign success by certifying firms' quality to investors and reducing information asymmetries in equity crowdfunding.

Gender aspects related to signalling have been limitedly explored in the equity crowdfunding context.

However, a recent study has indicated that gender influences venture capital funding both related to how entrepreneurs signal the quality and legitimacy of their businesses and in how investors interpret those signals (Alsos and Ljunggren, 2017). Recognising that gender is embedded in the entrepreneur–investor relationship (Connelly *et al.*, 2011) and that gender differences in human, social and financial capital determine the signals related to the entrepreneur/team and the venture (Talbot, 2010), there are several ways in which gender may play a role in the equity crowdfunding context.

For instance, female entrepreneurs may have a greater need to signal their own and their ventures' legitimacy and credibility to compensate for structural barriers and stereotypical ascriptions associated with being a woman. Furthermore, in informal funding settings characterised by severe information asymmetry, such as equity crowdfunding (Colombo *et al.*, 2015), gender may signal the trustworthiness of the initiators (Johnson *et al.*, 2018). Due to the typical social roles - trustworthy in nature - that society associates with women, they tend to be seen as more trustworthy, benevolent and upstanding than men. At the same time, male entrepreneurs who use crowdfunding can be perceived by investors as less competent than those who would choose traditional sources of funding (i.e. venture capital or angel investment). Finally, gender diversity may also signal a multiplicity of perspectives that can spark creativity and innovation and help the company spot and seize new opportunities. For instance, having both women and men in the entrepreneurial team means that the company can benefit from the different points of view and approaches that come from different life experiences. Overall, based on Signalling theory, it is expected that the presence of women should influence funders' willingness to provide financial backing to female entrepreneurs in the equity crowdfunding context.

Hence, we hypothesise the following:

*H1*. The presence of at least one woman on the entrepreneurial team increases the probability of success of equity crowdfunding campaigns in terms of investors' average pledge.

*H2*. The presence of at least one woman on the entrepreneurial team increases the probability of success of equity crowdfunding campaigns in terms of the number of investors.

*H3*. The presence of at least one woman on the entrepreneurial team increases the probability of success of equity crowdfunding campaigns in terms of the target amount reached at the end of the campaign.

*H4*. The presence of at least one woman on the entrepreneurial team increases the probability of success of equity crowdfunding campaigns in terms of the percentage raised at the end of the campaign exceeding the initial fundraising goal (i.e. overfunding).

The hypotheses are tested using hand-collected data from all existing equity crowdfunding platforms in Latin America between 2013 and 2017. The specific case of Latin America offers scholars the opportunity to expand the knowledge of gender differences in the equity crowdfunding context. Additionally, this study provides valuable insights to policymakers and practitioners across Latin America to better understand the growing phenomenon of equity crowdfunding and how it may be harnessed to bridge the funding gender gap and increase female's participation in new business activities.

## 3. Data and sample

The study investigates the relationship between gender and equity crowdfunding investment in Latin America using hand-collected data from equity crowdfunding platforms in Brazil, Chile and Mexico. Specifically, the sample includes data from Broota.com.br, Eqseed, Start Me Up and Eusocio from Brazil, Broota.cl from Chile and Crowdfunder.mx and Play Business from Mexico [3] (Table 1). The analysis covers only Brazil, Chile and Mexico because the remaining countries in Latin America do not have a single equity crowdfunding platform at the date of data collection (November 2017) (Ziegler *et al.*, 2017). Foreign equity crowdfunding platforms are not taken into account. This is the only sample of equity crowdfunding campaigns in Latin America so far collected as far as is known. Table 1 presents the list of platforms by the city in which the platform is located, the foundation year and the current state (active/inactive).

Most of the platforms analysed work according to the traditional "All-or-Nothing" Model (Cumming *et al.*, 2015), according to which a project is only considered successful when 100% of the fundraising goal is reached within the specified time period, generally 60–

| Country | Platform's name | City | Foundation year | Model | Status |
|---|---|---|---|---|---|
| Brazil | | | | | |
| | Broota.br (currently Kria) | São Paulo | 2014 | Equity | Active |
| | Eqseed | Rio de Janeiro | 2014 | Equity | Active |
| | Eusocio | Rio de Janeiro | 2013 | Equity | Active |
| | Startmeup | São Paulo | 2015 | Equity | Active |
| Chile | | | | | |
| | Broota.com | Santiago | 2013 | Equity | Active |
| Mexico | | | | | |
| | Crowdfunder.mx | Mexico City | 2015 | Equity | Inactive |
| | PlayBusiness | Mexico City | 2014 | Equity | Active |

**Table 1.** Crowdfunding platforms

90 days. In Brazil, campaigns are considered successful if they reach at least two-thirds of the fundraising goal [4]. When the fundraising goal is reached, the invested sums are transferred from the deposit account to the founders' accounts. After that, investors become shareholders in the company, and they acquire all the established rights. When the fundraising goal is not reached, the amounts invested are returned to the investors. Successful campaigns are listed on the main page of platforms' websites following a similar presentation structure, which ensures homogeneity and comparability in the collection of information. Unsuccessful campaigns are deleted at the end of the campaign. Thus, information from the platforms' CEOs and CTOs were obtained for this research. Finally, the Orbis Bureau Van Dijk (BVD) database was used to extract information about firms asking for equity funds (e.g. industry and firm age). The final sample is made up of 492 projects, out of which 382 (77.6%) were successful in reaching their fundraising goal, considering a time period spanning four years, i.e. from the inception of the platforms (2013 for Chile and Brazil and 2014 for Mexico) to the end of 2017. Table 2 presents the number of projects by platform and year.

## 4. Identification strategy

In line with previous studies (Ahlers *et al.*, 2015; Colombo *et al.*, 2015; Ralcheva and Roosenboom, 2016; Vismara, 2018), the success of equity crowdfunding campaigns is measured with four dependent variables. The primary dependent variable of interest is "project success", a dichotomous variable equal to "one" for successful equity crowdfunding campaigns (i.e. the campaign reaches the fundraising goal in the time period imposed by the platform), otherwise "zero". The choice of this measure is driven by the "All-or-Nothing" character of the platforms analysed. The second dependent variable is the percentage of the target amount raised at the end of the campaign that exceeds the initial fundraising goal "percentage raised". This is a more fine-tuned measure of the success of the campaign than the dichotomous variable "project success". It indicates how much capital has been raised relative to the initial target amount. The percentage raised can take values above 100% in project overfunding (the campaign reaches a higher percentage of funding with respect to the initial goal). The "number of investors" and the "average pledge" of investors (measured by the total amount raised at the end of the campaign divided by the number of investors) were used.

The independent variable of interest is the gender composition of the entrepreneurial team of the firm asking for equity crowdfunding financing. In addition to capturing team size, following Poczter and Shapsis (2018), several characterisations of what is considered a female team were considered. Firstly, the starkest measure was considered, in which a team will be considered "female" if it is entirely composed of women. This may include teams of individuals that are women or a single female entrepreneur. Thus, the variable "all-female" is a binary variable equal to "one" for those teams that are all female and "zero" for those teams with 100% male composition ("all-male"). The gender funding relationship was also

**Table 2.**
Number of projects by platform and year

| Campaign year | Broota | Broota.br | Crowdfunder | Eqseed | Eusocio | Playbusiness | Startmeup | Total |
|---|---|---|---|---|---|---|---|---|
| 2013 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| 2014 | 5 | 6 | 0 | 0 | 3 | 45 | 0 | 59 |
| 2015 | 13 | 17 | 0 | 1 | 3 | 119 | 2 | 155 |
| 2016 | 13 | 19 | 3 | 2 | 0 | 89 | 6 | 132 |
| 2017 | 18 | 17 | 15 | 9 | 0 | 73 | 3 | 135 |
| Total | 60 | 59 | 18 | 12 | 6 | 326 | 11 | 492 |

examined using a "both" team variable, which is a binary variable equal to "one" for those teams that have at least one female, and equal to "zero" if the team is all male.

Other characteristics of the entrepreneurial team and the company that may be related to gender and funding were considered and recorded because, if not included as control variables, the estimates may suffer from Omitted Variables Bias. Therefore, an additional set of control variables were included. As with Ralcheva and Roosenboom (2016), the analysis controlled for "firm age" at the time of the crowdfunding campaign measured by subtracting the campaign's year from the firm's incorporation date reported on the Orbis database. Also taken into account were several company characteristics such as the "industry" and the country ("Brazil", "Chile" and "Mexico") in which it operates. For the industry, the Global Industry Classification System is used. With regards to the structure of the campaign, the researchers controlled for the target amount of capital to be raised in million USD ("fundraising goal"), and the relative percentage of equity offered to investors ("equity offered") as reported on the presentation pages of each campaign made available by the platforms. In line with previous studies (Mollick, 2014; Ahlers *et al.*, 2015; Vismara, 2016; Cumming *et al.*, 2019; Ralcheva and Roosenboom, 2016), it was expected that a high fundraising goal, as well as a high percentage of equity offered, negatively affects the success of equity crowdfunding campaigns. Firms seeking financing can choose to use the consulting services offered by an "advisor", whose presence is indicated on the page of the campaign on the platforms' websites. The researchers believe that the presence of an advisor can increase the level of investor confidence, and therefore increase the chances of campaign success. To attract potential investors, founders can use presentation videos through which additional information about the company and its team is provided. Thus, the researchers controlled for the number of viewings (on YouTube and Vimeo) of the videos used to promote the campaigns ("video"). In line with Mollick (2014) and Vismara (2016), it was expected that including a video can increase the likelihood of project success by reducing information asymmetry. Following Mollick (2014), Colombo *et al.* (2015) and Vismara (2016), the researchers considered the number of LinkedIn connections of each founder as reported on their personal LinkedIn profiles linked to the project page on the platform. Then the researchers calculated the average number of LinkedIn connections of all founders ("LinkedIn"). Following Mejia, Urrea and Pedraza-Martinez (2019), the researchers controlled for the presence of "financial information" about the company provided by the founders' team to attract investors. Data sources and variables are presented in Table 3.

With Ralcheva and Roosenboom (2016) and Ahlers *et al.* (2015) research in mind, to measure the relationship between gender and equity crowdfunding financing, ordinary least squares (OLS) regression was used, with the following model specification:

$$Y_i = \beta_0 + \beta x_i + \in_i$$

In this model $\beta x_i$ is a coefficient for each used variable. In the above equation, X is an independent/explanatory variable, Y is a dependent/response variable and $\in_i$ represents the error term. Given the general characteristics of variables in this study, OLS regression is used to allows identification of the relationship between dependent variables and independent variables (Freedman, 2009). Table 4 reports the summary statistics, and Table 5 reports the correlation matrix.

## 5. Results

Table 6 shows the results of the independent variable "average pledge" by using the OLS (Model 1) as well as robustness (Model 2). It can be seen from Table 6 that the involvement

| Variable | Description | Data sources |
|---|---|---|
| *Dependent Variable* | | |
| Project success | Dummy variable equals to 1 if crowdfunding project succeeds, and 0 otherwise | Platforms* |
| Number of investors | The number of investors at the end of the campaign | Platforms |
| Average pledge (in USD) | The total amount raised at the end of the campaign divided by the number of investors | Platforms |
| Percentage raised | The total amount raised at the end of the campaign divided by the target amount | Platforms |
| *Explanatory Variables* | | |
| All Female | Binary variable equals 1 for teams composed of all-female or a single female entrepreneur, and 0 otherwise | Platforms |
| All Male | Binary variable equals 1 for teams composed of all-male or a single male entrepreneur, and 0 otherwise | Platforms |
| Both | Binary variable equals 1 for teams that have at least one female, and equal to 0 if the team is all male or all female | Platforms |
| Firm age | The company age expressed in years at the time of the crowdfunding campaign | Orbis/platforms |
| Industry | The Standard Industrial Classification (US-SIC-code) | Orbis |
| Country | The country in which the platform operates (Brazil, Chile, or Mexico) | Platforms |
| Advisor | Binary variable equals 1 if the company has an advisor, and 0 otherwise | Platforms |
| LinkedIn founders' connections | The average number of founders' LinkedIn connections | LinkedIn |
| Equity offered (%) | The percentage of equity offered to investors | Platforms |
| Video | The number of video's viewings on YouTube or Vimeo | Platforms |
| Financial info | Binary variable equals 1 if the company give financial information, and 0 otherwise | Platforms |
| Fundraising goal | The amount that founders seek to raise using crowdfunding in million USD | Platforms |

**Table 3.**
Notes on variables and data sources

**Notes:** (*) Platforms: Broota.com.br, Eqseed, Start Me Up, and Eusocio from Brazil, Broota.cl from Chile, and Crowdfunder.mx and Play Business from Mexico

of at least one woman in both models has a positive and significant impact on the average pledge. The results indicate that mixed teams (teams with at least one woman) are significantly more likely to attract investors who pledge significantly higher amounts of funds than the all-male and all-female teams (i.e. teams of individuals that are all women or a single female entrepreneur) (average pledge, b = 0.2329, $p < 0.1$), thus *H1* is accepted. These results may have practical implications on how female entrepreneurs should choose mixed-sex partnerships when creating a new entrepreneurial team.

Regarding the control variables, as Ralcheva and Roosenboom (2016), this research finds that the presence of an advisor offering consulting services increases the investors' average pledge. In contrast with Ralcheva and Roosenboom (2016), this research finds that firm age has a positive and significant impact on the average pledge. This is probably due to the fact that the greater the number of years of the company's activity, the greater the investor's confidence and, consequently, their pledge. It also finds statistically significant empirical

| Variable | Obs | Mean | SD | Min | Max |
|---|---|---|---|---|---|
| Project success | 492 | 0.776423 | 0.417066 | 0 | 1 |
| Number of investors | 492 | 26.36789 | 44.44711 | 0 | 362 |
| Average pledge | 492 | 1272.789 | 2603.447 | 0 | 25450 |
| Percentage raised | 492 | 0.4108878 | 49.29294 | 0 | 286.28 |
| All male | 446 | 0.753363 | 0.431538 | 0 | 1 |
| All female | 446 | 0.047085 | 0.212059 | 0 | 1 |
| Both | 446 | 0.199552 | 0.400112 | 0 | 1 |
| Brazil | 492 | 0.178861 | 0.383626 | 0 | 1 |
| Chile | 492 | 0.121951 | 0.327562 | 0 | 1 |
| Mexico | 492 | 0.699187 | 0.459078 | 0 | 1 |
| Advisor | 452 | 0.130531 | 0.33726 | 0 | 1 |
| Video | 492 | 1.829268 | 0.376657 | 1 | 2 |
| Industry | 451 | 0.840355 | 0.366684 | 0 | 1 |
| Firm age | 438 | 1.899543 | 2.628649 | −2 | 26 |
| Linkedin | 427 | 302.0295 | 182.7127 | 0 | 1 |
| Equity offered | 492 | 11.90242 | 8.130079 | 0.2 | 68.38 |
| Financial info | 492 | 0.401746 | 0.490787 | 0 | 1 |
| Fundraising goal | 492 | 73942.56 | 96647.28 | 578.9 | 92,624 |

**Table 4.**
Descriptive statistics

evidence that a higher number of video viewings influences the amounts of funds pledged by investors. This lends support to Mollick's (2014) argument about signalling of the quality of the project and the of commitment of its proponents through the inclusion of a video used to promote the campaign. The findings also show that the fundraising goal affects the campaign's capacity to raise higher amounts of funds from individual investors and that a larger percentage of equity offered negatively influences the average pledge. This evidence reflects the investor's positive perception of retained equity which is typically interpreted as a strong sign of venture quality (Ahlers *et al.*, 2015). There is no statistically significant empirical evidence that the average number of founders' LinkedIn connections influences the average pledge. However, financial information is found to have a positive impact on the average pledge. This suggests that investors place greater trust in the financial information provided by the company rather than the number of the founders' LinkedIn connections. As stated by Lukkarinen *et al.* (2016), the availability of income statement data and forecasts may be considered a sign of credibility and capability. Conversely, the absence of financial information may be considered dubious or unprofessional by investors.

At the country level, the results show that relationships with all countries are positive and statistically significantly related to the average pledge. According to the results, projects launched on Mexican platforms are significantly more likely to attract investors who pledge significantly higher amounts of funds than projects launched on Chilean and Brazilian platforms (project success b =0.096599, $p$ <0.1). Finally, the industry in which the firm operates is not significantly related to the average pledge. This suggests that the relationship between team gender composition and average pledge is not due to industry specifics.

Table 7 shows the results of the regression analysis with the dependent variable measuring the number of investors. The results indicate that the gender of the founders is not significantly related to the number of investors. Indeed, none of the variables relating to gender (all-male, all-female and both) is statistically significant. Therefore, *H2* is rejected. Among control variables, in line with previous studies (Colombo *et al.*, 2015 and Vismara, 2016), results show that the presence of professional advisors, a large number of founders'

**Table 5.**
Correlation matrix

| Variables | Gender | Project success | Brazil | Chile | Mexico | Advisor | Video | Industry | Firm age | Linkedin | Equity offered | Average pledge | No. of investors | % raised | Financial info | Fundraising goal |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gender | 1 | | | | | | | | | | | | | | | |
| Project success | 0.0509 | 1 | | | | | | | | | | | | | | |
| Brazil | 0.055 | 0.0505 | 1 | | | | | | | | | | | | | |
| Chile | −0.077 | 0.0713 | −0.198 | 1 | | | | | | | | | | | | |
| Mexico | 0.0071 | −0.094 | −0.719 | −0.539 | 1 | | | | | | | | | | | |
| Advisor | −0.042 | 0.1647 | 0.5105 | 0.1411 | −0.539 | 1 | | | | | | | | | | |
| Video | 0.0646 | 0.1833 | 0.0104 | 0.071 | −0.059 | 0.0486 | 1 | | | | | | | | | |
| Industry | −0.061 | 0.041 | −0.048 | −0.14 | 0.1407 | 0.0179 | 0.0538 | 1 | | | | | | | | |
| Firm age | −0.029 | −0.06 | 0.2203 | 0.1651 | −0.306 | 0.1696 | −0.064 | −0.225 | 1 | | | | | | | |
| Linkedin | −0.093 | 0.1229 | 0.2611 | 0.2412 | −0.395 | 0.2572 | 0.1133 | −0.036 | 0.1982 | 1 | | | | | | |
| Equity offered | 0.0162 | −0.049 | −0.084 | 0.1682 | −0.047 | −0.024 | 0.0096 | −0.04 | −0.035 | −0.025 | 1 | | | | | |
| Average pledge | 0.0174 | 0.2121 | 0.169 | 0.2732 | −0.339 | 0.2886 | 0.0482 | −0.064 | 0.2205 | 0.259 | 0.0074 | 1 | | | | |
| Number of investors | 0.0064 | 0.2701 | 0.0024 | 0.0089 | −0.008 | 0.0305 | 0.0952 | 0.0084 | 0.0149 | 0.181 | −0.004 | −0.039 | 1 | | | |
| Percentage raised | 0.0397 | 0.3959 | 0.2789 | 0.1564 | −0.35 | 0.333 | 0.1291 | −0.013 | 0.0786 | 0.349 | −0.079 | 0.3035 | 0.5538 | 1 | | |
| Financial info | 0.1101 | 0.3217 | 0.2148 | −0.063 | −0.14 | 0.2512 | 0.1344 | 0.0569 | 0.0868 | 0.134 | −0.164 | 0.0124 | 0.4443 | 0.514 | 1 | |
| Fundraising goal | −0.084 | −0.001 | 0.2494 | 0.3973 | −0.496 | 0.246 | 0.0066 | −0.17 | 0.2896 | 0.33 | 0.1189 | 0.4791 | 0.1 | 0.1526 | −0.03 | 1 |

| Average pledge | Model 1 OLS Coef. | Sth. Err. | Model 2 Robust Coef. | Sth. Err. |
|---|---|---|---|---|
| All male | 0.007 | 0.169856 | 0.007 | 0.099707 |
| All female | −0.1877 | 0.299943 | −0.1877 | 0.111450 |
| Both | 0.2329** | 0.088579 | 0.2329** | 0.172482 |
| Advisor | 0.487** | 0.058471 | 0.487** | 0.032841 |
| Brazil | 0.019157* | 0.016413 | 0.019157* | 0.008238 |
| Chile | 0.075967* | 0.065892 | 0.075967* | 0.053712 |
| Mexico | 0.096599** | 0.049171 | 0.096599** | 0.031829 |
| Video | 0.063775* | 0.090915 | 0.063775* | 0.042061 |
| Industry | 0.084924 | 0.128899 | 0.084924 | 0.061274 |
| Firm age | 0.038694* | 0.020 | 0.038694* | 0.000219 |
| Linkedin | 0.00012 | 0.000239 | 0.00012 | 0.000103 |
| Equity offered | −0.007448* | 0.006474 | −0.007448* | 0.002219 |
| Finance info | 0.381208** | 0.110009 | 0.381208** | 0.050351 |
| Fundraising goal | 0.000049** | 0.000007 | 0.000049** | 0.000015 |
| _cons | 0.699881** | 0.390527 | 0.261679** | 0.261679 |
| *R*-squared | | 0.33 | | |
| Prob>F | | 0.00 | | |

**Notes:** (*) Significant at the $p < 0.05$, (**) Significant at the $p < 0.1$, Obs: 492

**Table 6.** Results of the independent variable "*Average Pledge*" by using the OLS regression

| No. of investors | Model 1 OLS Coef. | Std. Err. | Model 2 Robust Coef. | Std. Err. |
|---|---|---|---|---|
| All male | 0.87291 | 0.382562 | 0.87291 | 0.202693 |
| All female | −0.8588 | 0.368449 | −0.8588 | 0.192098 |
| Both | 0.09302 | 0.421521 | 0.09302 | 0.226852 |
| Advisor | 0.17155** | 0.051308 | 0.17155** | 0.031576 |
| Brazil | 0.067655** | 0.179014 | 0.067655** | 0.392463 |
| Chile | 0.235612* | 0.193417 | 0.235612* | 0.102664 |
| Mexico | 0.247425** | 0.123462 | 0.247425** | 0.076523 |
| Video | 0.6155686* | 0.084496 | 0.6155686* | 0.049104 |
| Industry | 0.0158793 | 0.341039 | 0.0158793 | 0.201195 |
| Firm age | 0.2407862* | 0.166631 | 0.2407862* | 0.091752 |
| Linkedin | 0.0103997** | 0.011748 | 0.0103997** | 0.010636 |
| Equity offered | 0.4588233* | 0.168305 | 0.4588233* | 0.119946 |
| Finance info | 0.3747242* | 0.053553 | 0.3747242* | 0.023871 |
| Fundraising goal | 0.0008525** | 0.000268 | 0.0008525** | 0.000034 |
| _cons | 0.8474284** | 0.124284 | 0.8474284** | 0.075547 |
| *R*-squared | | 0.31 | | |
| Prob>F | | 0.00 | | |

**Notes:** (*) Significant at the $p < 0.05$, (**) Significant at the $p < 0.1$, Obs: 492

**Table 7.** Results of the independent variable "*Number of Investors*" by using the OLS regression

LinkedIn connections and the presence of a video and financial information to support the campaigns are consistently associated with a large number of investors.

Results also show that the number of investors increases when companies are older and offer a high percentage of equity. This last result is not fully in line with the results of

Ahlers *et al.* (2015), Vismara (2016) and Ralcheva and Roosenboom (2016), which all indicate that larger percentages of equity offered are negatively associated with project success. However, this may be due to the fact that in Latin America, platforms may set a minimum percentage of equity that companies must offer to investors. The Chilean platform Broota, for example, establishes that companies must offer at least 30% of their equity, up to a maximum of 50%. As with Lukkarinen *et al.* (2016), the results here find that the fundraising goal is positively associated with the number of investors (the higher the goal, the more investors). With reward-based crowdfunding however, the literature shows that higher funding targets can negatively impact investors (the higher the goal, the fewer investors) (Mollick, 2014 and Zheng *et al.*, 2014) and that in equity-based crowdfunding, investors may be interested in campaigns with higher funding targets (higher goals may encourage investors). This positive relationship is in line with the results of this research. Indeed, according to Lukkarinen *et al.* (2016), larger target sums may signal to investors the company's willingness to take more substantial measures for growth and value enhancement. At the country level, the results show that in all the countries analysed; equity crowdfunding campaigns are able to attract investors. However, projects launched on Mexican platforms are associated with a greater number of investors than projects launched on Brazilian and Chilean platforms. There is no statistically significant empirical evidence that the industry in which the companies operate influences the project's chance of receiving funding from a large number of investors.

Table 8 shows the results of the third dependent variable, "project success". Similar to the first dependent variable, it is found that mixed teams (with at least one woman) are significantly more likely to obtain equity crowdfunding financing and reach the fundraising goal than the all-male and all-female teams (b = 0,104034, p < 0.05). Thus, *H3* is accepted.

| | Model 1 OLS | | Model 2 Robust | |
|---|---|---|---|---|
| Project Success | Coef. | Std. Err. | Coef. | Std. Err. |
| Gender | | | | |
| All male | 0.07736 | 0.060435 | 0.07736 | 0.056233 |
| All female | −0.24469 | 0.368449 | −0.24469 | 0.139911 |
| Both | 0.104034* | 0.079903 | 0.104034* | 0.053874 |
| Advisor | 0.091491** | 0.056078 | 0.091491** | 0.035697 |
| Brazil | 0.361543** | 0.147511 | 0.361543** | 0.051012 |
| Chile | 0.465389** | 0.153995 | 0.465389** | 0.052811 |
| Mexico | 0.474520** | 0.138447 | 0.474520** | 0.049567 |
| Video | 0.125303* | 0.086369 | 0.125303* | 0.067362 |
| Industry | 0.011911 | 0.045862 | 0.011911 | 0.042709 |
| Firm age | 0.0158251** | 0.008076 | 0.0158251** | 0.006582 |
| Linkedin | 0.0000251 | 0.000106 | 0.0000251 | 0.000101 |
| Equity offered | 0.0007562** | 0.002313 | 0.0007562** | 0.002299 |
| Finance info | 0.0828767** | 0.038945 | 0.0828767** | 0.033362 |
| Fundraising goal | 0.0000023** | 0.002299 | 0.0000001** | 0.000002 |
| _cons | 0.45472** | 0.178604 | 0.45472** | 0.138447 |
| *R*-squared | | 0.22 | | |
| Prob>F | | 0.00 | | |

**Notes:** (*) Significant at the $p < 0.05$, (**) Significant at the $p < 0.1$, Obs: 492

**Table 8.**
Results of the independent variable "*Project Success*" by using the OLS regression

These results suggest that to be more effective in raising funds for their ventures, female entrepreneurs should strategically choose to form mixed-sex composition teams. When looking at the control variables, results confirm that project success improves when companies are older, have advisors on board, provide videos and financial information and offer a high percentage of equity. Results also confirm that Mexico has a higher impact on project success and that projects launched on Mexican platforms are more likely to be more successful than those launched on Brazilian and Chilean platforms (project success b = 0.474520, $p < 0.1$). There is no statistically significant empirical evidence that the industry in which the firm operates nor the number of founders' LinkedIn connections influence the success of the campaign.

Lastly, Table 9 presents the OLS regression results for the last dependent variable, "percentage raised", showing the same results as previous ones. It was found that the team with both genders on the board has a positive impact on the percentage of capital raised at the end of the campaign exceeding the initial fundraising goal, giving support to *H4*. Therefore, there is reason to conclude that a managerial board composed of both genders is more likely to succeed in the long run. Once again, these results confirm that female entrepreneurs should choose mixed-gender teams when they approach equity crowdfunding to raise capital.

## 6. Discussion and conclusions

This paper investigates the relationship between success in equity crowdfunding financing (measured by four variables) and the gender composition of the team, using unique hand-collected data from 492 equity offerings from Latin American crowdfunding platforms. The results show that the success of equity crowdfunding campaigns can be influenced by the gender composition of the managerial boards. The involvement of at least one woman in the

| | Model 1 OLS | | Model 2 Robust | |
|---|---|---|---|---|
| Percentage raised | Coef. | Std. Err. | Coef. | Std. Err. |
| Gender | | | | |
| All male | 0.07752 | 0.107294 | 0.07752 | 0.074061 |
| All female | −0.0904 | 0.185745 | −0.0904 | 0.131807 |
| Both | 0.03963** | 0.063595 | 0.03963** | 0.046855 |
| Advisor | 0.263313** | 0.099558 | 0.263313** | 0.086524 |
| Brazil | 0.073815** | 0.261885 | 0.073815** | 0.119278 |
| Chile | 0.405591* | 0.273396 | 0.405591* | 0.203121 |
| Mexico | 0.547878** | 0.245793 | 0.547878** | 0.194633 |
| Video | 0.175757** | 0.119592 | 0.175757** | 0.087031 |
| Industry | 0.102301 | 0.081421 | 0.102301 | 0.771448 |
| Firm age | 0.014481* | 0.011686 | 0.014481* | 0.011169 |
| Linkedin | 0.000298* | 0.000179 | 0.000298* | 0.000151 |
| Equity offered | 0.0038868** | 0.004091 | 0.0038868** | 0.003914 |
| Finance info | 0.0207722** | 0.069141 | 0.0207722** | 0.065168 |
| Fundraising goal | 0.0000846** | 0.000002 | 0.0000846** | 0.000001 |
| _cons | 0.5478784** | 0.245793 | 0.5478784** | 0.194633 |
| R-squared | | 0.42 | | |
| Prob>F | | 0.00 | | |

**Notes:** (*) Significant at the $p < 0.05$, (**) Significant at the $p < 0.1$, Obs: 492

**Table 9.** Results of the independent variable "*Percentage Raised*" by using the OLS regression

team of the company looking for funds increases the probability of success of the equity crowdfunding campaign in terms of investors' average pledge, target amount reached at the end of the campaign and overfunding. Altogether, this emphasises the importance of the board's gender equality in equity crowdfunding campaigns. Evidence was also found that there is no gender disparity in the likelihood of a campaign being financed by a greater number of investors. These results confirm previous studies on gender diversity in entrepreneurial teams, according to which mixed teams have better chances of securing investment capital (Vogel *et al.*, 2014). Furthermore, the results are in line with recent works showing that in a crowdfunding context, female entrepreneurs might have a funding advantage (Carmon, 2017; Greenberg and Mollick, 2017; Johnson *et al.*, 2018).

This experimental study has some limitations that further research could help overcome. Firstly, the models were tested on a relatively small sample spanning a limited number of countries (i.e. Brazil, Chile and Mexico), because as at the data collection date (November 2017), the remaining countries in Latin America did not have active equity crowdfunding platforms. Additional research is needed to verify whether these results hold with more countries and over longer periods. Secondly, the paper uses data from native platforms which host projects from Latin American countries. Caution should be taken in generalising these results to other countries because the social norms governing the behaviours of members of crowdfunding communities may be culturally mediated. A data-set that includes foreign platforms operating in Latin America and hosting projects from other countries would allow observation of whether these results are contingent on a particular platform's rules and setup or could otherwise be generalised in different emerging contexts. Thirdly, this study explores gender disparity in equity crowdfunding from the demand-side (i.e. entrepreneurs). Future studies could provide a better understanding of the financial inclusion offered by equity crowdfunding in Latin America by analysing this new method of financing from the supply-side (i.e. investors). Studies with regards to the matching between demand and supply side are also needed. Finally, researchers' energies should be devoted to pragmatic, pressing issues. For example, Latin American countries, like the rest of the world, are experiencing socio-economic crises due to the Covid-19 pandemic [5]. Future researchers could investigate how the Covid-19 crisis impacts female entrepreneurial activity in the equity crowdfunding sector and what role crowdfunding platforms can play in rebuilding after this crisis.

Despite these limitations, this study provides novel practical insights for entrepreneurs and policymakers for overcoming the general funding differences between male- and female-led companies that the prior literature has documented. These results could encourage Latin American female entrepreneurs, who are financially constrained in traditional entrepreneurial markets (Becker-Blease and Sohl, 2007; Bigelow *et al.*, 2014; Eddleston *et al.*, 2016), to resort to equity crowdfunding as an alternative source of funding. Furthermore, these results suggest that to be more effective in raising funds through equity crowdfunding, female entrepreneurs should strategically choose mixed-gender teams. Finally, these findings could help Latin American policymakers to define political actions aimed at removing the barriers at the root of this historic inequality in female entrepreneurs' access to finance and unleash the potential of more flexible forms of financing better suited to the needs of new female ventures. To date, only 12% of the fundraisers in the Latin American equity crowdfunding segment are women (Ziegler *et al.*, 2017).

## Notes

1. The 2015 Female Entrepreneurship Index shows that Chile ranks 15th among the 77 top nations in the world for female entrepreneurship (Terjesen and Lloyd, 2015).

2. The literature identifies four main types of crowdfunding depending on how investors are recompensed (Mollick, 2014). In the donation-based model, proponents make donations as a purely philanthropic act. The reward-based model involves a non-monetary benefit as a result of a monetary contribution. In the lending-based model, backers lend money to businesses (P2B) or other individuals (P2P) and get their money back (plus interest) when the loan is repaid. Finally, the equity-based model turns the backer into a shareholder, as the contribution gives rise to ownership of a small equity stake in the company and entitles its owner to the company's profits.
3. The list of Mexican equity-based platforms is from the website of the Mexican Association of Crowdfunding Platforms (AFICO – Asociacion de Plataformas de Fondeo Colectivo), and it refers to the members' list (available at www.afico.org/). The list of Chilean platforms is from the website of the Association of Fintech Companies of Chile (FinteChile - Asociación Fintech de Chile) (available at www.fintechile.org/). The Brazilian platforms list has been built up based on the records provided by the report "2017 The Americas Alternative Finance Industry Report" (see Ziegler *et al.*, 2017) carried out by the Cambridge Centre of Alternative Finance, the Polsky Centre for Entrepreneurship and Innovation, and the University of Chicago Booth School of Business. Since the list provided by this report includes all the typologies of crowdfunding, platforms have been double-checked on the web, and only the equity-based ones have been selected.
4. Comissão de Valores Mobiliários (CVM), Instrução n° 588, available at: www.cvm.gov.br/legislacao/instrucoes/inst588.html
5. Covid-19 is a new infectious disease triggered in Wuhan city, China, in December 2019. Due to the rapid increase in the number of cases outside China, Covid-19 rapidly turned into a global pandemic.

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