Alternative Digital Methods of Providing Entrepreneurial Finance

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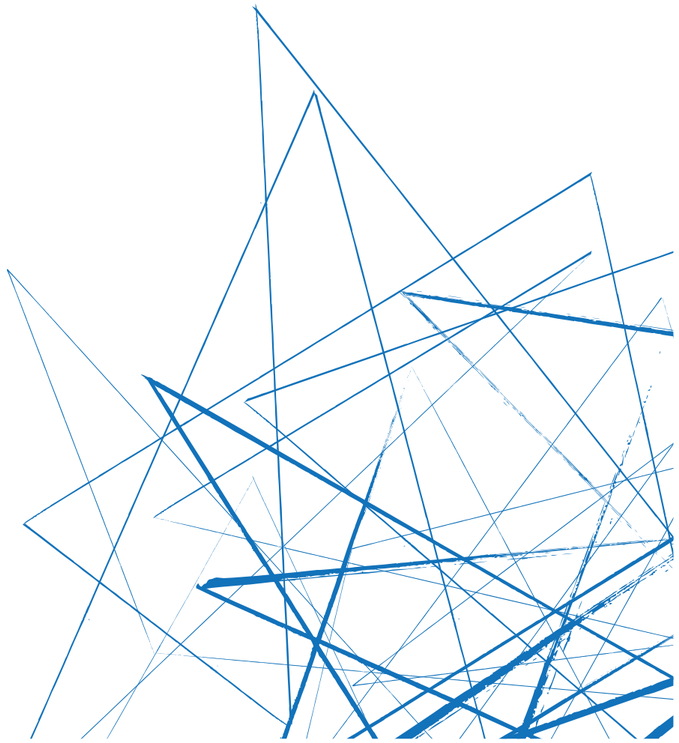

PhD Series 27.2020

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CBS COPENHAGEN BUSINESS SCHOOL
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Alternative Digital Methods of Providing Entrepreneurial Finance

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Summary

Obtaining finance for their ventures is a challenge that most entrepreneurs face. The demand for funding from venture capital funds, angel investors, and banks is never met in full, leaving countless of innovative ideas unrealized, promising business opportunities missed, and dreams shattered. Certain groups among the population of entrepreneurs find it even more difficult to realize their business ideas: women and microentrepreneurs in developing countries. They might be discriminated against, or simply be left out of the playing field, without any means to borrow or even save money.

Solutions might come in the form of nascent digital technologies: crowdfunding and mobile money services. The purpose of this dissertation is to enrich our understanding of these innovations, and to find out if and how they can support female entrepreneurs and microentrepreneurs in securing the finance they need and establishing their own businesses.

I start by researching crowdfunding, which has been known as an instrument to democratize the entrepreneurial finance process, taking the funding decisions from the few to the many. The first chapter investigates the pitching process in a reward-based crowdfunding setting and asks what is more important for the backers who fund the projects – the project they are asked to fund, or maybe the entrepreneur behind it? The results are in favor of the latter, as they highlight the importance of the representation of the entrepreneur herself over her idea, especially when the ventures are art-related.

The second chapter remains in the reward-based crowdfunding realm, analyzing its gender dynamics from both supply and demand sides, and pointing out differences and similarities to traditional methods of finance. The results show higher participation rates of women as entrepreneurs and as backers in the investigated platform than in the traditional finance markets, as well as higher chances of funding success for women than men. Backers on the platform prefer to support entrepreneurs of their own gender, but with experience, women lose this tendency, unlike men, who maintain a taste-based discrimination against women.

The third chapter turns to another type of crowdfunding – prosocial crowdlending for micro-entrepreneurs in developing countries. The main question asks which type of borrower lenders would choose to lend money to – those who ask for loans to support their income-generating activities, or those who take loans to cover basic necessities? The results show that loans taken out to meet basic needs are funded faster than business-related loans, especially for small amounts,

which can be explained by the prosocial motivation of microlenders. Moreover, female microborrowers are funded faster than men, especially for basic needs loans.

I complete the thesis by investigating the effects of providing financial services to men and women from developing countries on their ability to start their own businesses. The key insight is that the different genders need different financial instruments for their entrepreneurial needs – men are more likely to have their own business if they have financial accounts at banks, while mobile money accounts foster entrepreneurship among women.

Beyond the academic significance of these studies in understanding the theories and the mechanisms behind these financial instruments, I believe that the results of this thesis also have practical implications for entrepreneurs, crowdfunding platform managers, and governments.

Sammenfatning

De fleste iværksættere finder det udfordrende at finde kapital til deres projekter, og kapitalfonde, business angels og banker kan aldrig dække efterspørgslen på finansiering fuldstændigt. Af den grund bliver utallige gode og nyskabende ideer ikke ført ud i livet, lovende forretningsmuligheder falder på gulvet, og drømme knuses. Visse grupper blandt iværksættere har endnu sværere ved at føre deres forretningsideer ud i livet, nemlig kvinder og mikroiværksættere i udviklingslande. De bliver enten diskrimineret eller ganske simpelt udelukket fra at være med i spillet uden mulighed for at låne eller endda spare penge op. Måske findes løsningen i form af spirende digitale teknologier, nemlig crowdfunding og mobile penge. Formålet med denne afhandling er at øge vores forståelse af disse innovationer og undersøge om, de kan understøtte kvinder og mikroiværksættere i at opnå den rette finansiering og skabe deres egen virksomhed og hvordan.

Først undersøger jeg begrebet crowdfunding, som har demokratiseret måden, iværksættere kan blive finansieret på, og som giver mulighed for at indsamle både store og små bidrag fra flere forskellige bidragsydere. Første afsnit afdækker pitchingprocessen inden for belønningsbaseret crowdfunding og spørger, hvad der er vigtigst for dem der finansierer projekterne, de såkaldte backers: Er det projektet, de skal finansiere, eller er det iværksætteren bag? Resultaterne peger på sidstnævnte og understreger vigtigheden af iværksætteren over hendes ide, særligt når projekterne har med kunst at gøre.

Andet afsnit bliver inden for den belønningsbaserede crowdfunding og analyserer kønsdynamikken på både efterspørgsels- og udbudssiden og udpeger forskelle og ligheder i forhold til traditionelle finansieringsmetoder. Resultaterne viser, at der er flere kvinder, både iværksættere og backers, på den undersøgte platform end på de traditionelle finansmarkeder, samt at kvinder har bedre chancer end mænd for at opnå finansiering. Backers på platformen foretrækker at støtte iværksættere af samme køn som dem selv, men med erfaringen stopper denne tendens for kvinderne, hvorimod mændene fastholder en smagsbaseret diskrimination mod kvinder.

Det tredje afsnit handler om en anden type af crowdfunding, nemlig ’prosocial crowdlending’ for mikroiværksættere i udviklingslande. Først og fremmest spørges der, hvilken type lånere backers vælger at låne penge til: Dem, der ønsker at låne til indkomstskabende aktiviteter eller dem, der ønsker at låne penge til at dække det allermest nødvendige? Resultaterne viser en

større villighed til at låne til det allermest nødvendige end til indkomstskabende aktiviteter, særligt når det gælder små beløb, hvilket kan forklares med den prosociale motivation hos mikrolånerne. Derudover opnår kvindelige iværksættere hurtigere finansiering end mænd, især til det allermest nødvendige.

Jeg afslutter afhandlingen med en undersøgelse af, hvordan finansielle ydelser til mænd og kvinder fra udviklingslande påvirker deres evne til at starte egen virksomhed. Her er jeg kommet frem til, at forskellige køn har behov for forskellige finansielle instrumenter til at dække deres iværksætterbehov. Mænd har mere tendens til at starte egen virksomhed, hvis de har lån i banken, mens mobile penge skaber iværksætteri hos kvinder.

Udover den videnskabelige betydning af disse studier for forståelsen af teorier og mekanismer bag disse finansielle instrumenter mener jeg, at resultaterne af denne afhandling også har praktisk betydning for iværksættere, crowdfunding, platforme og myndigheder.

Table of Contents

Introduction

Obtaining finance for their ventures is a challenge that most entrepreneurs face. The demand for funding from venture capital funds (VCs), angel investors, and banks is never met in full, leaving countless of innovative ideas unrealized, promising business opportunities missed, and dreams shattered. According to the Small Business Administration[1], 627,000 new businesses open each year in the United States, yet only half a percent of these businesses receive finance from VCs[2], and less than one percent of startups are funded by angel investors[3]. The rest would turn to credit and personal loans, as well as to support from family and friends. Research has demonstrated that financial capital is a strong predictor of entrepreneurial performance, constraining growth and hurting survival rates (e.g., Cooper et al. 1994; Holtz-Eakin et al. 1994; Kerr et al 2014), and so it is not surprising that 595,000 businesses are closing every year, with only 51 percent of businesses surviving more than five years.

Among aspiring entrepreneurs, women are likely to find it even more difficult to receive the capital they need. While research has not demonstrated that angel investors and VCs clearly discriminate women in their financing decision, women were found to be less likely to be funded in lab experiments (Brooks et al., 2014; Thébaud, 2015) and in an online investment platform for angel investors (Ewens and Townsend, 2020). Moreover, women's underrepresentation as founders and business owners is apparent in the markets. Women-owned businesses make up about 35.8% of firms in the United States (United States Census Bureau, 2015), and they tend to start firms in low-growth sectors of service and retail, which are typically less capital-intensive. Findings about women-founded businesses that were venture-backed stretch from 10.7% during the years 2010–2015 (Gompers and Wang, 2017), through 12.4% for ownership of 'high-impact firms' in 2004–2008 (Tracy, 2011), up to 15% in the period of 2011–2013 (Brush et al., 2014). Of the US-based companies that received a round of venture capital financing in 2010, only 6% had a female CEO, 7% had a female founder, and 10% had a female founder or CEO at some point, according to Dow Jones VentureSource, 2011.

Although we are unable to tell if this comes as a result of treatment from financial gatekeepers or self-selection into these categories, it is plausible that self-selection itself is a consequence of

[1] Small Business Administration, https://smallbusiness.chron.com/information-small-business-startups-2491.html
[2] Forbes.com https://www.forbes.com/sites/dileeprao/2013/07/22/why-99-95-of-entrepreneurs-should-stop-wasting-time-seeking-venture-capital/
[3] "*Where Startup Funding Really Comes From (Infographic)*", https://www.entrepreneur.com/article/230011

higher financing barriers for women-owned firms than for men-owned ones (Fairlie and Robb, 2009; Robb, 2002; Watson and Robinson, 2003).

Microentrepreneurs in developing countries is a second group for which raising capital is a major challenge. Microentrepreneurs contribute significantly to economic activities and growth in developing countries (Khavul et al., 2009). Being excluded from traditional sources of funding, they typically borrow from relatives but also rely on local moneylenders, who can charge usury rates because of their monopoly situation (Collins et al., 2009).

Not only do aspiring entrepreneurs in developing countries lack the finance they need – they often do not even have the basic financial instrument that they need. According to the Global Findex Report (Demirgüç-Kunt et al., 2017), 31% of people in the world do not have access to a basic account to use for safekeeping money, the vast majority of them residing in developing countries. Once again, the situation is worse for women, who are excluded from the financial system even more – only 65% of adult women in these countries hold accounts. Without accounts, entrepreneurs are constrained in their ability to store cash, make and receive payments quickly and safely, manage their finances – and take loans, or other forms of external finance. As a result, their growth potential is constrained as well, and their survival chances are lower.

Solutions might come in the form of nascent digital technologies: crowdfunding and mobile money services. The purpose of this dissertation is to enrich our understanding of these innovations, and to find out if and how they can support female entrepreneurs and microentrepreneurs in securing the finance they need for establishing their own businesses.

Crowdfunding is a fundraising effort from an undefined large number of participants; each contributes a relatively small amount, through the internet and social networks. In recent years, the use of crowdfunding to finance different aims has increased dramatically. According to the Massolution Industry Report (2015), finance via crowdfunding was valued at more than $34 billion in 2015. Crowdfunding can be categorized into five types, distinguished by what investors are promised in return for their contributions: (a) the reward model, which offers a certain perk to backers in return for the contribution, but without interest or a share in business earnings; (b) the pre-purchase model, in which contributors receive the product the entrepreneur is producing prior to its marketing to the general public; (c) the lending model, in which a loan is given to the entrepreneur through funding by one or more lenders; (d) the equity model, which offers investors

a share of the venture; and (e) the donation model, in which contributors receive nothing in return for their contribution.

Yet crowdfunding is more than just another option to raise funds. Depending on the specific type of funding, it can also be a way to gain more independence - independence that one may lose when collaborating with angel investors or VCs, or rather a less risky method than a bank loan, in the case of a default. It may also be a method to connect directly with one's potential customers or audience, and can be considered as a marketing tool.

Furthermore, with most of these models, an entrepreneur does not need to convince a single angel investor, a single loan officer at a bank, or a room with several venture capital executives; now, one must be able to draw the attention of the crowd. For better or worse, the decision is moved from the one to the many. Since now 'the many' hold the power to choose the ventures that they deem fund-worthy, it is of interest to study them. Arguably, these investors (the "crowdfunders") are a new breed of financiers, taking different funding decisions than financiers of the traditional methods of funding. This could be the result of the lower sums that are asked, the different kind of people and ventures that apply for funding, the greater information asymmetry, or because of the greater variety of funders. What makes crowdfunders choose one project over the other? Are they looking for more information about the entrepreneur or about the venture? Do they even care about gender of the entrepreneur? Do they care much about their promised returns? Are they subjected to the same biases like the traditional funders? Does the wisdom of the crowd shift funding in different directions? Can it democratise entrepreneurship funding and capital markets by providing the means to both sectors of entrepreneurs who were left out of the traditional finance markets?

In the first three essays, I aim to answer at least some of these questions, by applying theories of self-determination, discrimination, motivations, and more, on data from Kickstarter, the leading reward-based platform, and Kiva, a large peer-to-peer crowdlending platform.

Another digital innovation that may be helpful for entrepreneurs and micro-entrepreneurs in emerging economies, is mobile money technology. In 2007, Safaricom introduced M-Pesa, the first mobile-phone based money instrument, and since then mobile money has made a great impact in cashless money circulation in developing countries. M-Pesa and similar instruments allow users to make peer-to-peer money transfers via mobile phone text messages, as well as a way to store cash, and sometimes even offer credit services.

This tool is different from solutions of formal banks in a number of ways. First, it allows peer-to-peer transfers to any other mobile money user – a service that banks usually do not offer. In addition, obtaining a mobile money account usually does not entail any monetary cost. It also requires less documentation than is required by banks, and any person who visits a mobile money kiosk with a mobile phone and an official identity document can open an account. The spread of these kiosks might be much more dense than the spread of bank branches, especially in places where mobile money is popular. This makes depositing and withdrawing cash easier and done in higher frequency. Any of these characteristics can change or improve the way business owners operate, or even simply include in the financial system aspiring microentrepreneurs who were previously excluded.

Each of the chapters in this dissertation is a stand-alone study, yet all of them seek to study the mechanisms of these new digital environments, in order to reach a better understanding of processes that may offer the financially marginalized a new opportunity to obtain funding.

The first essay in the dissertation asks how contributors to projects in leading reward-based crowdfunding platform Kickstarter are being influenced by the entrepreneurs' project descriptions on the platform. When pitching an initiative to potential backers, the entrepreneur attempts to optimize her ability to raise the needed amount and, thus, may employ various methods to convince backers to support the project. The entrepreneur may decide to emphasize the business idea in the pitch or, alternatively, the entrepreneur may center the presentation on her personage, calling upon his/her name or past accomplishments. Given the limited time span, this is a clear trade-off. Should entrepreneurs focus their business pitches on themselves, rather than on the actual business ideas?

To quantify the focus on the entrepreneur in the pitch, the number of times that entrepreneurs mentions her own name in the title of the project and in its description is counted. Controlling for the length of the textual description, several questions concerning the entrepreneurs' strategies and the campaign's success can be answered. Do entrepreneurs in different categories of projects present themselves differently in the pitch? Is the likelihood of financing success greater when additional information is provided on the relevant human capital? Do different categories require focusing on different aspects?

First observations on the data reveal that creators of art-related projects mention themselves on average more than creators of technology-related projects do. Moreover, experience seems to play

a part in the decision of the entrepreneur to talk about herself, since the number of self-mentions increases when the entrepreneurs posts her second or third campaigns, especially if the last campaign was successful. In addition, the higher the funding goal, the more the entrepreneur's name is mentioned.

Three different measures of success are chosen. The first measure is simply success in reaching the fundraising goal. The second measure of success is the percentage pledged, which is calculated by dividing the sum pledged by the total goal. The third is the number of backers who funded the project. Regardless of the employed measure of success, the mentions of the entrepreneur's name matter – the higher the number of mentions, the greater the likelihood of success. Splitting the sample to technology and art-related projects, the number of mentions has only a significant effect on the success of art-related projects.

To test possible mechanisms which can explain these results, an additional test was conducted. Pitches from the sample were presented to subjects who were not previously familiar with the entrepreneurs or the projects. For the projects whose entrepreneur mentioned herself more substantially, the subjects indicated higher levels of trust and higher levels of perceived knowledge of the entrepreneur. This suggests that a high number of self-mentions increased the respondents' trust in and familiarity with the entrepreneur.

The second chapter continues with the investigation of reward-based crowdfunding. This time we ask if this type of crowdfunding fulfils the prediction that it can democratise the funding process, and enable more female entrepreneurs to obtain finance for their projects.

Once again choosing Kickstarter as our platform of investigation, my co-authors and I started by investigating the level of female participation as project leaders on this platform, and found that women-led projects made up about one-third of all the projects led by one entrepreneur. This ratio is clearly below the female proportion in the overall population, yet when comparing the share of women in certain project categories to comparable industries (such as films and high-tech), we do find a higher female participation on Kickstarter.

The next step examines funding goals set by entrepreneurs, comparing those set by men and women. The all-or-nothing funding mechanism of the Kickstarter platform makes this decision a crucial one, since an over-ambitious goal may well lead to no funding at all. Although theories and empirical findings suggest that men will set higher goals, due to their higher assertiveness and confidence, the difference between the genders was not significant. We also studied the impact of

gender on crowdfunding campaign success. Interestingly, female entrepreneurs were more likely to succeed than men, even after controlling for the sum requested, category, and other covariates.

In order to find an explanation for this relative advantage enjoyed by women, we investigated whether the platform attracted women to become involved in financing. The majority of backers were also men, although the ratio was more balanced: about 45% of Kickstarter project backers are female. This is a much higher female participation level than in angel investing or venture capital. Differences probably result from the very low barriers to participation as a backer on Kickstarter.

Analysing the backers' in our sample, we found a clear pattern: backers of each gender tended to contribute money to entrepreneurs of their own gender, higher than the proportion of this gender of entrepreneurs in the population. Differences between the genders appeared among backers who made more than five contributions (serial backers): while women were not likely anymore to contribute more to female entrepreneurs, men kept preferring to contribute to male entrepreneurs.

A survey of Kickstarter backers revealed that men and women had different reasons for backing projects. We used the respondents' answers to gender equality questions to investigate whether taste-based bias played a role in funding decisions in our subsample. Since we knew which projects they funded, we could see that male respondents who had a higher taste for gender inequality were more likely to contribute money to male rather than female entrepreneurs, yet there was no significant effect among women. This suggests that taste-based discrimination against women takes part in the men's decision-making process, possibly in addition to other biases.

Finally, we provided an economic model that explained the observed difference in behavior between serial and non-serial backers, since experience in contributing to crowdfunding projects is expected to affect statistical discrimination and not taste-based one. We simulated a dataset for this model, and the results of the simulation mimic what we observed in the data.

The third essay remains in the crowdfunding realm, yet shifts to a different type of mechanism and platform. Kiva is a major peer-to-peer crowdlending platform that connects micro-entrepreneurs from developing countries with potential lenders from all around the world. These lenders do not receive interest on their loan, and therefore are likely to be motivated by prosocial motives. As such, they might make different decisions than lenders or backers on other crowdfunding platforms, and their funding behavior is interesting to study. The current literature

focuses on the response of these crowdlenders to different narratives in loan applications (Allison et al., 2013; Allison et al., 2015; Moss et al., 2015) and their underlying ethical motivations (*Berns et al., 2020)* or the social proximity between with the borrowers (Galak et al., 2011). Nevertheless, little is known about the importance that lenders place on the purpose of the loan, even though this is a key element in each application.

Loan purposes may be classified to one of the three following categories: (1) business loans, which are meant to finance income-generating activities; (2) basic necessities loans, in which the money is to be used to pay for expenses such as health care, child education and house repayments; and (3) loans for consumption, other purposes that are neither directly business or basic needs-related. The last two types are not income-generating activities and are thus potentially riskier for lenders.

Hence, the way in which a loan's purpose might affect the success chances of a fundraising campaign among prosocial motivated crowdlenders is analyzed. Furthermore, the analysis checks for possible loan size and gender moderating effect, since business loans tend to be larger and male-oriented. Self-determination theory, and organismic integration theory in particular, are employed to make hypotheses about the outcomes.

The findings of this chapter are threefold. First, it is found that loans intended for basic necessities were funded faster than those for business investment or for other consumption. These results can be explained by the prosocial or ethical motivation of crowdlenders. Second, results indicate a loan size moderating effect, possibly because of crowdlenders' reluctance to support large non-income-generating loans, which could lead to over-indebtedness. Third, a preference for female borrowers is found, but this effect was weaker when the purpose of the loan was a business activity. Female microborrowers are funded faster than men, especially when applying for basic needs loans. This could produce adverse effects, supporting gender role bias and driving women away from business activities. Overall, the results suggest that prosocially-motivated crowdlenders may unintentionally end up producing adverse outcomes, driving women away from business.

The final chapter shifts away from crowdfunding, yet keeps looking at entrepreneurs in developing countries. In this essay, I focus on a very early step of entrepreneurial finance - account ownership, and its possible effect on the next steps in the entrepreneurial process. The notion that governments can use policies to alleviate financing barriers for businesses, and by that to reduce poverty and foster development, led to the widespread implementation of rural savings and credit schemes in developing countries. Should policies focus on making accounts accessible for

financially excluded people? Would it increase their likelihood to save and borrow money to set up their business? Can mobile accounts be a solution to achieve financial inclusion? Will it affect both men and women in the same way?

Using an extensive survey from Gallup and the Global Findex Database I observe three dependent variables in the entrepreneurship process – saving money for business purposes, borrowing money for business, and finally having a business, where the first two make also channels through which accounts might affect business ownership. Constructing a regression model on findings from experimental and event studies, this chapter aims to contribute to the literature by providing individual-level evidence on the extent to which account ownership is a factor in the likelihood of going into entrepreneurship, across all emerging economies. Although such a study may not have the perspective to account for specific contextual realities of countries and regions, it provides an overlook that is not sensitive to confounding policy-changes and shocks in certain places, and therefore may be a step forward towards reaching a general conclusion about this effect.

Overall, the results suggest positive effects of account ownership on entrepreneurship. Respondents' likelihood of saving money, borrowing money, or owning a business appear to increase as a result of having an account, the latter increasing by 5.6 percentage points. Breaking down the main regressor into two types of accounts - a bank account and a mobile money account - I find that both types increase the likelihood of having a business and borrowing money to have one, yet only mobile accounts are associated with a greater likelihood to save money. Moreover, the two types of accounts were found to be complementary to each other.

When analyzing the sample by gender, it appears that one size does *not* fit all. Financial accounts were found to increase the likelihood to own a business only among men, while mobile accounts were associated with greater probability of saving money for business purposes only among women. Having a mobile account is estimated to increase the likelihood of a woman having a business by almost 6 percentage points. This figure is almost as twice as large as the proportion of female business owners in the population, which suggests that mobile money can reduce the gender gap in entrepreneurship. Looking deeper, I find that these results vary by the level of safety of the environment; in areas where women do not feel safe, they are more likely to use mobile accounts to accumulate money for their business - but less likely to translate it to business ownership.

While each of the essays adds its own contribution, I believe that the dissertation as a whole enriches our understanding of the behavior of funders in a crowdfunding setting, and sheds light about the advantageous as well as the limitations of digital innovations in the context of entrepreneurial finance. In particular, women seem to benefit from crowdfunding and mobile money, being offered possibilities that they did not have before. Beyond the contribution to the academic literature, I hope that the conclusion of this thesis can be useful for practitioners as well; entrepreneurs may know better where and how to seek funding for their ventures, platforms may take actions to reduce negative biases, and governments may push policies for financial inclusion through mobile money services. As financial technology keeps on rising around the world, and coming up with new innovative concepts, it is exciting to see what the future holds for aspiring entrepreneurs, of all genders and countries.

References

Allison, T. H., Davis, B. C., Short, J. C., & Webb, J. W. (2015). Crowdfunding in a Prosocial Microlending Environment: Examining the Role of Intrinsic Versus Extrinsic Cues. *Entrepreneurship Theory and Practice*, 39(1), 53–73.

Allison, T.H., McKenny, A.F., & Short, J.C. (2013). The effect of entrepreneurial rhetoric on microlending investment: An examination of the warm-glow effect. *Journal of Business Venturing*, 28(6), 690–707.

Berns, J. P., Figueroa-Armijos, M., da Motta Veiga, S. P., & Dunne, T. C. (2020). Dynamics of lending-based prosocial crowdfunding: Using a social responsibility lens. *Journal of Business Ethics*, 161(1): 169-185.

Brush, C. G., Greene, P. G., Balachandra, L., and Davis, A. E. (2014). Women Entrepreneurs 2014: Bridging the Gender Gap in Venture Capital (Diana Report).

Collins, D., Morduch, J., Rutherford, S. & Ruthven, O. (2009). Portfolios of the Poor: How the World's Poor Live on $2 a Day. Princeton University Press: New Jersey.

Cooper, A. C., Gimeno-Gascon, F. J., & Woo, C. Y. (1994). Initial human and financial capital as predictors of new venture performance. *Journal of Business Venturing*, 9(5), 371-395.

Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2017). The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution. *The World Bank*.

Ewens, M., & Townsend, R. R. (2020). Are early stage investors biased against women?. *Journal of Financial Economics*, *135*(3), 653-677.

Fairlie, R. W., & Robb, A. M. (2009). Gender differences in business performance: evidence from the Characteristics of Business Owners survey. *Small Business Economics*, 33(4), 375.

Galak, J., Small, D., & Stephenson, A.T. (2011). Microfinance decision making: A field study of prosocial lending. *Journal of Marketing Research*, 48 (Special Issue), S130–S137.

Gompers, P. A., & Wang, S. Q. (2017). Diversity in innovation (No. w23082). National Bureau of Economic Research.

Holtz-Eakin, D., Joulfaian, D., & Rosen, H. S. (1994). Sticking it out: Entrepreneurial survival and liquidity constraints. *Journal of Political Economy*, 102(1), 53-75.

Kerr, W. R., Lerner, J., & Schoar, A. (2014). The consequences of entrepreneurial finance: Evidence from angel financings. *The Review of Financial Studies*, 27(1), 20-55.

Khavul, S., Bruton, G.D., & Wood, E. (2009). Informal family business in Africa. *Entrepreneurship Theory and Practice*. 33(6), 1219–1238.

Massolution, C.L. (2015). Crowdfunding industry report.

Mollick, E., & Robb, A. (2016). Democratizing innovation and capital access: The role of crowdfunding. California management review, 58(2), 72-87.

Moss, T. W., Neubaum, D. O., & Meyskens, M. (2015). The effect of virtuous and entrepreneurial orientations on microfinance lending and repayment: A signaling theory perspective. *Entrepreneurship Theory and Practice*, 39(1), 27-52.

Robb, A. M. (2002). Entrepreneurial performance by women and minorities: The case of new firms. *Journal of Developmental Entrepreneurship*, 7(4), 383.

Tracy, S. L. (2011). Accelerating job creation in America: The promise of high-impact companies. *US Small Business Administration, Office of Advocacy*.

United States Census Bureau, 2015, December, 15, Los Angeles County a Microcosm of Nation's Diverse Collection of Business Owners, Census Bureau Reports, Retrieved from https://www.census.gov/newsroom/press-releases/2015/cb15-209.html.

Watson, J., & Robinson, S. (2003). Adjusting for risk in comparing the performances of male-and female-controlled SMEs. *Journal of Business Venturing*, 18(6), 773-788.

Chapter 1: Are the life and death of an early stage venture indeed in the power of the tongue? Lessons from online crowdfunding pitches

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1. Introduction

Are contributors to projects in a reward-based crowdfunding platform being influenced by the entrepreneurs' descriptions? Should entrepreneurs focus their business pitches on themselves?

When pitching an initiative to potential backers,[4] the entrepreneur attempts to optimize his/her ability to raise the needed amount and, thus, may employ various methods to convince backers to support the project. The entrepreneur may decide to emphasize the business idea in the pitch or, alternatively, the entrepreneur may center the presentation on his/her personage, calling upon his/her name or past accomplishments. Given the limited time span ("elevator pitch"), this is a clear trade-off.[5]

Crowdfunding is a fund-raising effort from an undefined large number of participants; each contributes a relatively small amount, through the internet and social networks. Recently, the use of crowdfunding to finance different aims has increased dramatically. According to the Massolution Industry Report (2015), finance via crowdfunding was valued at more than $34 billion in 2015. Our research focuses on Kickstarter, a leading crowdfunding platform. We used custom software to collect the investigated data. Our database consists of 16,111 successful projects, 4,113 failed projects, 18,496 entrepreneurial teams, 984,344 backers, and contributions that sum to more than $120 million. The period investigated in this project is from the inception of Kickstarter in April 2009 until March 2012.

Researching the fund-raising process through Kickstarter offers us a number of advantages:

1. We have the full pitch that was presented to the potential backers, which non-crowdfunding entrepreneurs typically keep classified.
2. We can focus on early-stage financing, usually the stage least exposed to outsiders.
3. It enables us to have a very clear definition of success—the entrepreneur sets a goal and must reach it, otherwise the entrepreneur receives no funding.
4. We have a substantial number of ventures over a relatively short period of time.

To quantify the focus on the entrepreneur in the pitch, we use a technique that enables us to deal with large numbers of business pitches. Specifically, we count any mention of the entrepreneur's name. We examine this on three levels: (a) a mention of the entrepreneur's name in the "About" section of the project (a section that essentially serves as the business plan presented to potential

[4] The term "backers" refers to financial contributors to reward-based crowdfunding projects.
[5] According to Kahneman (1973), attention is a scarce cognitive resource.

backers); (b) a mention of the entrepreneur's name in the first 100 words of this section; and (c) a mention of the entrepreneur's name in the title of the project. We use these measures to answer several questions concerning the entrepreneurs' strategies and the campaign's success. Do entrepreneurs in different categories of projects present themselves differently in the pitch? Is the likelihood of financing success greater when additional information is provided on the relevant human capital? Does the success of a financing campaign depend on the type of project, on the amount of money sought, or on the entrepreneur's previous success? Obviously, in equilibrium, one would expect to find that entrepreneurs understand the factors that are important to the backers and adapt the pitch accordingly.

The word-counting technique allows us to analyze thousands of entrepreneurial pitches. Nonetheless, several major arguments may be voiced against our counting mechanism:

1. The entrepreneur may highlight him/herself by using pronouns such as “I,” “we,” first or last name only, or any form that is not identical to the entry given as the entrepreneur's name on the site—we identified only exact matches.
2. The entrepreneur could highlight him/herself during the business pitch but use his/her name only a limited amount of times. For example, writing a few paragraphs about oneself while only mentioning his/her own name once.
3. Self-mentioning does not necessarily imply that the project idea is not also thoroughly described.
4. Self-mentioning could be affected by external reputation, and fund-raising success could also be affected by the same entrepreneurial reputation factor. This argument entails the potential for influence in two opposite directions—a “famous” entrepreneur (for example, a well-known artist) could mention his/her name several times to leverage his/her external reputation. Conversely, there is no need to elaborate on a well-known figure, which may cause a very low number of self-mentions by a “famous” entrepreneur.

We employed several robustness tests to validate our mechanism with respect to these possible biases. First, we employed a human rating method on a subsample. Our raters were asked to examine business pitches and numerically evaluate the presentation of the entrepreneur and the business idea in the pitch. Our human coding results are positively correlated with our name-counting technique. To cope with a potential bias from successful entrepreneurs described earlier, we examine the bottom goal decile (the lowest 10% of our sample in terms of goals), a subsample that certainly eliminates well-known entrepreneurs—and our conclusions remain unchanged.

Using a subsample, we also examined the social network of 500 entrepreneurs to address the concern that mentions are related to external reputation. We did not find a significant correlation between the Twitter followers or Facebook fans of the entrepreneur and her self-mentions. One may argue that the investors' decisions to contribute to a small project may be entirely emotional. Hence, we repeat our analysis using only the top 10% of our sample in terms of goals set, and we document that our results hold.

We find that in our sample, the mean number of times that the entrepreneur's name is mentioned in the "About" section in art-related projects is 0.728 and is significantly higher than for technology-related projects (averaging 0.506). We find that experience with starting Kickstarter campaigns results in higher mentions. Furthermore, entrepreneurs whose last fund-raising attempt on Kickstarter was successful mention their names significantly more in the "About" section (0.826 > 0.71) and in the first 100 words (0.34 > 0.28). Moreover, the higher the funding goal, the more the entrepreneur's name is mentioned.

We use three different measures of success. The first, and likely most important, measure in this context is success in reaching the fund-raising goal. This measure is estimated as a binary variable that equals 1 if the project managed to raise sufficient funds to match the original goal (and proceeded to receive the funds). For this type of project, the ability to fund the project will likely determine the "life or death" of the project. The second measure of success is the percentage pledged, which is calculated by dividing the sum pledged by the total goal. On Kickstarter, highly successful projects managed to raise substantially more than their original goals. The third is the number of backers who funded the project. Regardless of the measure of success we employ, the mentions of the entrepreneur's name matter, controlling for various control variables, which concern the project, its presentation, and the entrepreneur. We also document that in the multivariate analysis, we find that reaching the goal is significantly negatively correlated to the project being technology related, even after controlling for the goal. It is also significantly negatively related to the size of the goal. When we separate the sample to technology and art-related projects, the number of mentions has only a significant effect on the success of artistic projects.

We conducted an additional test to analyze the effect of the focus on the entrepreneur (with mentions as its proxy) and to deal with criticism of potential selection bias. We asked subjects who were not previously familiar with the entrepreneur and the specific project to read and evaluate different selected pitches from our sample. The subjects' lack of previous knowledge is

important to assure that all the information needed for their perceptions about the entrepreneur and the specific project was obtained solely from the text of the pitch. For the projects whose entrepreneur mentioned him/herself more substantially, the subjects indicated higher levels of trust and higher levels of perceived knowledge of the entrepreneur. This suggests that a high number of self-mentions increased the respondents' trust in and familiarity with the entrepreneur.

Our study contributes to the entrepreneurship and entrepreneurial finance literature in several aspects. First, our article contributes to the academic literature on the influence of two of a firm's major assets—human and nonhuman capital—and investigates their relative importance to the success of a firm.[6] Previous empirical literature focused on equity financing: Kaplan, Sensoy, and Strömberg (2009) investigated VCs and coined the term the "horse versus jokey dilemma." Marom (2012) confirmed their results using a different sample.

Clearly, the question is important beyond the VC world. Probably the paper most closely related to ours is Bernstein, Korteweg, and Laws (2017). They used a randomized field experiment to study 21 different capital-seeking start-ups via AngelList, an online platform that matches start-ups to angel investors. They found that investors respond strongly to information about the founding team, whereas they do not respond to information about either firm traction or existing lead investors. While both studies find that mentioning the entrepreneurs' names is indeed important, the papers complement one another; we use different methods of investigation and focus on different leading crowdfunding platforms—equity-based crowdfunding (Bernstein et al., 2017) versus rewards-based (this project). We find that entrepreneurs present themselves differently across categories and by their prior entrepreneurial experience. Backers act on the information presented by the entrepreneur, and this affects the success of the funding campaign. Finally, our project provides evidence that supports the claims of many practitioners—that the entrepreneur's description is essential.

Second, our article is closely related to the recent emerging literature that investigates the text entrepreneurs provided in the crowdfunding pitch. While related literature focused on the style or narrative (e.g., Allison, Davis, Short, & Webb, 2015; Manning & Bejarano, 2016; Parhankangas & Renko, 2017), our approach is very different, as we focus on the number of mentions of the entrepreneur name. Our article also contributes to the literature on early-stage financing in general and crowdfunding in particular (e.g., Agrawal, Catalini, & Goldfarb, 2015; Lambert &

[6] Rajan and Zingales (2001), Rajan (2012), and Penrose (1959).

Schwienbacher, 2010; Mollick, 2014, among others). This growing literature uses crowdfunding activity to investigate early-stage entrepreneurship.

2. Crowdfunding, Kickstarter market structure, and data description

2.1. Overview of crowdfunding

Crowdfunding is an innovative funding mechanism that leverages the internet and social networks to raise funds from a large number of investors/backers/contributors, typically raising small amounts from each investor. Crowdfunding enables the entrepreneur to reach out to an undefined large number of investors/backers/contributors in addition to circles of family and friends. Initial fund-raising through crowdfunding can help start-ups grow, perhaps even presenting an alternative to current seed funding solutions, such as angel investors, VCs, or governmental support.[7] Schwienbacher and Larralde (2012) elaborate on the definition, evolution, and key aspects of this funding mechanism.

Bradford (2012) categorizes crowdfunding into five types, distinguished by what investors are promised in return for their contributions: (a) the reward model, which offers a certain perk to backers in return for the contribution, but without interest or a share in business earnings; (b) the pre-purchase model, in which contributors receive the product the entrepreneur is producing prior to its marketing to the general public; (c) the lending model, in which a loan is given to the entrepreneur through funding by one or more lenders; (d) the equity model, which offers investors a share of the venture; and (e) the donation model, in which contributors receive nothing in return for their contribution. Dushnitsky, Guerini, Piva, and Rossi-Lamastra (2016) indicate that the level of activity for each of these dominant crowdfunding models varies significantly in different countries.

2.2. Market structure—Kickstarter

Kickstarter is one of the world's most prominent crowdfunding platforms.[8] It acts as an intermediary between entrepreneurs seeking funding and potential project backers, using a reward-based crowdfunding mechanism. Campaigns posted on Kickstarter aim to fund a specific project, rather than a firm's activity or educational or medical costs. Projects featured on Kickstarter belong to 13 predetermined (by the platform) categories, each featuring its own section

[7] For example, Touchfire, a company that created a typing device for the iPad, is now an established firm and attributes much of its initial success to the crowdfunding model.
[8] Website: http://www.kickstarter.com.

and subcategories that range from artistic projects (i.e., music, film, or art) to technological projects (primarily product design and gadgetry). Kickstarter utilizes an "all-or-nothing" funding mechanism. Entrepreneurs receive funding only if they reach their funding goal within the allotted investment time frame. If the investment goal is not reached, funds are then returned to the backers. When joining Kickstarter, entrepreneurs are required to provide a project overview, a funding goal, and a time frame for investment (1–60 days). Entrepreneurs are strongly encouraged to provide their personal history, a history of the project, and other supplemental media. The entrepreneur provides the potential backers with a menu that discusses what he/she will receive for different levels of investment. These menus generally begin at a minimum of several dollars and increase to a level that depends on the investment.

2.3. Data description

Our database consists of 16,111 successful projects, 4,113 failed projects, 18,496 entrepreneur teams, 984,344 investors, and contributions that sum to more than $120 million. The period investigated in this project is three years, from the inception of Kickstarter, in April 2009, until March 2012. We used custom-made software to download the relevant data during March of 2012. All textual data from the available projects on the site were downloaded, as well as data on the projects' creators and backers. It is important to note that Kickstarter offers direct access only to projects that are currently raising funds or successful projects—and not to failed ones. We bypass this limitation by using the list of links to projects that the funders have invested in and collecting the same information from them, via our custom-made software. Some of these projects are failed projects, meaning that we managed to download a substantial number of failed projects through a multistage downloading process. Thus, our database consists of all successful projects and all failed projects that received at least one investment by an investor who funded a successful or ongoing project in our database.[9,10]

The average requested funding (funding goal) in our full sample was $8,047 (the median is $3,000, and the maximum is $21,474,836), while the average funding requested for successful projects was $5,061 (median is $3,000). A successful project attracted an average of 99 backers (median

[9] We are unable to locate the URL of a project only in cases where the project failed and did not receive any requests for funding from any known investor in our database. This may result in an underrepresentation of failed projects (or very unsuccessful projects) in the data, primarily from the initial years of Kickstarter activity. We performed robustness tests on subsamples of our data and found that our main results hold.

[10] In section 5.2 we provide a robustness check which proves that the projects that are missed are not correlated with any project category. However, one shall be cautious when interpreting the results, because the data miss a substantial number of failed projects.

51), while the failed projects received interest from an average of only 20 backers (median 9). The sets of variables used to describe each project are available in Appendix A.

As reported in Table 1, the technological projects set significantly higher goals than the artistic ones (12,786 > 6,650), and although they represent 5.2% of the projects on the site, they account for 17.6% of the funds pledged. Projects in the gaming category set their goals higher than those in the other categories, at an average of $43,910. The artistic category is dominated by music and film/video projects and includes most projects on Kickstarter. The mean goal set in any of the artistic categories is significantly lower than those in the gaming and technological categories, as is the mean sum pledged.

Table 1. Descriptive Statistics: Projects, Goals, and Sums Pledged, by Category

Descriptive statistics on sub-categories and main-categories regarding the number of projects, the average goal set per project, the sum of the goals set by all projects in the category, the average amount of money pledged per project, and the sum of the total amount pledged, all divided by category.

Category	Projects	Pct.	Goal per Project	Sum of Goal	Pct.	Pledged per Project	Total Pledged	Pct.
Art	1,728	8.5	4,851.6	8,383,641	5.5	3,751.8	6,483,062	5.3
Comics	533	2.6	4,304.7	2,294,406	1.9	7,064.2	3,765,226	3.1
Dance	490	2.4	3,302.5	1,618,217	1.5	3,109.3	1,523,576	1.3
Fashion	381	1.9	5,321.0	2,027,320	1.3	4,433.7	1,689,226	1.4
Film & Video	5,737	28.4	10,977.7	62,979,112	40.9	6,925,766	38,821,788	31.9
Food	581	2.9	10,338.4	6,006,623	3.9	7,442.4	4,324,043	3.5
Music	5,132	25.4	4,291.9	22,026,216	14.3	4,535.4	23,275,832	19.1
Photography	760	3.8	4,624.5	3,514,590	2.3	3,986.1	3,029,404	2.5
Publishing	1,627	8.0	5,144.7	8,370.409	5.4	4,070.8	6,623,150	5.4
Theater	1,612	8.0	3,937.8	6,347,704	4.1	3,680.9	5,933,620	4.9
Total of art categories	*19,001*	*91.9*	*6,650.2*	*115,197,829*	*80.3*	*5,137.9*	*95,468,927*	*78.3*
Games	584	2.8	43,910.2	25,643,556	15.4	8,407.5	4,909,963	4.0
Total games	*584*	*2.9*	*43,910.2*	*25,643,556*	*15.4*	*8,407.5*	*4,909,963*	*4.0*
Design	739	3.7	12,078.3	8,925,840	5.4	20,738.9	15,326,014	12.6
Technology	320	1.6	14,419.7	4,614,315	2.8	19,268.0	6,165,759	45.1
Total of technological categories	*1,059*	*5.2*	*12,785.8*	*13,540,155*	*8.2*	*20,294.4*	*21,491,773*	*17.6*

3. Quantifying the entrepreneurial pitch

3.1. Quantification method

The landing page of a particular project on Kickstarter's website is the equivalent of a common start-up's business plan and investment presentation. This is where the entrepreneurs pitch their ideas to raise funds. The Kickstarter platform provides the entrepreneurs with five potential spaces they can utilize and elaborate their project in: (a) Basics: project title, location, and overall funding goal; (b) Video or photo; (c) "About" section: textual presentation of the project and/or the entrepreneur; (d) Perks: the reward for each funding level; (e) Entrepreneur's section: basic details and self-description. While attempting to estimate the presentation of the entrepreneur in the pitch, we focus on the "About" section, where we can observe the differences among different presentations. Written by the entrepreneur, the text in the "About" section accounts for most of the space on the page. Although the space in this section is not limited, the readers' capacity is, and the entrepreneur must make the best use of this section to highlight important material.

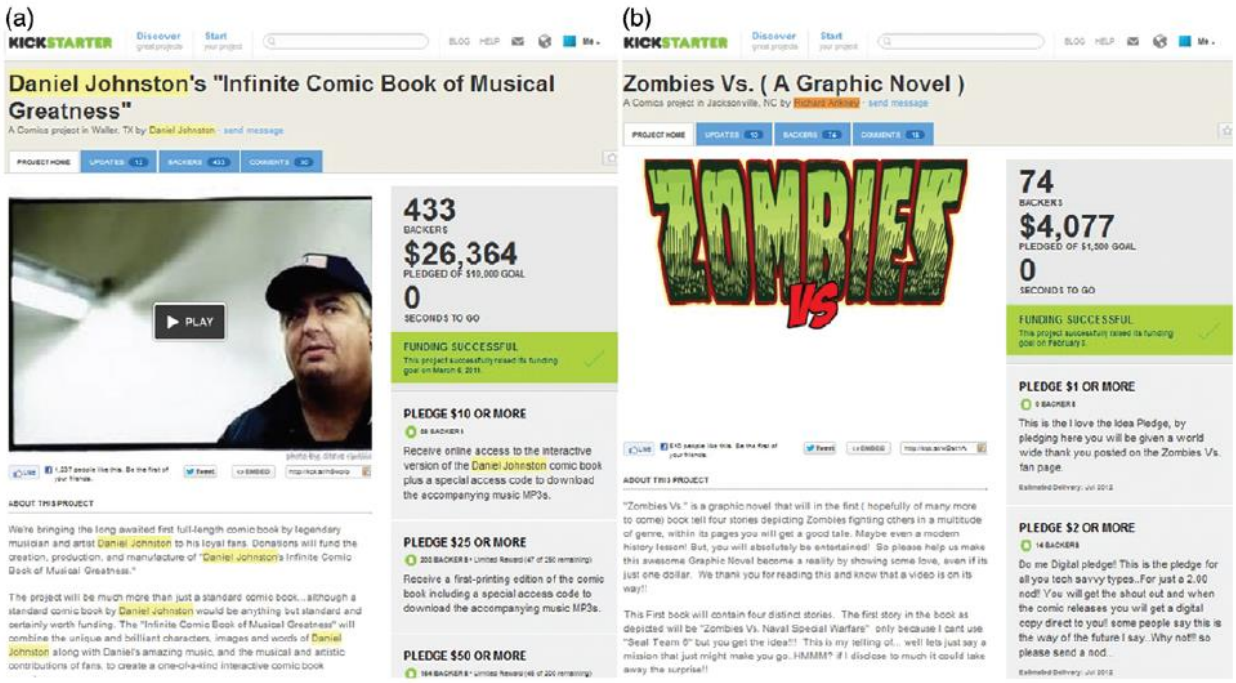


FIGURE 1 (a) Example of an "About" page with multiple self-mentions. This project page screenshot illustrates a pitch that emphasizes the entrepreneur. (b) Example of an "About" page without self-mentions. This project page screenshot illustrates a pitch that does not mention the entrepreneur

It is not trivial to quantify the space devoted to the description of the entrepreneur relative to that of the project. The variable we used to quantify this choice is the entrepreneur's name. To illustrate different choices, we took screenshots of the first pages of two different projects, both in the Comics category. The first (Figure 1a) is a project by Daniel Johnston. Daniel's name is mentioned

in the project's title, four times in the first two paragraphs of the "About" section, and once in the description of the perks. A user visiting the project's page will be unable to miss the name of the creator. The alternative approach is demonstrated on Richard Ankney's project page (Figure 1b). When a user visits Richard's page, he/she will see the creator's name mentioned once, in the mandatory name of entrepreneur field. Ankney's name is not mentioned in the "About" section; instead, he uses the space to describe the plot of his novel and future plans for the series.

When choosing the author name that appears on their project page, entrepreneurs are divided into three types: (a) the individual name of the entrepreneur, in the case that there is only one entrepreneur or one is very dominant; (b) multiple names of entrepreneurs; and (c) the name of an organization (a band, a company, a group, etc.). For the first and third types, we identified the name in the text and counted how many times it appeared. For the second type, a group of several entrepreneurs, we isolated the first individual's name and counted it to maintain consistency and compare and contrast with the former types. Our conjecture is that the more the entrepreneur's name is mentioned, the more emphasis the pitch places on him/her.

We use two other methods as additional measures. We tracked the number of self-mentions in the first 100 words of the "About" section only, as it can be seen of the first page of a business plan (i.e., the most important part of the section). We also assessed whether the entrepreneur was mentioned in the title of the project.

Table 2. The Three Mentioning Measures for the Business Pitches

Table 2 reports basic descriptive statistics for the three mentioning measures as applied to three different levels: the full sample, the successful projects sample, and the failed projects sample. For each, the number of observations, mean number of mentions, standard deviation, median, and 90% of the sample are provided.

	Obs.	Mean	Std Dev.	Median	90%
All of the 'About' Section					
Number of mentions	20,224	0.714	1.409	0	2
Number of mentions for successful projects	16,111	0.769	1.447	0	2
Number of mentions for failed projects	4,113	0.501	1.227	0	1
First 100 words of the 'About' Section					
Number of mentions	20,224	0.282	0.605	0	1
Number of mentions for successful projects	16,111	0.305	0.624	0	1
Number of mentions for failed projects	4,113	0.192	0.513	0	1
Project Title					
A mention in the title	20,224	0.176	0.381	0	1
A mention for successful projects	16,111	0.199	0.400	0	1
A mention failed projects	4,113	0.083	0.276	0	0

Table 2 reports the summary of the methods. In all three measures, the average number of mentions is higher for successful projects than failed ones. Moreover, there is a significant positive correlation among the three methods. The correlation between the first measure (the "About" section) and the second (only the first 100 words of that section) is 0.673. Between the first and the third (the title of the project), the correlation is 0.34, and the correlation between the second and the third is 0.367. We encountered a team of entrepreneurs stated in the "About" page in fewer than 5% of the projects. It seems that while many of the projects were founded by a team, most of the groups decided to present only the leader's name or the group's name. To assess whether counting the first entrepreneur mentioned is similar to counting any other entrepreneur from the group, we isolated the second name and employed the same quantification measures. We find that the second name behaves exactly as the total sample: in all three measures, the successful projects mentioned the entrepreneur more than failed ones did. Further, we focused on the subsample of projects with two entrepreneurs' names and conducted t-tests for any differences in the number of mentions. None of the differences in the three measures were significant. Therefore, we report the results of the measure when we used mentions of only the first entrepreneur's name.

3.2. Human coding verification test

As mentioned earlier, our text analysis method may face two different challenges. The first relates to the text mechanism procedure; our counting method ignores such cases as referring to the entrepreneur in the third person, with a nickname, as a pronoun, or first name only. Further, our measure does not take sentence interpretation into account[11]. It could be argued that a mention count could be biased if long paragraphs that detail the entrepreneur's story were to include only one mention and, conversely, a brief paragraph on the entrepreneur that includes several mentions. Second, one may argue that finding numerous mentions of the entrepreneur's name does not necessarily mean that the project's idea is not also thoroughly described. To evaluate the potential effects of these challenges on our results, we conduct a human coding robustness test (similar in its spirit to the human coding methods in Ravina (2012) and subsequently in Duarte, Siegel, and Young (2012)). The main purpose of the test was to ask human raters to evaluate entrepreneur pitches that were part of our sample and to do so on a scale contrasting emphasis on the entrepreneurs vs. the business idea.

[11] While these variations may introduce a measurement error, it is likely to be random across variable of interest.

We conducted the test with the participation of 100 technology-oriented workers and managers from a large high-tech organization. All of the reviewers had technology educations, while some of them were also students or MBA graduates. Sixty-two percent of the reviewers were men. We did not find any variance in the results due to differences in their backgrounds, genders, or education. Overall, we rated 100 entrepreneurial pitches from the technology and art categories: 50 from the technology category and 50 from the dance category. We classified the projects from our sample into quadrants of mention counts to ensure that we had sufficient variation in the number of mentions in the pitches to be rated by the group. We then randomly selected 100 projects from the top and bottom quadrants of each category. Each entrepreneurial pitch was rated by five reviewers, yielding a total of 500 ratings. Each rater received a brief textual and oral introduction to Kickstarter and was asked to rate five entrepreneurial pitches using the following three questions, with the responses to which were on a scale from 1 to 7: (Q1) Please rate on a scale of 1 to 7 which of the following was emphasized more in the project page—the project or the creator of the project. (Q2) Please rate the degree of emphasis on the creator on the project page. (Q3) Please rate the degree of emphasis on the project on the project page. The first question (Q1) scales the relative emphasis between the project and the entrepreneur, and the two other questions examine the weight of each component—entrepreneur (Q2) and project (Q3).

The human raters' results support our name-counting technique. The responses to Q2 indicate that the mention counting is significantly correlated (0.54) with the human perceptions of the pitches (see Figure 2).[12] The results demonstrate the similarity of human perceptions to the self-mention counts.

Moreover, as expected, the negative (−0.29) correlation between the responses to Q3 and the number of mentions indicated that the less the entrepreneur is mentioned, the more the description of the actual project idea was highlighted and discussed in depth. We also verified that these results were independent of the category of the project; when the number of mentions of the entrepreneur is high, the entrepreneur is perceived as more highlighted than the project's idea in both the dance and technology projects.

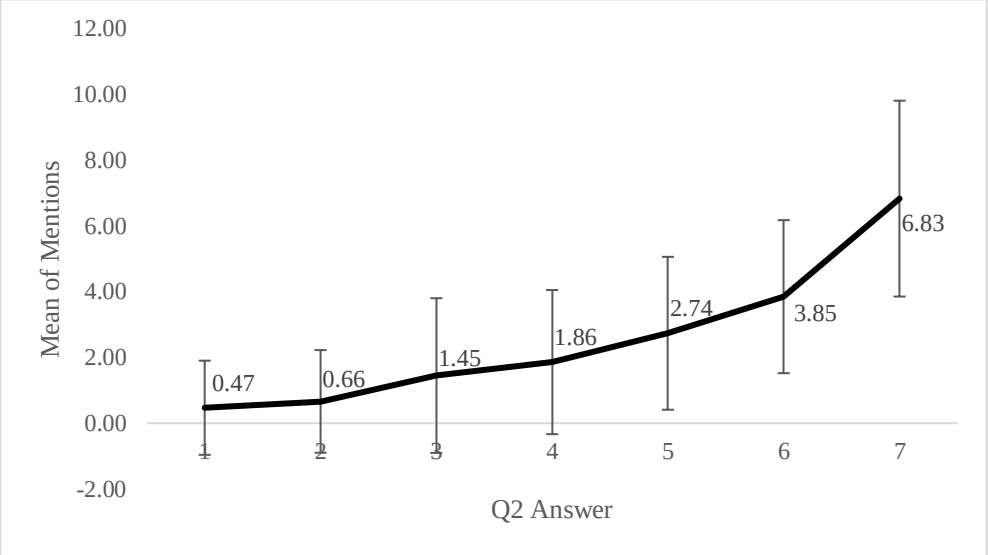
Our test results indicate that both potential arguments against our text mining technique were unsubstantiated. The highly positive correlation between the number of mentions and emphasis on the entrepreneur (Q2) indicates that although we certainly missed some self-references (as we

[12] The mean of the score for Q2 for cases in which the name is mentioned in the title is significantly higher than cases in which the name is not mentioned in the title, which is consistent with our total mentions findings.

do not count pronouns), the name-counting technique is consistent with human perceptions. As we observed a negative correlation between the number of entrepreneur mentions and the level of emphasis on the project idea (Q3), the more the entrepreneur was mentioned, the less the raters were exposed to the project idea. We can attribute this to the limited attention of every person who is given a pitch of any type—focusing on one thing takes attention from another. The Cronbach's alpha measures the correlation between all raters and is widely used in the literature to measure whether ratings from different individuals yield similar results. Our result, 0.9146, validates the internal consistency, or reliability, of our sample of raters.

Figure 2. Human Rating vs. Self-Mention Counts

This graph illustrates the human verification of our text analysis – human ratings of the relative emphasis placed on the entrepreneur (X-axis) vs. counted number of mentions from the text mining technique (Y-axis). The number reported on the graph is the mean Q2 response. We provide the confidence interval for each measure.



4. Entrepreneurial pitch and mentions

4.1. Past experience and prior success

The serial entrepreneurship literature indicates that experience matters.[13] We compare the effect of previous successes to previous failures, or novice entrepreneurs. We consider experience only

[13] Packalen (2007) argues that a company's legitimacy is based largely on the previous achievements of its founders, especially in the early stage. Hsu (2007) demonstrates that serial entrepreneurs not only are more likely to obtain venture finance, but also to obtain better valuations. Zhang (2011) argues that entrepreneurs with prior firm-founding experience are expected to have additional skills and social connections that may provide an advantage in efforts to raise venture capital. Gompers, Kovner, Lerner, and Scharfstein (2010) find that the previously successful

with Kickstarter projects. Entrepreneurs that had previous projects on Kickstarter tend, on average, to mention their names more, and there is a clear positive trend of mentions and experience. The average number of self-mentions increases with each previous project, whether it was a success or a failure (from an average of 0.527 in the "About" section (0.21 first 100 words) for 0 previous success to 0.825 (0.23 first 100 words) for previous 3 successes or 0.785 (0.24 first 100 words) for an experience of 3 projects regardless of success). The results are consistent with the theory mentioned above regarding the legitimacy and perceived advantages of serial entrepreneurs, who emphasize their background as a vital signal to potential investors. Learning could be another explanation for this phenomenon, while even failed entrepreneurs are more likely to mention themselves more.

4.2. Project category

Some have questioned whether the importance of human capital, relative to nonhuman capital, is similar across different categories (e.g., Kaplan et al., 2009; Wasserman, Nohria, & Anand, 2010). The mean number of times a name is mentioned in the artistic categories in our sample is 0.729, which is significantly higher than that in the technological category (averaging 0.506), suggesting the entrepreneurs in the artistic category prefer to mention themselves more than the entrepreneurs in the technological category. This may be a testament to the nature of their projects, suggesting that while the creator of the technological project can present a prototype of the product, a screenwriter is more likely to focus on his/her past works or resume. Another potential explanation is related to the easiness of human capital replacement. It may be easier to replace the entrepreneur in a technological project if the idea is appealing, rather than the artist. As a robustness test, we compared the human rating results of the dance projects to those of the technology projects, using t-tests to analyze the significant differences. The responses of our human raters indicated that the entrepreneurs of the dance projects were perceived to be highlighted more in the investment pitch than the entrepreneurs of technological projects were, and consistently, the technological projects' ideas were featured much more than the dance projects' concepts.

4.3. Funding goal

Entrepreneurs set funding goals at the beginning of each crowdfunding campaign. The goal is crucial, due to Kickstarter's "all or nothing" method. Our conjecture is that a higher funding goal

entrepreneurs are more likely to succeed, thanks to their market timing skills. Paik (2014) examines VC-backed companies in the U.S. semiconductor industry and finds that serial entrepreneurs perform better. Eesley and Roberts (2012) investigated talent vs. experience.

requires some elaboration concerning the entrepreneurial team. It is reasonable to believe that a project that aims to raise a large amount of seed funding will have to present a strong team with proven execution experience or capabilities. As expected, there is a steady rise in the number of mentions as the entrepreneur attempts to raise more capital, from 0.499 in the first goal decile to 0.837 in the tenth, with a monotonic rise between them. Mentions in the title and the first 100 words seem to identify fewer mentions among projects with higher goals, which may be a result of the high proportion of technological projects in the higher goal category. As the category is correlated with the goal, we also verify the aforementioned relationship by investigating the relative goals in each category. Most of these results are consistent with previous findings—the higher the goal, the more the name is mentioned. Furthermore, all means in the > 150% portion (relative to the categories' goal mean) are significantly higher than those in the < 50%.

4.4. Video

Entrepreneurs on Kickstarter are advised to add visual illustrations of their initiatives in the form of images or videos. Most (approximately 82% of our sample) choose to do so. The impacts that "entrepreneurial passion" and general preparedness have on the investor are central to understanding the extent to which the investor may be affected by the general traits or personality of the entrepreneur (e.g., Cardon, Sudek, & Mitteness, 2009; Chen, Yao, & Kotha, 2009). In our sample, projects that feature videos also tend to mention the entrepreneur's name more frequently. As such, the mean mentions are higher in all three measures. The most significant is in the number of mentions on the "About" page; projects with videos have an average of 0.755 mentions, while the average of those without video self-mentions is 0.528.

4.5. Multivariate analysis

To evaluate what affected the number of mentions, we estimate the following models for each project *i* and entrepreneur i:

1. $NumberOfMentions_{ij} = f(\alpha_1 dummy(Technology_i) + \alpha_2 Goal_i + \alpha_3 PreviousSuccess_j + \alpha_4 dummy(Video_i) + \alpha_5 TotalWords_i + \alpha_6 dummy\,(Website_i) + \alpha_7 dummy\,(USA_i) + \varepsilon_{ij})$

2. $NumberOfMentionsInFirst100Words_{ij} = f(\alpha_1 dummy(Technology_i) + \alpha_2 Goal_i + \alpha_3 PreviousSuccess_j + \alpha_4 dummy(Video_i) + \alpha_5 dummy\,(Website_i) + \alpha_6 dummy\,(USA_i) + \varepsilon_{ij})$

3. $NumberOfMentionsInTitle_{ij} = f(\alpha_1 dummy(Technology_i) + \alpha_2 Goal_i + \alpha_3 PreviousSuccess_j + \alpha_4 dummy(Video_i) + \alpha_5 dummy\,(Website_i) + \alpha_6 dummy\,(USA_i) + \varepsilon_{ij})$

Where *NumberOfMentions* = the number of mentions in the "About" section. *NumberOfMentionsIn100Words* = identical to as *NumberOfMentions*, except that it scans only the first 100 words in the "About" section. *NumberOfMentionsInTitle* = 1 if the entrepreneur is mentioned in the title of the project, 0 otherwise. *Technology* = 1 if the category of the project belongs to the technological main category, 0 if to the artistic main category. *Goal* = log of the goal of the project in $. *PreviousSuccess* = the number of previous successes the entrepreneur had on the Kickstarter platform. *Video* = 1 if the entrepreneur posted a video on the project's page, 0 if not. *TotalWords* = log of the total number of words in the "About" section. *Website* = 1 if the user provides a website link, 0 otherwise. *USA* = 1 if the project is based in the U.S., 0 otherwise.

The equations were estimated using OLS, Poisson regression (as we count the number of mentions), and Tobit regression (as our sample is truncated at zero), see Table 3. The negative and significant coefficients of the technological variables indicate that the projects in the technological categories are less likely to mention the entrepreneur in the title and the "About" section of the project's page. This coefficient is stable across all regressions. Our results suggest that entrepreneurs in different categories present their projects differently.

In addition, the previous success coefficients are positive and significant, confirming the hypothesis regarding the self-mentioning of serial entrepreneurs. Other variables remain consistent with their univariate results. The number of mentions is positively correlated with the goal, video presence, and number of previous successes.

Table 3. Multivariate Analysis – Drivers of Self-Mentioning

This table reports three regression methods – OLS, Poisson and Tobit. The dependent variable in all regressions is the Number of Mentions. The results were consistent across all regressions.

										Poisson Regression		*Tobit Regression*	
	About Section	*First 100 Words*	*Title*	*About Section*	*First 100 Words*	*Title*	*About Section*	*First 100 Words*	*Title*	*About Section*	*First 100 Words*	*About Section*	*First 100 Words*
Technological Main-Category	-0.309***	-0.118***	-0.799***	-0.307***	-0.117***	-0.799***	-0.308***	-0.117***	-0.798***	-0.496***	-0.526***	-1.252***	-0.761***
	(0.044)	(0.019)	(0.068)	(0.044)	(0.019)	(0.068)	(0.044)	(0.019)	(0.068)	(0/044)	(0.076)	(0.115)	(0.093)
Log (Goal)	0.059***	-0.013***	0.061***	0.052***	0.009**	0.059***	0.052***	0.008**	0.056***	0.072***	0.043***	0.146***	0.056***
	(0.009)	(0.004)	(0.009)	(0.009)	(0.004)	(0.009)	(0.009)	(0.004)	(0.009)	(0.008)	(0.011)	(0.021)	(0.016)
Previous Successes of Entrepreneur	0.147***	0.109***	0.035*							0.124***	0.159***	0.272***	0.212***
	(0.018)	(0.008)	(0.018)							(0.009)	(0.011)	(0.038)	(0.028)
Success in Last Project Dummy				0.172***	0.115***	-0.123*							
				(0.065)	(0.029)	(0.075)							
Kickstarter Experience Dummy							0.072	0.034	-0.248***				
							(0.047)	(0.021)	(0.057)				
Video	0.109***	0.057***	0.155***	0.108***	0.056***	0.154***	0.108***	0.056***	0.153***	0.154***	0.201***	0.248***	0.248***
	(0.026)	(0.011)	(0.028)	(0.026)	(0.011)	(0.028)	(0.026)	(0.011)	(0.028)	(0.023)	(0.035)	(0.062)	(0.048)
Log (Total Words in the About Section)	0.304***			0.307***			0.307***			0.482***		0.819***	
	(0.014)			(0.014)			(0.014)			(0.014)		(0.037)	
Available Links to Websites by the Entrepreneur	-0.036	-0.011	-0.083***	-0.023	0.000	-0.074***	-0.021	0.002	-0.063**	-0.044**	-0.021	-0.114*	-0.029
	(0.025)	(0.011)	(0.028)	(0.025)	(0.011)	(0.028)	(0.025)	(0.011)	(0.028)	(0.022)	(0.035)	(0.061)	(0.047)
US Based Project	0.148***	0.097***	0.537***	0.148***	0.097***	0.536***	0.147***	0.096***	0.537***	0.218***	0.398***	0.528***	0.492***
	(0.043)	(0.019)	(0.057)	(0.043)	(0.019)	(0.057)	(0.043)	(0.019)	(0.057)	(0.039)	(0.070)	(0.105)	(0.086)
Constant	-1.568***	0.122***	-1.780***	-1.533***	0.157***	-1.755***	-1.531***	0.160***	-1.735***	-3.847***	-1.866***	-7.072***	-2.120***
	(0.103)	(0.035)	(0.094)	(0.104)	(0.035)	(0.094)	(0.104)	(0.035)	(0.094)	(0.097)	(0.116)	(0.265)	(0.154)
Observations	19,737	19,639	19,639	19,737	19,639	19,639	19,737	19,639	19,639	19,637	19,639	19,637	19,639
R-Squared / Pseudo R-Squared	0.034	0.015	0.021	0.031	0.006	0.021	0.031	0.005	0.022	0.036	0.010	0.016	0.007

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

5. Measuring and estimating success

Next, we examine the determinants for success, especially regarding the entrepreneurs' mentions. The following three variables were employed to assess whether a project was successful: (a) Success in reaching the funding goal: a binary variable that equals 1 if the project managed to raise sufficient funds to match the original goal and, as a result, received the funds; (b) Logarithm of % pledged: dividing the sum pledged by the goal and taking the logarithm. (c) Logarithm of backers: the logarithm number of backers who funded the project.

We find that the likelihood that an artistic project will reach its goal (0.81) is significantly higher than that of their technological rivals (0.637). The gaming category is situated between the artistic category and the technological one (0.658).[14] Table 4 presents the different categories by our measures of success.

Table 4. Measures of Success by Category

This table reports the means of goals, success, and outcome of the projects across the platforms' categories and the three main-categories.

Category	Mean of % of success	Mean of Goal	Mean of % Pledged	Mean of Backers	Freq.
Art	0.823	4,851.6	1.602	58.8	1,728
Comics	0.799	4,304.7	3.524	128.7	533
Dance	0.882	3,302.5	1.289	45.2	490
Fashion	0.696	5,321.0	2.525	56.8	381
Film & Video	0.753	10,977.7	3.790	76.5	5,737
Food	0.773	10,338.4	1.050	92.7	581
Music	0.883	4,291.9	1.821	67.4	5,132
Photography	0.778	4,624.5	1.100	54.6	760
Publishing	0.719	5,144.7	2.096	68.6	1,627
Theater	0.898	3,937.8	1.817	50.4	1,612
Total of artistic categories	*0.810*	*6,650.2*	*2.428*	*69.2*	*18,581*
Games	0.658	43,910.2	1.769	182.5	584
Total of games category	*0.658*	*43,910.2*	*1.769*	*182.5*	*584*
Design	0.652	12,078.3	6.136	287.7	739
Technology	0.603	14,419.7	1.648	213.6	320
Total of technological categories	*0.637*	*12,785.8*	*4.780*	*265.3*	*1,059*

[14] It should be noted that because of extraction limitations, the reported rate of success is probably higher in our article than in reality, as we include only failed projects that received funding (but did not reach their goal). However, this data selection should not be correlated with a specific category.

These findings are explained partially by the mean goal. As the technological projects set significantly higher goals than the artistic projects (12,785 > 6,650, significant), the entrepreneurs of technological projects find it more difficult to raise sufficient funds to meet their goals. The gap in the means of the goals may be clarified by the next column—the mean of the share of the sum pledged out of the goal. Interestingly, although the chances of success for the technological categories are lower, the mean of the percentage pledged is higher. This is due to a minority of projects that enjoyed very high pledging (more than 1,000%). This trend can also be observed in the "number of backers" variable, which is significantly higher for the technological categories.

We examined the correlation between the fund-raising goal and the projects' success. The higher the goal, the lower the likelihood that the project will reach that goal—from an 89% likelihood for the lowest 10% of goals to a 54% likelihood for the highest 10% of goals. The mean of the percentage pledged also declines (from 15.2 to 0.8), while the mean number of backers increases monotonically from 21.2 to 276.7 backers for projects in the top decile. We verified this finding by analyzing the goal differences within the categories, relative to each category's goal mean. The likelihood of success declined from 84% with 45 backers when the project's goal was less than 50% of its category mean goal to 66% with 190 backers at a goal greater than 150% of the category mean.

Entrepreneurs that include videos on their pages (82%) tend to be more successful in their fund-raising; their likelihood of success (81.4%) and number of backers (91.6) are significantly higher than projects that do not feature videos on their project pages. The number of backers is positively and significantly affected when a patent is mentioned in the technology-related projects (521 when "patent" is mentioned and 231 when not).[15] However, the results indicate that there is no significant difference in the likelihood of success. This may be because the goals in such cases are much higher.

Surprisingly, a serial entrepreneur using Kickstarter (one who had a previous successful Kickstarter project) is not more likely to reach the funding goal on a new Kickstarter project (80%) than novice entrepreneurs (81%). One reason for this finding may relate to the level of the new goal, which is generally higher in post-success projects. Nevertheless, if the previous project was a failure, the likelihood of success declines to 50%. Successful serial entrepreneurs have a greater number of backers (113) on average compared to novice entrepreneurs (who have an average of

[15] See Conti, Thursby, and Rothaermel (2013) for a discussion about patents as signals.

83 backers) and serial entrepreneurs whose previous projects failed (average of 42 backers). The probabilities increase from 51% for novice entrepreneurs to 80% for those with a minimum of three successful projects featured on their resumes.

5.1. Multivariate analysis

The following regressions were estimated to test the effects of the project presentation variables on our success measures.[16]

4. Probability of reaching the goal for project *i* by entrepreneur *j*:

$$\Pr(Success)_{ij} = f(\beta_1 Technological_i + \beta_2 ThreeMentions_{ij} + \beta_3 Goal_i + \beta_4 PreviousSuccess_{ij} + \beta_5 Video_i + \beta_6 TotalWords_i + \beta_7 Website_i + \beta_8 USA_i + \varepsilon_{ij})$$

$$\Pr(Success)_{ij} = f(\beta_1 Technological_i + \beta_2 NumberOfMentions_{ij} + \beta_3 Goal_i + \beta_4 PreviousSuccess_{ij} + \beta_5 Video_i + \beta_6 TotalWords_i + \beta_7 Website_i + \beta_8 USA_i + \varepsilon_{ij})$$

$$\Pr(Success)_{ij} = f(\beta_1 Technological_i + \beta_2 dummy(Mentions)_{ij} + \beta_3 Goal_i + \beta_4 PreviousSuccess_{ij} + \beta_5 Video_i + \beta_6 TotalWords_i + \beta_7 Website_i + \beta_8 USA_i + \varepsilon_{ij})$$

5. Percentage of sum pledged out of the entire goal

$$Perc(PledgeRatio)_{ij} = f(\beta_1 Technological_i + \beta_2 ThreeMentions_{ij} + \beta_3 PreviousSuccess_{ij} + \beta_4 Video_i + \beta_5 TotalWords_i + \beta_6 Website_i + \beta_7 USA_i + \varepsilon_{ij})$$

$$Perc(PledgeRatio)_{ij} = f(\beta_1 Technological_i + \beta_2 NumberOfMentions_{ij} + \beta_3 PreviousSuccess_{ij} + \beta_4 Video_i + \beta_5 TotalWords_i + \beta_6 Website_i + \beta_7 USA_i + \varepsilon_{ij})$$

$$Perc(PledgeRatio)_{ij} = f(\beta_1 Technological_i + \beta_2 dummy(Mentions)_{ij} + \beta_3 PreviousSuccess_{ij} + \beta_4 Video_i + \beta_5 TotalWords_i + \beta_6 Website_i + \beta_7 USA_i + \varepsilon_{ij})$$

6. Number of backers

$$Number(backers)_{ij} = f(\beta_1 Technological_i + \beta_2 ThreeMentions_{ij} + \beta_3 Goal_i + \beta_4 PreviousSuccess_{ij} + \beta_5 Video_i + \beta_6 TotalWords_i + \beta_7 Website_i + \beta_8 USA_i + \varepsilon_{ij})$$

[16] For robustness, Equation 4 was estimated using OLS, logit, and probit; Equation 5 was estimated using OLS and tobit; Equation 6 was estimated using OLS and Poisson.

$$Number(backers)_{ij} = f(\beta_1 Technological_i + \beta_2 NumberOfMentions_{ij} + \beta_3 Goal_i + \beta_4 PreviousSuccess_{ij} + \beta_5 Video_i + \beta_6 TotalWords_i + \beta_7 Website_i + \beta_8 USA_i + \varepsilon_{ij})$$

$$Number(backers)_{ij} = f(\beta_1 Technological_i + \beta_2 dummy(Mentions)_{ij} + \beta_3 Goal_i + \beta_4 PreviousSuccess_{ij} + \beta_5 Video_i + \beta_6 TotalWords_i + \beta_7 Website_i + \beta_8 USA_i + \varepsilon_{ij})$$

Where *Success* = dummy equal to 1 if the project reached its goal. *PledgeRatio* = log of the division of the sum pledged by the goal of the project. *Backers* = log of the number of backers. *ThreeMentions* = a binary variable that takes value 1 if the entrepreneur is mentioned at least 3 times in the "About" section.[17] *Mentions* = number of mentions. *dummy(Mentions)* = series of dummy variables that each takes the value 1 if the number of mentions is equal to the number presented. *Technology* = 1 if the category of the project belongs to the technological main category, 0 if to the artistic main category. *Goal* = log of the goal of the project in U.S. $. *PreviousSuccess* = the number of previous successes the entrepreneur had. *Video* = 1 if the entrepreneur posted a video on the project's page, 0 if not. *TotalWords* = log of the total number of words in the "About" section. *Website* = 1 if the user provides a website link, 0 otherwise. *USA* = 1 if the project is based in the U.S., 0 otherwise.

Results are provided in Table 5. We find a positive coefficient on the mention variable for the three different success measures and for the three different measures of mentions. Even when controlling for all other variables, the results remain significant, demonstrating the importance of the entrepreneur's self-description in the fundraising process.[18] Other variables are less consistent across categories. Technology-based projects are less likely to meet their goals, but are more likely to attract a higher number of backers. We noted an increased value of the funds to goal ratio in the technological categories, while in the full regression, the results suggested that the artistic projects raised, on average, more funds relative to their goals.

[17] We estimated additional variations of this variable and describe the results below; however, in the table, we present the "at least 3 mentions" case. This choice is motivated by the human rater test; the average mentions in the cases that raters assigned the value 4 or above was 2.7 or above.

[18] When we add additional explanatory dummies for self-mentions that are higher than three mentions, four mentions, and five mentions (the entrepreneur is mentioned at least 4 or 5 times, respectively), the results of the three-mentions variable remain significant. When we estimate the regression using at least four mentions or five mentions as the explanatory variable rather than three mentions, the interpretation of the results remains unchanged. When we used one or two mentions as the explanatory variable in our estimation, these variables were not statistically significant. It is reasonable that an entrepreneur might mention him/herself once or twice in the text without overshadowing the project, but three times unmistakably highlights the creator of the project.

The size of the goal has a negative relationship with the probability of obtaining set goal, but a positive one with the number of backers. The number of previous successes of the entrepreneur contributes to the number of backers and the sum pledged relative to the goal, but it does not significantly affect the likelihood of success. Surprisingly, basing the project in the U.S. only reduces the likelihood that a project will reach its funding goal, and featuring a video is significantly positively correlated with all measures of success. We repeated the same exercise, while using mentioning the name in the header (Appendix B). Our conclusions remain the same.

Table 5. Effects of the Project Presentation Variables on Fundraising Success

This table presents the OLS Regression Results for the Effects of Antecedents on Funding Measures. The dependent variables are reaching the funding goal, % pledged and # of backers, and the independent variables are the entrepreneurial presentation measures (different measures of self-mentions, video and links) and project attributes (goal, main category and location).

	Reaching The Goal	*% Pledged*	*# of Backers*
Technological Main-Category	-0.364***	-0.115***	0.375***
	(0.043)	(0.041)	(0.037)
More than Two Mentions	0.393***	0.166***	0.274***
	(0.050)	(0.036)	(0.033)
Log(Goal)	-0.217***		
	(0.010)		
Previous Successes of Entrepreneur	-0.007	0.120***	-0.040***
	(0.020)	(0.017)	(0.015)
Video on The Project Page	0.358***	0.327***	0.182***
	(0.028)	(0.024)	(0.022)
Log(Total Words in the About Section)	0.182***	0.069***	0.346***
	(0.016)	(0.013)	(0.012)
Available Links to Websites by the Entrepreneur	-0.538***	-0.316***	-0.141***
	(0.026)	(0.024)	(0.022)
US Based Project	-0.126**	-0.048	-0.114***
	(0.049)	(0.040)	(0.036)
Constant	2.215***	-0.318***	1.703***
	(0.116)	(0.088)	(0.079)
Observations	19,637	19,215	19,216
R^2 / Pseudo R^2	0.122	0.052	0.063

	Reaching The Goal	*% Pledged*	*# of Backers*
Technological Main-Category	-0.341***	-0.11***	0.389***
	(0.044)	(0.041)	(0.037)
Number of Mentions	0.099***	0.044***	0.068***
	(0.009)	(0.007)	(0.006)
Log(Goal)	-0.219***		
	(0.010)		
Previous Successes of Entrepreneur	-0.011	0.118***	-0.042***
	(0.020)	(0.017)	(0.015)
Video on The Project Page	0.356***	0.326***	0.183***
	(0.028)	(0.024)	(0.022)
Log(Total Words in the About Section)	0.169***	0.062***	0.336***
	(0.016)	(0.013)	(0.012)
Available Links to Websites by the Entrepreneur	-0.539***	-0.315***	-0.140***
	(0.027)	(0.024)	(0.022)
US Based Project	-0.136***	-0.052	-0.119***
	(0.049)	(0.040)	(0.036)
Constant	2.276***	-0.296***	1.735***
	(0.116)	(0.088)	(0.079)
Observations	19,637	19,215	19,216
R^2 / Pseudo R^2	0.125	0.053	0.065

	Reaching The Goal	*% Pledged*	*# of Backers*
Technological Main-Category	-0.317***	-0.084**	0.409***
	(0.044)	(0.041)	(0.037)
One mention	0.266***	0.172***	0.186***
	(0.027)	(0.022)	(0.020)
Two mentions	0.357***	0.199***	0.226***
	(0.043)	(0.034)	(0.030)
Three mentions	0.531***	0.281***	0.294***
	(0.078)	(0.055)	(0.050)
Four mentions	0.422***	0.253***	0.437***
	(0.098)	(0.074)	(0.067)
Five mentions or more	0.838***	0.272***	0.439***
	(0.153)	(0.095)	(0.086)
Log(Goal)	-0.221***		
	(0.010)		
Previous Successes of Entrepreneur	-0.018	0.116***	-0.045***
	(0.021)	(0.017)	(0.015)
Video on The Project Page	0.356***	0.326***	0.182***
	(0.028)	(0.024)	(0.022)
Log(Total Words in the About Section)	0.166***	0.058***	0.336***
	(0.016)	(0.013)	(0.012)
Available Links to Websites by the Entrepreneur	-0.539***	-0.312***	-0.138***
	(0.027)	(0.024)	(0.022)
US-Based Project	-0.147***	-0.063	-0.130***
	(0.049)	(0.040)	(0.036)
Constant	2.273***	-0.302***	1.713***
	(0.116)	(0.087)	(0.079)
Observations	19,637	19,215	19,216
R^2 / Pseudo R^2	0.1296	0.056	0.068

In the three panels of Table 6, we emphasize the difference between the main categories by estimating the regression for each of the three success measures separately on the artistic and the technological main categories. Clearly, when we separate the sample, the number of mentions has a significant effect only on the success of artistic projects. The coefficient on artistic projects is significantly positive for all three measures, while the coefficient of the technological projects is significant just for the number of backers—but weakly ($p = .094$). Moreover, the results are confirmed while estimating multinomial regressions, in which the dependent success variable receives 0 for failure, 1 for success (reaching 100–110% of the goal), and 2 for overachievement. Again, we observed that the number of mentions was significant for the artistic categories, but not for the technological ones.

Table 6. Predictions of Project Success by Main-Categories

This table presents the results of three OLS Regressions– dependent variables are the three success measures, while we compare the two main categories (artistic and technological) based on different pitch attributes.

	Dependent Variable: Success in Reaching the Goal		*Dependent Variable: Log of % Pledged*		*Dependent Variable: Log of Backers*	
	Artistic	Technological	Artistic	Technological	Artistic	Technological
More than Two Mentions	0.413***	0.167	0.164***	0.231	0.270***	0.371*
	(0.052)	(0.179)	(0.036)	(0.249)	(0.033)	(0.221)
Log (Goal)	-0.215***	-0.243***				
	(0.010)	(0.034)				
Previous Successes of Entrepreneur	-0.005	-0.038	0.123***	0.030	-0.036**	-0.094
	(0.021)	(0.078)	(0.017)	(0.105)	(0.015)	(0.093)
Video on the Project Page	0.357***	0.374***	0.309***	0.712***	0.179***	0.244*
	(0.028)	(0.120)	(0.024)	(0.166)	(0.022)	(0.148)
Log (Total Words in the About Section)	0.178***	0.230***	0.065***	0.154*	0.346***	0.347***
	(0.016)	(0.058)	(0.013)	(0.084)	(0.012)	(0.074)
Available Links to Websites by the Entrepreneur	-0.552***	-0.329***	-0.327***	-0.079	-0.147***	-0.057
	(0.027)	(0.112)	(0.024)	(0.163)	(0.022)	(0.145)
US Based Project	-0.089*	-0.552***	-0.014	-0.522**	-0.076**	-0.663***
	(0.051)	(0.184)	(0.040)	(0.233)	(0.036)	(0.207)
Constant	2.194***	2.073***	-0.332***	-0.400	1.672***	2.489***
	(0.120)	(0.440)	(0.087)	(0.561)	(0.079)	(0.498)
Observations	18,578	1,059	18,173	1,042	18,174	1,042
R^2 / Pseudo R^2	0.1158	0.1105	0.053	0.043	0.058	0.045

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

This finding might suggest that backers in technology-related projects are less sensitive to the entrepreneur's background. Our suggestion is that it might be easier to replace the entrepreneur in a promising technology-based project than in an artistic project due to the different nature of these projects.

For robustness, we estimated an additional set of regressions to examine the effect of substantial self-mentioning. The results indicate that when entrepreneurs mention themselves more than 3 or 4 times, controlling for all other parameters, this has a significantly positive effect on success. When we jointly included several dummy variables for the different levels of mentioning in the regression (at least 3 mentions, at least 4 mentions, at least 5 mentions, etc.), the results indicated that the variable for more than five self-mentions does not significantly improve the likelihood of success beyond that conveyed by fewer mentions.

5.2. Robustness tests

We conducted several robustness tests to further test our results. We wanted to verify that our results are not substantially influenced by a large number of small projects that could be driven by emotional actions. Therefore, we selected a subsample consisting of the top decile of projects in terms of goals set, which necessitate substantial time and effort on the part of the entrepreneur. We estimated the same multivariate regression that we previously estimated using the subsample. All main coefficients retained their signs and significance. We repeated the same excursive, focusing only on the film and video category. Again, our conclusions remained consistent.

Additionally, one may ask whether mentions capture omitted variables such as the reputation of the entrepreneur. To address this, we also conducted the above estimation for the bottom decile of projects (lowest goals). We assume that entrepreneurs with reputations, external to Kickstarter, would not initiate a project with a low goal. Again, all main coefficients retained their signs and significance. We conducted an additional test intended to address the concern that self-mentioning is highly correlated with the entrepreneur's reputation (outside of Kickstarter). We hand collected social network data on 500 entrepreneurs (who typically cite their Twitter and/or Facebook page on their "About" page). We randomly selected 500 business pitches that cited a social network ID and were representative of the self-mentions range. As well-known entrepreneurs generally have large numbers of followers, we assessed whether there was a correlation between the scope of their social networks

and their self-mention counts in our dataset. We did not find any correlation between social network followers and self-mentions. A positive correlation would have suggested that well-known entrepreneurs mention themselves more, while a negative correlation would have indicated that it is sufficient for a very famous entrepreneur to present his/her picture or video or mention him/herself in the title only. In addition, the number of followers was not significantly different for entrepreneurs who mentioned their names in the header compared to those who did not.

Next, we wanted to further test the causality of the focus on the entrepreneur (via the use of mentions) as a facilitator of a positive reaction (trust and familiarity) toward the campaign. To test that, we sampled eight projects from the film and video category in our database. We randomly selected four projects out of the group of projects in which the entrepreneur was mentioned substantially (average mentions of this group is 6.75) and four in which their respective founders were not mentioned at all. We then surveyed 31 students and graduates of Master's and/or PhD programs of economics and/or business administration during July and August 2017. Each respondent was presented with five random texts of the eight projects sample and was asked to read them and answer related questions. Specifically, the respondents were asked to rate on a Likert scale of 1 to 7 their trust of the entrepreneur to be devoted to the project, their trust of the entrepreneur to complete the project, and how knowledgeable they feel about the entrepreneur. It is important to note that the subjects were not familiar with these projects or with the entrepreneurs prior to our survey. Hence, we can assume that their perceptions are driven only from reading the text of the pitch (including the self-mentions) and not from any other factors. The results were consistent: For all the questions, the projects whose entrepreneur mentioned him/herself heavily were rated significantly higher. This was true for using parametric and nonparametric tests.

Finally, one may question whether the incompleteness of the data biases our results. Since the rate of success among technological projects is lower than the art-related ones, censoring of data may be applied stronger to technology projects. This casts doubt about the finding that self-mentions are irrelevant in the technology projects, because it is plausible that a higher share of the non-self-mentioning projects has remained unobserved. To address this concern, we obtain a sample from webrobots.io which includes all projects on Kickstarter, regardless of fundraising success. The two datasets are compared in Table 7. Although our original dataset does miss many failed projects, the two distributions are not statistically different (using Dunn's test Chi-square = 0.4591).

Table 7. Comparison of datasets

This table presents a comparison of the category distributions of our original dataset and a new dataset, which includes all project within the timeframe of the project. The two distributions are not statistically different to each other (Dunn's test, Chi-square = 0.4591).

	Original dataset		Complete dataset	
Category	Projects	Pct.	Projects	Pct.
Art	1,728	8.5	4,497	9.29
Comics	533	2.6	1143	2.36
Dance	490	2.4	726	1.5
Fashion	381	1.9	1175	2.43
Film & Video	5,737	28.4	14,582	30.13
Food	581	2.9	1393	2.88
Music	5,132	25.4	11,754	24.29
Photography	760	3.8	1687	3.49
Publishing	1,627	8	4,783	9.88
Theater	1,612	8	2,584	5.34
Total of art categories	*19,001*	*91.9*	*44,324*	*91.588*
Games	584	2.8	1563	3.23
Total games	*584*	*2.9*	*1563*	*3.22967*
Design	739	3.7	1585	3.28
Technology	320	1.6	923	1.91
Total of technological categories	*1,059*	*5.2*	*2,508*	*5.18235*

6. Conclusion

In this article, we focus on one of the most challenging tasks for any entrepreneur: securing the initial financing for his/her early-stage venture. An entrepreneurial pitch is the typical means of presenting the venture to potential investors/backers; in this pitch, the entrepreneur can decide the extent to which he/she will present him/herself versus presenting the project idea. This choice can be critical

to successfully securing financing and the potential execution of the project. We use Kickstarter, a leading crowdfunding platform, to investigate this dilemma. It provides us unique access to a broad range of early-stage ventures with substantial details on the financing processes, including the full pitch provided by the entrepreneurs to the potential backers and the projects' financing outcomes. Using a mention-counting technique verified by human coding, we analyzed a variety (in 13 different categories, ranging from the technological to the artistic) of more than 20,000 cross-vertical fund-raising campaigns that have collectively raised more than $120 million.

Our findings indicate that entrepreneurs of artistic projects focus their pitches relatively more on themselves and mention their names more frequently on their Kickstarter pages, compared with technology project entrepreneurs. We also find that the name mentions are positively and statistically significantly associated with the success of the campaign for the projects, as well with the level of success (how much was raised compared to the goal). Separating the sample for technology and art projects, we find a significant effect of the number of mentions on success only for the latter. Our results remain consistent when we assess the projects with the largest goals, which receive more effort and planning on the part of the entrepreneurs. They are also consistent when considering the project with the lowest goals, suggesting that it is not the entrepreneur's outside reputation that is driving our results. This was also verified by controlling for the extent of the social networks of a random set of entrepreneurs. We conducted an additional test that examined how subjects estimate their level of: (a) trust of the entrepreneur to be devoted to the project; (b) trust of the entrepreneur to complete the project; and (c) how knowledgeable they feel about the entrepreneur after reading pitches from our sample. The experiment results were consistent with the conjecture that highlighting the entrepreneur by substantially mentioning his/her name may increase trust and familiarity for potential backers. As there is growing interest in the academic literature regarding trust and familiarity and economic outcomes, we leave this for future research to explore further these conjectures.

We contribute to the investigation of pre-seed financing and Kickstarter as a leading crowdfunding platform. In the academic literature, there is relatively little information on pre-seed financing campaigns due to data gathering complexity. Using an online crowdfunding platform enables us to shed some light on this stage.

Our research contributes to the understanding of reward-based crowdfunding platforms. Given the unique nature of reward-based crowdfunding, one may be concerned with the ability to generalize the results outside of this arena. While our results concern a specific type of market, we investigate the leading market of this type, and the use of this mechanism is on the rise. Furthermore, our methodology (and some of the results) is relevant to other crowdfunding mechanisms that employ similar fund-raising techniques and target numerous potential small contributors.

We also contribute to the ongoing vocal discussion among early-stage investors on whether the focus in evaluating a new investment should be on the horse (the venture) or the jockey (the entrepreneur). While this debate received substantial attention among VC investors and researchers (e.g., Kaplan et al., 2009), the debate regarding the importance of the idea, versus the human capital, is also relevant to pre-seed financing of different ventures where friends, family, angels, and wealthy individuals make the decision whether to invest in a venture or not. Given the growing use of crowdfunding to finance new projects, it should be of interest to investigate this question with respect to reward and not only equity. We leave for future research the investigation of this question with relation to other types of crowdfunding platforms, such as charity and peer-to-peer lending.

Our article is also closely related to the recent emerging literature that investigates the text provided by entrepreneurs in the crowdfunding pitch. The related literature focused on the style, or narrative (e.g., Allison et al., 2015; Manning & Bejarano, 2016; Parhankangas & Renko, 2017). While our approach is different, as we focus on the number of mentions of the entrepreneur name, we leave for future research the investigation of the relations of style and narrative to our measure and to different measures of trust.

One limitation of this study lies in its incomplete sample, which lacks a substantial number of failed campaigns. Although we do find any differences between this sample and a complete sample with respect to the distribution of project categories, the incomplete sample may be censored with respect to other characteristics. Future studies should replicate this analysis over complete sample of Kickstarter projects and validate these results.

Measurement error of the variable which proxies for the extent of an entrepreneur focusing on herself is another limitation. Although we verify the high correlation of this variable with human perception in two different tests, some unaccounted variation might still exist. Finally, one may question the

generalizability of these results to other platforms and types of crowdfunding, since Kickstarter is indeed populated mainly with art creators. We leave it for future research to discover whether the phenomenon we document remains in other settings as well.

References

Agrawal, A., Catalini, C. and Goldfarb, A., 2015. Friends, family, and the flat world: The geography of crowdfunding. *Journal of Economics & Management Strategy*, Volume 24, Number 2, Summer 2015, 253–274

Allison, T. H., Davis, B. C., Short, J. C. and Webb, J. W. 2015, Crowdfunding in a Prosocial Microlending Environment: Examining the Role of Intrinsic Versus Extrinsic Cues. *Entrepreneurship Theory and Practice*, 39: 53–73

Bernstein, S., Korteweg, A. and Laws, K., 2017. Attracting Early-Stage Investors: Evidence from a Randomized Field Experiment. *The Journal of Finance*, 72(2), pp.509-538.

Bradford, C.S., 2012. Crowdfunding and the federal securities laws.

Cardon, M.S., Sudek, R. and Mitteness, C., 2009. The impact of perceived entrepreneurial passion on angel investing. *Frontiers of entrepreneurship research*, 29(2), p.1.

Chen, X.P., Yao, X. and Kotha, S., 2009. Entrepreneur passion and preparedness in business plan presentations: a persuasion analysis of venture capitalists' funding decisions. *Academy of Management journal*, 52(1), pp.199-214.

Conti, A., Thursby, M. and Rothaermel, F.T., 2013. Show Me the Right Stuff: Signals for High-Tech Startups. *Journal of Economics & Management Strategy*, 22(2), pp.341-364.

Duarte, J., Siegel, S. and Young, L., 2012. Trust and credit: the role of appearance in peer-to-peer lending. *The Review of Financial Studies*, 25(8), pp.2455-2484.

Dushnitsky, G., Guerini, M., Piva, E. and Rossi-Lamastra, C., 2016. Crowdfunding in Europe: determinants of platform creation across countries. *California management review*, 58(2), pp.44-71.

Eesley, C.E. and Roberts, E.B., 2012. Are you experienced or are you talented?: When does innate talent versus experience explain entrepreneurial performance? *Strategic Entrepreneurship Journal*, 6(3), pp.207-219.

Gompers, P., Kovner, A., Lerner, J. and Scharfstein, D., 2010. Performance persistence in entrepreneurship. *Journal of Financial Economics*, 96(1), pp.18-32.

Hsu, D.H., 2007. Experienced entrepreneurial founders, organizational capital, and venture capital funding. *Research Policy*, 36(5), pp.722-741.

Kahneman, D., 1973. Attention and effort (Vol. 1063). Englewood Cliffs, NJ: Prentice-Hall.

Kaplan, S.N., Sensoy, B.A. and Strömberg, P., 2009. Should investors bet on the jockey or the horse? Evidence from the evolution of firms from early business plans to public companies. *The Journal of Finance*, 64(1), pp.75-115.

Lambert, T. and Schwienbacher, A., 2010. An empirical analysis of crowdfunding. Social Science Research Network, 1578175, pp.1-23.

Manning S and Bejarano T, 2016. Convincing the crowd: Entrepreneurial storytelling in crowdfunding campaigns. *Strategic Organization*, 15:2, 194-219

Marom, D., 2012. Evolution of Firms – Evidence from Israeli Start-ups.

Massolution, C.L., 2015. Crowdfunding industry report.

Mollick, E., 2014. The dynamics of crowdfunding: An exploratory study. *Journal of business venturing*, 29(1), pp.1-16.

Packalen, K.A., 2007. Complementing capital: The role of status, demographic features, and social capital in founding teams' abilities to obtain resources. *Entrepreneurship Theory and Practice*, 31(6), pp.873-891.

Paik, Y., 2014. Serial entrepreneurs and venture survival: Evidence from US venture-capital-financed semiconductor firms. *Strategic Entrepreneurship Journal*, 8(3), pp.254-268.

Parhankangas, A., and Renko M., 2017, Linguistic style and crowdfunding success among social and commercial entrepreneurs, *Journal of Business Venturing*, Volume 32, Issue 2, Pages 215-236

Penrose, E. (1959), *The Theory of the Growth of the Firm*, Oxford university press.

Rajan, R.G., 2012. Presidential address: The corporation in finance. *The Journal of Finance*, 67(4), pp.1173-1217.

Rajan, R.G. and Zingales, L., 2001. The firm as a dedicated hierarchy: A theory of the origins and growth of firms. *The Quarterly Journal of Economics*, 116(3), pp.805.

Ravina, E., 2012. Love & loans: The effect of beauty and personal characteristics in credit markets.

Schwienbacher, A. and Larralde, B., 2010. Crowdfunding of small entrepreneurial ventures. *Handbook of Entrepreneurial Finance*, Oxford University Press.

Wasserman, N., Nohria, N. and Anand, B.N., 2001. When does leadership matter? The contingent opportunities view of CEO leadership.

Zhang, J., 2011. The advantage of experienced start-up founders in venture capital acquisition: evidence from serial entrepreneurs. *Small Business Economics*, 36(2).

Appendix A

Variables list table

This table lists the project variables used to analyze the data set. Some of the variables were extracted directly from the data (Goal, Pledged, Investors, Category, Country), while obtaining others involved manipulation.

Variable	Definition
Goal	The amount entrepreneurs seek to raise.
Pledged	The sum raised by the projects.
Investors	Number of users funding the project.
Category	Category of the project
Country	Country of the project
Success (dummy)	Dummy equal to 1 if the project reached its goal
Fail (dummy)	Dummy equal to 1 if the project failed to reach its goal
Experience (dummy)	Dummy equal to 1 if the entrepreneur had any prior projects on the site
No. of Previous Projects	The number of previous projects initiated by the entrepreneur
Previous Success (dummy)	Dummy equal to 1 if the entrepreneur's previous project reached its goal
No. of Successful Projects	The number of successful projects initiated by the entrepreneur
Video (dummy)	Dummy equal to 1 if a video is presented on the page
Words	Number of words used in the ‘About’ section
Patent (dummy)	A mention of a patent in the description of the project
Website (dummy)	Dummy equal to 1 if the entrepreneur provided a link to a website

Descriptive statistics of variables used in this analysis:

	Mean	Std. Dev.	Median	90%
Number of mentions	0.717	1.392	0	2
Number of mentions in first 100 words	0.286	0.607	0	1
A mention in the title (dummy)	0.181	0.385	0	1
Successful funding ("Reaching the goal")	0.801	0.399	1	1
% Pledged	2.555	110.509	1.0624	1.63
Number of backers	79.850	264.885	41	146
Goal	6,981	33,276	3000	14532.5
Previous success of entrepreneur	0.069	0.551	0	0
Video on the project page	0.517	0.500	1	1
Total words in About section	398.324	277.784	332	740
Available links to websites (dummy)	0.479	0.500	0	1
US-based (dummy)	0.945	0.229	1	1

Appendix B

This table presents the OLS Regression Results for the Effects of Antecedents on Funding Measures. The dependent variables are reaching the funding goal, % pledged and number of backers, and the independent variables are the entrepreneurial presentation measures (self-mentions in the title, video and links) and project attributes (goal, main category and location).

	Reaching The Goal	*% Pledged*	*# of Backers*
	(1)	(2)	(3)
Technological Main-Category	-0.309***	-0.082**	0.421***
	(0.044)	(0.041)	(0.037)
A Mention in the Title	0.549***	0.274***	0.395***
	(0.033)	(0.024)	(0.022)
Log(Goal)	-0.221***		
	(0.010)		
Previous Successes of Entrepreneur	-0.002	0.122***	-0.035**
	(0.021)	(0.017)	(0.015)
Video on The Project Page	0.354***	0.322***	0.189***
	(0.028)	(0.024)	(0.022)
Log(Total Words in the About Section)	0.208***	0.083***	0.367***
	(0.016)	(0.013)	(0.012)
Available Links to Websites by the Entrepreneur	-0.539***	-0.312***	-0.136***
	(0.027)	(0.024)	(0.022)
US Based Project	-0.171***	-0.074*	-0.150***
	(0.049)	(0.040)	(0.036)
Constant	2.079***	-0.418***	1.552***
	(0.116)	(0.087)	(0.079)
Observations	19,637	19,215	19,216
R^2 / Pseudo R^2	0.134	0.057	0.075

Chapter 2: Gender Dynamics in Crowdfunding (Kickstarter): Evidence on Entrepreneurs, Backers, and Taste-Based Discrimination

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1. Introduction

Using the internet to mobilise a crowd of supporters in order to fund a project or a business was an almost non-existent approach only a decade ago. Yet, within a relatively short time, billions of dollars have been raised through crowdfunding platforms to fund new projects and companies. Crowdfunding leverages the internet and social networks in order to raise funds from a large, undefined number of investors or contributors to support new ventures, innovation, and other causes; each individual backer usually contributes only a small amount of money. Supporters of these platforms argue that by relying on a large number of small contributions, crowdfunding has the potential to 'democratise' entrepreneurship funding and capital markets by providing the means to both female entrepreneurs and female investors to participate more fully (Mollick and Robb, 2016).

While crowdfunding is a term that is used to describe several market mechanisms differentiated by the return to the backer (equity, debt, reward, or nothing in the case of a donation), this chapter focuses on a leading reward-based platform: Kickstarter. We were keen to focus on the launch of a reward-based platform because it has been claimed that this innovative funding mechanism has the potential to reduce some of the frictions in the traditional financial markets and might potentially increase the diversity of participants.[19] We documented the level of female participation as entrepreneurs and as funders. Starting with the demand side, we asked if male and female entrepreneurs participated at different rates and at which categories, whether they take different fundraising decisions, and if they face different success rates. We benchmark these results against the female proportions in the population and in comparable industries, as well to their success among angel investors, venture capitals, and within experiments. To explain our results, we turned to the supply side, and compared male and female backers' funding decisions with respect to the entrepreneurs' genders. Lastly, we conducted a survey to check whether taste-based discrimination (as opposed to statistical

[19] There are several conjectures related to this motivation. Since each backer may contribute a relatively small amount, this enables people who possess or control little capital to participate. Moreover, unlike the complexity of assessing equity, it is less difficult to assess the potential return related to the contribution in different future states of the world, and this can enable the participation of individuals who possess little financial literacy. It is well documented (e.g. Lusardi and Mitchell, 2011 among others) that women tend to have less capital and be less financially literate than men.

discrimination) against women might play a part in funding decisions.[20] We also provide additional evidence from the launch of an equity crowdfunding platform, OurCrowd.

We used a custom-made software to retrieve data from Kickstarter and create our dataset, which contains information on 16,641 successful projects, 4,128 failed projects, 22,274 entrepreneurs**,** 1,108,186 backers, and contributions that total more than $120 million. Our data cover the period from April 2009 (inception of Kickstarter) to March 2012. Focusing on the launch of the platform enabled us to investigate the effect of its launch *per se*, prior to any other gender-related effects (such as the "me too" movement).

We started by investigating the level of female participation as project leaders on this platform, and found that women-led projects made up about one-third of all the projects led by one entrepreneur. This ratio is clearly below the female proportion in the overall population (about half). The different gender participation rate varied between categories (industries represented on the platform): while the proportion of male entrepreneurs in the Comics, Design, Games, and Technology categories was in the 76%–92% range, female entrepreneurs constituted the majority in the Dance, Fashion and Food categories (55%–77%). In order to compare relative gender participation in Kickstarter and other comparable capital fundraising channels, we focused on the Film & Video and Technology categories. Even though at Kickstarter these are male-dominated categories (30% and 16% of the entrepreneurs are women, respectively), we could still observe a relatively higher participation of women than on other financing platforms for these industries (17% of registered film directors are women, and 0% in a market for financing technology start-ups, as elaborated in Subsection 2.1).

The next step consisted in examining funding goals set by entrepreneurs, comparing those set by men and women. The all-or-nothing funding mechanism of the Kickstarter platform makes this decision a crucial one, since an over-ambitious goal may well lead to no funding at all. Although descriptive results suggest that men set higher goals than women, this difference was not significant during the period we investigated once we considered co-variables.

[20] *Taste-based discrimination* was defined by Becker (1957) as follows: an economic player who dislikes, or prefers not to be associated with, individuals of a given race, gender, ethnicity, religion, status, or some other personal characteristic. *Statistical discrimination*, on the other hand, was described by Arrow (1972) and Phelps (1972) as discriminatory behavior that can be rational, rather than result from prejudice.

We also studied the impact of gender on crowdfunding campaign success. This question is important because of the concern that female entrepreneurs face difficulties in obtaining funds from traditional sources. Evidence of such difficulties has been found with angel investors (Sohl, 2014; Ewens and Townsend, 2020) and in mock-investment experiments (Brooks et al., 2014; Thébaud, 2015). However, a logit regression with fundraising success as a dependent variable and several related controls, including campaign goal, revealed that female entrepreneurs were significantly more likely to succeed than men. To check the robustness of these results, we used a matching technique to pair selected projects according to the main category, subcategory, country of the entrepreneur, and fundraising goal, whereby the only difference was the gender of the entrepreneur. The results of our full sample, which show higher success rates for women than for men, were replicated in the matching subsample.

In order to find an explanation for this relative advantage enjoyed by women, we investigated whether the platform attracted women to become involved in financing. We were able to assign a gender to 888,468 out of 1,108,186 backers (i.e. 80% of backers). The majority of backers were also men, although the ratio was more balanced: about 45% of Kickstarter project backers are female. This is a much higher female participation level than in angel investing (about 20% (Sohl, 2014)) or venture capital (about 6% (Brush et al., 2014)). Differences probably result from the very low barriers to participation as a backer on Kickstarter: much less capital is needed (compared with angel investment), and no assigned role is required (compared with being a partner in a venture capital firm, or VC). When we examined the preferences of backers for specific types of industry, we found that, similarly to entrepreneurs, male backers were most interested in Comics, Product Design, Games, and Technologies (71%-86% of contributions), whereas female backers dominated the Dance, Food and Theater categories (58%-68%).

Since the supply side of this market is not solely controlled by one gender, it is of interest to learn about differences in contribution patterns according to gender. Therefore, we examined the relationship between the gender of the entrepreneur(s) (alone or in a team of two) and the proportion of women amongst project backers (disregarding contributed sums). Not only was the proportion of female (male) backers higher (lower) for female-led projects than for male-led or male/female-led, there was a clear trend showing that the more the female element was dominant in a project (i.e. 2

women > 1 woman > woman-man > man-woman > 1 or 2 men), the more the proportion of female backers increased.

Analysing the backers' in our sample, we found clear patterns: female backers pledged 40% of their contributions to female entrepreneurs, higher than the latter's proportion of 34.7%, whereas men pledged only 23% (and conversely for pledges to male entrepreneurs). This pattern was robust for most Kickstarter categories, yet weaker when considering only backers who had made more than five contributions (serial backers); here, we found that women became agnostic to gender.

To account for potential endogeneity, we test the hypotheses using regression analyses, which consider various covariates. We employed two approaches for our regression analyses, which discovered gender-related contribution patterns for both genders. The first was at project level: the share held by female backers out of all project backers was regressed over the gender of the entrepreneur and controls. The second investigated the backer level, which enabled us to observe the menu of projects that backers faced when making their contributions. Under both approaches, the gender of the entrepreneur strongly predicted the gender of her or his backers: men were mainly backed by men and women were mainly backed by women. Remarkably, this effect diminished once female serial backers were involved, but not with male ones.

A survey of Kickstarter backers revealed that men and women had different reasons for backing projects. We used the respondents' answers to gender equality questions in order to investigate whether taste-based discrimination (as opposed to statistical discrimination) played a role in funding decisions in our subsample. Using responses to a questionnaire derived from common practice in the gender literature, we constructed a metric of gender inequality perception. Since a person may back a project led by someone of their own gender for different reasons, such as statistical discrimination or interest in the same categories, we controlled for this tendency in our estimation. In addition to this tendency, we measured a negative effect of that taste towards inequality on funding female entrepreneurs' projects. This negative effect is true for men, but not for women. This is consistent with the existence of taste-based discrimination by men as regards female-led projects, which is on top of other potential explanations.

Finally, we provide an economic model that explains the observed difference in behavior between serial and non-serial backers, since experience in contributing to crowdfunding projects is expected

to affect statistical discrimination and not taste-based one. We simulated a dataset for this model, and the results of the simulation mimic what we observed in the data.

Our paper is structured in the following manner. Section 2 will survey the gender-related finance literature, in particular as regards the participation, incentives, and attributes of women in the traditional fundraising process, both as entrepreneurs and investors; this section also puts forward a number of hypotheses. Section 3 will provide an overview of the Kickstarter platform and the data used in our analysis. In Section 4, we will present our empirical analysis of the data. In Section 5 we will cross these data with data from a survey conducted amongst backers and add a simulation analysis. We will draw conclusions in Section 6.

2. Gender-related literature and our hypotheses

Given that the focus of this article is the relationship between gender and the funding of entrepreneurship, this section will review the literature relating to the participation, incentives, and attributes of women in traditional fundraising processes, both as entrepreneurs and investors. According to the similarities and differences between traditional fundraising and crowdfunding, we either aligned our hypotheses, or contrasted them, with common practices amongst angel and VC investors and the firms they invest (or do not invest) in.

2.1. Participation of Women as Entrepreneurs

While the overall population is gender-balanced, one immediate question is about the share of various economic activities, such as entrepreneurship, held by each gender. A large amount of literature is devoted to the gender structuring of organizations, including the segregation of men and women into different areas of studies, jobs, occupations, firms, and industries (e.g. Baron and Bielby, 1985; Charles and Bradley, 2009; Charles and Grusky, 2004). While women-owned businesses make up about 35.8% of firms in the United States, ownership rates vary dramatically by industry (United States Census Bureau, 2015). A number of studies have indicated that women tend to start firms in low-growth sectors of service and retail, which are typically less capital-intensive, and that this could reflect higher financing barriers for women-owned firms than for men-owned ones (Fairlie and Robb, 2009; Robb, 2002; Watson and Robinson, 2003).

Previous studies provided statistics on women-founded businesses that were venture-backed: from 10.7% during the years 2010–2015 (Gompers and Wang, 2017), through 12.4% for ownership of 'high-impact firms' in 2004–2008 (Tracy, 2011), up to 15% in the period of 2011–2013 (Brush et al., 2014). Of the US-based companies that received a round of venture capital financing in 2010, only 6% had a female CEO, 7% had a female founder, and 10% had a female founder or CEO at some point (Dow Jones Venture Source, 2011). A contemporaneous work by Ewens and Townsend (2020) used a dataset of start-ups' pitches and reactions of angel investors from AngelList, enabling the authors to observe unfunded companies as well. They found that women constituted only 15.8% of founder CEOs trying to raise capital, and 21% of all founders.

However, one might expect the gender gap to be smaller in terms of involvement in raising capital on crowdfunding platforms, as well as regarding the performance of entrepreneurs. The internet enables practically barrier-free entry to these platforms, thus there are fewer gatekeepers who may be biased against women and, hence, restrict access to a wider variety of entrepreneurs. In addition, the internet allows people to be involved in a much more anonymous fashion. There is often little or no in-person or face-to-face interaction between project leaders and funders; thus, women might feel more comfortable launching a project or idea in this space, even in industries that are typically male-dominated. Moreover, reward-based crowdfunding requires less financial literacy than equity investment. Given that the academic literature has pointed to gender inequality in that regard as well (e.g. Lusardi and Mitchell, 2011), the introduction of such platforms may well attract greater female participation.

> *Hypothesis 1: The level of participation of female entrepreneurs on the platform is different from the level of participation of male entrepreneurs.*
>
> *Hypothesis 2: Female entrepreneurs participate in different project categories at a different rate than male entrepreneurs.*

2.2. Confidence and Risk Aversion amongst Fundraising Women

Numerous studies have documented that women tend to launch firms in sectors with lower capital requirements, such as retail and services and, regardless of industry, with significantly smaller amounts of capital than men (Carter, Williams, and Reynolds, 1997; Coleman and Robb, 2009; Rosa, Carter, and Hamilton, 1996). Lower levels of capital can constrain the ability of firms to grow, as

well as increase the risk of financial distress if the firm does not have sufficient liquidity to weather periods of adversity.[21]

In the literature, women have been portrayed differently from their male counterparts as regards the following dimensions: (1) women are less confident and more likely to underestimate their skills and performance in various business-related contexts (e.g. Bandura, 1986; Estes and Hosseini, 1988; De Bruin, Brush, and Welter, 2007; Fletcher, 2001; Morales-Camargo, Sade, Schnitzlein, and Zender, 2013, among others); (2) they tend to be less aggressive in career choices and advancement (e.g. Bertrand, Goldin, and Katz, 2010; Buser, Niederle, and Oosterbeek, 2014); (3) risk aversion is higher amongst women (Byrnes, Miller, and Schafer, 1999; Croson and Gneezy, 2009; Reuben, Sapienza, and Zingales, 2010),[22] although Filippin and Crosetto (2016) found negligible differences between the genders when studying the results of 54 experiments; (4) women also tend to negotiate less than men, and settle for less than what they want instead of asking for more (Babcock, Laschever, Gelfand, and Small, 2003; Ahl, 2004; Bowles, Babcock, and Lai, 2007; Säve-Söderbergh, 2007; Castillo, Petrie, Torero, and Vesterlund, 2013; Langowitz and Minniti, 2007; Niederle and Vesterlund, 2005; Gneezy and List, 2013); (5) women typically have smaller networks and, thus, may feel that they have access to fewer investors (Aldrich, Reese, and Dubini, 1989; Klyver and Grant, 2010; Olm et al., 1988);[23] (6) women may feel that there will be implicit biases against their level of competence, especially in male-dominated industries (Ridgeway, 2009).

When fundraising on crowdfunding platforms, an entrepreneur is required to set the funding goal prior to the start of the campaign and cannot change it later. This is a crucial decision on platforms that apply an all-or-nothing mechanism (i.e. the entrepreneur must reach the goal in order to obtain the totality of the funds). Entrepreneurs thus have an incentive to ask for an amount that does not

[21] Prior research suggests both demand-side and supply-side issues in the raising of financial capital. Demand-side issues include *entrepreneur* preferences for growth, profit, industry sector, risk, and control, while supply-side factors would include the *investor* preferences for specific types of industry, firms, or entrepreneur (Fabowale et al., 1995; Carter and Rosa, 1998; Orser et al., 2006; Constantinidis et al., 2006). Furthermore, there is some evidence that women continue to experience problems in terms of their relationships with lenders (Fabowale et al. 1995; Lee and Denslow 2004; Carter et al. 2007; Chaganti et al., 1996; Alsos et al., 2006; Becker-Blease and Sohl, 2007; Greene et al., 2001; Brush et al., 2001, 2002; Menzies et al., 2004; Gatewood et al., 2009).

[22] Mohammadi and Shafi (2018) studied gender-related patterns of investing through a Swedish equity crowdfunding platform, and found that women were more likely to invest in the equity of older firms and in firms belonging to more traditional industries, which a lower percentage of equity offerings. This behavior is also consistent with risk aversion.

[23] Carter et al. (2003) did not find any impact of social networks on the likelihood of using equity financing.

exceed what they actually need. In fact, some of them might wish to raise a lot more than their stated goal, but purposefully set a lower target in order to increase the likelihood of raising some initial capital (high enough to guarantee that the project can be undertaken). Entrepreneurs may also underestimate the demand for their product or prototype, setting a low goal that reflects what they think the demand will be.

This implies that women might set lower goals than men for a desired level of funding owing to some of the above-mentioned reasons. This is indeed the case when female founders seek funds from angel investors on AngelList — their average goal is 77.5% of the average goal of male founders (Ewens and Townsend, 2020).

On the other hand, these gender differences might be mitigated if we consider the specific characteristics of people who decide to become entrepreneurs: they are typically less risk-averse (Hvide and Panos, 2014), less loss-averse (Koudstaal, Sloof, and Van Praag, 2015) and more confident, especially in the crowdfunding setting, with its low entry costs, different dynamics, and specific risks. Our next hypothesis investigates whether financial goals vary by gender.

Hypothesis 3: Female entrepreneurs set lower funding goals than male entrepreneurs.

2.3. Fundraising Success of Female Entrepreneurs

Data about success rates of female entrepreneurs in obtaining capital from VCs are scarce, although a lower likelihood of funding by angel investors has been reported. For instance, Sohl (2014) documented an angel funding success rate of 19% for female entrepreneurs, and less than 21.6% for all entrepreneurs. Ewens and Townsend (2020) found that men were favored on an angel-investing platform because they were more likely to gain attention and eventually be funded.

The IVC Research Center (2018) has shed some light on the differences in success rates for obtaining venture capital funding, providing information that is usually difficult to obtain. Looking at the period 2000–2017 in the Israeli high-tech sector, their report reveals that with every round of investment, the proportion of companies with a female founder-CEO decreased, down to zero in the 6^{th} round. The proportion of women-run start-ups that exited the market was lower than their share of start-ups with seed funding as well.

In a lab experiment by Brooks et al. (2014), non-investor participants heard the same entrepreneurial pitch twice: once with a male voice and once with a female one. The authors found that participants were significantly more likely to make mock investments into male entrepreneurs than into female ones delivering the same pitch. Thébaud (2015) conducted three experiments, in which participants were asked to evaluate the profiles of two entrepreneurs and make investment decisions for each. The author manipulated the gender of the entrepreneur and the innovativeness of the business idea. She found that gender status beliefs disadvantaged female entrepreneurs compared with their male counterparts, but business model innovation had a stronger and more positive impact in relation to their business ideas than in relation to men's; the strength of these patterns varied according to the societal and industry context of the new venture.

Given the above literature, our hypothesis for crowdfunding success rates reflects the reality of traditional financial markets, where female entrepreneurs are disadvantaged compared with their male counterparts, and the fact that the context plays a role.

> *Hypothesis 4: Female entrepreneurs will, ceteris paribus, achieve lower success rates than male entrepreneurs.*

2.4. Women as Investors and Backers

Women are underrepresented on the supply side of the financial markets as well. Indeed, they historically constituted less than 15% of angel investors in the US (Harrison and Mason, 2007; Padnos, 2010). A few years later, the Center for Venture Research estimated that women angels represented 19.4% of the angel market in 2013 (Sohl, 2014).

The venture capital (VC) industry continues to be heavily male-dominated as well. Brush et al. (2004) found that women constituted only 9% of management-track venture capitalists in 2000, and were twice as likely as men to leave the industry before attaining senior-level positions. Brush et al. (2014) noted that the number of female partners in VC firms had actually declined since an earlier study using 1999 data: from 10% of all firms to 6%. According to a 2016 study by National Venture Capital Association and Deloitte, the percentage of VC investors who were women was 11%, down from 14% in 2008. In another study (Gompers et al., 2014), VentureSource data on all venture capital investments made between 1975 and 2003 showed that 79% of VC firms had no female investors. Of those firms that did have female VC investors, about 75% had only one; at the individual level,

women constituted only 6.1% of the sample of venture capitalists.

A similar pattern emerges from an examination of US-based VC firms that had raised at least one fund totalling $200 million or more since 2009: this yielded a total of 92 VC firms. Only 23 of the 542 partner-level venture capitalists identified in these firms were women, or 4.2%, which is even lower than the 4.6% of female CEOs amongst the Fortune 500. Of these 92 firms, only 17 had at least one senior female partner, and just five firms had at least two (Fortune, 2014).

A number of articles cite women's lack of access to angel investor or venture capital networks as a constraint that reduces their likelihood of securing external equity (Brush, Carter, Gatewood, Greene, and Hart, 2009; Brush, Greene, and Hart, 2001; Marlow and Patton, 2005). In terms of investment activity and patterns, women are significantly more likely to apply for funding from angel networks, which have a higher proportion of female investors (Becker-Blease and Sohl, 2007). This suggests that female entrepreneurs' willingness to apply for external equity may be suppressed by the relatively small number of female angel investors and venture capitalists. There are a few angel groups and venture capital funds that specifically target female entrepreneurs (such as Astia Angels and Golden Seeds), but they are the exception rather than the rule.

Another explanation for women's purported exclusion from, or limited access to interaction networks is the prevalence of homophily, i.e., preferred interaction with others who are similar in terms of sex, race, or education (Ibarra, 1992; Rogers and Kincaid, 1984). Brush et al. (2014) found that VC firms with women partners were twice as likely to invest in companies with a woman on the management team (34% vs 13%). Similarly, VC firms with female partners were three times more likely to invest in companies with women CEOs (58% vs 15%). Ewens and Townsend (2020) found that on an online platform, female entrepreneurs were, *ceteris paribus*, less likely than male entrepreneurs to be funded by male angel investors.

Reward-based crowdfunding platforms do not set any entry barriers to people who would like to fund projects, which opens the door to a more balanced gender distribution on the supply side. Moreover, the smaller amounts of money involved may influence funding decisions, since there is no risk of losing large sums of money. On the other hand, there is a significantly larger information asymmetry on crowdfunding platforms, since the ability of potential backers to perform due diligence on entrepreneurs is limited, and this may cause backers to give more weight to characteristics such as

the entrepreneur's gender. If the behavior of female crowdfunders is similar to the behavior of female investors in VCs, we may expect a tendency to provide funds to projects initiated by other women.

> *Hypothesis 5: The level of participation of female backers on the platform will be different from the level of participation of male backers.*

> *Hypothesis 6: Women will tend to fund female entrepreneurs, while men will tend to fund male entrepreneurs.*

2.5. Taste-Based Discrimination and Statistical Discrimination in Financial markets

How can gender-related investment patterns be explained? Can they be attributed to gender discrimination in the marketplace? And if so, to what type of discrimination? The economics literature has put forward two leading theories. The first one, by Becker (1957), focused on taste-based discrimination, or personal prejudice: an economic player dislikes, or prefers not to be associated with, individuals of a given race, gender, ethnicity, religion, status, or some other personal characteristic. The second leading theory, by Arrow (1972) and Phelps (1972), dealt with statistical discrimination. Discriminatory behavior may in some cases be rational rather than result from prejudice; namely, it stems from differences across groups as regards specific relevant aggregate characteristics. Typically, in statistical discrimination models, discrimination in the marketplace involves stereotyping, which is used to cope with imperfect information.[24] Separating taste-based from statistical-based behavior is a challenging task. Nevertheless, understanding the underlying reasons for channelling funds into projects is of great interest.

> *Hypothesis 7: The preference for contributing to a female-led project is correlated with taste-based discrimination.*

[24] For an extensive discussion and review of taste-based and statistical discrimination, please see Guryan and Charles (2013).

3. Sample and data

For our empirical analysis, we collected data on projects and backers from Kickstarter.com, making use of custom-made software. In this section, we will describe this crowdfunding platform, the information collection method, and the main variables.

3.1. Kickstarter Sample

Kickstarter is a leading crowdfunding platform in the United States and is considered by many as the most popular reward-based platform. As an intermediary between entrepreneurs seeking funding and potential backers, the platform uses a fundraising mechanism combining reward-based and pre-purchase crowdfunding models. It is used by entrepreneurs to launch or expand their businesses. Kuppuswamy and Mollick (2016) conducted a survey of design, technology, and video games projects that raised money on Kickstarter prior to mid-2012 and found that over 90% of successful projects remained as ongoing ventures. Between its inception (April 2009) and April 2018, Kickstarter accounted for more than 141,986 successfully funded projects and attracted over 14.5 million backers contributing over $3.6 billion.[25]

Investigating a fundraising platform from its launch offers a number of research advantages: (1) we can document the introduction of a new financing mechanism; (2) Kickstarter uses an all-or-nothing mechanism, whereby entrepreneurs only receive funding if they reach their goal within the allotted timeframe (otherwise, the funds are returned to the backers), which provides a clear definition of successful fundraising; (3) the platform attracted a substantial number of ventures over three years, providing information both on entrepreneurs and backers; (4) detailed information about both successful and unsuccessful funding attempts, which is usually not disclosed to outsiders, was available.

3.2. Data

In March 2012, we used a custom-made software to collect information from the platform. This enabled us to gain information not only about projects but also about backers. We collected data on 16,641 successful projects, 4,128 failed projects, 22,274 entrepreneurs, 1,108,186 backers, and total contributions of more than $120 million. Our focus was the launch of the platform; hence, the study

[25] Retrieved from https://www.kickstarter.com/help/stats (April 2018).

period covers three years, from the inception of Kickstarter in April 2009 through March 2012. All textual data concerning projects available on the site were downloaded, as well as data about project creators and backers.

It is important to note that Kickstarter only offered direct access to projects that were in the process of raising funds or had already successfully fundraised, but not to failed campaigns. We bypassed this limitation by using the list of links to projects that funders had contributed to and by collecting the same type of information about these projects as well using our custom-made software. We were able to download failed projects that had received at least one pledge by backers who funded a successful or ongoing project. We validated our dataset by using another dataset, which included all failed and cancelled projects, obtained in late 2018 from Kaggle.com. Although the latter dataset lists more failed projects than those we initially obtained, it does not feature certain control variables that are key to our analysis; neither does it include any information about backers. For robustness purposes, we ran our empirical analyses over the complete set (see Subsections 4.2 and 4.3) and the quality of results remained the same.

3.2.1. Gender Classification

When preparing the data, first we removed projects where the author's name was the name of a company or organization (for example, ending with Ltd). We then extracted the project leaders' first names from each of the projects; we classified project leaders by gender by comparing extracted first names with those found in lists of male and female names (from various online sources), with manual adjustments. We then manually verified a large sample of those names.[26]

Ultimately, we were able to classify by gender 13,533 projects involving single entrepreneurs and 539 projects involving teams of two entrepreneurs, out of 20,769 projects. Considering either single entrepreneurs or the first of a team of two, men-led projects made up almost two-thirds of the sample (9,193), while women-led projects made up just over one third (4,879). In addition to the gender of entrepreneurs, we were also able to determine the gender of backers for each project — as long as they had entered their names. We were thus able to assign gender to 80% of backers over the examined period (888,468 out of a total of 1,108,186).

[26] The algorithm is used by several papers, for example Belenzon and Zarutskie (2012).

We carried out a robustness check on our gender classification by randomly selecting 1,000 projects in our sample, and presented a short survey in Mechanical Turk, one of the largest crowdsourcing platforms.[27] Two evaluators used photographs of the entrepreneurs to categorize all 1,000 projects. We found that the dictionary used to classify names had correctly predicted 98% of the men and 96.5% of the women, thus validating the algorithm we used to classify entrepreneurs and backers by gender in our database.

Comparing our data with a similar Kickstarter database obtained by Rhue (2015) helped us provide an additional validation of the female entrepreneurs' representation and distribution. Rhue downloaded a sample from WeRobots.io for the period April 2009 until December 2014 and identified the gender of the entrepreneur by using computer vision technology. The gender distribution in her sample is almost identical to ours.

3.2.2. Category Classification and Additional Related Variables

Kickstarter projects are divided into the following thirteen observable categories: Art, Comics, Dance, Design, Fashion, Film & Video, Food, Games, Music, Photography, Publishing, Technology, and Theater. The distribution of these categories is provided in Column 1 of Panel A in Table 1. In addition, we obtained data about the fundraising goals of all projects, their countries of operation, launch and completion dates, and the subcategory assigned to each project, as well as whether it was labelled *Popular* or *Staff Picked* on the platform. Following Gafni, Marom, and Sade (2019), we counted the number of times that entrepreneurs mentioned their own names in the project description, because this proved to be a predictor of success, especially amongst art projects. As regards backers on the platform, we gathered data about all the projects they funded and the dates at which they did so.

[23] https://www.mturk.com/. The evaluators who were eligible to participate in the survey were qualified to do so by their prior experience and user reviews on the Mechanical Turk platform.

Table 1. Distribution of Entrepreneurs, Goals, Contributions and Patterns by Category

This table presents the distribution of key elements by Kickstarter project category. Panel A. (1): Number of projects in our sample. (2) and (3): Projects by gender of first or only entrepreneur, starred if significantly larger than 50%. (4) and (5): Successful projects by gender of first or only entrepreneur, starred if significantly larger than 50%. (6) and (7): Mean fundraising goal by gender. Starred if significantly larger than the other gender's. (8) and (9): Contributions of backers by gender of the backer, starred if significantly larger than 50%. Panel B. (1): Number of projects in our sample. (2) and (3): Share of female-led projects funded by male or female backers, starred if significantly different from Column 3. (4) and (5): Same as (2) and (3) but for serial backers only. Table sorted by Column 3. ∗, ∗∗, and ∗∗∗ indicate that the coefficients are statistically significantly different at the 10%, 5%, and 1% levels, respectively.

PANEL A

	Distribution of Entrepreneurs					Funding Goal ($)		Distribution of Contributions	
		All Projects		Successful Projects					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Projects	Male	Female	Male	Female	Male	Female	Male	Female
Dance	308	22.7%	77.3%***	20.5%	79.5***	2,847.4	3,208.3	32.0%	68.0***
Fashion	261	41.0%	59.0%***	35.9%	64.1***	6,333.4	5,158.4	38.6%	61.4%***
Food	392	44.6%	55.4%**	43.2%	56.8***	8,973.7*	7,638.5	40.5%	59.5%***
Art	1,204	54.4%***	45.6%	52.8%**	47.2%	4,891.6	4,211.2	46.1%	53.9%***
Theater	966	55.3%***	44.7%	54.3%***	45.7%	4,110.4	3,802.8	42.0%	58.0%***
Publishing	1,209	59.6%***	40.4%	58.2%***	41.8%	5,283.7	5,148.8	48.1%	51.9%***
Photography	606	59.9%***	40.1%	57.3%***	42.7%	4,752.0	4,522.1	44.1%	55.9%***
Music	3,072	69.0%***	31.0%	67.5%***	32.5%	4,130.1	4,820.2***	52.1%***	47.9%
Film & Video	4,530	70.1%***	29.9%	68.9%***	31.1%	9,888.8	10,439.9	52.0***	48.0%
Design	517	76.0%***	24.0%	73.0%***	27.0%	14,525.1***	6,784.5	77.32**	22.7%
Technology	207	83.6%***	16.4%	84.0%***	16.0%	15,469.8	18,715.0	78.7%***	21.3%
Comics	411	84.9%***	15.1%	83.4%***	16.6%	4,385.7	4,913.3	71.2***	28.8%
Games	389	91.8%***	8.2%	91.8%***	8.2%	66,062.3	8,455.0	85.9%***	14.1%
Total	14,072	65.3%***	34.7%	63.6%***	36.4%	9,468.3	6,468.4	55.2%***	44.8%

PANEL B

		Share of Female-Led Projects Funded by Male Backers	Share of Female-Led Projects Funded by Male Backers	Share of Female-Led Projects Funded by Male Backers	Share of Female-Led Projects Funded by Male Backers
		All Sample		Serial Backers	
	(1)	(2)	(3)	(4)	(5)
	Projects	Male	Female	Male	Female
Dance	308	75.5%**	78.5%***	84.2%***	75.7%
Fashion	261	57.6%	75.8%***	54.9%*	64.0%**
Food	392	42.3%***	55.0%	33.6%***	42.5%***
Art	1,204	33.7%***	49.7%***	33.3%***	41.9%***
Theater	966	43.1%***	46.9%***	44.1%	44.1%
Publishing	1,209	29.3%***	50.3%***	26.5%***	42.7%*
Photography	606	37.8%***	44.2%***	38.4%*	41.1%
Music	3,072	31.7%***	38.1%***	43.8%***	45.1%***
Film & Video	4,530	23.5%***	36.1%***	22.2%***	32.7%***
Design	517	3.0%***	17.5%***	4.3%***	15.3%***
Technology	207	10.5%***	19.2%***	14.3%***	12.7%**
Comics	411	13.5%***	30.6%***	21.4%***	29.8%***
Games	389	7.3%***	13.0%***	8.3%**	11.6%***
Total	14,072	22.1%***	40.4%***	19.5%***	33.5%***

4. Empirical Analysis

In this section, we will test the predictions and hypotheses proposed in Section 2, starting with entrepreneurs making use of the Kickstarter crowdfunding platform, continuing with backers, before presenting a survey that provided deeper insights into the motives of participating agents.

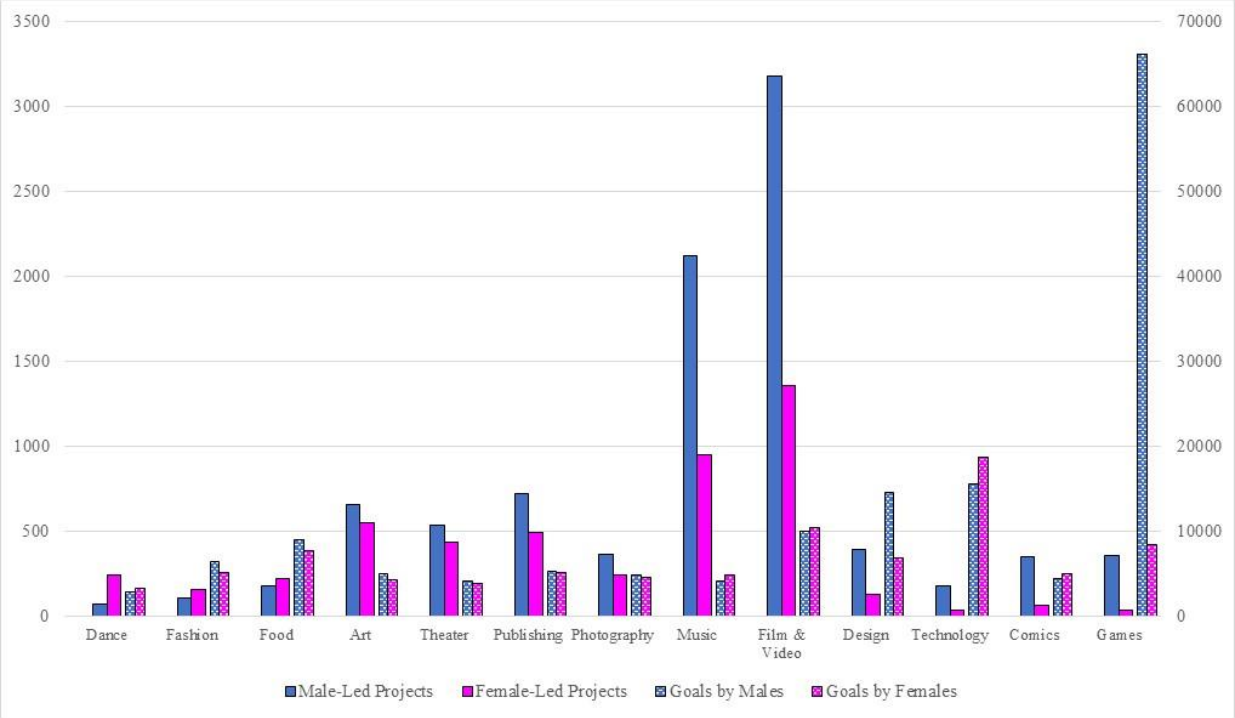
4.1. Participation of Women on Kickstarter

To test Hypotheses 1 & 2, we investigated the participation of women in Kickstarter. In our sample, 34.7% of project leaders were women, rising to 36.4% of the subsample of funded projects. Female entrepreneurs were strongly represented in some categories but clearly under-represented in others. As shown in Columns 2 & 3 of Panel A in Table 1, and in Figure 1, the shares held by male

entrepreneurs in the Comics, Design, Games, and Technology categories ranged between 76% and 92%, while women formed the majority of entrepreneurs in the Dance category (77%) as well as in Fashion and Food (more than half).

Figure 1. Distribution of Projects and Goals by Gender and Category

Figure 1 presents the number of projects in our sample by gender of first or only entrepreneur (full colour bars), sorted from most female-dominated category (Dance) to most male-dominated category (Technology). The dotted bars visualize the mean fundraising goal in US dollars by gender of the entrepreneur and project category.



While these categories are not directly comparable to the industry categories of US firms, the large gender differences across categories are very stereotyped in both cases. In the general business population of the US, data from the 2012 United States Census Bureau indicate that while women-owned firms accounted for 35.8% of all firms, they constituted the majority of firms in the healthcare and social assistance sector (62.5%), and the educational services sector (54.2%) (United States Census Bureau, 2015). Thus, industry segregation appears to characterise the categories in which women participate. A comparison to the proportion of female entrepreneurs who seek external funding from VCs or angel investors is difficult since we can observe only funded start-ups. A hint

may come from the small proportion of female founders in AngelList (Ewens and Tonwsend, 2019), which was substantially lower than in Kickstarter.

In order to make a rigorous comparison and discover whether crowdfunding might foster greater female participation, we wished to examine an industry for which we had data that reflected gender differences in the economy and compare it with an identical category on Kickstarter. We decided to focus on the film industry, because the Film & Video category in our sample was the most populated one and directors in North America are part of a guild.[28] Thus, we approached the Directors Guild of America[29] and obtained a complete list of all film and television directors, assistant directors, stage managers, and unit production managers registered in the USA and Canada. We removed all data concerning members who were not principal directors. Out of 8,433 directors on this list,[30] we managed to identify the gender of 89.6% by applying the same algorithm used with the Kickstarter sample. Amongst the directors who were identified, only 17.3% were women, compared with 29.9% for the Film & Video category on Kickstarter, suggesting greater female participation on crowdfunding platforms.[31] On the contrary, when we compared the Kickstarter percentage of female directors with the percentage of directors involved with another alternative source of film funding, the share held by women was quite similar. According to a report about the Sundance film festival (considered the largest independent film festival in the US), 28.7% of film directors who took part in the festival were women (Smith et al., 2013), which is very similar to the 29.9% that we documented as regards Kickstarter.[32]

One might ask whether low female entrepreneur participation in technology-related projects is a

[28] We also compared the share held by female entrepreneurs in the technology subsample with their share of ventures that received venture-capital finance. Amongst the latter, the share held by female-led businesses ranged between 10% and 15% (see Section 2); thus, we can see that female participation was higher amongst crowdfunding entrepreneurs, since the proportion of funded female entrepreneurs in comparable categories (Design and Technology) ranged between 16% and 27%.

[29] Available at https://www.dga.org.

[30] Within this list, only 2,349 had a movie listed to their name on IMDb. That is to say, this was not a list of already funded directors but, rather, a pool of directors seeking funding for their films, thus comparable to Kickstarter.

[31] Women representation amongst directors decreases to 7% when considering the top domestic grossing films of 2016 (Lauzen, 2017).

[32] As a festival for independent films, it features films not funded by major film studios, which can be compared to venture capital funds. The funds and small independent studios that fund these films are the alternative funding methods – just like reward-based crowdfunding. Like backers on Kickstarter, committee members on such non-profit funds do not consider the profit-making prospects of the film but rather their own tastes. While market forces are at play on Kickstarter, ensuring that a fair share of funded films are by women directors is sometimes a stated goal for these funds.

characteristic of reward-based platforms only. In order to provide additional evidence, we contacted OurCrowd, a leading global equity crowdfunding platform for accredited investors who fund early-stage start-ups.[33] OurCrowd's portfolio consists mainly of technology companies (technology here is broadly defined: from medical devices to algorithms).

We received data on investments, totalling $78 million, made during the period October 2012 to January 2015 to 53 firms in 76 funding rounds (some firms had more than one funding round via OurCrowd). The average funding campaign in the sample attempted to achieve just over $1 million, while the median was about $725,000. Interestingly, and in line with our intuition, over a duration of more than two years none of the CEOs or leading founders of these 53 technology-related firms were women.

Coleman and Robb (2012) and Godwin et al. (2006) argued that as a result of gender-based stereotypes, women faced unique obstacles in accessing resources for their ventures; one way to overcome these obstacles was to partner with men, especially in male-dominated industries. As mentioned earlier, 539 of the projects in our sample involved two entrepreneurs (hereafter, teams or partnerships), as presented in Column 1 in Table 2. About 61% of teams included a woman, compared with 79% including a man. In two of the four categories that had the lowest percentages of single female leads (Design and Games, but not Comics or Technology), mixed partnerships were more strongly represented amongst projects that included women. To test our Hypotheses 3 & 4, the next sections will examine funding goals and success rates in these categories.

[33] OurCrowd invests its own capital and incorporates selected start-ups into its accredited membership. OurCrowd investors must meet stringent accreditation criteria and invest a minimum of $10,000 per deal of their choice. OurCrowd provides post-investment support to its portfolio companies, assigning industry experts as mentors and taking board seats.

Table 2. Distribution by Team Composition

This table presents the distribution of key elements by the composition of the entrepreneurial team. (1) and (2): Number of projects in our sample. (3): Mean fundraising goal in US dollars. (4): Success rate in our sample. (5): Mean number of backers. (6): Mean individual contribution by backer in US dollars.

	(1) Number	(2) Percentage	(3) Goal ($)	(4) Success	(5) # of Backers	(6) Mean Individual Contribution ($)
Two women	112	0.8	10,452.2	0.938	113.2	82.2
One woman	4,666	33.2	6,305.1	0.820	64.6	78.2
Woman & man	101	0.7	9,596.8	0.842	97.6	85.8
Man & woman	118	0.8	8,531.8	0.831	99.8	87.4
One man	8,867	63.0	9,438.7	0.759	81.4	77.6
Two men	208	1.5	11,259.8	0.841	270.0	94.4
Total	14,072	100.0	8,428.2	0.783	79.1	78.2

4.2. Gender and Fundraising Goal

As shown in Columns 6 & 7 of Panel A in Table 1, there are considerable gender differences relating to the average goal, both by category and overall. Women's average goals per category range from about $3,200 in Dance to nearly $19,000 in Technology. Men's average goals per category range from a low of less than $3,000 in Dance to over $66,000 in Games. Overall, the average goal for female-led projects is $6,468, compared with an average of $9,468 for men. This is consistent with our third hypothesis, yet these differences are statistically insignificant. In an unreported table, we regressed the goal over the gender of the entrepreneur(s) while controlling for team, country, and category, and the coefficient for the gender was insignificant. The overall differences in mean values of goals are not significantly explained by gender but, rather, by project characteristics. When examining the mean goal by team composition (see Table 2), on average, teams seek more funding than single entrepreneurs, and male teams more than female teams.

We investigated whether projects led by women in categories with a larger than average share held by women were different from projects led by women in categories that are male dominated. The average goal for female-led projects exceeded that of male-led projects in five categories: Comics, Dance, Film & Video, Music, and Technology, only one of which (Dance) is a category where women are much more represented than men (77%). In two of the categories, Comics and Technology,

women were noticeably inconspicuous (about 15%–16%), indeed far below the share they generally hold (34.7%). A regression analysis also failed to identify any significant effect of gender density within a category on the funding goal. Overall, once we introduced controls, we could observe that female entrepreneurs did not set significantly lower goals than men. A possible explanation for this result might be the self-selection of women into entrepreneurship: women with more 'entrepreneurial' characteristics than women in the general population are attracted to Kickstarter.

4.3. Gender and Fundraising Success

Female entrepreneurs in our sample enjoyed a higher success rate (82%) than men (76%).[34] If we compare the distribution of successful projects by gender with the overall project distribution (Columns 2 & 3 of Panel A in Table 1), we can see that female-led projects are more represented amongst successful projects in all categories — except for Games and Technology (see Columns 4 & 5 in Table 1). Interestingly, women appear to be relatively more successful in categories where they hold a higher share compared with overall, with a 2.9% increase in their density, compared with 1.7% overall. Column 4 in Table 2 shows that, in line with the traditional financial sector, women who team up with male entrepreneurs increase their likelihood of obtaining funds; however, this increases even more when they team up with another woman.

The advantage of women in likelihood of fundraising success is visible in Table 3, in which we ran a logit regression with fundraising success as a dependent variable over two different specifications. In Column 1, we regressed with a dummy variable equal to 1 if the entrepreneur was a woman or if the first entrepreneur in the partnership was a woman, and in Column 2 with a dummy variable equal to 1 if the entrepreneur was one or two women, and a parallel dummy variable for one or two men (with mixed partnerships as a reference group). We controlled for the logged goal, the number of entrepreneurs, the number of times the entrepreneur(s) mentioned themselves in the description, the length of the description text (logged), a dummy variable for US-based projects, whether the project appeared in the *Popular* section, and the project category.

The results of the two specifications were consistent: female entrepreneurs were much more likely to succeed in fundraising, even after controlling for the set goal, contrary to Hypothesis 4. In Columns

[34] Success rates in the sample were higher than actual ones, as explained earlier, yet the advantage enjoyed by women was validated by using the dataset consisting of all failed projects.

3 & 4, we added interaction terms of the share held by female entrepreneurs in the category, but these were not significant.

To check the robustness of these results, we used a matching technique to pair selected projects according to the exact main category, subcategory, country of the entrepreneur, and fundraising goal, whereby the only difference was the gender of the entrepreneur (or of the leading entrepreneur in the case of teams). We ended up with a subsample of 911 matched pairs. Similarly to the results presented in Table 3, women are still more likely than men to reach their funding goals (80% versus 73.7%), which provides evidence that lower goals are not the factor driving higher success rates amongst women. Previous academic research has documented that women were more likely to wait until they were further along with their business plan and had a longer track record before applying for funding (Coleman and Robb, 2012), which may explain our result.

A person's social network may be a driver of success. Research has shown that a larger social network is associated with an increased likelihood of funding success on Kickstarter (Wang, 2016). Successful projects in our sample attracted an average of 91 backers (median 51), while failed projects averaged only 19 backers (median 9). As shown in Columns 5 & 6 in Table 2, teams composed of two men had the highest number of backers on average (270) and received the highest average amount per backer ($94). Teams composed of two women had the second highest number of backers on average, but this was less than half the average number of backers for projects led by two-men teams (113 versus 270). Teams composed of at least one man also received higher mean amounts per backer than teams with no men. Single project leaders had fewer numbers of backers on average, with women having 65 backers and men 81. This provides some evidence that teaming up with someone (of either gender) can help tap into larger networks of potential funders.

Table 3. Multivariate Analysis of Fundraising Success

This table presents the results of the logit regression described in Section 4.3. The dependent variable is a dummy variable equal to 1 if the fundraising goal is successfully reached. In Column 1, we regress over a dummy variable equal to 1 if either the entrepreneur or the first entrepreneur in the partnership is female; in Column 2 we regress over a dummy variable equal to 1 if the entrepreneur is one or two women and a parallel dummy variable for one or two men (with mixed partnerships as a reference group). We control for the logged goal, whether one or two entrepreneurs are involved, the number of times the entrepreneur/s mentioned themselves in the description text, the length of the description text (logged), a dummy variable for US-based projects, whether the project appeared in the *Popular* section, and the category of the project. ∗, ∗∗, and ∗∗∗ indicate that the coefficients are statistically significantly different at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
	Dependent Variable: Fundraising Success			
Female-led	0.362***		0.453***	
	(0.048)		(0.149)	
All-female dummy		0.725***		0.743**
		(0.259)		(0.296)
All-male dummy		0.356		0.295
		(0.257)		(0.255)
Share of category held by women			0.163	0.148
			(0.248)	(0.246)
Female-led* share held by women			-0.258	
			(0.397)	
All-female* share held by women				-0.226
				(0.399)
Partnership	0.868***	1.086***	0.756***	0.950***
	(0.131)	(0.177)	(0.129)	(0.175)
Log(Goal)	-0.478***	-0.478***	-0.505***	-0.505***
	(0.019)	(0.019)	(0.019)	(0.019)
Self-Mentions	0.245***	0.245***	0.299***	0.300***
	(0.029)	(0.030)	(0.030)	(0.030)
Popular	-2.500**	-2.500**	-2.381**	-2.380**
	(1.167)	(1.167)	(1.181)	(1.181)
Country = USA	-0.019	-0.019	0.035	0.035
	(0.073)	(0.073)	(0.072)	(0.072)
Constant	5.547***	5.191***	5.090***	4.799***
	(0.200)	(0.323)	(0.198)	(0.323)
Category dummies	YES	YES	NO	NO
Pseudo R^2	0.085	0.085	0.0673	0.0675
Observations	14,072	14,072	14,072	14,072

4.4. Gender of Kickstarter Backers

In our sample, women made up a larger percentage of backers than their ratio as entrepreneurs. Testing Hypothesis 5, we found that the majority of backers on Kickstarter were men, making up about 55.2% of all backers (308,997) compared with 44.8% of women (250,511). However, serial backers were more likely to be men. If we restrict the backers' pool to those who have made at least five contributions, the share held by male serial backers rises to more than 73.9%, while the share held by female serial backers drops to less than 26.1%. However, this number is still about twice as high as investment participation in the equity capital market, where capital and literacy barriers are more substantial.

To examine the contribution patterns of men and women in Kickstarter, we looked at the categories of projects that they funded (Columns 8 & 9 of Panel A in Table 1, and Figure 2). In the same way as with the distribution of entrepreneurs, male backers were most interested in Comics, Product Design, Games, and Technologies, while female backers dominated Dance, Food, and Theatre.

If we examine the gender of project backers, we can detect distinctive backing patterns. While more than 40% (about 60%) of pledges by female backers went to projects led by female (male) entrepreneurs, higher than the proportion of female entrepreneurs of 34.7%, only 22.6% (77.4%) of male pledges went to female-led (male-led) projects.[35]

If we further examine the gender of entrepreneurs and the proportion of women amongst project backers, we find compelling results. The proportion of female backers is not only higher for female-led projects than for male-led ones, but the more the female element is dominant in a given project (i.e. 2 women > 1 woman > woman-man > man-woman > 1 or 2 men), the higher the proportion of female backers (Figure 3). It should be clear that this is not a female characteristic: if we had looked at the share of the Kickstarter market held by male backers, we would have seen a mirror picture of this. Generally, Kickstarter entrepreneurs are more likely to be backed by backers of the same gender.

[35] The data provide only the number of contributions, not funding amounts.

Figure 2. Distribution of Contributions by Gender and Category

Figure 2 presents the number of contributions pledged through the platform by gender of the backer and the category of the project concerned (in full colors), sorted from most female-dominated category (Dance) to most male-dominated category (Games). It shall be noted that these are not sums of money but rather numbers of contributions. The dotted bars visualize the share of female-led projects funded by male and female backers in every category.

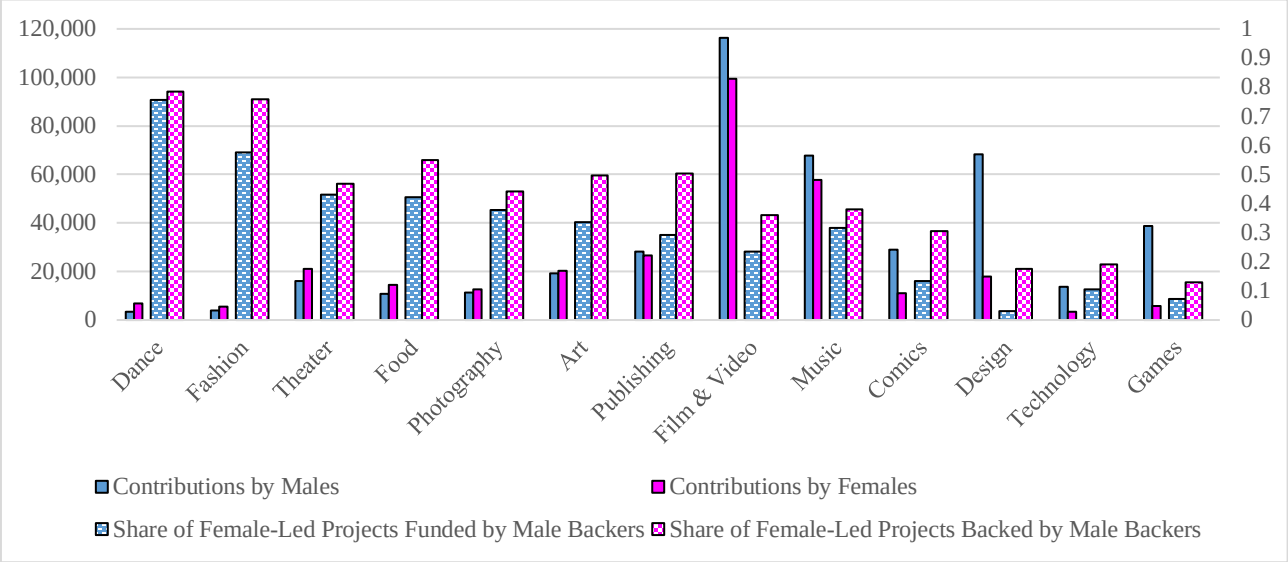
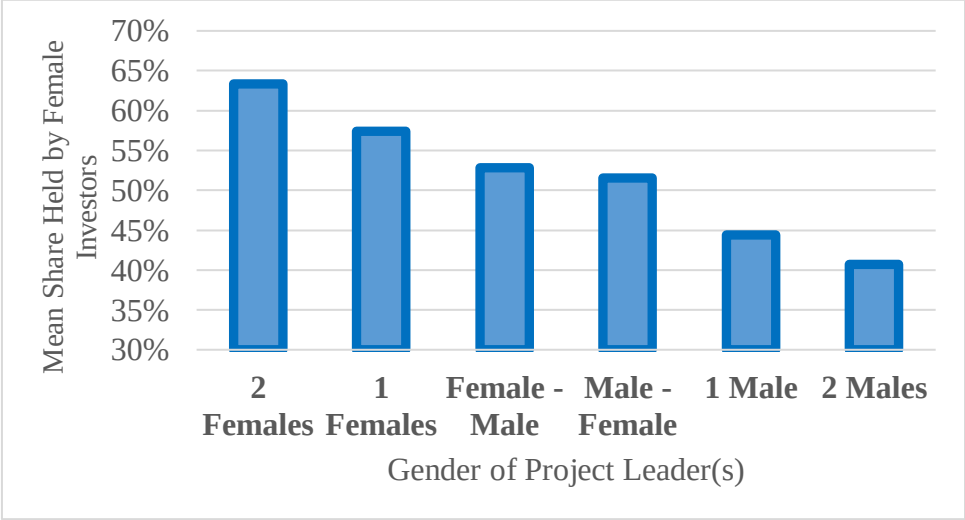


Figure 3. Proportion of Female Backers on Kickstarter Platform

Figure 3 presents the mean share held by female backers for every type of project leadership. The share held by female backers is not only higher for female-led projects than for male-led ones, but the more the female element is dominant in a given project (i.e. 2 women > 1 woman > woman-man > man-woman > 1 or 2 men), the higher the proportion of female backers.



Next, we compared the proportion of pledges to female-led projects with their share of the overall population of projects, both for men and women. Columns 2 & 3 of Panel B in Table 1, and Figure 2, present an analysis of male and female contributions by the gender of the single entrepreneur leading the project, across all categories. For example, in the Art category, out of all the art projects funded by men, 33.7% are female-led. We compare this number with the proportion of female entrepreneurs in the category (Column 3), which is 45.6%, implying significant differences. The difference for female backers is positive, meaning that in this category, female-led projects are financed relatively more by female backers. This is true for almost every category. On the other hand, the share of female-led projects that male backers fund is usually smaller than their share of the sample. These results are consistent with findings by Harrison and Mason (2007), namely, that female angel investors are more likely to invest in businesses owned and managed by women, and by Brush (2014) regarding VCs.

If we only consider contributions by backers who had previously made five other contributions, results are much more equivocal. The results in Columns 4 & 5 of Panel B in Table 1 reveal that female-led projects are over-represented amongst these serial female contributions only in seven categories and over-represented amongst male serial contributions only in three categories. This may suggest that more experienced backers are less influenced by gender.

Since the results could be driven by concentration of genders in different project categories, we test the hypotheses using regression analyses, which consider covariates such as project category. We employed a generalized linear model and a Tobit model to test the effects of gender of the entrepreneur(s) on the share held by female backers, using the following specifications:

$$ShareF_i = \alpha + \beta_1 AllFemale_i + \beta_2 AllMale_i + \gamma X_i + \varepsilon_i \quad (1)$$

$$ShareF_i = \alpha + \lambda FemaleLed_i + \gamma X_i + \varepsilon_i \quad (2)$$

Where $ShareF_i$ is the fraction of female backers of a given project i, $AllFemale_i$ is a dummy variable equal to 1 when only female entrepreneurs are involved in the project (either one or two) and, similarly for $AllMale_i$, where mixed partnerships are omitted. In the second specification, the explanatory variable $FemaleLed_i$ equals 1 when a project is led by one or two female entrepreneurs, or the first entrepreneur in the mixed team is a woman. As for X_i, it is the vector of control variables, which are as follows: a dummy variable for partnerships; the logged fundraising goal; a dummy

variable for US-based projects; dummies for whether the project appeared in the *Staff Picked* or *Popular* sections; a count of self-mentions and a log for the word count of the pitch; and dummies for the thirteen project categories.

As shown in Table 4, the coefficient of the dummy variable for male project leader is negative and statistically significant, while the female dummies are positive and significant in all specifications. These results are consistent with previous ones: the backers of projects run by female entrepreneurs are more likely to be women themselves, and vice-versa for male entrepreneurs and backers, which supports Hypothesis 6. Interestingly, the coefficients of *Staff Picked* (projects highlighted by Kickstarter's staff) are negatively correlated and statistically significant with the share held by female backers, which could indicate that women are less influenced by outsiders' opinions when making contribution decisions. These results also held when separate regressions on male-dominated and female-dominated categories were conducted.

Next, we examined the subsample of matched pairs described earlier, that is to say projects matched according to main category, subcategory, country, and fundraising goal, whereby the only difference was the entrepreneur's gender. Even after controlling for these observables, the absolute number of female backers is significantly higher for female-led projects and the number of male backers significantly lower for female-led projects, even though there is no statistically significant difference in the absolute number of backers overall. We also note that the percentage of female backers is significantly higher for female-led projects (55%) than for male-led projects (46.7%). Finally, and as noted earlier, female-led projects have a higher rate of success in achieving their funding goals than male-led projects. All of these differences are statistically significant.

Table 4. Multivariate Analysis of Backing Distribution

Table 4 presents the regression results of Equations 1 & 2 (Section 4.4). The dependent variable is the proportion of female backers of a given project. All-female is a dummy variable equal to 1 when only female entrepreneurs are involved in the project (either one or two), and similarly for All-male, where mixed partnerships are omitted. In Columns 3 & 4, the explanatory variable equals 1 when the first or only entrepreneur is a female. We control for the dummy for partnerships, the logged fundraising goal, the dummy variable for US-based projects, dummies for whether the project appeared in the *Staff Picked* or *Popular* sections, a count of self-mentions and a log for the total words of the pitch, and dummies for the 13 project categories. ∗, ∗∗, and ∗∗∗ indicate that the coefficients are statistically significantly different at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
Dependent variable:	Proportion of female backers			
	GLM	Tobit	GLM	Tobit
All-female dummy	0.041**	0.041**		
	(0.016)	(0.016)		
All-male dummy	-0.061***	-0.062***		
	(0.016)	(0.016)		
Female-led			0.100***	0.101***
			(0.003)	(0.003)
Partnership	-0.005	-0.005	-0.001	-0.001
	(0.010)	(0.010)	(0.008)	(0.008)
Log(Goal)	0.004***	0.004***	0.004***	0.005***
	(0.001)	(0.001)	(0.001)	(0.001)
Self-Mentions	-0.0010	-0.0010	-0.0010	0.0000
	(0.002)	(0.002)	(0.002)	(0.002)
Log(Number of words)	0.005*	0.005**	0.005*	0.005*
	(0.002)	(0.002)	(0.002)	(0.002)
Staff Picked	-0.029***	-0.029***	-0.029***	-0.029***
	(0.005)	(0.005)	(0.005)	(0.005)
Popular	-0.111	-0.122*	-0.111	-0.122*
	(0.070)	(0.072)	(0.070)	(0.072)
Country = USA	-0.007	-0.007	-0.007	-0.007
	(0.005)	(0.005)	(0.005)	(0.006)
Category dummies	V	V	V	V
Constant	0.532***	0.530***	0.471***	0.468***
	(0.023)	(0.023)	(0.017)	(0.017)
Pseudo R^2		-0.585		-0.583
Observations	9,984	9,984	9,984	9,984

We then investigated the funding decision from the backer's perspective. We constructed a dataset in which, for each backer who pledged funding to a project on a given day, we also observed all of the projects that were in the process of fundraising on that day. The underlying assumptions are discussed in Appendix 1. We ran two separate logit regressions with date and backer fixed effects, one for female backers and one for male ones. Our dependent variable was a dummy equal to 1 if a contribution had been made by the backer to the project on that day, and the independent variables are as follows: (1) gender of entrepreneur; (2) subcategory; (3) number of self-mentions; (4) completion ratio. Although contributors are given their money back if the project does not achieve its funding goal, contributors are not blind to the status of a funding campaign. They might be hesitant to spend money on a project whose goal seems unlikely to be achieved, feel safer to back someone who seems assured to gain funding, or prefer support a project whose deadline is approaching. Therefore, we divided the number of backers needed to achieve the goal by the number of remaining days. The higher the ratio was, the less likely the project was to achieve its goal.[36] This variable was squared in order to capture non-linear behavior.

The results, provided in Columns 1 & 2 in Table 5, are consistent with our previous results: women have a positive and significant coefficient for contributing to female-led projects (0.198), while men have a negative one (-0.238). Differences in (unreported) coefficients of the subcategories are apparent, notably for subcategories such as Video Games and Children's Books. The coefficients of risk and self-mentions seem quite similar. However, the picture changes when if we only include serial backers (Columns 3 & 4): female serial backers seem to be agnostic towards gender, in contrast to male serial backers, who are even more likely to provide funding to male-led projects.

[36] We do not hold any information about the amounts of money contributed, only about the numbers of backers and the backing dates. Using projects that received the exact amount of funding required, we were able to estimate how many funders were needed on average for a given fundraising goal.

Table 5. Multivariate Analysis of Backing Decision

This table presents the regression results for the funding decision from the backer's perspective. We construct a dataset in which, for each backer who pledged funding to a project on a given day, we also observe all the projects that were in the process of fundraising on that same day. The underlying assumptions are discussed in Appendix 1. We run two separate logit regressions with date and backer fixed-effects, one for female backers and one for male ones. Our dependent variable is a dummy variable equal to 1 if a contribution has been made by the backer to the project on that day, and the independent variables are the gender of the entrepreneur, the subcategory, the number of self-mentions, and the completion ratio (the number of backers needed to achieve the goal divided by the number of remaining days). This variable is squared to capture non-linear behavior. ∗, ∗∗, and ∗∗∗ indicate that the coefficients are statistically significantly different at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
Dependent variable:	Backer contributed to the project (1=yes)			
	All backers		Serial backers	
	Male	Female	Male	Female
Female entrepreneur	-0.238***	0.198***	-0.406***	0.072
	(0.018)	(0.017)	(0.096)	(0.131)
Risk	0.071***	0.078***	0.053***	0.017
	(0.003)	(0.004)	(0.017)	(0.031)
$Risk^2$	-0.001***	-0.001***	-0.0005	-0.0003
	(0.000)	(0.000)	(0.0003)	(0.695)
Mentions	0.097***	0.121***	0.059	0.195***
	(0.008)	(0.008)	(0.189)	(0.062)
Subcategory dummies	YES	YES	YES	YES
Observations	4,154,442	3,896,902	124,250	57,575
Number of backers + Date groups	17,462	16,098	250	234

5. Taste-Based Discrimination versus Statistical Discrimination

We observed gender-related behavior in our sample. According to Hypothesis 7, we may differentiate between two types of discrimination, and set them apart from alternative explanations. We undertook a survey of backers in order to solicit information on gender attitudes from individuals in the context of Kickstarter and contrast it with actual contribution choices within our sample. In the following subsections, we will present descriptive results of the survey, a regression analysis that teases out

taste-based discrimination, and a simulation analysis that offers an explanation for the results of the previous section.

5.1. Survey —— Descriptive Results

We created a custom-made survey and e-mailed it to Kickstarter participants. Out of our sample of backers classified by gender, we were able to obtain 894 e-mail addresses. Out of our sample of project leaders classified by gender, we obtained 1,441 addresses.[37] In the end, 160 respondents completed the survey, of which 79 were women and 81 were men[38]. We were able to match 74% of backer responses to our survey questions with contribution activities in our sample, as well as the contributions made by 15% of project leaders.

Table 6 shows some of the patterns by gender. The reasons for providing funds varied dramatically by gender. More than half of the men were driven to contribute by the offered reward, against less than 30% of women. More than 82% of women contributed to support the person leading the campaign, compared with about three quarters of men. Finally, less than 59% of women contributed to support a specific cause, against nearly 68% of men.

Women were much less likely to provide funding to a stranger's campaign (40.5% versus 65.4%). This is consistent with the findings in Table 4, which show that women were less influenced by outsiders when making contribution decisions than men. Yet women were twice as likely as men to provide funding to someone who was known to a friend or family member, but not to themselves personally (16.5% versus 8%). Women made higher levels of contribution than men, and were twice as likely to state that their largest contribution was $500 or more (5.1% versus 2.5%).

[37] We initially sent the survey on 11 November 2013 and offered a $10 Amazon gift card as an incentive (See Appendix 2 for the survey instrument). We sent two reminders before increasing our incentive offer to a $20 Amazon gift card. To obtain a gift card, respondents had to provide their e-mail (again) and not all respondents did so. We ended up giving 91 gift cards valued at $10 and 26 gift cards valued at $20.

[38] The gender balance among the respondents of the survey (51%-49%) mirrors the gender balance among the backers' population (55%-45%). However, we cannot compare the two samples in other characteristics which may be correlated with funding decisions.

Table 6. Survey of Kickstarter Backers — Descriptive Statistics

This table presents the answers to the survey, by gender. We undertook a survey of Kickstarter backers and project leaders who were also involved as backers. Out of the 888,468 backers classified by gender, we were able to obtain 894 e-mail addresses. Out of the 14,072 project leaders classified by gender, we were able to obtain 1,441 e-mail accounts. In the end, 160 respondents took part in the survey, of which 79 were women.

	Female	Male
Number of contributions		
1	15.2%	19.8%
2–4	49.4%	48.1%
5–9	22.8%	22.2%
10+	12.7%	9.9%
Total	100.0%	100.0%
Several contributions?		
No	83.1%	86.4%
Yes	16.9%	13.6%
Reason for contribution		
For the reward	29.1%	54.3%
Support the person	82.3%	74.1%
Support the cause	58.2%	67.9%
Other	3.8%	0.0%
Contributed to a stranger?		
No	43.0%	25.9%
Yes, but it was someone known to a friend or family member of mine	16.5%	8.6%
Yes, the person or people were completely unknown to me	40.5%	65.4%
Largest contribution		
$500+	5.1%	2.5%
$250-$499	5.1%	5.0%
$100-$249	27.8%	31.3%
$50-$99	26.6%	31.3%
$25-$49	27.8%	12.5%
<$25	6.3%	17.5%
Can't remember	1.3%	0.0%

In addition to asking respondents about their activities on crowdfunding platforms, we asked them about their attitudes towards gender. In general, these questions were derived from previous work in research about gender attitudes, following common practices in gender attitude research (Glick and Fiske, 1997; Spence and Helmreich, 1978). Respondents were asked whether they agreed or disagreed with the following statements (which were all used in previous research work):

1) *All in all, family life suffers when the woman has a full-time job.*
2) *A preschool child is likely to suffer if his or her mother works.*
3) *Having a full-time job is the best way for a woman to be an independent person.*
4) *A woman and her family would all be happier if she goes out to work.*
5) *Both the husband and wife should contribute to the household income.*

As shown in Table 7, there was substantial variation in responses by gender. The largest gender differences concerned questions about children and family life. Women were much more likely to feel that working full time was harmful for the family and children than men. More than half of the female respondents stated that they strongly agreed with the statement that family life suffered when a woman had a full-time job, and just under half strongly agreed with the statement that a preschool child was likely to suffer if his or her mother worked. This compared with less than 30% of men strongly agreeing with the first statement and less than 20% of men strongly agreeing with the second statement.

5.2 Survey — Regression Analysis

Using our survey responses and building upon common practices in previous research on gender and attitudes (e.g. Glick and Fiske, 1997; Spence and Helmreich, 1978), we created a gender inequality score for each individual. The score is based on the survey responses mentioned above, as well as survey responses to questions about who does, or should do, the cleaning and washing in the household. We converted the answers on a scale of *Strongly Agree* to *Strongly Disagree* to numerical integer values, from 2 for *Strongly Agree* (if agreeing with a male-chauvinistic statement) through 0 for *Neither agree nor disagree* to -2 for *Strongly Disagree*. If the statement had a feminist ring to it, the values were reversed: 2 for *Strongly Disagree*, and so on.

Possible answers about cleaning and washing tasks were: *Mostly my spouse/partner* (does the housekeeping tasks), which was given the value of 2 if a male answer and -2 if a female answer; *Shared equally* was assigned -2 while *Strongly Agree* (with the statement that women should do these tasks) was assigned 2; *Pay someone to wash/iron clothes* was awarded -1. We then built our gender inequality metric by adding all the values obtained from gender-related answers. The higher the score, the less the respondent perceived the need for gender equality.

Table 7. Survey of Kickstarter Backers — Gender Attitudes

This table presents the results of a survey of Kickstarter backers and project leaders who were also involved as backers. 160 respondents completed the survey, of which 79 were women and 81 were men.

		Male	Female
Family life suffers when the woman has a full-time job	Strongly disagree	11.30%	7.70%
	Disagree	22.50%	20.50%
	Neither agree nor disagree	36.30%	16.70%
	Agree	1.30%	2.60%
	Strongly agree	28.80%	52.60%
A preschool child is likely to suffer if his or her mother works	Strongly disagree	17.30%	12.70%
	Disagree	25.90%	17.70%
	Neither agree nor disagree	30.90%	16.50%
	Agree	6.20%	5.10%
	Strongly agree	19.80%	48.10%
Having a full-time job is the best way for a woman to be an independent person	Strongly disagree	21.30%	21.50%
	Disagree	15.00%	19.00%
	Neither agree nor disagree	47.50%	31.60%
	Agree	5.00%	17.70%
	Strongly agree	11.30%	10.10%
A woman and her family would all be happier if she goes out to work	Strongly disagree	14.80%	12.80%
	Disagree	7.40%	17.90%
	Neither agree nor disagree	66.70%	53.80%
	Agree	3.70%	9.00%
	Strongly agree	7.40%	6.40%
Both the husband and wife should contribute to the household income	Strongly disagree	25.90%	24.40%
	Disagree	7.40%	12.80%
	Neither agree nor disagree	50.60%	47.40%
	Agree	12.30%	14.10%
	Strongly agree	3.70%	1.30%

However, one may tend to support one's own gender for several reasons that are not related to taste-based discrimination. Examples include: gender concentration on one's social network, unobservable gender-related project characteristics that appeal or do not appeal to a particular gender, unobservable gender-related reward characteristics, and other unobservable gender-related characteristics that are not associated with taste-based discrimination.

Nevertheless, the tendency to support one's own gender may also be driven by taste or a negative attitude towards a particular gender per se. We used this metric in order to investigate whether the tendency to support one's own gender was driven by one's attitude towards gender equality, while controlling for the possibility of another potential explanation with a dummy variable.[39] More than one explanation can exist. In order to differentiate between the two types of explanation — statistical discrimination versus taste-based discrimination — we estimated the following model. Our dependent variable was the gender of the entrepreneur (E_{Female}). We looked only at the gender of the first entrepreneur, disregarding whether they had any partner.[40]

$$E_{Female} = \alpha + \beta GI + \eta B_{Female} + \phi SB + \gamma AgeB + \lambda CAT + \varepsilon \quad (4)$$

We controlled for: the gender of the backers (B_{Female}); a dummy variable for being a serial backer (SB), which takes the value of 1 if the backer has provided funding to five projects or more; the age of the backer ($AgeB$); and the category of the project (CAT). We found the gender inequality metric (GI) to be negatively and marginally statistically significant in relation to backing female entrepreneurs' projects (see Table 8). It is important to note that this is above and beyond the tendency to provide funding to one's own gender, which is also marginally statistically significant.[41] While the tendency to provide financial support to one's own gender can be consistent with several potential explanations, the gender equality metric is an indication that taste-based discrimination, which is usually very hard to detect, is an important factor in contribution decisions within our subsample.[42] Examining the male and female backers separately, we found the metric to be negative and marginally statistically significant for men, while there was no statistically significant preference relating to this

[39] We used a dummy variable for gender that can be consistent both with statistical discrimination arguments and other arguments, such as that women's social networks may contain more women.
[40] Our results are robust to the inclusion of team-led projects.
[41] We repeated the same estimation using logit, probit, and OLS, and our findings were similar.
[42] In unreported tables, we rule out the importance of omitted variables, such as the proportion of women in the network or a preference for feminine categories.

metric for women.

For a robustness test, we conducted a discriminant analysis (DA) using the same set of variables: the gender inequality metric, gender of the backers, serial backers, age of backers, and project category. The DA enabled us to investigate differences between genders on the basis of the cases' attributes, indicating which attributes contributed most to group separation while using a canonical discriminant function. It determined the most parsimonious way to distinguish between groups. The DA model that we used was significant ($p = 0.01$) and the canonical correlation equals 0.3.

The canonical coefficients indicated that the gender dummy variable had the largest weight (0.78), again pointing to the tendency to back projects led by individuals of one's own gender. A second set of important factors with similar magnitude but opposite direction were the gender equality index and the funding goal (canonical structure coefficients of 0.47 and 0.45, respectively). These indicated, again, the importance of the backer's attitude above the initial tendency to provide funding to projects led by an individual of one's own gender.

Table 8. Multivariate Analysis of the Survey

This table presents logit and probit regressions of the contribution to a female-led project controlling for backer attributes. ∗, ∗∗, and ∗∗∗ indicate that the coefficients are statistically significantly different at the 10%, 5%, and 1% levels, respectively.

	Contribution to a female-led project	*Female*	*Male*	*Contribution to a female-led project*	*Female*	*Male*
	LOGIT			*PROBIT*		
Gender inequality	-0.103*	-0.022	-0.172*	-0.064*	-0.012	-0.102*
	(0.058)	(0.091)	(0.095)	(0.035)	(0.057)	(0.056)
Backer is a woman	0.863*			0.527*		
	(0.490)			(0.291)		
Serial backer	-0.317		-1.387			
	(0.772)		(0.950)			
Age	0.310	0.426	0.463	-0.158		-0.836
	(0.203)	(0.453)	(0.321)	(0.461)		(0.583)
Constant	-2.341	-1.281	-0.293	0.193	0.259	0.286
	(0.35)	(1.976)	(1.477)	(0.123)	(0.279)	(0.191)
Category dummies	YES	YES	YES	YES	YES	YES
Pseudo R^2	0.1468	0.0795	0.1955	0.1478	0.0788	0.196
Observations	114	46	60	114	46	60

5.3 Simulation Analysis

In this subsection, we will offer an economic model that may explain the aforementioned discrepancy between serial male and female backers' behaviors (Subsection 4.4, Gender of Kickstarter Backers) in the light of the aforementioned findings about taste-based discrimination (Subsection 5.2, Survey — Regression Analysis). To sum up, we documented that while female backers become agnostic towards the gender of entrepreneurs once they have provided funding to several projects, serial male backers maintain a tendency to fund their own gender. We also found that the funding behavior of male backers involved taste-based discrimination, while the behavior of female backers did not. Therefore, we suggest that both genders start out by statistically discriminating each other, but funding pledges to the opposite gender reduce the extent of this. Once statistical discrimination is low enough, female serial backers are no longer biased towards any gender, unlike male backers, who are still driven by taste-based discrimination.

Furthermore, we created a model of taste-based and statistical discrimination to illustrate that a change in uncertainty would lead to a change of perceived risk associated with a specific gender, and in turn to a change in the likelihood of funding an entrepreneur of the opposite gender (inspired by Beaman et al, 2010). The result was as follows: even after a reduction in statistical discrimination, male backers still tended to fund male entrepreneurs as a result of taste-based discrimination.

Let us consider a crowdfunding setting where every day (t) one hundred male backers and one hundred female backers access a platform and face a new menu of one thousand projects that may differ by subcategory, gender of the entrepreneur, and/or the quality of the promised reward. The projects in the menu are simulated according to the true distribution of female entrepreneurs in the sample (34.48%, see yellow line in Figure 4) and subcategories ($Female_{it}$ and $SubCat_{jit}$, respectively). The vector $Reward_{it}$ is equal to a random value between 0 and 1.

Every day, each of the 200 backers chooses the project that derives him or her the highest utility, according to the following equation:

$$u_{bit} = \beta_b Female_{it} + \lambda_b Reward_{it} + \sum_j \eta_{jb} SubCat_{jit}$$
$$+ \delta_b \left[Female_{it} \times \left(BasicPerception_{bf} \times \prod_s^{t-1} \left(1 + Change \times Shipment_{bfs}\right) \right) \right.$$
$$+ (1 - Female_{it})$$
$$\left. \times \left(BasicPerception_{bf} \times \prod_s^{t-1} \left(1 + Change \times Shipment_{bfs}\right) \right) \right],$$

where the coefficient β_b captures taste-based discrimination against women by each backer; values for male backers are mostly negative and values for female ones are centred around zero, according to results in Table 8.[43]

The expression following the negative risk tolerance coefficient δ_b stands for statistical discrimination by backers, and the way this changes through experience. Both genders in our setting statistically discriminate against each other. Statistical discrimination arises from holding beliefs about the risk involved in executing business plans described in Kickstarter project descriptions. We assumed that each gender would start with a belief that the opposite gender was the more risky gender. The gender-based reasoning behind such a belief can vary. Some men may notice the low proportion of women amongst entrepreneurs, or screen women on the basis of characteristics that they cannot observe, yet correlate with gender; this yields a perceived higher risk for female-led projects, even if these men do not actually have a preference for choosing male-led projects (Ewens and Townsend, 2020). Women, on the other hand, may consider men's well-known risk tolerance and over-confidence, and thus doubt the likelihood that a male entrepreneur will complete his project and ship the reward to his backers. These opposite views may stem from each gender being less concerned with its own disadvantages, as well as from engaging mainly within a network of peers of the same gender. In the model, men were assigned values around the mean of 0.8 for their perception of the correlation between women and risk of failure of shipment the promised reward in time, and a mean of 0.6 for the correlation of men with risk. Women were assigned the opposite values (mean of 0.8 for the correlation of male backers with risk, and 0.6 for women). This is indicated by $BasicPerception_{bf}$ (f indexes the gender of the entrepreneur) in the utility function.

[43] Details about the distributions of all coefficients can be found in Appendix 3.

However, these beliefs can be changed after observing an incident that either contradicts or supports the initial stance (Beaman et al., 2010); in our context, this was finding out whether the entrepreneur would ship the reward to the backer on time and successfully complete the project or not. Each backer 'backs' his or her chosen project on the first day (where $Shipment_{bf,0}$ equals to zero) and the reward is expected to arrive on the same day. We assumed that in 53% of cases products would be shipped 'on time'. If the random draw results in the reward arriving on time, the backer modifies his or her perception of risks associated with that particular gender, reducing it by 20% (the scalar $Change$ in the model). If the reward is not shipped on time, then the backer concludes that the correlation with risk is even higher than believed before, and increases it by 20%. This modified perception is taken into consideration on the following day.

For example, we can imagine a male backer choosing a project by a female entrepreneur on the first day (because of a high-quality reward and a category that the backer is interested in). The entrepreneur sends the reward on time ($Shipment_{bF1} = 1$), which lessens the particular backer's belief about the correlation of female entrepreneurs with risk, decreasing an initial value of 0.79 by 20% to 0.63. With this lower statistical discrimination component, his likelihood of backing female entrepreneurs is increased on the following day.

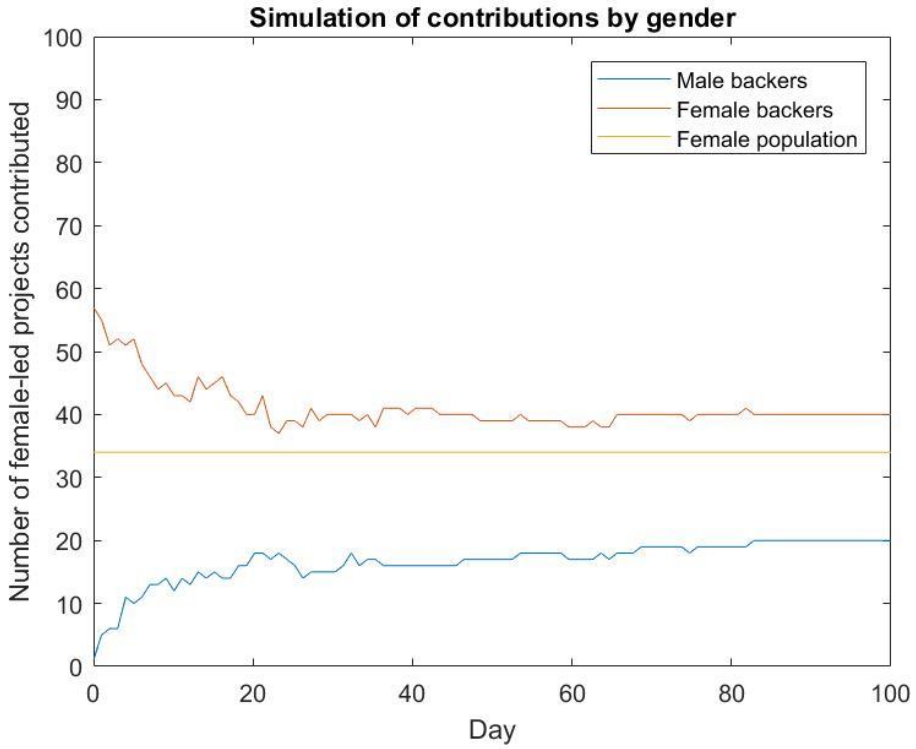
The outcome of the calibration of this simulation is presented in Figure 4. Male backers start with a strong inclination to support projects by other men, both owing to taste-based discrimination and statistical discrimination. However, as they back more projects, including some by female entrepreneurs, they learn that women are not as risky as they initially believed, and their statistical discrimination component declines, until the 100 initial men end up as 20 men supporting female-led projects per day. This is significantly lower than the share of the sample held by women-led projects, mainly because most men in the sample are still strongly inclined towards taste-based discrimination.

On the other hand, women also start from a position that favors their own gender, although not so much as a result of taste-based discrimination (most values of β_F are close to zero) but because they statistically discriminate against men. As they become serial backers, their beliefs about risks associated with contributing to male entrepreneurs (and not getting the reward) also weaken. Eventually, without any taste-based discrimination or statistical discrimination (or low levels of these), the 100 female backers supporting 40 female-led projects, which is much closer to their actual

share of the population. The results of this simulation tie up our findings about change in the behavior of male serial backers with the detection of taste-based discrimination amongst male backers only. This provides additional support for taste-based discrimination as an explanatory factor of behavioral discrepancy between male and female serial backers.

Figure 4. Simulation Analysis

Figure 4 presents the results of the simulation analysis that was described in Section 5.3. We simulate 100 male backers and 100 female backers according to the following characteristics (detailed in Section 5.3). Every day the backers access the crowdfunding platform and face a new menu of one thousand projects, simulated according to the true distribution of female entrepreneurs (see yellow line) and subcategories. Every day, each of the 200 backers chooses the one project from the menu that derives him or her the highest utility, according to the utility function. Male backers start out with a strong inclination to support projects by other men owing to taste-based discrimination (TBD) and statistical discrimination (SD). However, as they back more projects, including some by female entrepreneurs, they learn that women are not as risky as they thought, and their SD declines, until the 100 men end up as 20 men supporting female-led projects. This is significantly lower than the share held by women in the sample, mainly because most men in the sample are still substantially driven by TBD. On the other hand, women also start from a position that favors their own gender, although not so much as a result of TBD (most values of β_{bF} are close to zero), but because they statistically discriminate against men. As they become serial backers, their beliefs about the risk associated with contributing to male entrepreneurs also decrease. Eventually, without TBD and SD, the 100 female backers end up supporting 40 female-led projects, which is much closer to their actual share of the population.



6. Conclusions

From inception until April 2018, more than 143,000 projects were successfully funded on Kickstarter, with more than 14 million backers contributing nearly $1.6 billion. This type of pre-purchase/reward-based crowdfunding can provide crucial initial capital for individuals seeking to launch businesses, and there is growing evidence of projects that raised money in this way before evolving into successful companies. The structure of this relatively new market, which is open to the crowd rather than being dominated by a small number of gatekeepers, promises to reduce cultural barriers usually faced by participants in the traditional financial market. In this chapter, we investigated whether the launch of Kickstarter (a leading reward-based crowdfunding platform) has resulted in progress towards fulfilling this promise.

We documented participation rates by women, both as project leaders and project backers, compared them with male participation rates and, more generally, with levels of participation observed in entrepreneurship and equity investing. We investigated a particular segment — Film & Video — and found a higher proportion of female filmmakers on the platform than in the film industry in North America as a whole. This high level of female participation, right from the early days of the platform, can be seen as evidence of the promise of crowdfunding.

Although the research literature documents differences between men and women as regards attributes that are expected to affect their fundraising goal-setting decisions, after controlling for several related variables we did not find any significant differences between genders. This constitutes the second difference that we discovered in the crowdfunding setting compared with traditional methods of finance. A third difference is the success rate when it comes to obtaining funds: on Kickstarter, women were more successful than men, in contrast to their performance when fundraising from angel investors (Ewens and Townsend, 2020).

Women participate on the platform at a higher rate as backers than as project leaders, making up nearly half of all backers, which is substantially higher than on the supply side of any other financial market. This high level of participation results in higher success rates for the funding efforts of women than for men's; indeed, female entrepreneurs are more likely to be backed by female backers than by male ones. However, as they gain experience on the platform, female backers become agnostic to gender, while male backers maintain their discriminatory behavior.

Our survey of backers investigated this behavior further, revealing that male backers' tendency to back male entrepreneurs was partly due to taste-based discrimination. Female backers were not found to have this kind of preference.

Our findings suggest that if a female entrepreneur is aware of the differences in discriminatory treatment amongst backers, then she may focus her efforts on those areas where she will find backers who are less likely to discriminate against her which, in our case, may explain the concentration of women in female-related categories on the platform.

Crossing data from the platform with a survey of backers also helped us understand the difference between serial and first-time backers. We suggest that first-time male backers are driven by both taste-based and statistical discrimination, while only the latter drives female backers. Experience gained with crowdfunding reduces backers' levels of statistical discrimination, which means that female backers become agnostic to gender. This process is exemplified by simulation analysis.

To summarize, if we wished to answer the question 'Does crowdfunding fully eliminate gender barriers that women face in trying to raise money for ventures?', our answer would be negative. We found that some patterns of traditional finance had been replicated in reward-based crowdfunding: men prefer to fund male entrepreneurs, and this, at least partially, results from taste-based discrimination. However, on a promising note, our findings do provide some indication that crowdfunding platforms may lead to increased female participation both on the entrepreneurship and funding sides, as well as to increased flows of capital to female-led projects.

This manuscript offers several important contributions to the entrepreneurial finance literature. First, we enrich research on crowdfunding as a new method of financing while contributing to two other streams of the literature: gender and finance, and gender and entrepreneurship. Even though the own-gender bias is present on crowdfunding platforms, with a more diverse pool of funders and smaller amounts of capital involved, women feel more confident to start their own projects, set funding goals quite similar to men's, and enjoy higher rates of success than men.

Second, by comparing the backers' responses to the survey with their observed actions, we provide a method for detecting taste-based discrimination, unlike other studies in the economic discrimination literature, which rely mainly on negating the existence of statistical discrimination to suggest a taste-based one.

Clearly, we are only beginning to see the impact of crowdfunding on broader economic activity in the financial market. A whole host of future research efforts will be needed to further investigate the contribution of this new funding instrument and might overcome limitations of this study. These limitations might be avoided by replicating the analysis of these study over multiple platforms which provide complete information on both the supply and demand sides. In addition, a more fine-grained analysis of the topics of campaigns could improve the validity of the results.

References

Ahl, H. (2004). The scientific reproduction of gender inequality: A discourse analysis of research texts on women's entrepreneurship. Liber.

Aldrich, H., Reese, P. R., & Dubini, P. (1989). Women on the verge of a breakthrough: Networking among entrepreneurs in the United States and Italy. *Entrepreneurship & Regional Development*, 1(4), 339-356.

Alsos, G. A., Isaksen, E. J., and Ljunggren, E. (2006). New Venture Financing and Subsequent Business Growth in Men- and Women-Led Businesses. *Entrepreneurship Theory and Practice*, 667-686.

Arrow, K. J. (1972). Some mathematical models of race in the labor market, in A.H. Pascal ed. : Racial Discrimination in Economic Life (Lexington Books).

Babcock, L., Laschever, S., Gelfand, M., & Small, D. (2003). Nice girls don't ask. Harvard Business Review, 81(10), 14-16.

Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Social and Clinical Psychology*, 4(3), 359-373.

Baron, J. N., & Bielby, W. T. (1985). Organizational barriers to gender equality: Sex segregation of jobs and opportunities. *Gender and the Life Course*, 233-251.

Beaman, L., Chattopadhyay, R., Duflo, E., Pande, R., & Topalova, P. (2009). Powerful women: does exposure reduce bias?. *The Quarterly Journal of Economics*, 124(4), 1497-1540.

Becker, G. S. (1957). The Economics of Discrimination. Chicago: The University of Chicago Press.

Becker-Blease, J. R., & Sohl, J. E. (2007). Do women-owned businesses have equal access to angel capital?. *Journal of Business Venturing*, 22(4), 503-521.

Belenzon, S., & Zarutskie, R. (2012). Married to the firm? Family ownership, performance, and financing in private firms. Duke University.

Bertrand, M., Goldin, C., & Katz, L. F. (2010). Dynamics of the gender gap for young professionals in the financial and corporate sectors. *American Economic Journal: Applied Economics*, 2(3), 228-55.

Bowles, H. R., Babcock, L., & Lai, L. (2007). Social incentives for gender differences in the propensity to initiate negotiations: Sometimes it does hurt to ask. *Organizational Behavior and human decision Processes*, 103(1), 84-103.

Bradford, C. S. (2012). Crowdfunding and the federal securities laws. Colum. Bus. L. Rev., 1.

Brooks, A. W., Huang, L., Kearney, S. W., & Murray, F. E. (2014). Investors prefer entrepreneurial ventures pitched by attractive men. *Proceedings of the National Academy of Sciences*, 111(12), 4427-4431.

Brush, C., Carter, N. M., Gatewood, E. J., Greene, P. G., & Hart, M. (2009). The Diana project: Women business owners and equity capital: The myths dispelled. Babson College Center for Entrepreneurship Research Paper, (2009-11).

Brush, C. G., Carter, N. M., Gatewood, E. J., Greene, P. G., & Hart, M. (2004). Gatekeepers of venture growth: A Diana Project report on the role and participation of women in the venture capital industry. Available at SSRN 1260385.

Brush, C. G., Greene, P. G., Balachandra, L., and Davis, A. E. (2014). Women Entrepreneurs 2014: Bridging the Gender Gap in Venture Capital (Diana Report).

Brush, C. G., Greene, P. G., & Hart, M. M. (2001). From initial idea to unique advantage: The entrepreneurial challenge of constructing a resource base. *Academy of Management Perspectives*, 15(1), 64-78.

Buser, T., Niederle, M., & Oosterbeek, H. (2014). Gender, competitiveness, and career choices. *The Quarterly Journal of Economics*, 129(3), 1409-1447.

Byrnes, J. P., Miller, D. C., & Schafer, W. D. (1999). Gender differences in risk taking: a meta-analysis. *Psychological Bulletin*, 125(3), 367.

Carter, N. M., Williams, M., & Reynolds, P. D. (1997). Discontinuance among new firms in retail: The influence of initial resources, strategy, and gender. *Journal of Business Venturing*, 12(2), 125-145.

Castillo, M., Petrie, R., Torero, M., & Vesterlund, L. (2013). Gender differences in bargaining outcomes: A field experiment on discrimination. *Journal of Public Economics*, 99, 35-48.

Chaganti, R., DeCarolis, D., & Deeds, D. (1996). Predictors of capital structure in small ventures. *Entrepreneurship Theory and Practice*, 20(2), 7-18.

Charles, M., & Bradley, K. (2009). Indulging our gendered selves? Sex segregation by field of study in 44 countries. *American Journal of Sociology*, 114(4), 924-976.

Charles, M., & Grusky, D. B. (2005). Occupational ghettos: The worldwide segregation of women and men (Vol. 200). Stanford, CA: Stanford University Press.

Coleman, S., & Robb, A. (2009). A comparison of new firm financing by gender: evidence from the Kauffman Firm Survey data. *Small Business Economics*, 33(4), 397.

Coleman, S., & Robb, A. (2012). A rising tide: Financing strategies for women-owned firms. Stanford University Press.

Croson, R., & Gneezy, U. (2009). Gender differences in preferences. *Journal of Economic Literature*, 47(2), 448-74.

De Bruin, A., Brush, C. G., & Welter, F. (2007). Advancing a framework for coherent research on women's entrepreneurship. *Entrepreneurship Theory and Practice*, 31(3), 323-339.

Estes, R., & Hosseini, J. (1988). The gender gap on Wall Street: an empirical analysis of confidence in investment decision making. *The Journal of Psychology*, 122(6), 577-590.

Ewens, M., & Townsend, R. R. (2020). Are early stage investors biased against women?. *Journal of Financial Economics*, 135(3), 653-677.

Fairlie, R. W., & Robb, A. M. (2009). Gender differences in business performance: evidence from the Characteristics of Business Owners survey. *Small Business Economics*, 33(4), 375.

Fletcher, J K (2001). Disappearing acts: Gender, power, and relational practice at work (MIT Press).

Filippin, A., & Crosetto, P. (2016). A reconsideration of gender differences in risk attitudes. Management Science, 62(11), 3138-3160.

Fortune (2014, February 6), Venture capital's stunning lack of female decision-makers, Retrieved from: http://fortune.com/2014/02/06/venture-capitals-stunning-lack-of-female-decision-makers/

Gafni, H., Marom, D., and Sade, O. (2019). Are the Life and Death of an Early Stage Venture Indeed in the Power of the Tongue? Lessons from Online Crowdfunding Pitches. *Strategic Entrepreneurship Journal*, 13(1), 3-23.

Glick, P., & Fiske, S. T. (1997). Hostile and benevolent sexism: Measuring ambivalent sexist attitudes toward women. *Psychology of Women Quarterly*, 21(1), 119-135.

Gneezy, U., Leonard, K. L., & List, J. A. (2009). Gender differences in competition: Evidence from a matrilineal and a patriarchal society. Econometrica, 77(5), 1637-1664.

Gneezy, U., & Rustichini, A. (2004). Gender and competition at a young age. *American Economic Review*, 94(2), 377-381.

Gneezy, U., Niederle, M., & Rustichini, A. (2003). Performance in competitive environments: Gender differences. *The Quarterly Journal of Economics*, 118(3), 1049-1074.

Godwin, L. N., Stevens, C. E., & Brenner, N. L. (2006). Forced to play by the rules? Theorizing how mixed–sex founding teams benefit women entrepreneurs in male–dominated contexts. *Entrepreneurship Theory and Practice*, 30(5), 623-642.

Gompers, P. A., Mukharlyamov, V., Weisburst, E., & Xuan, Y. (2014). Gender effects in venture capital. Available at SSRN 2445497.

Gompers, P. A., & Wang, S. Q. (2017). Diversity in innovation (No. w23082). National Bureau of Economic Research.

Gupta, V. K., Turban, D. B., Wasti, S. A., & Sikdar, A. (2009). The role of gender stereotypes in perceptions of entrepreneurs and intentions to become an entrepreneur. *Entrepreneurship Theory and Practice*, 33(2), 397-417.

Guryan, J. and Charles, K. K. (2013). Taste-based or Statistical Discrimination: The Economics of Discrimination Returns to its Roots. *The Economic Journal*, 123: F417–F432

Grinblatt, M., & Keloharju, M. (2009). Sensation seeking, overconfidence, and trading activity. *The Journal of Finance*, 64(2), 549-578.

Harrison, R. T., & Mason, C. M. (2007). Does gender matter? Women business angels and the supply of entrepreneurial finance. *Entrepreneurship Theory and Practice*, 31(3), 445-472.

Haynes, G. W., Rowe, B. R., Walker, R., & Hong, G. S. (2000). The differences in financial structure between women-and men-owned family businesses. *Journal of Family and Economic Issues*, 21(3), 209-226.

Hvide, H. K., & Panos, G. A. (2014). Risk tolerance and entrepreneurship. *Journal of Financial Economics*, 111(1), 200-223.

Heilbrunn, S. (2004). Impact of gender on difficulties faced by entrepreneurs. *The International Journal of Entrepreneurship and Innovation*, 5(3), 159-165.

Ibarra, H. (1992). Homophily and differential returns: Sex differences in network structure and access in an advertising firm. *Administrative Science Quarterly*, 422-447.

IVC Research Center, 2018, April, 8, IVC Special Review – Women: An Under-represented Minority in the Israeli High-Tech Sector, Retrieved from http://www.ivc-online.com/Research-Center/News-PR/News-Archive/nid/0dc5ed66-fb3a-e811-80e4-00155d0b832c

Klyver, K., & Grant, S. (2010). Gender differences in entrepreneurial networking and participation. *International Journal of Gender and Entrepreneurship*, 2(3), 213-227.

Koudstaal, M., Sloof, R., & Van Praag, M. (2015). Risk, uncertainty, and entrepreneurship: Evidence from a lab-in-the-field experiment. *Management Science*, 62(10), 2897-2915.

Langowitz, N., & Minniti, M. (2007). The entrepreneurial propensity of women. *Entrepreneurship Theory and Practice*, 31(3), 341-364.

Lauzen, M. M. (2017). The celluloid ceiling: Behind-the-scenes employment of women on the top 100, 250, and 500 films of 2016. Center for the Study of Women in Television and Film, 1-6.

Lusardi, A., & Mitchell, O. S. (2011). Financial literacy around the world: an overview. *Journal of Pension Economics & Finance*, 10(4), 497-508.

Marlow, S., & Patton, D. (2005). All credit to men? Entrepreneurship, finance, and gender. *Entrepreneurship Theory and Practice*, 29(6), 717-735.

Massolution, C.L. (2015). Crowdfunding industry report.

Menzies, T.V., Diochon, M., Gasse, Y. (2004) Examining venture-related myths concerning women entrepreneurs. *Journal of Developmental Entrepreneurship*, 9(2): 89–107.

Mohammadi, A., & Shafi, K. (2018). Gender differences in the contribution patterns of equity-crowdfunding investors. *Small Business Economics*, 50(2), 275-287

Mollick, E., & Kuppuswamy, V. (2016). Crowdfunding: evidence on the democratization of startup funding. Revolutionizing innovation: Users, communities, and open innovation, 537-559.

Mollick, E., & Robb, A. (2016). Democratizing innovation and capital access: The role of crowdfunding. *California Management Review*, 58(2), 72-87.

Morales-Camargo, E., Sade, O., Schnitzlein, C., & Zender, J. F. (2013). Divisible good auctions with asymmetric information: An experimental examination. *Journal of Financial and Quantitative Analysis*, 48(4), 1271-1300.

National Venture Capital Association, 2016, December, 15, New Survey Reflects Lack of Women and Minorities in Senior Investment Roles at Venture Capital Firms, Retrieved from https://nvca.org/pressreleases/new-survey-reflects-lack-women-minorities-senior-investment-roles-venture-capital-firms/.

Niederle, M., & Vesterlund, L. (2007). Do women shy away from competition? Do men compete too much?. *The Quarterly Journal of Economics*, 122(3), 1067-1101.

Olm, K., Carsrud, A., & Alvey, L. (1988). The role of networks in new venture funding for the female entrepreneur: A continuing analysis. *Frontiers of Entrepreneurship Research*, Wellesley, MA: Babson College, 43-55.

Orser, B. J., Riding, A. L., & Manley, K. (2006). Women entrepreneurs and financial capital. *Entrepreneurship Theory and Practice*, 30(5), 643-665.

Padnos, C. (2010). High performance entrepreneurs: Women in high tech. Illuminate Ventures, February.

Phelps, E. S. (1972). The statistical theory of racism and sexism. *The American Economic Review*, 62(4), 659-661.

Reuben, E., Sapienza, P., & Zingales, L. (2010). The glass ceiling in experimental markets. Columbia University DP.

Ridgeway, C. L. (2009). Framed before we know it: How gender shapes social relations. *Gender & Society*, 23(2), 145-160.

Robb, A. M. (2002). Entrepreneurial performance by women and minorities: The case of new firms. *Journal of Developmental Entrepreneurship*, 7(4), 383.

Rogers, E. M., and Kincaid L. D., (1984). Communication networks: Toward a new paradigm for research. *American Journal of Sociology* 89(4), 986-988.

Rosa, P., Carter, S., & Hamilton, D. (1996). Gender as a determinant of small business performance: Insights from a British study. *Small Business Economics*, 8(6), 463-478.

Rhue, L. (2015). Who Gets Started on Kickstarter? Demographic Variations in Fundraising Success, unpublished working paper, Wake Forest University School of Business.

Säve-Söderbergh, J. (2007). Are women asking for low wages? Gender differences in wage bargaining strategies and ensuing bargaining success. Swedish Institute for Social Research, Stockholm University.

Small, D. A., Gelfand, M., Babcock, L., & Gettman, H. (2007). Who goes to the bargaining table? The influence of gender and framing on the initiation of negotiation. *Journal of Personality and Social Psychology*, 93(4), 600.

Smith, L. S., Pieper, K., & Choueiti, M. (2013). Exploring the barriers and opportunities for independent women filmmakers. Sundance Institute and Women in Film Los Angeles Women Filmmakers Initiative.

Sohl, Jeffrey, 2013, The angel investor market in 2012: A moderating recovery continues, Center for Venture Research Report, University of New Hampshire.

Sohl, Jeffrey, 2014, The angel investor market in 2013, Center for Venture Research Report, University of New Hampshire.

Spence, Janet T, and Robert L Helmreich (1978). Masculinity & femininity: Their psychological dimensions, correlates, and antecedents, University of Texas Press Austin.

Thébaud, S. (2015). Status beliefs and the spirit of capitalism: Accounting for gender biases in entrepreneurship and innovation. *Social Forces*, 94(1), 61-86.

United States Census Bureau, 2015, December, 15, Los Angeles County a Microcosm of Nation's Diverse Collection of Business Owners, Census Bureau Reports, Retrieved from https://www.census.gov/newsroom/press-releases/2015/cb15-209.html.

Wang, C. (2016). The Promise of Kickstarter: Extents to Which Social Networks Enable Alternate Avenues of Economic Viability for Independent Musicians Through Crowdfunding. *Social Media+ Society*, 2(3), 2056305116662394.

Watson, J., & Robinson, S. (2003). Adjusting for risk in comparing the performances of male-and female-controlled SMEs. *Journal of Business Venturing*, 18(6), 773-788.

Appendix 1. Assumptions and Process for Backers Regression

In order to improve the robustness of our results, and to obtain coefficients for the simulation analysis described in Section 4.6, we switched our attention from the project level to the backer level in Section 4.5. We can learn about the variables that affect backers' contribution decisions by comparing the project(s) that a backer pledged funding to against all the other projects that were in the process of fundraising on the day the contribution was pledged.

This approach makes two implicit assumptions: (1) a person who enters the website will finance at least one project, and (2) a person surveys all of the projects before making a contribution. While both assumptions have considerable limitations, the second one is more defendable than the first one. First, we do not consider backers who share the same last name as the entrepreneur of the project they helped fund, as they are likely to be related. Second, when visiting kickstarter.com, the first action a potential backer takes is to choose a category and a subcategory that interest her/him. Thus, projects that have not been appraised by the backer were less likely to be funded by her/him in the first place.

Furthermore, for simplicity's sake and owing to computer processing limitations, we consider only projects involving single entrepreneurs, and the period of January–June 2010, which was chosen arbitrarily.

Appendix 2. Online Crowdfunding Survey

1) How many contributions have you made on crowdfunding platforms such as Kickstarter and Indiegogo in the past three years? (This can be any kind of crowdfunding platform: debt, equity, reward-based, donation).*

( ) None ( ) 1 ( ) 2-4 ( ) 5-9 ( ) 10-19 ( ) 20-49 ( ) 50+

About your contributions:

2) Have you ever made multiple contributions/investments to the same campaign over the funding period?

( ) Yes ( ) No

3) What are the reasons you have contributed to crowdfunding campaigns?

[ ] I wanted the reward offered

[ ] I wanted to support the person leading the campaign

[ ] I wanted to support the cause or idea of the campaign

[ ] Other

4) Have you ever contributed to a crowdfunding campaign of someone who you didn't know?

( ) No ( ) Yes, but it was someone known to a friend or family member of mine ( ) Yes, the person or people were completely unknown to me

5) What is the SMALLEST contribution you have made to a crowdfunding campaign?

( ) < $10 ( ) $11-$24 ( ) $25-$49 ( ) $50-$99 ( ) $100-$249 ( ) $250+

( ) I don't remember

6) What is the LARGEST contribution you have made to a crowdfunding campaign?

( ) <$25( ) $25-$49( ) $50-$99( ) $100-$249( ) $250-$499( ) $500-$999( ) $1000-$4999

( ) $5000-$9999( ) $10,000 + ( ) I don't remember

7) What is the AVERAGE contribution you have made to crowdfunding campaigns?

( ) <$25 ( ) $25-$49 ( ) $50-$99 ( ) $100-$249 ( ) $250-$499 ( ) $500-$999 ( ) $1000-$4999 ( ) $5000+ ( ) I don't remember

8) When do you typically contribute in an online crowdfunding campaign?

( ) In the first day of the campaign

( ) In the first week of the campaign

( ) In the first month of the campaign

( ) In the last week of the campaign

( ) In the last day of the campaign

( ) Varies by campaign

9) Please list any Kickstarter projects you have backed in the past.

_____

About you:

10) What is your age?

( ) 18-24 ( ) 25-34 ( ) 35-44 ( ) 45-54 ( ) 55-64 ( ) 65+

11) What is your highest education level achieved?

( ) 12th grade or less ( ) Graduated high school or equivalent ( ) Some college, no degree ( ) Associate degree ( ) Bachelor's degree ( ) Graduate degree (Masters, MBA, PhD, MD, JD)

12) What Industry do you work in?

( ) Accounting ( ) Advertising ( ) Aerospace / Aviation / Automotive ( ) Agriculture / Forestry / Fishing ( ) Biotechnology ( ) Business / Professional Services ( ) Business Services (Hotels, Lodging Places) ( ) Computers (Hardware, Desktop Software) ( ) Communications ( ) Construction / Home Improvement ( ) Consulting ( ) Education ( ) Engineering / Architecture ( ) Entertainment / Recreation ( ) Finance / Banking / Insurance ( ) Food Service ( ) Government / Military ( ) Healthcare / Medical ( ) Internet ( ) Legal ( ) Manufacturing ( ) Marketing / Market Research / Public Relations ( ) Media / Printing / Publishing ( ) Mining ( ) Non-Profit ( ) Pharmaceutical / Chemical ( ) Research / Science ( ) Real Estate ( ) Retail ( ) Telecommunications ( ) Transportation /Distribution ( ) Utilities ( ) Wholesale ( ) Don't work and/or Full time student ( ) Other: _____

13) Are you male or female?

( ) Male / ( ) Female

14) What is your household income?

( ) Less than $25,000 ( ) $25,000 to $34,999 ( ) $35,000 to $49,999 ( ) $50,000 to $74,999 ( ) $75,000 to $99,999 ( ) $100,000 to $124,999 ( ) $125,000 to $149,999 ( ) $150,000 or more

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Gender Perceptions

15) Do you personally agree or disagree ...All in all, family life suffers when the woman has a full time job

( ) Strongly disagree ( ) Somewhat disagree ( ) Neither Agree nor Disagree ( ) Somewhat agree ( ) Strongly agree

16) Do you personally agree or disagree ...A preschool child is likely to suffer if his or her mother works

( ) Strongly disagree ( ) Somewhat disagree ( ) Neither Agree nor Disagree ( ) Somewhat agree ( ) Strongly agree

17) Do you personally agree or disagree ...Having a full-time job is the best way for a woman to be an independent person

( ) Strongly disagree ( ) Somewhat disagree ( ) Neither Agree nor Disagree ( ) Somewhat agree ( ) Strongly agree

18) Do you personally agree or disagree ...A woman and her family would all be happier if she goes out to work

( ) Strongly disagree ( ) Somewhat disagree ( ) Neither Agree nor Disagree ( ) Somewhat agree ( ) Strongly agree

19) Do you personally agree or disagree ...Both the husband and wife should contribute to the household income

( ) Strongly disagree ( ) Somewhat disagree ( ) Neither Agree nor Disagree ( ) Somewhat agree ( ) Strongly agree

20) Do you personally agree or disagree ...the female(s) in the household does/should do most of the household cleaning.

( ) Strongly disagree ( ) Somewhat disagree ( ) Neither Agree nor Disagree ( ) Somewhat agree ( ) Strongly agree

21) Do you personally agree or disagree ...the female(s) in the household should do the majority of the washing and ironing of clothes.

( ) Strongly disagree ( ) Somewhat disagree ( ) Neither Agree nor Disagree ( ) Somewhat agree ( ) Strongly agree

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Thank You!

Appendix 3. Distribution of Coefficients in The Simulation Analysis

We simulate one hundred male backers and one hundred female backers according to the following characteristics: both men and women are assigned random coefficients for the importance of the reward, normally distributed (SD=0.1) around an arbitrary value of 0.7, given by λ_b (where b indexes the individual backer); 42 coefficients for every subcategory, taken from the separated regression results displayed in Table 5 for men and women and divided by 10, serve as the means for normally-distributed coefficients randomly allocated to the backers in the simulation (η_{jb}, j indexes the subcategory); the coefficient β_b captures the tendency of each backer of each gender to taste-based discrimination, centred around the probit results displayed in Table 8 (-0.012 (SD=0.057) for female backers, -0.102 (SD=0.056) for male ones); and lastly, δ_b denotes risk tolerance — randomly assigned values to backers from the normal distribution with a mean of -0.1 for male backers and -0.15 for female backers since women tend to be more risk-averse than men.

Chapter 3: Business or basic needs? The impact of loan purpose on social crowdfunding platforms

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1. Introduction

Microentrepreneurs contribute significantly to economic activities and growth in developing countries (Khavul et al., 2009; Berns et al., 2020). A crucial issue for these entrepreneurs is access to finance (Bruton et al., 2015). Being excluded from traditional sources of funding, they typically borrow from relatives but also rely on local moneylenders, who can charge usury rates because of their monopoly situation (Collins et al., 2009). During the 1980s, microlending organizations developed to respond to this market failure and empower microentrepreneurs in developing countries (Battilana & Dorado, 2010; Dorfleitner et al., 2019). Nevertheless, many poor microentrepreneurs still lack access to finance (Demirgüç-Kunt et al., 2018). As a result, lending-based prosocial crowdfunding has grown rapidly, offering the financially marginalized a new opportunity to obtain funding (Fleming & Sorenson, 2016; Lehner & Harrer, 2019a). Prosocial crowdfunding has an inherent ethical dimension, since funders do not only pursue financial outcomes but, rather, social impact. It may thus be considered to be part of a more global phenomenon of ethical, collective, and sustainable entrepreneurship. Prosocial crowdfunding platforms, with their clear ethical agenda of social or environmental value as an ultimate objective, belong to the ethical finance movement (Scarlata, & Alemany, 2010; Cumming et al., 2016; Montgomery et al., 2012; Aldohni, 2018).

There is a relative paucity of literature discussing the factors or mechanisms that make microborrowers' loan applications attractive on prosocial lending-based crowdfunding platforms (Galak et al., 2011; Allison et al., 2015; André et al., 2017; Berns et al., 2020). Early research conceptualized the crowdfunding phenomenon (Hildebrand et al., 2017; Afuah & Tucci, 2012), its geographical spread (Agrawal et al., 2011; Guenther et al., 2018), and related business and intermediation models (Ashta et al., 2015); it also suggested various crowdfunding models (Belleflamme et al., 2014; Kappel, 2009).

Current literature focuses on the narratives in loan applications made by microborrowers to crowdlenders (Allison et al., 2013; Allison et al., 2015; Moss et al., 2015) and the underlying ethical motivations (Berns et al., 2020) or the social proximity between the two groups (Galak et al., 2011). Nevertheless, we know little about the importance that lenders place on the purpose of the loan, even though this is a key element in each application. In their closing remark, McKenny et al. (2017, p. 295) argued that "future research could examine how the goal set by the entrepreneur and the current

progress toward meeting that goal influences crowdfunding investor behavior". We will respond to their call by analyzing the impact of the purpose of a loan on the success chances of a crowdfunding campaign.

Three main options are available to microborrowers to qualify the type of loan they apply for on crowdfunding platforms. First, they can select business loans related to an income-generating activity, thus showing entrepreneurial drive and a desire to grow the business. Second, they can state that the purpose of the loan is to pay for expenses related to basic needs, such as health care, child education and house repayments. Loans for basic necessities are not related to business or income-generating activities and are thus potentially riskier for lenders (Armendariz & Labie, 2011). Third, loans might be requested for consumption, i.e. personal purchases such as a private car, or other purposes that are neither directly income-generating, nor related to basic needs. To the best of our knowledge, the impact of loan purpose on the success chances of a campaign has not yet been investigated, despite being a crucial characteristic of the value proposition made to the crowdlender.

Relying on motivational theory, we analyzed the way in which a loan's purpose might impact the success chances of a fundraising campaign among prosocially motivated crowdlenders. To do so, we used an original database of more than 767,000 loans channeled through Kiva, the largest prosocial lending-based crowdfunding platform. This dataset is unique since it includes a classification of all loans by purpose. Business loans being generally larger and male-oriented, we also investigated whether there might be a loan size and gender moderating effect, respectively. Finally, we performed additional checks using matching methods to test the robustness of our results.

Our findings are threefold. First, the empirical analysis revealed that loans intended for basic necessities were funded faster than those for business investment or for other consumption. These results can be explained by the prosocial or ethical motivation of crowdlenders. Second, results indicate a loan size moderating effect. One potential explanation for this is crowdlenders' reluctance to support large non-income-generating loans, which could lead to over-indebtedness; for contrary to business loans, these loans do not generate the income needed for repayment (Schicks, 2014; Hudon et al., 2020). Third, we found a gender moderating effect. More precisely, there was a preference for female borrowers, but this effect was weaker when the purpose of the loan was a business activity. Female microborrowers are funded faster than men, especially when applying for basic needs loans.

This could produce adverse effects, supporting gender role bias and driving women away from business activities.

Our research makes three contributions to the business ethics literature. First, it expands our understanding of decision making by prosocially-motivated lenders in a context of high information asymmetry: crowdlending to microborrowers. Crowdlenders generally live far away from the microborrowers they might support; moreover, they have neither the practical opportunity nor the time to collect information by themselves, which makes the lending decision more challenging. Second, it highlights how important the purpose of the loan is in prosocial (micro)financing. In particular, our research contributes to the emerging literature on how, thanks to the Internet, the involvement of the crowd can alter funding allocation and the type of project supported within an industry (Burtch et al. 2015; Mollick & Nanda 2015). Third, looking deeper at gender interactions and their influence on the chances of financing success, our research confirms a gender effect, and contributes to the literature on gender and business ethics. In particular, this gender interaction effect suggests an ethical blind spot, since the choices of prosocially motivated microlenders may unintentionally end up having adverse consequences, driving women away from business and, thus, partly going against prosocial ethical values (Sezer et al., 2015).

Surprisingly, our results suggest that the combination of multiple prosocial motives could lead to a partially counter-productive effect from a prosocial perspective and eventually produce an ethical blind spot. There might be a trade-off between prosocial motives so that they may not always reinforce each other. We therefore need to warn prosocially motivated actors against ethical blind spots. These findings also have managerial implications for ethical finance industries.

2. Theory and Hypotheses

2.1. Crowdfunding and microentrepreneurship

Raising enough capital to start or develop a company is crucial for all entrepreneurs (Figueroa-Armijos & Johnson, 2016). While access to funding is a challenge for all, it is particularly problematic for poor microentrepreneurs, who tend to be excluded from the traditional financial sector (Bruton et al., 2015). Microfinance organizations tackle financial exclusion by servicing these microentrepreneurs. They provide various services, including microsavings accounts and

microinsurance, but their best-known product is microlending or microcredit (Armendariz & Labie, 2011).

Compared with microfinance, crowdfunding platforms are a more recent funding mechanism. These Internet platforms facilitate access to finance for entrepreneurs. Crowdfunding has become very popular in a short space of time, making it a "poster child" of the new online mechanisms of entrepreneurial finance (Mc Kenny et al., 2017). Crowdfunding platforms create new financing opportunities, as they bypass the traditional financing system and let the crowd decide which project or applicant is worth funding (Belleflamme et al., 2015). In 2015 alone, more than 1,250 online crowdfunding platforms helped individuals and ventures around the world raise $34 billion (Massolution, 2016). Crowdfunding platforms have been providing funding to entrepreneurs or projects in places that had often been excluded by traditional funders (Allison et al., 2013).

Crowdlending, also called "crowdfunded debt", accounts for the largest percentage of total crowdfunding volume (Fleming & Sorenson, 2016). Among the platforms that have been set up, the likes of Kiva, Babyloan, and Zidisha enable crowdlenders to fund poor microentrepreneurs either directly or indirectly, usually in developing countries. As is the case in other sectors, these platforms can alter the types of project funded by the microfinance industry. In the context of arts and reward-based crowdfunding, Mollick & Nanda (2015) and Younkin & Kuppuswamy (2017), respectively, have shown that crowd involvement in funding decisions can significantly reduce discrimination and favor socially valued projects.

There are many explanations for the success (or failure) of crowdfunding campaigns. Mollick (2014) and Colombo et al. (2015) found that personal networks and internal social capital developed inside the crowdfunding community were positively related to the success of a campaign, even though the effect was mediated by the amount of capital to be raised and the number of funders involved in the early days. Buttice et al. (2017) also referred to the influence of internal social capital built up by serial entrepreneurs on crowdfunding platforms. Likewise, competition among projects affects a campaign's chances of success. Ly and Mason (2012) found that competition was negatively related to the speed of funding. This is particularly relevant in the case of charitable or pre-purchase forms of crowdfunding, where the variety of projects is greatest (Younkin & Kashouli, 2016).

Regarding crowdlending to microentrepreneurs, researchers have started to analyze descriptions in

entrepreneurs' profiles but reached contradictory conclusions. Allison et al. (2015) concluded that lenders tended to prefer narratives offering the opportunity to help others, whereas narratives featuring accomplishment rhetoric achieved a slower funding speed. On the contrary, Moss et al. (2015) pointed out that microentrepreneurs who signaled autonomy, risk-taking, and competitive aggressiveness received funding more quickly than those who signaled empathy, courage, warmth, and conscientiousness. However, these studies have neglected the role played by a loan's purpose in the success of a microentrepreneur's crowdlending campaign. We propose to analyze this role by applying self-determination theory.

2.2. Self-determination theory (SDT) and crowdfunding

In order to understand funding decisions in crowdlending to microentrepreneurs, we must take into account crowdlenders' motivations for supporting a project. Since loans on prosocial lending platforms do not bear any interest, users are not drawn to the website by purely extrinsic motivations, such as potential financial rewards, but by prosocial motivations, such as the desire to expend effort to help others (Grant, 2007). Consequently, crowdlenders analyze loan applications not only by using traditional criteria but, also, prosocial criteria influenced by psychological factors (Galak et al., 2011; Allison et al., 2015). Self-determination theory (SDT) is thus especially relevant if we wish to analyze funding decisions on prosocial crowdfunding platforms (Allison et al., 2015).

SDT distinguishes between extrinsic motivation, which occurs whenever a person undertakes an activity for its instrumental value (to obtain some external outcome), and intrinsic motivation, where the outcome is direct enjoyment of the activity itself. Ryan and Deci (2000, p. 60) explained that "Although intrinsic motivation is clearly an important type of motivation, most of the activities people do are not, strictly speaking, intrinsically motivated".

Organismic integration theory, a subfield of SDT, has theorized the different forms of extrinsic motivations. In particular, Ryan and Connell (1989) classified four forms of extrinsic motivation—along a continuum ranging from pure "external regulation" to intrinsic motivation—according to the degree to which the behavior has been internalized, or the extent to which the goal of the activity has been absorbed in the self. Indeed, we may speak of pure external extrinsic motivation when a behavior is "performed to satisfy an external demand or obtain an externally imposed reward contingency" (Ryan & Deci, 2000, p. 61). The three other types of extrinsic motivation correspond to different

modes of behavior regulation resulting from an internalization process: introjection, when a person performs an act in order to enhance or maintain self-esteem and avoid feeling guilty; identification, when they have identified with the personal importance of a behavior; and integration, when they make a self-assessment and bring new regulations into congruence with their other values and needs (Ryan & Deci, 2000).

The more internalized, and thus self-determined, the behavior, the more efficient it is. Ryan and Deci (2000) identified three basic psychological needs, which tend to stimulate the internalization of extrinsic motivation: perceived competence, autonomy, and relatedness. First, perceived competence is related to the feeling of being efficacious in relation to the pursued goal. Second, individuals should also be autonomous in the pursuit of that goal. For example, they should not be externally controlled through extrinsic (such as monetary) rewards. Finally, they should have a sense of relatedness, which is defined as "a sense of belongingness and connectedness to the persons, group, or culture disseminating the goal" (Ryan & Deci, 2000, p. 64).

Prosocial motivation may be considered an internalized extrinsic motivation based on identified and integrated regulation (Bagozzi & Dholakia, 2006; Grant, 2007; De Cooman et al., 2011)[44]. It differs from intrinsic motivation in two ways: First, motivation derives from the instrumental value of helping others, not from enjoyment of the task in itself. Second, prosocial motivation is based on other-oriented values that can be more or less internalized, contrary to the fully autonomous regulation of intrinsic motivation (Grant & Berry, 2011). De Cooman et al. (2011) explained that prosocial motivation could be viewed as value-based regulation. Furthermore, Grant (2007, 2008) showed that prosocial motivation could be stimulated by the three basic psychological needs identified by Ryan and Deci (2000). Grant (2008, p. 50) explains that prosocial motivation will be higher when individuals "experience autonomy in acting freely to benefit others, competence in successfully helping others, and relatedness in connecting their actions to outcomes that matter in the lives of other people".

[44] Prosocial motivation used to be conceptualized as intrinsic motivation. With the development of SDT, recent studies have stressed that prosocial motivation actually corresponds to an internalized extrinsic motivation (Grant, 2008; De Cooman et al., 2011).

Prosocial motivations may be at work in various circumstances. The literature has shown their importance in social entrepreneurship (Conger, McMullen, Bergman, & York, 2018; Bauwens et al., 2019) or workers' engagement in social enterprises (Grant & Berry, 2011; De Cooman et al., 2011; Brolis & Nyssens, 2019). In ethical finance, prosocial motivations are also called upon to explain why people choose to save in ethical banks or to invest in ethical funds (Cornée & Safarz, 2014; Barigozzi & Tedeschi, 2019).

In the specific case of crowdlending, prosocial motivations have been evoked in two main contexts that have core ethical value in common (Bendell, 2017). First, they can explain why the crowd wishes to lend to social ventures that have a social or environmental mission as their primal goal (Lehner, 2013, 2014; Parhankangas & Renko, 2017; Schwienbacher, 2015). In this case, the social dimension of lending comes from the positive externalities to be generated by the projects undertaken by the ventures. Second, prosocial motivations can also explain why the crowd chooses to lend to poor microentrepreneurs excluded from the banking system (Bruton et al, 2015; Allison et al., 2015). In this case, the social dimension of lending comes from the profile of the impoverished entrepreneurs.

Referring to SDT, we will investigate how the purpose of a loan—either for business or basic necessities—affects the funding decisions of prosocially motivated crowdlenders.

2.3. Hypotheses development: Loan purpose

During the first years of institutional microlending, attention focused on financing loans for business activities[45]. Indeed, microlending was not originally intended for individual consumption smoothing, but to help fund investment in business and empower entrepreneurs (Bruton et al., 2015). This policy was driven by the idea that lending to small entrepreneurs to support their economic activity would be an efficient way of encouraging economic growth in developing countries, since these small businesses would generate additional income (Armendariz & Labie, 2011).

However, this approach to microlending has recently been challenged by arguments supporting the provision of consumption loans to microentrepreneurs. Indeed, in the context of microfinance, consumption loans are generally used to finance basic and urgent needs (such as health care,

[45] In the existing literature, this type of funding is also referred to as a business-purpose loan (for example, in Johnston & Morduch, 2008) or as a loan for productive purposes (Imai & Azam, 2010, inter alia). Nevertheless, the meaning is essentially the same.

education, and housing) that would be financed anyway, but through other, more expensive, informal sources of funds (Guérin et al., 2012).

Based on Self-Determination Theory, we can hypothesize that, in the context of loans to poor microentrepreneurs, crowdlenders would prefer to support requests for microloans that are intended for essential necessities rather than requests for business or consumption loans. Three main arguments support this hypothesis.

First, according to SDT, prosocial motivation derives from the instrumental value of helping others. Consequently, nonfinancial aspects tend to play a crucial role in funding decisions of crowdlenders. In that sense, prosocially motivated crowdlenders primarily wish to respond to welfare needs. As stressed by Bendell (2017), prosocially motivated individuals aim to benefit other people, due to their concern for the welfare of others. Loans for necessities have a concrete, direct social impact since, by definition, they enable the provision of basic necessities required by entrepreneurs. They thus have a more vital dimension than business loans. Consequently, referring to SDT, funding basic necessity loans could increase microlenders' feelings of competence, one of three basic psychological needs underlying prosocial motivation.

Second, microloans intended for necessities, which are directly related to human needs, are apparently more easily internalized than business-related loans. The internalization process is key in SDT since prosocial motivation is based on values that are largely internalized (Grant & Berry, 2011). Grant (2007) has shown that relatedness, which can be defined as the need that individuals have to connect their actions to outcomes that matter in other people's lives, is a major factor of the internalization process that increases prosocial motivation. Prosocially motivated microlenders will tend to feel closer and more empathic to situations that require urgent help, and thus be more likely to support people in such situations rather than those less in need. They identify themselves with the personal importance of helping these microborrowers due to the salience, and potentially urgent character, of the requests for necessity-based loans. For example, previous studies have shown that lenders tended to be drawn to narratives richer in language expressing blame and present concern (Allison et al., 2013).

Third, lenders active on social crowdfunding platforms tend to prefer projects that do not stimulate "external regulation" and thus do not refer to extrinsic monetary rewards, which may be perceived

by lenders as controlling and will reduce the feeling of autonomy (Allison et al., 2015). For instance, on the social crowdfunding platform Kiva, profit and risk-taking language decreases the attractiveness of microloans, whereas humanitarian language increases it (Allison et al., 2015). Business-related microloan requests, which can be related to entrepreneurial drive and the desire to grow the activity, are more likely to stimulate "external regulation" because such loans are more directly money-oriented (income generation and risk minimization). Business loans will use profit and risk-taking formulations that have been found to lower attractiveness, according to Allison et al. (2015).

These three arguments support the idea that, compared with the business purpose, the necessity purpose is more attractive to prosocially motivated crowdlenders and is thus more efficient for raising funds.

Hypothesis 1. *Requests for basic necessity-purpose loans appeal more to prosocial crowdlenders than other types of loan.*

The success of a prosocial crowdlending campaign may also be related to the size of the requested loan. Given the high information asymmetry between lenders and borrowers living far away from each other, lenders may be particularly cautious whenever they lend to microentrepreneurs they know very little about, especially those asking for riskier loans (Colombo et al., 2015). Moreover, no collateral is presented to crowdlenders (Khavul et al., 2009; Armendáriz & Labie, 2011). This lack of collateral generates additional risks for lenders, who may thus adjust their investment behavior. One way to compensate for additional risks related to the absence of collateral is to adjust the size of the investment. It is indeed well known that smaller investments require less collateral for various types of financial intermediary (Cowling & Westhead, 1996). Consequently, lenders on social crowdfunding platforms may prefer microentrepreneurs who ask for smaller loans, which are considered less risky.

Moreover, non-business loans, such as basic necessity loans that do not generate any new revenue for borrowers, are even more likely to cause over-indebtedness and thus lead to default (Hudon, 2009). Indeed, investigating the variables that affect over-indebtedness among microfinance borrowers in Ghana, Schicks (2014) found that those who took out loans for non-productive purposes were more likely to become over-extended. From an SDT perspective, therefore, lenders who are aware of the

risk of over-indebtedness may avoid supporting the largest loans that are not directly income-generating, and are thus less appropriate for poor clients (Armendáriz & Labie, 2011). Indeed, large loans for basic necessities may reduce prosocially motivated microlenders' feelings of competence in the pursuit of their goal (i.e. helping others).

The effect of the loan's purpose might therefore vary according to the size of the requested loan. Lenders may prefer to avoid very large basic necessity loans that might increase the risk of over-indebtedness. Consequently, we may hypothesize that the size of the requested loan will moderate the effect of the loan's purpose on funds raised from prosocially motivated lenders.

Hypothesis 2. *Requests for basic necessity-purpose loans appeal less to prosocial crowdlenders when the size of the loan increases.*

2.4. Hypotheses development: Gender and crowdfunding

While some recent papers have suggested that gender could significantly affect the success chances of crowdfunding campaigns (Gafni et al., 2019), the influence of gender on the impact of the loan's purpose has not yet been studied in the context of microlending. Nevertheless, one can expect that the impact of the loan's purpose on the success chances of the campaign might vary according to the borrower's gender.

In the context of crowdfunding, the substantially larger number of potential contributors—compared with the limited number of banks—seems to play a part in "democratizing entrepreneurship" and female borrowers might encounter fewer social barriers than in other sectors (Kaufman et al., 2013). Empirical evidence tends to suggest that women suffer less discrimination (in relation to men) or none at all among the online crowd. Ravina (2008) and Duarte et al. (2012) found that women tended to be favored on the US online peer-to-peer lending platform Prosper.com. Studying the reward-based platform Kickstarter, Gafni et al. (2020) found that funding campaigns by female entrepreneurs outperformed those by their male counterparts, and that funders of both genders tended to support entrepreneurs of their own gender.

One can also expect that women would receive much more backing on prosocial crowdlending platforms. Indeed, referring to SDT, prosocially motivated crowdlenders are likely to prefer financing women since it will increase their feeling of competence in the pursuit of their goal (helping others).

Microlending to women will increase the probability to have a strong social impact for three main reasons. First, women are likely to be poorer than men on average, due to various gender inequalities that make them more vulnerable to poverty (World Bank, 2011). Drivers of these disparities include gender norms, division of assets within households, work, and responsibility or power relations (Grown, 2014). One of these important inequalities lies in access to finance. Female microentrepreneurs tend to have less access to financial services than male ones (Demirgüç-Kunt et al., 2018), including access to informal sources such as moneylenders. Crowdlenders may thus prefer to lend to women since, even within the same household, they are likely to be poorer and more financially excluded than men.

Second, crowdlenders may prefer lending to women due to the empowerment effect of microloans. Providing women access to financial services may allow them to engage in income-generating activities to increase their earnings and eventually strengthen their decision-making power within the household and society (Zhang & Posso, 2017). While the literature on the empowering effect of microloans is not totally conclusive, in some circumstances, lending to women may increase their personal empowerment (Garikipati, 2008) and decrease relational frictions inside households (Huis et al., 2019).

Third, another social motive to lend to women is related to their use of microloans and the impact this has on households. It is commonly accepted that women will be more closely involved in household activities and look after children more frequently than men but, also, that they will better manage their family's health and expenditure (Eddleston et al., 2016). This was partly confirmed by microfinance studies, such as Hermes & Lensink (2011), who showed that women tended to invest more in sustainable goods or child education, and Garikipati (2008), who found that microloans to women were often diverted into enhancing households' assets and incomes, and that women would share the benefits with others in their household, especially their children.

This last argument introduces the gender moderating effect on loan purpose. More precisely, we can assume that prosocially motivated microlenders will especially favor women when the loan is to finance basic necessities. As we have seen, basic necessity loans are more directly related to social motives or concerns, which may thus trigger the prosocial motivation of microlenders (Hypothesis 1). The gender (female) of poor entrepreneurs is also a classical proxy for social impact (Eddleston

et al., 2016). Combining both will ensure the strongest social impact to microlenders who are willing to make a difference from a social perspective and, from an SDT perspective, will fulfill their need for perceived competence. We can thus expect that prosocially motivated microlenders, who prefer to invest in basic necessity loans, will also be more willing to lend to women in order to increase their social impact.

Hypothesis 3. *Requests for basic necessity loans appeal even more to prosocial crowdlenders when entrepreneurs are female.*

3. Method

3.1. Sample

Our sample was collected on Kiva, a crowdlending platform that has already been studied by other scholars (Allison et al., 2015; Moss et al., 2015; Ly & Mason, 2012; Bradford, 2012, among others). This venture connects microfinance and crowdfunding, enabling entrepreneurs from impoverished parts of the world to crowdfund the microloans they need. Founded in 2005, Kiva has since emerged as one of the world's leading crowdfunding sites using the lending model (Bradford, 2012); its mission is "connecting people through lending to alleviate poverty". Once a loan request has been posted, it has to be funded by the public within a month, or else no money will be transacted. If funding is obtained, the money is transacted to an intermediate MFI, which in turn transfers it to the borrower, who is expected to repay according to a pre-arranged schedule. For an example of a borrower's profile, see Figure 1.

We built a dataset of 767,679 loans with complete information that were posted on Kiva.org between its inception in March 2005 and December 31, 2017, using Kiva's open public access API, a platform that enables information on loans and microfinance institutions (MFIs) to be downloaded. Out of those loans, only 64,949 failed to be funded within 31 days.

3.2. Measurement of variables

Dependent variable

In prior crowdfunding research (Galak et al., 2011; Allison et al., 2013; Allison et al., 2015; Moss et al., 2015), the variable of interest was typically the length of time (in days) needed for the loan to be fully funded, scaled from 1 day (i.e. the loan was funded within less than a day of being posted) to

31 days. If a loan is not funded within 31 days, it expires and no money is transacted. To take into account these two dimensions—being funded or not, and the time it takes to obtain funding—we opted for a survival analysis, similarly to Allison et al. (2015). This type of analysis jointly considers the two dimensions, combining them into one dependent variable, Time to Funding.

Although the borrower receives the same amount of money regardless of the time taken for the pledge to be funded, the number of days reflects the extent to which the lending crowd finds the loan attractive. A quickly funded loan might also have positive implications for the liquidity of the MFI and/or the borrower, who will receive the money sooner. If a loan is funded quickly, the MFI does not face the problem that arises in the opposite situation, as the time left to collect funding runs out.

Independent variables

The model includes several independent and control variables.

Business, *Basic Necessities*, and *Other Consumption Loans*: Every loan posted on Kiva is assigned to one economic sector and to one sub-sector (activity). We followed existing guidelines for previous microfinance loan classifications. As explained by Imai & Azam (2010), business loans are those made for income-generating activities, for example, small-scale poultry farming or cattle rearing. Examples of business loan requests are: "Nancy from the Philippines asks for a loan to pay for additional supplies and merchandise products to sell in her direct-sales business." or "Yvelt from Haiti asks for a loan to pay for another machine for his production of bags."

The second type of loan addresses a basic need of the borrower's household, such as medical expenses, school tuition, or repairs to the house. Here is an example of another consumption loan request: "Nada from Lebanon asks for a loan to pay for urgent medical tests she has to undergo." The rest of the loans (third type) are requested to purchase more general consumer goods. Another example of another type of consumption loan request is: "Tolib from Tajikistan asks for a loan to purchase a wedding gift (furniture)."

Based on these guidelines and definitions, we manually classified each of the 162 activities as either Business Loan, Basic Necessity Loan, or Other Consumption Loan. Similarly to standard practice (Alsos and Ljunggren, 2017), the same exercise was conducted by two of the authors separately as a

robustness check[46]. To the best of our knowledge, such a detailed classification cannot be found in the existing literature.

Gender of the entrepreneur. Gender was provided in the data concerning single entrepreneurs, and whenever a team of borrowers was involved, the numbers of males and females in the group were provided. We then created a dummy variable for female entrepreneurs or female-majority groups (1) and male entrepreneurs or male-dominated groups (0). Groups with an equal number of men and women were not considered in the analysis. According to this classification, 73% of our initial sample was female. These numbers are consistent with the classification of Galak et al. (2011). We used the gender of the microentrepreneur as a proxy for the gender of the campaign. This approach is largely used in the literature on microentrepreneurs, as well as in the literature on crowdfunding (Périlleux & Szafarz, 2015; Gafni et al., 2019; Figueroa-Armijos & Berns, 2019). However, it is clearly a shortcut. Indeed, authors have shown that linguistic styles used by female and male entrepreneurs on crowdfunding platforms differ and can influence funding success (Parhankangas et al., 2019). For example, using data from the Indiegogo platform, Gorbatai and Nelson (2015) have shown that female advantage on crowdfunding platforms is partially explained by differences between men and women in terms of the language they use. Moreover, Harrer and Lehner (2019) have identified tropes and associated feminist themes driving the success of female entrepreneurs' campaigns on crowdfunding platforms by connecting with immanent societal values.

Competition controls. In their paper, Ly & Mason (2011) highlighted the importance of the competition effect when fundraising on Kiva. Even highly attractive loans would go unnoticed when posted on the platform due to the high number of other loans that were fundraising at the same time. The lenders' funds are limited, as is exposure on the platform. Nonetheless, competition may also carry some benefits, such as a greater focus on microfunding in certain regions or sectors, or funding through a popular MFI partner. Therefore, we added the four competition controls computed by Ly & Mason (2011): I. The number of other loans by the same MFI that were fundraising on the day the loan was posted. II. The number of other loans in the same region that were fundraising on the day the loan was posted[47]. III. The number of other loans in the same sector that were fundraising on the

[46] To a large extent, the two coders allocated loan activities in the same way. The few items that were not coded similarly were discussed with the third author.
[47] The eight world regions are determined by Kiva.

day the loan was posted. IV. The share of female entrepreneurs fundraising on the day the loan was posted.

Further control variables. Other relevant control variables were added to the regression, on the basis of previous research including works by Allison et al. (2013), Galak et al. (2011), and Moss et al. (2015). First, we added a dummy variable for each world region. We also controlled for the requested amount of the loan (logged) and the riskiness of the MFI (as measured by 0 to 4.5 stars, rated by Kiva), and added a dummy for groups (1 for group, 0 for individual). All of these control variables might affect the Kiva user making his or her lending decision.

4. Analysis

Since our dependent variable is Time to Funding, our method was selected among the survival analysis techniques. Survival analysis is used in cases where the sample tracks individuals until an event happens or they are lost from the data set. The interesting aspects are the length of time they "survive" in the sample before they exit (in our case: are funded), and in the risk of exiting, which is the hazard rate. Both depend on the main regressors and the co-variates.

Previous studies that researched shorter time spans of the Kiva data set, such as Galak et al (2011) and Moss et al (2015), used the Cox proportional hazards model (Cox, 1972) for their empirical analysis, with "time to get funded" as their right-censored dependent variable. This statistical model takes into consideration the time until an event of interest occurs, and compares the cumulative probability of events over time for two or more cohorts, while adjusting other influential covariates (Singh & Mukhopadhyay, 2011). However, the proportional hazard assumption, which is valid in the Cox model, is violated in our dataset, which spans over twelve years.

Therefore, we used a fully parametric hazard model with Weibull distribution, which fitted our data. Although the output of this model is hazard ratios obtained by exponentiating beta values ($e\beta$), we present them as coefficients (β) for the convenience of our readers.

The risk of endogeneity has been largely addressed. Indeed, measurement error is strongly limited since input data was directly collected from the platform. Concerning omitted variables, we included all control variables that are generally used in the literature in the regressions. Finally, concerning

reverse causality, we suggest that preferences are intrinsically defined and will not be influenced by external elements.

As robustness checks, we conducted three matching analyses for each of our three hypotheses. First, referring to the first hypothesis (H1), we matched loans one-to-one according to loan status, gender of borrower, year, country, exact loan amount, percentiles of number of competing loans in the same sector and the same world region, MFI rating (in integer numbers), and loan terms such as: currency exchange loss (at the expense of the borrower/MFI/shared), bonus credit eligibility, and repayment interval. The only difference between matched loans is their purpose (business versus basic necessities, excluding other consumption loans). In cases where two or more loans had the exact same characteristics, we randomly selected only one of them. This process left us with a subsample of 865 matched pairs[48]. We computed the difference in Time to Funding within each matched couple. Since both members of the couple shared the same characteristics, except for purpose, we were able to deduce that any difference that might exist would result from that particular characteristic. We ran t tests on Time to Funding in this subsample, to determine whether this is different between business and basic necessities loans. Second, to test the robustness of the results we obtained for the second hypothesis, we divided the subsample into two groups: lower versus higher than the median. We then tested to what extent differences in Time to Funding between business and basic necessity loans depend from the size of the loans.

The third matching analysis concerns hypothesis H3: we matched fully-funded loans according to the same characteristics as before, the difference, this time, being the gender of the entrepreneur, while the purpose was added to the matching dimensions. The subsample we obtained consisted of 30,798 matched couples. We then checked for differences between the two groups.

[48] With this exact-matching process, we sought to find campaigns that were as similar as possible by controlling for multiple dimensions, including: both campaigns raising the exact same amount (to the dollar) and the same percentile of number of competing loans in the same sector and world region. This very precise matching increases the validity of the results, yet comes at the cost of reducing the sample size. However, although the sample may seem small compared to the whole dataset used in this chapter, it is still a large sample that leaves us with high enough power for computing robust statistical tests.

4.1. Results

Table 1 provides the descriptive statistics and correlations of our variables. We can see that, on average, it takes 12 days for a loan to get funded. The vast majority of the loans granted (88%) are for business use. The average loan size is US$633, and 73% of the requests come from female entrepreneurs. Correlations do not exceed 0.8, which prevents multicollinearity issues.

Table 1. Means, standard deviations and correlations.

	Variable	Mean	Std. Dev.	1	2	3	4	5	6	7	8	9	10	11
1	Time to Funding (in days)	11.68	10.92	1.00										
2	Loan Amount (logged)	6.45	0.82	0.28*	1									
3	Business Loan	0.88	0.33	0.04*	0.05*	1								
4	Basic Necessity Loan	0.09	0.29	-0.02*	0.03*	-0.85*	1							
5	Other Consumption Loan	0.03	0.17	-0.05*	-0.14*	-0.47*	-0.06*	1						
6	Female (dummy)	0.73	0.45	-0.21*	-0.07*	0.08*	-0.08*	-0.02*	1					
7	Group (dummy)	0.16	0.36	-0.04*	0.37*	-0.01*	-0.09*	0.17*	0.15*	1				
8	MFI Rating	3.13	0.94	0.05*	0.01*	0.04*	0.01*	-0.09*	0.06*	-0.15*	1			
9	Sector Competition (logged)	7.90	1.06	0.18*	-0.01*	0.73*	-0.54*	-0.49*	0.10*	-0.04*	0.05*	1		
10	MFI Competition (logged)	4.21	1.31	0.24*	-0.36*	0.04*	-0.05*	0.01*	0.09*	-0.20*	0.35*	0.32*	1	
11	Region Competition (logged)	6.72	0.99	0.11*	-0.29*	-0.05*	0.01*	0.07*	0.14*	0.06*	0.01*	0.44*	0.47*	1
12	Share of Females (logged)	0.64	0.07	0.12*	-0.09*	-0.06*	0.05*	0.03*	0.07*	0.01*	0.02*	0.18*	0.23*	0.29*

N = 767,679. The starred correlations are significant at $p < .05$.

Table 2 presents the regression results for the aforementioned specifications (coefficients and standard errors in parentheses). We started by running a regression over the basic variables of interest: the purpose of the loan (with basic necessity loans being the omitted category), its size, and the gender of the entrepreneur. We also added competition controls and dummies for groups, rating of the MFI, and region (Model 1). To this basic setup, we added interaction dummies (2 and 3). Specification 4 includes all of these variables together. The minor changes in AIC and BIC values suggest that adding additional variables did not cause any loss of information to our estimations.

Table 2. Parametric survival model regression results.

	(1)	(2)	(3)	(4)
Other Consumption	0.271***	0.361***	0.275***	0.363***
	(0.00950)	(0.00990)	(0.00956)	(0.00994)
Business	0.133***	1.325***	0.0942***	1.283***
	(0.0102)	(0.0350)	(0.0108)	(0.0357)
Female	-0.483***	-0.488***	-0.538***	-0.533***
	(0.00271)	(0.00271)	(0.00715)	(0.00722)
Log(amount)	0.811***	0.971***	0.811***	0.969***
	(0.00204)	(0.00493)	(0.00204)	(0.00495)
Log(amount)*Business		-0.188***		-0.186***
		(0.00530)		(0.00533)
Female*Business			0.0640***	0.0525***
			(0.00756)	(0.00763)
Group	-0.448***	-0.420***	-0.447***	-0.420***
	(0.00387)	(0.00395)	(0.00388)	(0.00395)
Rating	-0.0814***	-0.0810***	-0.0815***	-0.0811***
	(0.00151)	(0.00150)	(0.00151)	(0.00150)
Log(Type Competition)	0.0349***	0.0443***	0.0342***	0.0435***
	(0.00408)	(0.00408)	(0.00409)	(0.00409)
Log(MFI Competition)	0.340***	0.339***	0.340***	0.339***
	(0.00130)	(0.00130)	(0.00130)	(0.00130)
Log(Region Competition)	0.225***	0.217***	0.225***	0.218***
	(0.00419)	(0.00419)	(0.00420)	(0.00420)
Share of Female	0.909***	0.915***	0.905***	0.911***
	(0.0184)	(0.0183)	(0.0184)	(0.0183)
Log(p)	0.045***	0.043***	0.045***	0.043***
	(0.0008)	(0.0008)	(0.0008)	(0.0008)
Constant	-6.003***	-7.032***	-5.961***	-6.989***
	(0.0328)	(0.0440)	(0.0332)	(0.0446)
Region controls	Yes	Yes	Yes	Yes
Observations	767,679	767,679	767,679	767,679
-2 Log-likelihood	2,302,291	2,300,922	2,302,215	2,300,871
Df	17	18	18	19
Akaike Information Criterion (AIC)	2,302,329	2,300,962	2,302,255	2,300,913
Bayesian Information Criterion (BIC)	2,302,549	2,301,193	2,302,486	2,301,155
Model $\chi 2$	329,269	336,209	329,518	336,258

Our first hypothesis supports the notion that a request for a basic necessity loan better responds to the prosocial motivation of microlenders and will thus be associated with a quicker funding than a request for a business loan or for other consumption (H1). Our results confirm this hypothesis. We obtained a positive and significant coefficient associated with the business dummy and the other consumption dummy ($\beta = 0.13$ and 0.27 respectively, $p = .01$ in regression (1)), which suggests that these loans require more time for full funding than basic necessity loans. All other things being equal, the hazard of loan fulfillment decreased when the request concerned basic necessity purposes. Hence, microlenders are more willing to support microentrepreneurs who highlight their fundamental needs rather than their willingness to invest in business activities.

We also found support for the second hypothesis, which stated that the size of the loan would moderate the effect of loan purpose on the duration of the fundraising campaign (H2). Indeed, a larger loan size does moderate the positive effect of business purpose (which increases the time needed to obtain funding), since the coefficient associated with the interaction term is negative ($\beta = -0.19$, $p = .005$ in regression (2)). This result also means that the comparative advantage of basic necessity loans over business loans decreases when loan size increases.

As regards the gender effect, we first found—as expected—that female entrepreneurs were funded more quickly than their male counterparts ($\beta = -0.48$, $p = .003$ in regression (1)). This result is consistent with previous studies on social crowdlending, which also uncovered a gender advantage for female entrepreneurs (Galak et al., 2011; Moss et al., 2015).

Our third hypothesis (H3) stated that gender would moderate the loan purpose effect on fundraising. In particular, H3 holds that basic necessity loans are funded even faster when requested by a *female* borrower. Our findings support H3. Indeed, results show that female borrowers not only enjoy a comparative advantage for basic necessity loans, but also an absolute advantage for both types of loan (basic necessity and business). Regression (3) shows that basic necessity loans, when requested by female borrowers, are funded significantly more rapidly than when requested by male borrowers (which is the referred category), since the associated coefficient is negative and significant ($\beta_{Female} = -0.54$, $p = .007$). Regression (3) also shows that business loans requested by female borrowers ($\beta_{business} = 0.09 + \beta_{Female} = -0.54 + \beta_{Female*Business} = 0.06$) are funded more rapidly than business loans requested by male borrowers ($\beta_{business} = 0.09$). However, the comparative advantage of female

borrowers is stronger when they ask for a basic necessity loan, since the coefficient associated with the interaction variable is positive and significant ($\beta_{Female*Business} = 0.06$, $p < .008$)[49].

Finally, regarding control variables, we found that loans intermediated by safer MFI partners were funded more quickly than others. This finding is consistent with Allison et al. (2015) and with intuition, but inconsistent with Galak et al. (2011) and Moss et al. (2015). We also found similar results concerning the competition variables in previous studies (Ly and Mason, 2012). Moreover, the coefficient for group loans is consistently negative across the specifications, suggesting that they are more attractive to lenders than applications from individual borrowers.

4.2. Robustness checks

In order to verify the validity of our results, we ran our three robustness checks using matching methods, presented in Table 3.

Table 3. Robustness Checks – Matching Method

Panel A - Matching for Business Loan Effect

		Basic Necessity		Business			
	Obs	Mean	SD	Mean	SD	Diff	*p*
Matching test testing H1							
Duration	865	5.312	0.293	5.899	0.307	-0.587	0.083
Matching test testing H2							
Duration, Small loans (≤$675)	554	3.904	0.316	4.505	0.332	-0.601	0.095
Duration, Large loans (>$675)	311	7.820	0.562	8.383	0.590	-0.563	0.245

Panel B - Matching for Gender Effect

		Male		Female			
	Obs	Mean	SD	Mean	SD	Diff	*p*
Duration	30,798	11.382	0.065	6.767	0.055	4.615	0.000
Matching test testing H3							
Duration, Basic necessity	4,390	11.402	0.168	6.446	0.149	4.956	0.000
Duration, Business	26,408	11.379	0.070	6.821	0.059	4.558	0.000

[49] Compared to the baseline (a male borrower asking for a basic necessity loan), the coefficient associated with a male borrower asking for a business loan is, as expected, significantly higher ($\beta_{Business} = 0.09$, $p = 0.011$).

Matching for Loan Purpose Effect

We computed the difference in Time to Funding between each half of matched couples, and found that basic necessity loan campaigns were funded faster (M = 5.31, SD = 0.29) than business loans (M = 5.9, SD = 0.31), meaning that a fundraising campaign for a business loan was nearly 10% longer on average, and statistically significant (t(1,728) = -1.385, p = .083, see Panel A). These results validate previous findings supporting H1.

Matching for Loan Size Moderation Effect

We then divided the aforementioned subsample into two groups: lower versus higher than the median. We can see that the difference in Time to Funding between basic necessity and business loans is significant where we considered loans below or equal to the median value of $675 ($t$(1,106) = 1.311, p = .095 whereas the difference is not significant where we only considered loans above the median (t(620) = -0.691, p = .245). These results support our finding that loan size is taken into consideration by lenders when deciding whether to fund basic necessity loans.

Matching for Gender Moderation Effect

The difference in the number of funding days between male (M = 11.38, SD = 0.07) and female borrowers (M = 6.77, SD = 0.06) was 4.62 in favor of females, whose loans were funded significantly faster (t(61,594) = 54.44, p < .001, see Panel B). Looking at basic necessity loans only, the difference increased to 4.96 days. However, when the purpose of the loan was business investment, the difference decreased to 4.56 days (significantly lower than 4.96). Computing the t tests over the number of funding days in the subsample, all three differences came out as significant (p < .001). Therefore, this result confirms previous findings, supporting H3, suggesting that when a female entrepreneur is involved, the lender's funding preference for a basic necessity loan is stronger than for a business loan.

5. Discussion

The crowdfunding phenomenon keeps growing and revolutionizing how entrepreneurs raise capital; hence it is vitally important to have in-depth knowledge about the way microlenders make decisions (Allison et al., 2015; Chan & Parhankangas, 2017; Berns et al., 2020). Our study gives new insights

into the factors affecting the success chances of prosocial crowdfunding campaigns for microentrepreneurs in developing countries. Our empirical results are threefold.

First, they show that a microlender will be more likely to support impoverished entrepreneurs who ask for loans to meet social needs rather than to fund business investment. Necessity loans, requested to cover expenses made to meet basic human needs, are related to the critical situation faced by the microentrepreneur, and the lender heeds the call for help. Referring to SDT, lenders' preference for this type of loan can be explained by prosocial motivation. Support for basic necessity loans stimulates relatedness, one of the three basic psychological needs, which tend to increase prosocial motivation relatedness, one of the three basic psychological needs, which tends to increase prosocial motivation?. Our results echo the findings of Allison et al. (2015), i.e. that narratives on social lending platforms highlighting the venture as an opportunity to help others are more successful that those framed as a business opportunity. Socially-oriented lending platforms such as Kiva offer a perfect outlet for microlenders willing to provide support to impoverished citizens.

Our second finding is that loan purpose and loan size have a moderating effect on the duration of the fundraising campaign, since this pattern holds especially for small loans. It is well known that the likelihood of success of the crowdfunding campaign decreases as the size of the campaign's target capital increases (Buttice et al., 2017). Our results shed new light on the effect of loan size. The most plausible interpretation of this moderating effect is the microlenders' desire to avoid the potentially negative consequences of large loans, such as over-indebtedness, especially since loans for social needs do not generate any new income. Referring to SDT, this would increase prosocially motivated microlenders' feelings of competence.

Finally, we can observe a gender effect. Consistent with the literature (Ravina, 2008; Duarte et al., 2012; Gafni, et al., 2019), our results suggest a preference toward female entrepreneurs on the platform. This finding is in keeping with the socially-minded motives described above, since female-headed households are over-represented among the poor, according to a meta-analysis by Buvinić and Gupta (1997). It is also in line with standard practice in microfinance, since most MFIs explicitly or implicitly focus on women (D'Espallier et al., 2011).

In the context of prosocial crowdfunding, the results concerning the gender moderating effect on the type of loan are particularly original. In particular, although females enjoy an absolute advantage, we

show that their comparative advantage is significantly lower for a business loan than for a basic necessity loan. In line with SDT, prosocially motivated microlenders prefer to lend to women for basic necessities, since they view this type of loan as having the strongest social impact. It increases their feelings of competence.

The gender moderating effect, however, can have adverse consequences, inducing women to ask for basic necessity loans and driving them away from business. In essence, this reveals an ethical blind spot. Indeed, prosocially motivated microlenders may unintentionally end up producing outcomes that go against their ethical values (Sezer et al., 2015; Pittarello et al., 2015). Sezer et al. (2015, p. 7) have identified three sources of ethical blind spots. The first one is temporal distance from an ethical dilemma—when people overestimate their ethical behavior in the future. The second one is related to bias that leads people to disregard others' unethical behavior. This bias tends to undermine moral agency in work organizations. For instance, Moberg (2006) shows that supervisors are likely to encounter ethical blind spots when they evaluate their subordinates' ethical behavior, leading to inadequate control.

A last type of ethical blind spot is due to implicit biases. In this case, people willing to do good are not aware of the possible negative implications that their decisions may have (Nayebpour & Koehn, 2003; Bazerman & Sezer, 2016)[50]. As stressed by Palazzo et al. (2012, p. 323), in this type of ethical blind spot, "people might behave unethically without being aware of it". The ethical blind spot revealed by our study stems from an implicit bias, since crowdlenders were not aware of the possible adverse consequences of their behavior.

Consequently, this chapter links ethical blind spot with prosocial motivation theory, which is an innovative approach. Indeed, our findings suggest that combining various prosocial motives could lead to some counter-productive effects from a prosocial perspective and eventually produce an ethical blind spot. Prosocial motives may not always reinforce each other, which could lead to a trade-off among them. This chapter adds to the literature discussing possible tensions between the different

[50] Nayebpour & Koehn (2003) call upon this concept, for example in the case of total quality management (TQM), since TQM's customer focus may result in other key stakeholders being ignored.

social missions that social enterprises can pursue, in addition to the classical tensions between economic and social missions (Defourny & Nyssens, 2017; Dufays, 2019).

Our results make three main research contributions and have a number of implications for practice. First, they enrich SDT theory by looking at the purpose of the loan as a motivation factor of prosocial crowdfunding. They show that loan purpose has a significant impact on decisions of prosocially motivated lenders to make loans to microentrepreneurs in developing countries. To the best of our knowledge, this element had not been investigated in this context before. Our findings may encourage crowdfunding platforms to publish more information on loan purpose or to include more projects from microentrepreneurs focusing on essential necessities and social needs. Although they are very popular, these loans constitute a small minority. The findings also highlight the importance of a moderating effect in terms of interaction with loan size. They confirm other studies (Gafni, et al., 2020) showing that gender affects the crowdfunding decisions of impact lenders.

Second, our paper contributes to the ethical finance literature and expands prosocial theory by looking into a crowdlending context. We provide new empirical evidence on the factors that encourage investors to finance underserved microentrepreneurs. In developing countries, these tend to develop their own enterprises and, in doing so, to create varying degrees of economic and social value (Moss et al., 2015). In particular, our findings suggest that the pattern observed on a well-established prosocial crowdlending platform runs counter to the widely shared guidelines of some MFIs, which prefer to fund productive loans. This important finding is in line with some recent studies on crowdfunding in other industries.

Our research also shows that the democratization of funding decisions, which are no longer in the hands of experts alone, alters the type of project supported. This democratization leads to an increase in the probability of socially valued projects being financed (Defazio et al,, 2020; Mollick & Nanda, 2015; Younkin & Kuppuswamy, 2018; Tchakoute-Tchuigoua, 2018).

Third, our paper contributes to the literature on gender and business ethics, and finds evidence of an ethical blind spot in the social crowdlending context. It shows that, in this specific context, female entrepreneurs will receive greater rewards from prosocial investors than their male counterparts do, whatever the circumstances. This is in line with other studies on crowdfunding, which show that this more democratic way of financing entrepreneurs tend to be a less discriminatory path to funding for

women (Galak et al., 2011; Moss et al., 2015). However, their comparative advantage is even greater when they conform to their traditional social role. In a way, this result partly contradicts the findings of a study by Greenberg & Mollick (2017) about a reward-based crowdfunding platform. The authors showed that female entrepreneurs outperformed their male counterparts, especially in male-dominated technological categories, thanks to the homophily-related activism of female backers.

Our study obviously has some limitations, and we would like to stress three of them. The first one concerns the generalizability of our findings. We conducted our analysis on a clearly prosocially driven platform, which had a sizeable advantage—we were sure that lenders on this platform were prosocially motivated. Consequently, we were fully aware that we observed the specific behavior of prosocially motivated microlenders. There was no doubt about their prosocial motivations, since the platform did not pay any interest rate on the loans granted. However, this has its disadvantages as well. In particular, we could not compare the behavior of these microlenders with the behavior of microlenders who were *not* prosocially motivated.

The second limitation concerns our proxies. More particularly, we used the gender of the microentrepreneur as a proxy for the gender of the campaign. This approach is widespread in the literature on microentrepreneurs, as well as in the literature on crowdfunding (Figueroa-Armijos & Berns, 2019). However, it is clearly a shortcut. Indeed, Gorbatai and Nelson (2015), Parhankangas et al. (2019) and Harrer and Lehner (2019) show that female and male entrepreneurs do not present their projects in the same way and that there is a clear link between feminist tropes and crowdfunding success.

The third limitation is related to the fungibility of money. Although microentrepreneurs apply for a loan for a specific purpose, they can always use the money for a different objective. We can never be sure that the money granted will indeed be used for the purpose stated by the microentrepreneur. This, however, should not introduce too much bias into our analysis, since it still reveals microlenders' preferences.

6. Conclusion

Access to funding is both crucial and problematic for many microentrepreneurs. For this reason, we analyzed the impact of the type of loan on fundraising outcomes on a prosocial crowdlending platform. Our findings suggest that loans related to basic needs are funded faster than loans for business,

especially when small amounts are involved. Moreover, we found that female borrowers were funded faster, especially when they applied for loans to meet essential needs. Thus, there is a gender moderating effect.

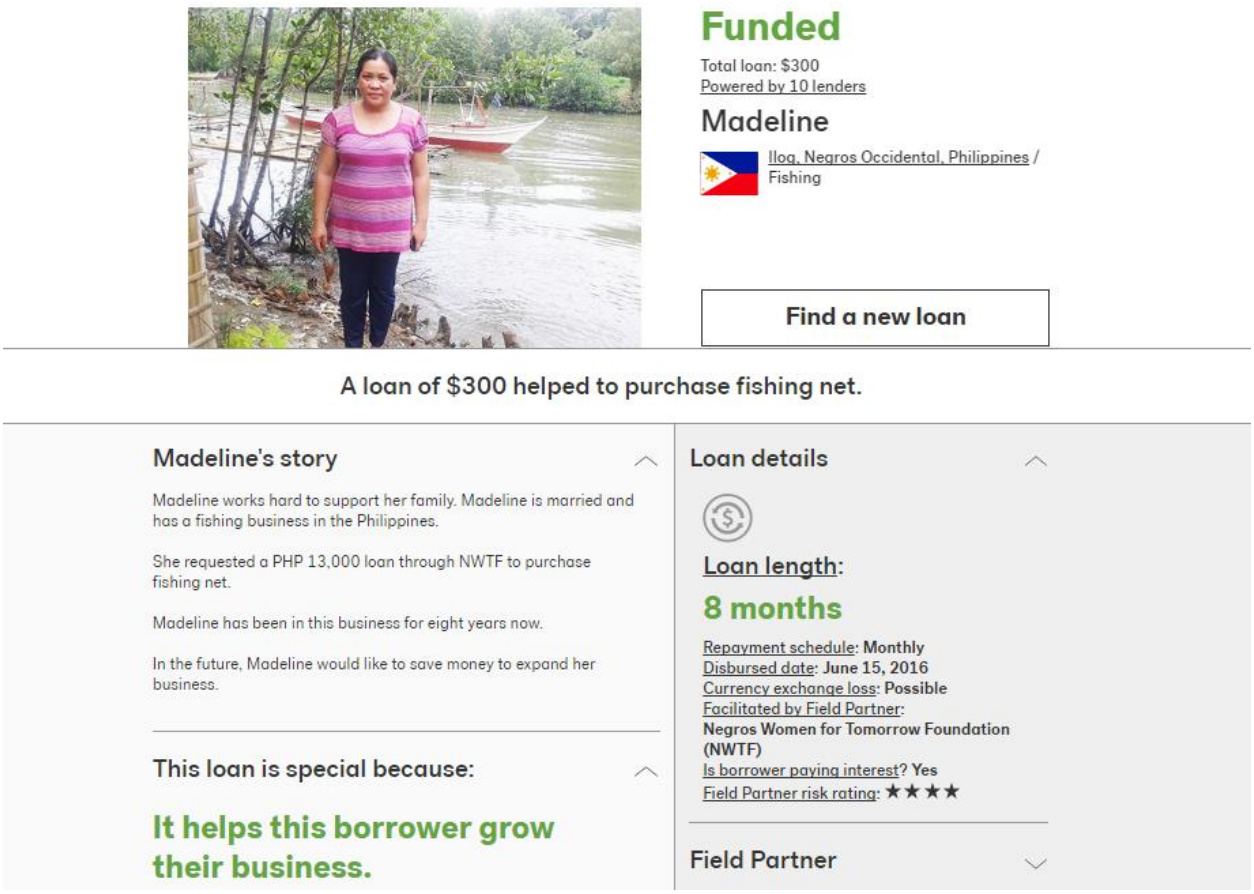
Prosocial crowdlending is a new way of raising funds to finance poor microentrepreneurs. Our results show that, for microfinance organizations, prosocial crowdfunding has the potential to lead to diversification by increasing the social impact of the microfinance sector. The trend toward commercialization within this sector has frequently been criticized, for it is pushing it toward a market-based logic (Khavul et al., 2013) and, over time, displacing the field's foundational principles of poverty alleviation and economic development (Kent & Dacin, 2013). However, microlenders active on crowdfunding platforms primarily finance small loans and female entrepreneurship, two proxies that are very frequently used to assess the social performance of MFIs (Cull et al., 2009; Périlleux & Szafarz, 2015). Consequently, although the practice of prosocial crowdlending to support microentrepreneurs is at an early stage of development, it seems to be nudging the microfinance sector along a social path and could thus partly counterbalance some of the potential drawbacks and ethical concerns of commercialization. Our results, however, suggest an ethical blind spot, since prosocially motivated crowdlenders may unintentionally end up producing adverse outcomes, driving women away from business.

Future research may be able to identify additional moderators that affect the impact of loan purpose on lending success. In particular, linguistic styles used by female and male microentrepreneurs, and the coherence between their linguistic style and the purpose of the requested loan, could be added to the analysis. Moreover, gender differences concerning other types of loan or funding tool for (micro)entrepreneurs could also be tested.

Another interesting extension would be to cross-tabulate these results with lenders' characteristics in order to identify those that are correlated with a preference for a specific loan purpose. The research reported on in this chapter assessed the average preferences of prosocially motivated microlenders. However, these preferences might vary according to lenders' characteristics, in particular the gender of microlenders, since it is known that gender affinity and homophily can play a role on crowdfunding platforms (Greenberg & Mollick, 2017; Vismara et al., 2017; Gafni et al., 2019). This could also be investigated in the context of prosocially motivated crowdfunding.

Finally, lending by the crowd is only one type of crowdfunding. It would be interesting to discover the extent to which results obtained in connection with prosocial crowdlending are similar to those obtained following a similar analysis in other prosocial crowdfunding contexts, such as pro*social* reward-based or prosocial equity-based crowdfunding. This could provide some insights into the ways in which the funding method influences prosocial preferences and the presence of ethical blind spots. We hope that future studies will address these issues and shed some light on them.

Figure 1. An example of a funded loan request on Kiva



References

Afuah, A. & Tucci, C. (2012). Crowdsourcing as a Solution to Distant Search. *Academy of Management Review*, *37*(3), 355–375.

Agrawal, A. K., Catalini, C., & Goldfarb, A. (2011). *The Geography of Crowdfunding* (No. w16820). National bureau of economic research.

Ahlers, G. K.C., Cumming, D., Günther, C. & Schweizer, D. (2015). Signaling in Equity Crowdfunding. *Entrepreneurship Theory and Practice*, 39(1), 955-980.

Aldohni, A.K. (2018), Is Ethical Finance the Answer to the Ills of the UK Financial Market? A Post-Crisis Analysis, *Journal of Business Ethics*, 151, 265 –278.

Allison, T. H., Davis, B. C., Short, J. C., & Webb, J. W. (2015). Crowdfunding in a Prosocial Microlending Environment: Examining the Role of Intrinsic Versus Extrinsic Cues. *Entrepreneurship Theory and Practice*, 39(1), 53–73.

Allison, T.H., McKenny, A.F., & Short, J.C. (2013). The effect of entrepreneurial rhetoric on microlending investment: An examination of the warm-glow effect. *Journal of Business Venturing*, 28(6), 690–707.

Alsos, G.A. & Ljunggren, E. (2017). The Role of Gender in Entrepreneur –Investor Relationships: A Signaling Theory Approach. *Entrepreneurship Theory and Practice*, 41(4), 567–590.

André, K., Bureau, S., Gautier, A., & Rubel, O. (2017). Beyond the Opposition between Altruism and Self-interest: Reciprocal giving in reward-based crowdfunding. *Journal of Business Ethics*, 146, (2), 313–332.

Armendáriz, B. & M. Labie (2011), *The Handbook of Microfinance*, London-Singapore: Scientific Work.

Ashta, A., Assadi, J. & Marakkath, N. (2015), The Strategic Challenges of a Social Innovation: The Case of Rang De in Crowdfunding, *Strategic Change*, 24, 1–14.

Barigozzi, F., Tedeschi, P. (2019). On the credibility of ethical banking, *Journal of Economic Behavior & Organization*, 166, 381-402,

Bagozzi, R.P. and Dholakia, U. M. (2006). Open Source Software User Communities: A Study of Participation in Linux User Groups. *Management Science*, 52(7), 1099-1115.

Battilana, J. & Dorado, S. (2010) Building sustainable hybrid organizations: the case of commercial microfinance organizations, *Academy of Management Journal*, 53(6), pp. 1419–1440.

Bauwens, T., Huybrechts, B., Dufays, F. (2019). Understanding the diverse scaling strategies of social enterprises as hybrid organizations: The case of renewable energy cooperatives. *Organization & Environment*, 10.1177/1086026619837126.

Bazerman M. H. & Sezer (2016). Bounded awareness: Implications for ethical decision making.

Organizational Behavior and Human Decision Processes, 136, 95-105.

Belleflamme, P., Lambert, T., & Schwienbacher, A. (2014). Crowdfunding: Tapping the Right Crowd. *Journal of Business Venturing*, *29*(5), 585–609.

Belleflamme, P., Omrani, N., & Peitz, M. (2015). The economics of crowdfunding platforms. *Information Economics and Policy*, 33, 11-28.

Bendell, B. L. (2017). I don't Want to be Green: Prosocial Motivation Effects on Firm Environmental Innovation Rejection Decisions. *Journal of Business Ethics*, 143, 277-288

Berns, J. P., Figueroa-Armijos, M., da Motta Veiga, S. P., & Dunne, T. C. (2020). Dynamics of lending-based prosocial crowdfunding: Using a social responsibility lens. *Journal of Business Ethics*, 161(1): 169-185.

Bradford, S.C. (2012). Crowdfunding and the Federal Securities Laws, *Columbia Business Law Review*, 1, 1–150.

Brolis, O. & Nyssens, M. (2019). Does the Mission of an Organization Affect the Quality of Low-Skilled Jobs in Quasi-markets?: A Comparison Between Social Enterprises and For-Profit Organizations. *Voluntas*. https://doi.org/10.1007/s11266-019-00164-x

Bruton, G., Khavul, S., Siegel, D. & Wright, M. (2015). New financial alternatives in seeding entrepreneurship: Microfinance, crowdfunding, and peer-to-peer innovations. *Entrepreneurship Theory and Practice*, 39(1) 9-26.

Bruton, G.D., Khavul, S. & Chavez, H. (2011). Microfinance in emerging economies: Building a new line of inquiry from the ground up. *Journal of International Business Studies*, 42(5), 718-739.

Burtch G., Ghose, A., Wattal, S. (2015). The Hidden Cost of Accomodating Crowdfunder Privacy Preferences: A Randomized Field Experiment. *Management Science*. 61(5), 949-962.

Buttice, V., Colombo, M. G., & Wright, M. (2017). Serial crowdfunding, social capital, and project success. *Entrepreneurship Theory and Practice*, *41*(2), 183-207.

Buvinić, M., & Gupta, G. R. (1997). Female-headed households and female-maintained families: are they worth targeting to reduce poverty in developing countries?. *Economic Development and Cultural Change*, 45(2), 259-280.

Carter, S., Shaw, E., Wilson, F. & Lam, W. (2007), Gender, entrepreneurship and bank lending: the criteria and processes used by bank loan officers in assessing applications, *Entrepreneurship Theory & Practice*, 31(3), 427-44.

Cholakova, M., & Clarysse, B. (2015). Does the Possibility to Make Equity Investments in Crowdfunding Projects Crowd Out Reward-Based Investments? *Entrepreneurship Theory and Practice*, 39(1), 145–172.

Collins, L. & Pierrakis, Y. (2012) *The venture crowd: crowdfunding equity investments into business.* (Project Report) London, U.K.: NESTA. 36 p.

Collins, D., Morduch, J., Rutherford, S. & Ruthven, O. (2009). Portfolios of the Poor: How the World's Poor Live on $2 a Day. Princeton University Press: New Jersey.

Colombo, M.G., Franzoni, C. & Rossi-Lamastra, C. (2015). Internal Social Capital and the Attraction of Early Contributions in Crowdfunding. *Entrepreneurship Theory and Practice*, 39(1), 75-100.

Conger, M., McMullen, J. S., Bergman Jr, B. J., & York, J. G. (2018). Category membership, identity control, and the reevaluation of prosocial opportunities. *Journal of Business Venturing*, 33(2), 179-206.

Cornée, S. & Szafarz, A. (2014). Vive la Différence: Social Banks and Reciprocity in the Credit Market. *Journal of Business Ethics*. 125, 361–380.

Cox, D.R. (1972). Regression models and life tables. *Journal of the Royal Statistical Society*, 34, 187–220.

Cowling, M., & Westhead, P. (1996). Bank lending decisions and small firms: does size matter?. *International Journal of Entrepreneurial Behavior & Research*, *2*(2), 52-68.

Cumming, D., Hou, W., & Lee, E. (2016). Sustainable and ethical entrepreneurship, corporate finance and governance, and institutional reform in China. *Journal of business ethics*, *134*(4), 505-508.

De Cooman, R., De Gieter, S., Pepermans, R., & Jegers, M. (2011). A Cross-Sector Comparison of Motivation-Related Concepts in For-Profit and Not-For-Profit Service Organizations, *Nonprofit and Voluntary Sector Quarterly*, 40(2) 296–317.

Defazio, D., Franzoni, C., & Rossi-Lamastra, C. (2020). How Pro-social Framing Affects the Success of Crowdfunding Projects: The Role of Emphasis and Information Crowdedness. *Journal of Business Ethics*, 1-22.

Defourny, J. & Nyssens, N. (2017). Fundamentals for an International Typology of Social Enterprise Models. Voluntas, 28(6), 2469-2497.

Demirguc-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2018). The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution. *The World Bank.*

D'Espallier, B., Guérin, I., & Mersland, R. (2011). Women and repayment in microfinance: A global analysis. *World Development*, 39(5), 758–772.

Dorfleitner, G., Oswald, E. M., & Röhe, M. (2019). The access of microfinance institutions to financing via the worldwide crowd. *The Quarterly Review of Economics and Finance*.

Dorfleitner, G., Hornuf, L., & Weber, M. (2018). Dynamics of investor communication in equity crowdfunding. *Electronic Markets*, *28*(4), 523-540.

Duarte, J., Siegel, S. & Young, L. A. (2012), Trust and Credit: The Role of Appearance in Peer-to-peer Lending. *Review of Financial Studies*, 25 (8): 2455-2484.

Eddleston, K. A., Ladge, J. J., Mitteness, C. & Balachandra, L. (2016). Do You See What I See? Signaling Effects of Gender and Firm Characteristics on Financing Entrepreneurial Ventures. *Entrepreneurship Theory and Practice*, 40(3), 489–514.

Figueroa-Armijos, M., & Johnson, T. G. (2016). Entrepreneurship policy and economic growth: Solution or delusion? Evidence fro a state initiative *Small Business Economics*, *47*(4), 1033–1047.

Figueroa-Armijos, M. and Berns, J. (2019) Vulnerable Populations and Entrepreneurship in Prosocial Crowdfunding: Do Gender & Location Matter? *Academy of Management Proceedings*, 1, 15350

Fleming, L. & Sorenson, O. (2016), Financing by and for the masses: An introduction to the special issue on crowdfunding. *California Management Review*, 58, 5-19

Gafni, H., Marom, D., Robb, A., & Sade, O. (2020). Gender dynamics in crowdfunding (Kickstarter): Evidence on entrepreneurs, investors, deals and taste-based discrimination, Review of Finance. (forthcoming).

Galak, J., Small, D., & Stephenson, A.T. (2011). Microfinance decision making: A field study of prosocial lending. *Journal of Marketing Research*, 48 (Special Issue), S130–S137.

Garikipati, S. (2008). The impact of lending to women on household vulnerability and women's empowerment: evidence from India. *World development*, *36*(12), 2620-2642.

Gorbatai, A. D. and Nelson, L. (2015). Gender and the Language of Crowdfunding. *Academy of Management Proceedings*, 1, 15785.

Grant, A. M. (2007). Relational job design and the motivation to make a prosocial difference. *Academy of Management Review*, *32*(2), 393-417.

Grant, A. M. (2008). Does Intrinsic Motivation Fuel the Prosocial Fire? Motivational Synergy in Predicting Persistence, Performance, and Productivity. Journal of Applied Psychology, 93(1), 48–58.

Grant, A. M. and Berry, J. W., (2011). The necessity of others is the mother of invention: Intrinsic and prosocial motivations, perspective taking, and creativity. *The Academy of Management Journal*. 54(1), 73-96.

Greenberg, J., & Mollick, E. R. (2017). Activist Choice Homophily and the Crowdfunding of Female Founders. *Administrative Science Quarterly*.

Grown, C. (2014). Missing women: Gender and the extreme poverty debate. Learning Lab, United States Agency for International Development, Washington, DC.

Guenther, C., Johan, S., & Schweizer, D. (2018). Is the crowd sensitive to distance?—how investment decisions differ by investor type. *Small Business Economics*, 50(2), 289-305.

Harrer, T. and Lehner, O. M. (2019). Crowdfunding and Societal Change: A Critical Feminist Perspective on Entrepreneurial Discourse. *Academy of Management Proceedings*, 1, 10657.

Hermes, N. & Lensink, R. (2011). Microfinance: Its Impact, Outreach, and Sustainability. *World Development*. 39(6), 875–881.

Hildebrand, T., Puri, M., & Rocholl, J. (2017) Adverse Incentives in Crowdfunding. *Management Science* 63(3), 587-608.

Hudon, M. (2009). Should Access to Credit be a Right?, *Journal of Business Ethics*, 84, 17-28.

Hudon, M., Labie, M., & Reichert, P. (2020). What is a fair level of profit for social enterprise? Insights from microfinance. *Journal of Business Ethics*, 162, 627–644.

Huis, M., Lensink, R., Vu, N., & Hansen, N. (2019). Impacts of the Gender and Entrepreneurship Together Ahead (GET Ahead) training on empowerment of female microfinance borrowers in Northern Vietnam. *World Development*, *120*, 46-61.

Imai, K. S., & Azam, M. S. (2012). Does Microfinance Reduce Poverty in Bangladesh? New Evidence from Household Panel Data. *Journal of Development Studies*, 48(5), 633-653.

Johnston, J., & Morduch, J. (2008). The Unbanked: Evidence from Indonesia. *World Bank Economic Review*, 22(3), 517-537.

Kappel, T. (2009). Ex ante crowdfunding and the recording industry: A model for the U.S.?. *Entertainment Law Review*, 3(3), 375–385.

Kaufman, Z. D., Kassinger, T. W., & Traeger, H. L. (2013). Democratizing entrepreneurship: An overview of the past, present, and future of crowdfunding. Bloomberg BNA Securities Regulation & Law Report, 45(5), 208-217.

Khavul, S., Bruton, G.D., & Wood, E. (2009). Informal family business in Africa. *Entrepreneurship Theory and Practice*. 33(6), 1219–1238.

Khavul, S., Chavez, H., & Bruton, G.D. (2013). When institutional change outruns the change agent: The contested terrain of entrepreneurial microfinance for those in poverty. *Journal of Business Venturing*. *28*(1), 30–50.

Lehner, O.M. 2013. Crowdfunding Social Ventures: A Model and Research Agenda. *Venture Capital*, 15(4): 289-311.

Lehner, O.M. 2014. The formation and interplay of social capital in crowdfunded social ventures. *Entrepreneurship and Regional Development*, 26(5-6): 478-499.

Lehner, O. M., & Harrer, T. (2019). Crowdfunding Platforms as Focal Actors in an Entrepreneurial Ecosystem: An Interdisciplinary Value Perspective. Proceedings of the 52nd Hawaii International Conference on System Sciences.

Lehner, O. M., & Harrer, T. (2019). Crowdfunding revisited: a neo-institutional field-perspective. *Venture Capital*, *21*(1), 75-96.

Ly, P., & G. Mason. (2011). Competition between Microfinance NGOs: Evidence from Kiva. *World Development*, 40(3), 643-655.

Massolution (2016). 2015CF: Crowdfunding Industry Report. Retrieved from: http://www.crowdsourcing.org/editorial/global-crowdfunding-market-to-reach-344b-in-2015-predicts-massolutions-2015cf-industry-report/45376

McKenny, A. F., Allison, T. H., Ketchen Jr, D. J., Short, J. C., & Ireland, R. D. (2017). How should crowdfunding research evolve? A survey of the entrepreneurship theory and practice editorial board. *Entrepreneurship Theory and Practice*, *41*(2), 291-304.

Mitra, P., Hermans, J., Janssen, F. and Kickul, J. R. (2019). Social Entrepreneurship and Crowdfunding: The Importance of Rewards and Prosocial Motivation. *Academy of Management Proceedings*, 1, 18159.

Moberg, D. J. (2006). Ethics Blind Spots in Organizations: How Systematic Errors in Person Perception Undermine Moral Agency. *Organization Studies*, 27(3),413–428

Mollick, E. (2014). The dynamics of crowdfunding: An exploratory study. *Journal of Business Venturing*, 29(1), 1–16.

Mollick E. & Nanda, R. (2015). Wisdom or madness? Comparing crowds with expert evaluation in funding the arts. *Management Science*. 62(6), 1533-1553.

Montgomery, A. W., Dacin, P. A., & Dacin, M. T. (2012). Collective social entrepreneurship: Collaboratively shaping social good. *Journal of Business Ethics*, *111*(3), 375-388.

Moss, T. W., Neubaum, D. O., & Meyskens, M. (2015). The effect of virtuous and entrepreneurial orientations on microfinance lending and repayment: A signaling theory perspective. *Entrepreneurship Theory and Practice*, 39(1), 27-52.

Nayebpour, M. R. & Koehn, D. (2003). The Ethics of Quality: Problems and Preconditions. *Journal of Business Ethics*, 44, 37-48.

Parhankangas, A. & Renko, M. 2017. Linguistic style and crowdfunding success among social and commercial entrepreneurs. *Journal of Business Venturing*, 32(2): 215-236.

Parhankangas, A., Renko, M. & McWilliams, A. (2019). He Says, She Says: The Impact of Gender-Specific Linguistic Style on Crowdfunding Outcomes. *Academy of Management Proceedings*, 1, 12932.

Palazzo, G., Krings, F. & Hoffrage, U. (2012). Ethical Blindness. *Journal of Business Ethics*, 109, 323–338. Périlleux A. & Szafarz, A. (2015), Women Leaders and Social Performance: Evidence from Financial Cooperatives in Senegal. *World Development*, 74, 437–452.

Pittarello, A., Leib, M., Gordon-Hecker, T., & Shalvi, S. (2015). Justifications shape ethical blind spots. *Psychological Science*, 26, 794–804.

Ryan, R. M., & Connell, J. P. (1989). Perceived locus of causality and internalization: Examining reasons for acting in two do- mains. *Journal of Personality and Social Psychology*, *57*, 749– 761.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. American Psychologist, 55, 68-78.

Scarlata, M., & Alemany, L. (2010). Deal structuring in philanthropic venture capital investments: Financing instrument, valuation and covenants. *Journal of Business Ethics*, 95(2), 121–145.

Schicks, J. (2014). Over-indebtedness in microfinance – an empirical analysis of related factors on the borrower level. *World Development* 54, 301–324.

Schwienbacher, A. 2015. Financing the Business. In (eds) T. Baker and F. Welter, *The Routeledge Companion to Entrepreneurship*, Routeledge.

Sezer, O., Gino, F. & Bazerman, M.H. (2015). Ethical blind spots: explaining unintentional unethical behavior, *Current Opinion in Psychology*, 6,77–81.

Singh, R., & Mukhopadhyay, K. (2011). Survival analysis in clinical trials: Basics and must know areas. *Perspectives in Clinical Research*, 2(4), 145–148.

Tchakoute-Tchuigoua, H. (2018). Which types of microfinance institutions decentralize the loan approval process?. *The Quarterly Review of Economics and Finance*, 67, 237-244

Vismara, S., Benaroio, D., and F. Carne (2017), Gender in entrepreneurial finance: matching investors and entrepreneurs in equity crowdfunding, in A. Links (ed.), *Gender and Entrepreneurial Activity*, Cheltenham, UK and Northampton, MA, USA: Edward Elgar Publishing, pp. 271–288.

Younkin, P., & Kashkooli, K. (2016). What Problems Does Crowdfunding Solve? *California Management Review*, 58(2), 20-43.

Younkin, P., & Kuppuswamy, V. 2018. The colorblind crowd? Founder race and performance in crowdfunding. *Management Science*, 64(7): 3269-3287.

World Bank. (2011). *World development report 2012: Gender equality and development*. World Bank Publications.

Zhang, Q., & Posso, A. (2017). Microfinance and gender inequality: Cross-country evidence. *Applied Economics Letters*, *24*(20), 1494-1498.

Chapter 4: Does financial inclusion foster entrepreneurship in developing countries?

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1. Introduction

Entrepreneurial activity is considered to drive employment creation and economic growth in developed economies (Carree and Thurik, 2003; Van Praag and Versloot, 2007) and to be associated with growth in developing countries (Ayyagari et al., 2007; Beck et al., 2005). It therefore comes as no surprise that policies that aim to increase the number of SMEs are adopted around the world, including a United Nations resolution[51]. In this resolution, the General Assembly recommended national financial institutions to "*reach out to those who have no access to banking, insurance and other financial services*", thus linking financial inclusion with entrepreneurship. Indeed, policies have come in the form of programs and regulations which aim to increase accessibility to financial services in emerging economies, as well as goals set by the International Monetary Fund and The World Bank, such as the World Bank Group's Universal Financial Access 2020 initiative.

While the question of whether financial inclusion contributes to poverty alleviation and economic development has been addressed in the literature (Banerjee et al., 2015; Burgess and Pande, 2005; Suri and Jack, 2016; among others), the channels through which it may succeed in doing so are still unknown. One channel could be through business creation, since entrepreneurship is often the only option to make a living due to the lack of other employment opportunities, especially in disadvantaged environments. In this paper, I aim to reveal whether financial inclusion fosters entrepreneurship, and estimate its effect at the individual level. Establishing this link can reveal a pathway through which access to financial products and services may help to reduce poverty and contribute to economic growth.

Having an account is considered to be an entry point into the formal financial sector (Demirgüç-Kunt et al., 2019), and yet about 1.7 billion adults remain unbanked, almost all of them in developing countries. The proportion of account owners in these countries increased from 42% in 2011 to 63% in 2017, and yet this number is substantially lower than this of the developed world, where account ownership is nearly universal (Demirgüç-Kunt et al., 2017). The large number of underserved people may present an opportunity, that given policies of financial inclusion, they can create businesses which might lift them out of poverty.

[51] Resolution 67/202 by the General Assembly on 21 December 2012, available at https://undocs.org/en/A/RES/67/202, accessed 8 October 2019.

Up until now, the link between financial inclusion and entrepreneurship in developing countries has been tested at local settings, with randomized control trials (e.g. Banerjee et al., 2015; Dupas and Robinson, 2013; Karlan and Zinman, 2011; Tarozzi et al., 2015) and event studies (e.g. Bruhn and Love, 2014) in certain towns and regions. These studies have produced somewhat mixed results, stretching between positive and negative results, with inconsistent outcomes on men and women. These findings raise the question whether saving accounts and microcredit are viable tools for business creation and growth. Suri and Jack (2016) argue that mobile accounts can achieve that, yet the literature on the topic is scarce.

In this study, I contribute to this field of research by providing individual-level evidence on the extent to which account ownership is a factor in the likelihood of going into entrepreneurship, across all emerging economies. Although such a study may not have the perspective to account for specific contextual realities of countries and regions, it does provide an overlook that is not sensitive to confounding policy changes and shocks in certain places, and therefore may be a step forward towards reaching a general conclusion about this effect.

I also contribute to the nascent literature that investigates mobile accounts, as I look at their contribution to entrepreneurship and their relation with standard account at banks, and how their unique characteristics can foster entrepreneurship among the poor. Lastly, I look at gender heterogeneity, and find under which conditions women may not be able to take advantage of financial inclusion to support their businesses.

For measures of entrepreneurship, I observe different steps in the entrepreneurial process. I start by observing whether individuals save money for business purposes, continue by checking whether they borrow money for the same reason, and finally I examine if they are business owners. Financial inclusion, on the other hand, is taken by having an account at a formal financial institution (hereafter financial account), and/or at a mobile money service (hereafter mobile account), that is not linked with a formal financial institution. The latter type is increasing in popularity in recent years, especially in Sub-Saharan Africa, providing basic financial services to populations which have been otherwise excluded by the banking sector. It should be clarified that the two types are not mutually exclusive, and in fact 59% of the mobile account owners in 2017 had financial accounts as well.

I exploit two waves of The Gallup World Poll, a survey of adults from 113 developing economies. Taken together with the Global Findex Database (Demirgüç-Kunt et al., 2017), the richness of the data allows me to consider covariates such as various attributes of respondents, including their age, gender, income level, as well as their perception of economic trends in their area.

I address potential omitted variable bias and reverse causality by applying an instrumental variable approach. This approach uses the proportion of similar survey respondents in the region who own the same type of an account themselves, as a measure of the availability and accessibility of these accounts. The credibility of my results hinges on the assumption that people whose many of their peers have accounts are not more likely to start a business, unless it is through account ownership of the observed individual. Although it is not possible to remove completely every possible source of endogeneity, I do believe I reduce it substantially by controlling for observed factors, such as entrepreneurial activity in the area. This is done to remove channels through which peer account ownership affects entrepreneurship, that are not account ownership of the individual. Even after controlling for relevant observable covariates and conducting a series of robustness checks, perfect causality is notoriously difficult to achieve with a cross-sectional dataset. Although I use in this chapter terms that are associated with causal claims, these should be read with caution (See in-depth discussion in subsection 4.5).

Overall, the results suggest positive effects of account ownership on entrepreneurship. Respondents' likelihood of saving money, borrowing money, or owning a business appear to increase as a result of having an account, the latter increasing by 5.6 percentage points. Breaking down the main regressor into the two types of accounts, I find that both types increase the likelihood of having a business and borrowing money to have one, yet only mobile accounts are associated with a greater likelihood to save money. The marginal contribution of financial accounts is generally higher than mobile accounts, and the marginal contribution of each is higher once its owner has the other type of account as well, making the two types of accounts complementary to each other.

When analyzing the sample by gender, it appears that one size does *not* fit all. Financial accounts were found to increase the likelihood to own a business only among men, while mobile accounts were associated with greater probability of saving money for business purposes only among women. Having a mobile account is estimated to increase the likelihood of a woman having a business by

almost 6 percentage points. This figure is almost as twice as large as the proportion of female business owners in the population, which suggests that mobile accounts can reduce the gender gap in entrepreneurship. Looking deeper, I find that these results vary by the level of safety of the environment; in areas where women do not feel safe, they are more likely to use mobile accounts to accumulate money for their business - but less likely to translate it to business ownership.

It is important to remember that access to financial tools is far from being the only barrier for people who wish to start their own business (Banerjee and Duflo, 2011). And yet, the results of this paper, taken together with findings from local randomized control trials and event studies, shed a light on the importance of financial exclusion as a barrier to entrepreneurship. Considering the findings of de Mel et al. (2008) and McKenzie and Woodruff (2008), which suggest that micro businesses yield high rates of return on capital, it could be claimed that financially including unbanked populations can serve as a key development measure. Extending mobile money services to new territories might be a solution, at least for the women of these regions.

The rest of the chapter is organized as follows. Section 2 offers background on financial inclusion and mobile money, Section 3 relates this paper to the existing literature, and Section 4 discusses the data and methodology employed. Section 5 presents the econometric results, and Section 6 concludes.

2. Background: Financial Inclusion and Mobile Money

According to the World Bank, financial inclusion is defined as the access of individuals and their businesses to affordable financial products and services, such as savings, credit and insurance[52]. These services usually start with having access to an account, which allows its owner to save money and make transactions using it. Still, 31% of the world's adult population do not have access to such accounts, according to the Global Findex Report (Demirgüç-Kunt et al., 2017). Although the proportion of unbanked people has been decreasing since first started being measured in 2011, it is still a striking figure, with nearly all unbanked people living in developing countries. Among these countries, the report finds that the proportion of account ownership is higher for men than for women (72% and 65%, respectively), and for rich than for the poor (74% for the richest 60% of the population versus 61% account ownership for the poorer).

[52] The World Bank, Financial Inclusion, https://www.worldbank.org/en/topic/financialinclusion/overview.

What are the alternatives to financial services? In the absence of bank accounts where they can save their cash, the financially excluded save in ways that are less secure and/or less liquid: store cash at home, buy durable goods or livestock, use deposit collectors, or participate in ROSCAs Rotating Savings and Credit Associations, with their various versions in different countries (Dupas and Robinson, 2013; Prina, 2015). Alternative sources of loans that are not financial institutions, include family, friends, neighbors, shopkeepers, and moneylenders. These, however, are not perfect substitutes to formal loans, and tend to be used for non-business activities, even in the presence of formal options (Jia et al., 2013). With regards to payments, the only option to make a payment is carrying cash to the recipient, which may include travelling with it across cities and villages, and this is far from being secure in many developing countries.

Research has shown that once households are financially included, their livelihoods are improved. Prina (2015) found that once Nepalese households received access to saving accounts, they accumulated more savings, and spent more money on education and nutritious foods. Yet, it is of interest to know whether an improvement in livelihood is achieved through entrepreneurship possibilities that financial inclusion fosters.

Why, then, do people in developing countries not have accounts? The Global Findex Survey (Demirgüç-Kunt et al., 2017) asked respondents who do not own financial accounts about the reasons for that. Leaving aside answers such as "*Not enough money*", "*Do not need an account*", and "*Family member already has an account*", the most common answer about a clear barrier to financial inclusion was the cost of the account (cited by 26 percent of the respondents). The next cited reason was the distance from the next financial institution (22 percent), followed by lack of necessary documentation, distrust in the financial system, and religious reasons. These findings reflect anecdotal and survey evidence from previous studies (Banerjee and Duflo, 2011; Dupas and Robinson, 2013; Dupas et al., 2012; Prina, 2015).

Mobile money services assist in overcoming at least some of the aforementioned barriers for financial inclusion. Starting with the launch of M-PESA in Kenya in 2007, this service, as well as competing similar ones, became highly popular in Sub-Saharan Africa, and penetrated markets in other regions of the world as well. According to GSMA report, 272 mobile money deployments now serve more

than 866 million people in 90 countries, transacting 1.3 billion US Dollars daily[53]. These services offer mobile money accounts that are not connected to formal financial institutions[54] . They are run mainly by mobile network operators, and are available to any person with a mobile phone within their coverage with only basic documentation, and typically do not charge fees for opening accounts. Their users can store and withdraw cash at a mobile money agents' points of deposit, which are spread around the country. Moreover, it also offers a cheap person-to-person payment and money transfer system over long distances, over SMS messaging. These services have even extended to mobile loans, for individuals and firms, many of them unable to obtain them from formal financial institutions.

In other words, mobile money services offer a tool for inclusion of those who were excluded by the traditional finance systems. The financial outcome of these services is already evident; M-PESA users were found to be more likely to save money in formal bank accounts and less in informal saving mechanisms (Mbiti and Weil, 2015); and they could receive remittances and other transactions quicker and cheaper, which protected them against health and income risks (Jack and Suri, 2014; Jack et al., 2013; Wieser et al., 2019).

3. Prior Literature

The impact of financial inclusion on poverty alleviation has been discussed in the literature. Burgess and Pande (2005) show that a social banking program in India, which gave access of formal saving and credit opportunities to the rural poor indeed reduced poverty, with significant effects of both saving and credit products. Aportela (1999) found similar effects in Mexico, following the expansion of a Mexican savings institute. Regarding growth and income inequality, Beck et al. (2007) show that reforms that reduce market frictions in the financial sector contribute to growth and decrease inequality. Yet, it is of high interest to know the mechanisms which explain the effects, and whether a greater ease of business creation is one of them. Subsection 3.1 surveys field studies and experiments which tested the effects of access to saving and credit services on business-related

[53] Source: GSMA, "State of the Industry Report: Mobile Money" (2018); https://www.gsma.com/mobilefordevelopment/wpcontent/uploads/2019/02/2018-State-of-the-Industry-Report-on-Mobile-Money.pdf

[54] Interestingly, these services are popular among customers of formal banks as well, because of the ease of depositing, withdrawing and transacting money, in particular with people who do not own bank account themselves.

outcomes, while subsection 3.2 focuses on the parallel effect of mobile money services. Subsection 3.3 outlines the possible ways in which financial services can foster entrepreneurship, and in subsection 3.4 I survey the variables that may create heterogeneous gender effect with regard to entrepreneurship in the developing world.

3.1. Financial Inclusion and Entrepreneurship

This paper primarily contributes to the literature which discusses the link between financial inclusion and entrepreneurship[55], by conducting what constitutes, to my knowledge, the first study to make use of individual-level data on both sides of the equation, from virtually all developing countries. Existing research in this literature is either based on field experiments or event studies at the local level, both providing strong identification methods. However, most of these studies do not have information on whether surveyed individuals owned accounts themselves, thus allowing for at least some of found effects (if any) to be indirect.

Bruhn and Love (2014), for example, follow the simultaneous openings of 815 branches of a new bank in Mexico. This bank targeted middle and low-income customers, by having low documentation requirements and offering small sized loans. The authors find that the introduction of the bank did not lead to any increase in the proportion of formal businesses, but did cause an increase of almost 8% in the proportion of informal ones. Yet, this increase was not significant for women but only for men, mainly men who were previously unemployed. Black and Strahan (2002) find an increase in new firm incorporation by up to 8%, following deregulation of branching restrictions in the United States, which decreased credit prices and extended services to new markets. In the context of Dutch entrepreneurs, Parker and Van Praag (2006) estimate that a 1 percentage point relaxation of capital constraints increased profits by 3.9% on average.

Field experiments included this of Tarozzi et al. (2015), who randomly allocated access to two microfinance institutions (MFIs) in rural Ethiopia. They reached non-significant results on starting a business, revenues, and other business-related dependent variables. Inconclusive results were found by Karlan and Zinman (2011) as well. Their randomized trial in the Philippines showed that credit

[55] The definition of entrepreneurship in this section is broad, as includes creating, owning, and maintaining businesses, either formal and informal, and not necessarily innovative startup companies. I discuss the exact definition used in this paper in section 4.

had negative impacts on business activities, yet increased ability to cope with risk. Banerjee et al. (2015) reached a more positive results in their randomized evaluation, showing that credit to small businesses in India led to higher profits and larger investments. Chliova et al. (2015) aim to settle these results using a meta-analysis[56], and report a positive effect of microcredit on business growth and profits.

While these aforementioned studies check the effect of credit, Dupas and Robinson (2013) looked for the effect of saving accounts. Randomized access to bank accounts allowed Kenyan female market vendors to save more money and invest more in the business, while male bicycle-taxi drivers were not affected.

3.2. Mobile Money Services and Entrepreneurship

This paper also contributes to the new literature of mobile money instruments, by utilizing data about whether individuals own mobile accounts, rather than using information about the spread of the service at the regional level. Such is the work by Suri and Jack (2016), who followed the introduction of M-PESA in Kenya, and found a positive effect of the accessibility of mobile-money agents on consumption and the likelihood of working in business-related jobs rather than subsistence agriculture, and reduced poverty for households.

With regard to a field experiments on the topic, Wieser et al. (2019) studied the impact of the spread of mobile money agents in financially excluded villages in rural Uganda. Although they did not find any effect on agricultural outcomes, they did find a significant increase in the fraction of respondents who work in non-farm self-employment, by 3 percentage points, compared to the financially excluded group. An intervention by Dalton et al. (2019) randomized provision of information and encouragement to use a mobile money service to Kenyan entrepreneurs, and found that the sales volatility was reduced among treated firms, especially the smaller ones. Thus, showing the ability of mobile money to smooth production[57].

[56] This analysis was completed prior to the publication of seven papers on the topic on *American Economic Journal: Applied Economics* Vol. 7 No. 1, 2015.

[57] An early ethnographic study by Plyler et al. (2010) suggests that mobile money services helped in expanding and growing businesses in Kenya.

3.3. How can financial inclusion affect entrepreneurship?

In this subsection I will survey the literature for possible mechanisms that facilitate the link between financial inclusion and entrepreneurship across countries. The first channel goes through the ability to save money properly, either through bank or mobile accounts. Both ways are safer and more viable than storing cash at home or buying livestock or durable goods. Apart from the obvious security that these measures offer, they also allow their users to track and manage their savings better, make them less liquid, and easier to resist temptations to spend them quickly, or to share them with spouses (Ashraf, 2009) or neighbors and relatives (Platteau, 2000; Jakiela and Ozier, 2016).

These improved saving mechanisms can positively affect business operation in a number of ways, as suggested by Dupas and Robinson (2013). First, entrepreneurs can save larger sums of money, that will allow them to have bigger and more substantial investments in their businesses, rather than continuous and less effective small investments. Second, it allows them to save money safely outside the business when profits are higher, and use them in times in which they predict lower profitability. Third, business owners can protect themselves better against negative shocks, by having cash in hand, and not having to liquidate holding capital.

Beyond providing individuals with a viable savings product, the availability of such an instrument may, in some cases, induce people to increase their savings, including saving money to invest in their businesses. Dupas et al. (2018) survey field experiments which offered participants bank accounts, and document a large variance in take-up and usage rates between them. With regards to mobile money accounts, Suri and Jack (2016) found that accessibility to mobile money services in Kenya increased savings, but Wieser et al. (2019) found no evidence of that in their experiment in Uganda.

The second channel would be greater access to credit, either by microfinance institutions, banks, or mobile money services - any of them can help people start businesses, expand them, or protect against negative income shocks. Banerjee and Newman (1993) show in their theoretical model how lack of collateral prevents poor agents from going into entrepreneurship, and instead settle for subsistence self-employment or wage employment. Financial institutions which do not require collateral for their loan can change this result, and allow people to start their own ventures[58].

[58] This view has been challenged by others (e.g. Morduch, 1999).

The invention of mobile money presents advantages for its users that were not available to them before. One of them is better access to credit, that can be achieved through financial transparency. Mobile money can increase transparency, since all transactions are recorded, and alleviate information constraints among SMEs or new entrepreneurs. Once these constraints are removed, their ability to receive mobile loans is increased - especially for businesses with limited collateral, as shown by Dalton et al. (2019).

Another benefit of mobile money is the ability to pay and receive payments for supplies, products, and services in a much safer way: travelling with cash is highly risky in developing countries (Ayyagari et al., 2008), and using mobile payments virtually solves this problem. Beck et al. (2018) show that entrepreneurs who are more prone to thefts are more likely to start using mobile money services, and then continue and offer a theoretical model that links these safe payments with better access to credit to the firms that are using it. By doing so, they highlight how merely improving the payment services can stimulate business performance.

In addition to increased safety, mobile money services make peer-to-peer transactions faster and cheaper, especially in the absence of formal banking services in the area. Following an RCT in rural Uganda, Wieser et al. (2019) explain the increase in non-farm self-employment in the higher volume of payments received and cost savings from using mobile money, since this money was then invested in entrepreneurial activities. Jack and Suri (2016) propose that it is in particular the ease of receiving remittances which impacts businesses, since it facilitates risk sharing, which can lead to adopting income earning strategies of high risk and high return.

3.4. Does financial inclusion have a heterogeneous gender effect?

The proportion of women in developing countries who own their own bank account is lower than men by eight percentage points (Demirgüç-Kunt et al., 2017), and as will be shown in Table 1 of Section 5, the proportion of business owners among women is half than this of men. While some studies found that financial inclusion measures were beneficial for men and not for women (e.g. Bruhn and Love, 2014; Fiala, 2018), others found the opposite (e.g. Dupas and Robinson, 2013).

In principle, women should be the first to benefit from the security that bank accounts provide, and mobile accounts in particular, as they tend to be more vulnerable to threats. Moreover, since they

might be more locally constrained than men, as a result of issues of security, family, and culture, swift payments to suppliers in distant locations can solve the mobility problem.

Several explanations are offered in the literature to why women in poor economies may not be able to fulfill the potential of their businesses, and thus not fully capture the benefits of financial inclusion. The first one regards differences in security and property rights of women's businesses. While accounts protect their cash, they are still vulnerable when it comes to physical capital and territory, and this may lead to inefficient actions, such as in decisions regarding crop rotation and small investments (Goldstein and Udry, 2008).

Women's defined role in society provides another explanation. Fiala (2018) documents that female business owners in Uganda spent on average six more hours a week than men doing household chores, and were in charge of child care. This may limit their time and ability to make their business grow. Women may be limited geographically as well, due to these social constraints and the need for flexibility. de Mel et al. (2009) report that a larger share of the customers of female-owned firms is located within one kilometer of the business, than the share of customers of men.

Moreover, social norms and gender roles may also constrain investments in businesses owned by women, either because of the aforementioned time, distance, and security limits, but also because of their place in the household. Men are usually the main providers, who have greater freedom in conducting business activities, employ family members as workers, and expand their business - while their wives may not have such privileges (Fiala, 2018). As a result, the family will refrain from making risky investments in the woman's business (regardless of the risk preference of the man and the woman, de Mel et al., 2009), and once this business does make a profit, it may be reinvested in the business of the husband (Bernhardt et al, 2019). de Mel et al., 2009) show that once given a grant, women who had a bigger decision-making power in the household did invest a larger share of it in their own business, which in turn yielded positive returns.

Lastly, women's profits may be expropriated by their kins. Jakiela and Ozier (2016) showed in lab experiment that female participants chose to distort their investment choices if they were to be made public, especially if their relatives took part in the experiment, unlike male participants. Having their own accounts where they conceal their earnings might be particularly beneficial for them.

4. Data and Research Design

4.1. Gallup World Poll

Data for the analysis come from The Gallup World Poll, a survey conducted yearly in 160 countries. I remove from the sample all countries labelled as high income, and I am left with 113 developing countries. The survey features basic questions on demographics, education, employment, and income, among others, as well as self-reported measures of quality of life and perceptions of the economy. The survey is conducted in person in countries where telephone coverage represents less than 80% of the population, or where doing so is the customary methodology. The respondents are different in each survey, which makes the dataset a repeated cross-section.

Information about financial inclusion is taken from the Global Findex Database (Demirgüç-Kunt et al., 2017), a collaboration between the World Bank and Gallup. This survey asks adult respondents about the ways they save, borrow, and make payments, and was conducted in the years 2011, 2014, and 2017 as a part of the Gallup World Poll. Most countries are represented with approximately one thousand respondents each year, with the exceptions of large countries like China, India, and Russia, which are over-represented, and some countries that are not represented in one of the three waves.

4.2. Dependent Variables

The dependent variables in this study aim to capture different steps in the entrepreneurial process. I start by observing determinants of an individual saving money and borrowing money for business purposes. It should be noted that 15% of those who save money for business purposes and 18% of those who borrow money for business purposes already have businesses. For them, the saving or borrowing might be interpreted as actions taken for maintenance or extension of existing businesses, or for initiation of new ones. Therefore, these variables can be interpreted either as a mechanism through which financial inclusion supports business ownership, or as an indicator of concrete entrepreneurial activities. The question "*In the past 12 months, have you, personally, saved or set aside any money to start, operate, or grow a business or farm?*" (using any measure) was used to for the variable *Save for business*, and similarly, the question "*In the past 12 months, have you, by yourself or together with someone else, borrowed money to start, operate, or grow a business or farm?*" (regardless of the source) was used to for the variable *Borrow for business*.

The third dependent variable concerns business ownership, either founded or inherited, solely owned or not. Rather than taking self-employed individuals as business owners who might be living off subsistence agriculture, I only consider self-employed as business owners if they employ two employees or more, as the first employee tends to be a family member. Note that this definition says nothing about whether the business is formally registered, and only about 35% of the sample of the first specification are[59].

4.3. Explanatory Variables

Three variables indicate whether respondents were financially included: *financial account*, *mobile account*, or any type of account. *Financial account* is a binary variable which equals 1 when the respondent reports "*having an account at a bank or at another type of financial institution, such as a credit union, a microfinance institution, a cooperative, or at the post office (if applicable), or having a debit card in their own name*". The variable for mobile money accounts (*mobile account*), on the other hand, equals 1 for respondents who "*report personally using services included in the GSM Association's Mobile Money for the Unbanked database to pay bills or to send or receive money in the past 12 months*", or in other words, accounts which are not linked with the financial institutions. It should be reminded that the two are not mutually exclusive, and in fact 59% of the mobile account owners in 2017 also had a financial account. The remaining variable equals 1 if any of these former variables equals to 1.

4.4. Estimation Strategy

This subsection outlines the estimation strategy for measuring the effect of financial inclusion indicators on various entrepreneurship-related dependent variables. A naïve estimation would be using a weighted probit regression of the following form:

$$Prob(Y = 1) = F(\text{Account}^0\beta_j + \text{X}^0\gamma + \lambda_t + \varepsilon) \quad (1)$$

where Y denotes the binary dependent variables, which follow different steps in the entrepreneurial process. Account is a vector of one or more of the explanatory variables mentioned earlier.

[59] Business ownership serves as the only measure of performance. Information about revenue and profit is not available in the data, and the relationship with the number of employees might encompass opposing outcomes, growth on the one hand, and laying off unproductive workers (See Karlan and Zinman, 2009).

The vector X captures demographics of the respondents which have been shown to be related to the decision to become an entrepreneur (Evans and Leighton, 1989), as well as the respondents' beliefs about their environment (e.g. whether the area is safe to walk at night (Ayyagari et al., 2008; Dalton et al., 2019), and if the economic conditions in the area are getting better, worse, or stay the same), and whether they live in an urban or rural areas. In addition, since the prevalence of entrepreneurial activity in the area is correlated with one's entrepreneurial ambitions (Giannetti and Simonov, 2009, Vladasel et al., 2020), I add the share of business owners of the same gender and area type (urban/rural) as the respondent in her or his region. Moreover, I include year dummies (denoted λ_t) if more than one year of data is available for one of the models. Finally, ε is an individual-level error term.

The data are not self-weighted, and therefore I use post-stratification weights in all my estimations, since they are necessary to yield unbiased estimates of population statistics.

4.5. Instrumental Variable Strategy

Causal interpretation of the estimated parameter β of Equation 1, however, is problematic due to possible endogeneity. For example, reverse causality may exist if an individual who want to start a business, or already own one, actively reaches out to financial institutions or mobile money services for financial services, which might entail an upward bias to the coefficient. On the other hand, the coefficient may be downward biased if people are less likely to have accounts due to distance from financial institutions or mobile money agents, and at the same time more likely to go to self-employment, as it happens in rural areas (due to poor labor market opportunities, see Faggio and Silva, 2014). Further sources of endogeneity may arise from the existence of unobserved factors that may be correlated with both dependent and independent variables. If any of these is indeed the case, then β would wrongly estimate the true effect of account ownership. Therefore, I aim to move closer to a causal interpretation by using an instrumental variable approach.

About a quarter of the respondents of the survey cited the distance from the nearest financial institution as a reason for not having an account. This makes the problem very much about geographical accessibility - people refrain from traveling for hours to the nearest bank branch[60].

[60] Dupas et al. (2018) document that in Malawi and Uganda people who live farther from the bank branches used the accounts less.

Microfinance banks and financial NGOs aim to satisfy this need by reaching out to (potential) entrepreneurs in rural areas, but they do not reach full coverage. Mobile money services do not fully relieve their customers from physically reaching a place where they can deposit and withdraw cash - in these cash-based economies, customers still need to visit a mobile money agent, where they can perform these actions. The spread of these agents affects the number of users of the mobile money service (Suri and Jack, 2016). In developed countries, distance from financial institutions proved to be an important factor for companies for obtaining loans (Berger et al., 2005; Petersen and Rajan, 2002). Another reason that was given by respondents for not having formal financial accounts was the high cost of maintaining an account (30% of the respondents in 2017), which is reflected in usually high take-up rates once cheaper accounts were introduced in RCTs (Dupas and Robinson, 2013; Dupas et al., 2018; Prina, 2015) and by the popularity of mobile money services (Demirgüç-Kunt et al., 2017).

I therefore measure accessibility of accounts in the following way: to predict the likelihood of a person to have an account of a certain type, I compute the proportion of their peers who have that type of account themselves. Peers, for this calculation, are respondents of the same wave of the survey, who live in the same region of the country, and belong to the same income level, as divided to top 60% and bottom 40% of the distribution.

The instrument is in the spirit of other studies which considered the distribution of the peers to reach causal interpretation, such as Bhuiyan and Ivlevs (2019), who accounted for the density of microfinance borrowers in the vicinity of the respondent as an instrument for the latter's likelihood of being a borrower herself. Another study which takes in a related context is the one by Fisman and Svensson (2007), who instrument the likelihood of a company in Uganda to pay bribes with the leave-out average bribery level by other companies within the same location and location. More broadly, industry-location averages were used as instrumental variables by Ceccagnoli (2009), Cheng et al. (2014), Hanlon et al. (2003), Lee and Weng (2013), among others.

However, even by using a leave-out mean of the similar account holders in the region, the coefficient of such instrument would bound to converge to 1, as noted by Angrist (2014), since all the peers in each cell are considered in the analysis. To avoid this problem, I randomly pick only one person from each cell (as defined by region, income bracket, and wave, as described before) right after the

proportion of peers holding accounts is calculated. Only this individual remains in the analysis, while the other observations are not considered in the analysis anymore. To use Angrist's words, these "*peers are a mechanism for causal effects but not themselves subjects for study*". To avoid high sensitivity of the results to the randomization[61], I limit the cells to at least five individuals. The number of observations in the regressions, 12,327, is the number of such groups.

Comparing the sample of the chosen individuals with their peers who were left out of the analysis, I find no statistically significant differences in proportions of women, income, and education. Differences between the group in average age, and proportions of married and natives of the country were significant yet very small in magnitude, not exceeding 1.5% of difference.

Hence, I propose a two-stage instrumental variable model as follows:

$$Prob(\text{Account} = 1) = F(b \times Share + X^0 c + d_t + \omega) \quad (2)$$

$$Y = \alpha^{IV} + \text{Account}'\beta_j^{IV} + \mathbf{X}'\gamma^{IV} + \lambda_t^{IV} + \varepsilon^{IV} \quad (3)$$

with *Share* being the share of peers who own the relevant type of account predicting the likelihood of an individual to have the same type of account. Because both of my outcome measures and the treatment variables are dichotomous, I use a conditional mixed-process framework (Roodman, 2011). To be considered as a valid instrument, the variable *Share* must satisfy the two following requirements. First, conditionally on the covariates, the share of peers with accounts has to be correlated with the likelihood of the respondent having an account. Second, the instrument must not be correlated with ε^{IV} of Equation 3, taking into account the other covariates. In the next paragraphs, I discuss the validity of both these requirements.

Tables 8, 10 and 11 in Appendices B and C present the likelihoods of having an account, a financial account, or a mobile account, respectively, as the first stage results of Equation 2. The instrumental variables strongly predict the likelihood of having this type of account across nearly all specifications, hence satisfying the first requirement of the instrumental variable.

Intuitively, the proportion of one's peers who own accounts should not have a direct effect on the likelihood of a person to go into entrepreneurship - the entrepreneurship literature discusses multiple

[61] Even after limiting the group cell to at least five, some sensitivity to randomization is inevitable. I rerun the estimation over business ownership as dependent variable 30 times, and the average marginal contributions are only somewhat lower.

reasons why people choose to start their business, and account ownership of people around them is not one of those reasons. However, the second requirement might not be satisfied if there are other factors that affect both entrepreneurship of a person and account ownership of her peers. One such factor may be the density of entrepreneurship in the region. To account for this confounding factor, I include the share of peers in the same region who own their own businesses as a covariate in all the regressions. A variable capturing the perception about the economic condition should capture significant positive or negative shocks that may affect both account and business ownership. A full set of country and year dummies accounts for any aggregate shock to economic development as well. Even after controlling for these observable factors, the validity of the instrument may be reduced in the case of unobserved factors[62]. During the analysis, I present more robustness tests to validate the instrument and the results.

This instrumental variable approach also implicitly assumes that the mobile money agents' geographic distribution during the years of the sample was exogenous to the characteristics of the households that might have been related to entrepreneurship. I support this assumption in Appendix F, as I find that the number of mobile money service providers in a country is orthogonal to variables that relate to entrepreneurship.

5. Results

5.1. Descriptive Results

Table 1 presents summary statistics of the full data. Column 1 considers the full sample, and Columns 2 and 3 are divisions of this sample to men and women, respectively. The sample is consisted of 54% women, who are roughly similar to men with regards to their mean age, proportion of married individuals and living in rural areas, education level, and their perception of economic trend in their area. Respondents of higher incomes are considerably over-represented in the sample, especially among the subsample of men, yet this is corrected by the survey weights. Differences between the genders are especially apparent by looking at the dependent variables and the main regressors. The proportion of business owners among women (3%) is half than this of men (6%), with a high proportion of women out of the workforce (46%, compared to 26% of men). The proportions of

[62] An example of such unobserved factor can be an extension of internet coverage to the specific area where the focal person is residing, that does not reach other peers in the region. This will increase the likelihood of the focal person to open a mobile account and to start a business, while not affecting the peers to do the same.

women who are saving or borrowing money for business purposes are lower than these of men as well. It shall be noted than these proportions (15% and 9%, respectively, for both genders) are higher than the actual proportion of business owners (5%). 47% of the respondents of the sample own either type of account, with 44% of them holding financial accounts, and 12% - mobile accounts. Men have higher proportions for each of these variables in their subsample.

Questions about financial and mobile accounts were presented to only a part of the sample, 149,806 out of total of 175,706 respondents of Column 1. Within this subsample I consider four groups: individuals who testify to having a financial account only (Col 5), individuals who have mobile account only (Col 6), those who have both (Col 7), and those who have none, hence financially excluded (Col 4). Women are over-represented in the financially-excluded category, and under-represented in the group of people who have both type of accounts. Financial account holders tend to be more educated, while mobile services users tend to be younger, and more likely to live in rural areas, where access to formal financial institutions is limited. While wealth is nearly uniformly distributed among the excluded, the proportion of richer individuals is more skewed towards those who do own accounts. Finally, observing the dependent variables, it is evident that financially excluded individuals are less likely to plan starting a business, saving or borrowing money for it, or to have one, than those who have at least one type of an account. These statistics are very similar to these of the eventual sample of considered individuals, which consists of 12,327 observations.

Figure 1 presents the share of survey respondents with financial and mobile accounts annually and in different regions of the world. Between 2014 and 2017 more people became financially included in all regions of the world, except for East Asia and the Pacific, in which China registered a decrease in the share of respondents with financial accounts. Notably, mobile money services are more popular is Sub-Saharan Africa than any other world region, with their popularity keeps increasing between 2014 and 2017.

A first step in connecting businesses and account ownership through saving and credit is presented in Figure 2. The proportion of survey respondents who answered that they were saving money for business purposes increases once they have an account (blue bars), especially if they are already business owners. The same is true for those who borrow money for business purposes. In addition, both saving and borrowing money for business purposes is more frequent among business owners.

Table 1. Descriptive statistics by gender and account ownership

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	All		Men		Women		Excluded		Only Financial		Only Mobile		Both accounts	
Variable	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev
Saves for a business	0.15	0.35	0.18	0.38	0.12	0.33	0.11	0.31	0.18	0.39	0.28	0.45	0.41	0.49
Borrows for a business	0.09	0.28	0.10	0.30	0.07	0.26	0.07	0.26	0.10	0.31	0.15	0.36	0.23	0.42
Owns a business	0.05	0.21	0.06	0.25	0.03	0.18	0.04	0.19	0.06	0.24	0.07	0.25	0.13	0.33
Any account	0.47	0.50	0.51	0.50	0.44	0.50	0.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Financial account*	0.44	0.50	0.47	0.50	0.41	0.49	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00
Mobile account*	0.12	0.32	0.14	0.35	0.10	0.30	0.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00
Woman	0.54	0.50	0.00	0.00	1.00	0.00	0.57	0.49	0.50	0.50	0.47	0.50	0.42	0.49
Age	38.83	16.95	38.74	17.01	38.91	16.90	36.98	17.17	40.95	16.29	31.77	13.01	33.39	12.09
Married	0.56	0.50	0.56	0.50	0.56	0.50	0.54	0.50	0.59	0.49	0.47	0.50	0.49	0.50
Has children	0.62	0.48	0.59	0.49	0.65	0.48	0.67	0.47	0.54	0.50	0.75	0.43	0.63	0.48
Primary educ or less	0.42	0.49	0.39	0.49	0.45	0.50	0.59	0.49	0.33	0.47	0.47	0.50	0.20	0.40
Secondary education	0.47	0.50	0.50	0.50	0.45	0.50	0.38	0.49	0.52	0.50	0.49	0.50	0.61	0.49
Tertiary educ or more	0.10	0.30	0.10	0.31	0.10	0.30	0.03	0.17	0.15	0.36	0.03	0.18	0.19	0.39
Rural area	0.68	0.47	0.32	0.47	0.26	0.44	0.32	0.46	0.27	0.45	0.41	0.49	0.33	0.47
Poorest 20%	0.17	0.37	0.15	0.36	0.18	0.39	0.21	0.41	0.12	0.33	0.13	0.34	0.07	0.26
Second 20%	0.18	0.38	0.16	0.37	0.19	0.39	0.20	0.40	0.14	0.35	0.17	0.37	0.10	0.30
Middle 20%	0.19	0.39	0.18	0.39	0.20	0.40	0.20	0.40	0.18	0.38	0.19	0.40	0.14	0.35
Fourth 20%	0.21	0.41	0.21	0.41	0.21	0.41	0.20	0.40	0.22	0.42	0.23	0.42	0.22	0.41
Richest 20%	0.25	0.43	0.29	0.45	0.23	0.42	0.18	0.38	0.33	0.47	0.28	0.45	0.47	0.50
% of peers w/ business	0.05	0.09	0.06	0.11	0.03	0.07	0.05	0.10	0.05	0.09	0.07	0.10	0.07	0.11
Area safe at night	0.58	0.49	0.63	0.48	0.53	0.50	0.54	0.50	0.56	0.50	0.54	0.50	0.53	0.50
Conditions worsen	0.36	0.48	0.36	0.48	0.37	0.48	0.39	0.49	0.35	0.48	0.44	0.50	0.37	0.48
Conditions same	0.22	0.41	0.22	0.42	0.22	0.41	0.21	0.41	0.21	0.40	0.14	0.35	0.14	0.35
Conditions improve	0.42	0.49	0.42	0.49	0.41	0.49	0.40	0.49	0.44	0.50	0.41	0.49	0.49	0.50
Observations	175,706		81,006		94,700		83,195		50,179		6,803		9,629	

* Questions about financial and mobile accounts were presented to 149,806 out of total of 175,706 respondents.

Figure 1. Share of account ownership by type of account

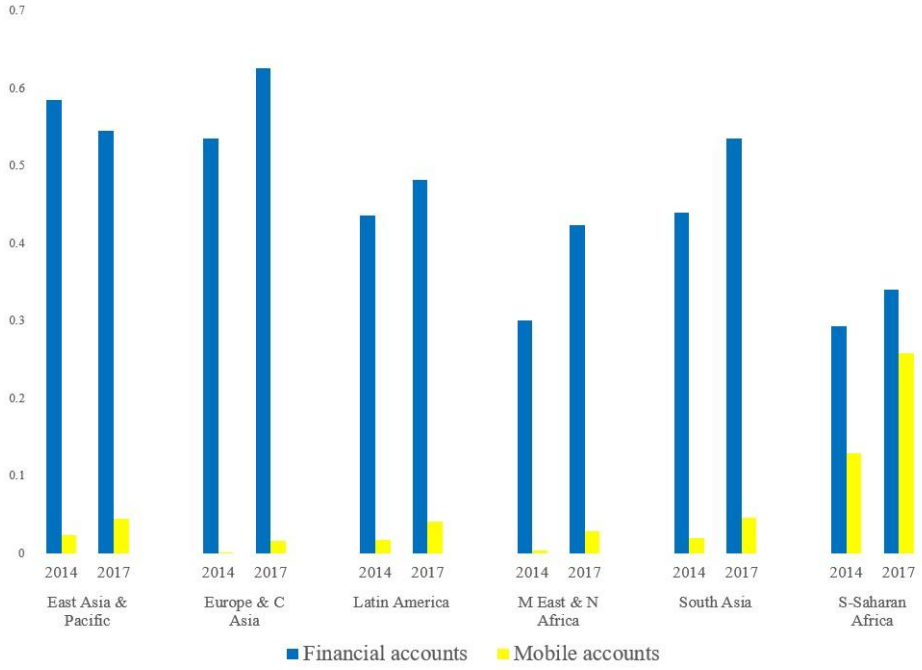


Figure 2: Proportion of respondents saving or borrowing money for business purposes

5.2. Effects of Account Ownership on Entrepreneurship

I start my regression analysis by estimating Equation 1 for all three dependent variables, using an aggregated variable for account ownership. The full results are presented in Table 6 in Appendix A, and the marginal effects of the main regressor are brought in Table 2. Account ownership is positively associated with all dependent variables, suggesting a significant contribution of

financial inclusion to entrepreneurship, in magnitudes of between 3 to 13 percentage points. However, this model might wrongly estimate the true effect of the accounts in the cases of reverse causality or omitted variable bias.

Table 2. Marginal effects of account ownership on entrepreneurship - single equation

	(1)	(2)	(3)
	Saves	Borrows	Owns
	All	All	All
Has an account	0.129***	0.082***	0.033***
	(0.009)	(0.007)	(0.006)
	12,328	12,327	12,327

Note: Robust standard errors are reported in parentheses. Statistically significant coefficients are indicated as *** for 1%.

Therefore, I apply the instrumental variable approach of Equations 2-3. The marginal effects of account ownership (either financial or mobile) are shown in Table 3 (The full results of are produced in Table 7 of Appendix B). Looking at the first dependent variable in Column 1, the size of the marginal effect on saving for business is reduced to 9.1 percentage points, compared to the parallel coefficient of Table 2, yet still high and significant. This rather high magnitude can be understood, since saving money is the first use which one can do with an account. The use of accounts to save money for business purposes, however, is not trivial, as seen in previous studies (See summary by Prina, 2015). Interestingly, the size of the marginal effects of accounts on borrowing money for business purposes (Column 4) is even higher, highlighting the importance of account ownership to access to external finance.

Unlike the coefficient on the saving decision which suggested there was an upward bias in the estimation of Equation 1, the case of borrowing is different. The coefficient in the instrumented regression is higher, which implies that there was rather a downward bias in this specification, possibly as a consequence of areas without access to loans, nor labor opportunities. The empirical association of an account with business ownership in Table 2 might be impacted by both biases, yet more than by the downward bias, which causes the total association to be estimated at 5.6 percentage points. This is higher then the share of business owners of the population, 4.7%, which suggests a big impact.

The story is not similar for both men and women. The effect of having an account on the steps in the entrepreneurial process (saving and borrowing) is positive and significant among women, with high magnitudes (12.7 and 13.2 percentage points, respectively). However, this effect diminishes when considering business ownership as the dependent variable (Column 9). This suggest that

women may be facing other barriers, that are not financial, on their way to having their own venture. The picture for men is different. The magnitude of account ownership on them having a business is estimated at 8.4 percentage points (Column 8), and seems to be driven by greater likelihood to borrow money for their business, rather than saving money. In subsection 5.4 I test empirically possible sources for gender heterogeneity.

Table 3. Effects of account ownership on entrepreneurship

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Saves for a business			Borrows for a business			Owns a business		
	All	Male	Female	All	Male	Female	All	Male	Female
Has an account	0.091**	0.094	0.127**	0.129***	0.119**	0.132***	0.056***	0.084***	0.025
	(0.035)	(0.058)	(0.055)	(0.029)	(0.057)	(0.032)	(0.014)	(0.024)	(0.032)
Observations	12,327	5,875	6,452	12,327	5,875	6,452	12,327	5,875	6,452

Note: Robust standard errors are reported in parentheses. Statistically significant coefficients are indicated as follows: **5% ***1%.

Even after using the instrument in the regressions, an endogeneity issue may arise in cases where aspiring entrepreneurs choose to relocate to places in which financial services are more accessible. While the data do not reveal the history of the respondents' residences, it does allow me to observe a segment of the population of business owners who are less likely to move - farmers. In Table 14 of Appendix F, I report regression results, in which I run the same specification of Columns 7-9 of Table 3 over the wave of 2011 (due to data availability), only for the respondents whose job is categorized as "Farming, Fishing, or Forestry Worker". The coefficients of the main regressor remain positive and significant for both genders.

5.3. Effects of Financial and Mobile Accounts Ownership on Entrepreneurship

I wish to learn about the effects of each of the two types of accounts - financial and mobile, which replace the aggregated variable that was used in previous specifications. Table 4 presents the marginal effects of each type of account, in the presence and absence of the other. The overall total marginal effects by gender are visualized in Figure 3, and the full results of the regressions are presented in Table 9 of Appendix C.

Observing columns 1 to 3 of Table 4, it is evident that the positive effect on saving among women that was found in Table 3 is driven by mobile accounts and not by financial ones. Having a financial account did not have an effect on any of the genders' likelihood to save money for business, and mobile accounts appear not to have a significant effect on men. Knowing the benefits of accounts, this result is not straightforward. Over the full survey in 2014 and 2017, only one third of the respondents who said they saved money (for any reason) used formal forms of savings to do so. It appears that in the absence of a formal banking system, people in developing countries have established their own methods of saving money. However, this dependent variable only measures the intensive margins, whether people save for business, and not the extensive margins - how much money they save, which may be limited without a formal account.

Mobile accounts appear to hold certain benefits that are attractive to women in particular, being associated with greater likelihood to save money for business purposes by 13 percentage points. It may also increase the likelihood of men to save, yet it is too imprecisely estimated. In the next section I will look deeper into the reasons that may drive this result for women.

Financial accounts are highly associated with the likelihood of borrowing money for business purposes, for both genders (Columns 4-6). It should be mentioned that having an account in a financial institution is not necessarily a necessity for a loan from the same institution: about a quarter of the individuals in the full sample who borrowed money from financial institutions (for any purpose) did not have a financial account. Mobile accounts, on the other hand, are found to have an empirical association with borrowing for business only among men, even in the absence of financial accounts.

Overall, ownership of financial account is associated with an increase of likelihood of business ownership only among men (estimated by 9 percentage points), while for women, only mobile accounts foster entrepreneurship (by 5.8 percentage points, when the woman does not have a financial account as well). On the other hand, mobile accounts are not significantly associated with the likelihood of having a business among men, and financial accounts are likely to have no impact on women's entrepreneurship beyond borrowing.

The contributions of mobile accounts to entrepreneurship outcomes are higher when their owner possesses financial accounts as well[63]. This suggests that even when the contributions of mobile

[63] Only in the specification of Column 9, the partial effect of mobile accounts when their owners hold financial accounts too is slightly lower

accounts to saving and borrowing are clear, they can still be improved by integrating people into the formal financial system. Interestingly, the complementarity of the two types of accounts is evident even when mobile accounts are added to the financial ones: the contributions of financial accounts are larger when their owners hold mobile accounts as well. This might be due to possibilities of payments, deposits, and loans that mobile money services offer.

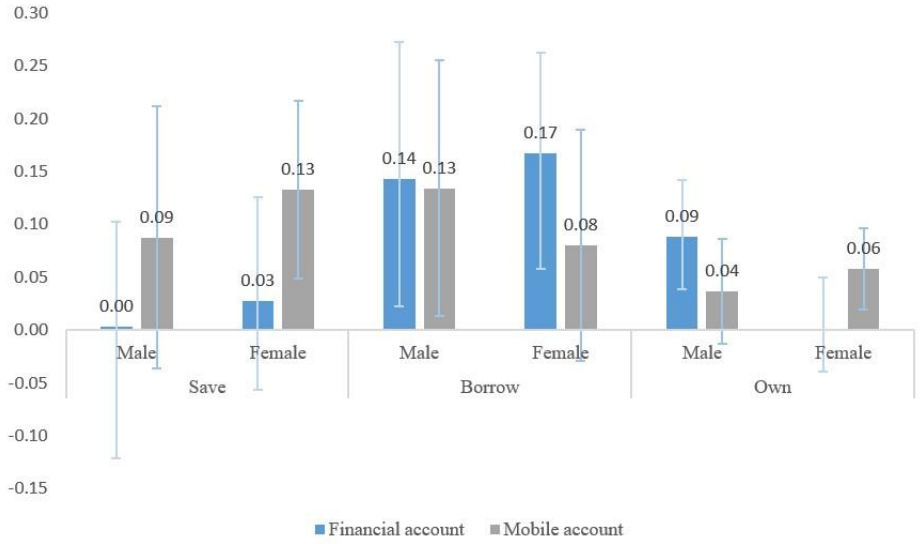
A possible criticism may point out that some countries in the sample do not have mobile money services at all, especially outside of Africa, as implied in Figure 1, and this may distort the results. To check the validity of my results, I rerun the specifications of Table B and find that the results regarding the two main regressors are essentially the same across all nine specifications.

Table 4. Marginal effects of financial and mobile accounts ownership on entrepreneurship – instrumented

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
						Saves for a business			Borrows for a business	
		All	Male	Female	All	Male	Female	All	Male	Female
Financial acc.	with mobile acc.	0.014	0.004	0.048	0.21***	0.223**	0.185***	0.1***	0.137***	-0.002
		(0.047)	(0.065)	(0.087)	(0.051)	(0.102)	(0.054)	(0.03)	(0.042)	(0.083)
	without mobile acc.	0.009	0.003	0.025	0.106***	0.106**	0.108***	0.044***	0.081***	-0.001
		(0.031)	(0.048)	(0.046)	(0.026)	(0.049)	(0.032)	(0.013)	(0.025)	(0.022)
Mobile acc.	with financial acc.	0.109***	0.088	0.148***	0.155***	0.185**	0.109	0.075***	0.073	0.057***
		(0.035)	(0.064)	(0.048)	(0.051)	(0.085)	(0.076)	(0.026)	(0.051)	(0.019)
	without financial acc.	0.104***	0.087	0.125***	0.058***	0.074**	0.035	0.025***	0.02	0.058***
		(0.033)	(0.063)	(0.041)	(0.019)	(0.034)	(0.024)	(0.009)	(0.014)	(0.02)
	Observations	12,327	5,875	6,452	12,327	5,875	6,452	12,327	5,875	6,452

Note: Robust standard errors are reported in parentheses. Statistically significant coefficients are indicated as follows: *10% **5% ***1%.

Figure 3: Marginal Effects of the Financial and Mobile Accounts



5.4. Sources of Gender Heterogeneity

In subsection 3.4, I discuss that while there are arguments that support the idea that women should enjoy the benefits of financial inclusion more than men, theories suggest that women are constrained in their investment in their businesses because of social norms. One explanation suggests that since women are more vulnerable to threats, they will benefit more from the safety of accounts to store cash, and in particular accounts of mobile money services, whose agents may be spread in the area more densely than bank branches. To test this notion, I split the sample to women who described their area as "safe to walk at night", and to those who did not. Although this measure of safety of the area is a subjective feeling of the woman - it is the subjective feeling that counts, regardless of the actual state.

Columns 1-2, 3-4, and 5-6 of Table 5 disaggregate the marginal effects of Columns 3, 6, and 9 of Table 4 to safe and unsafe areas, respectively, with the full results brought in Table 12 of Appendix E. The positive association between mobile banks and saving that was seen in Table 4 is true only for women in unsafe areas (Column 2 of Table 5), and not in safe areas. Women in both types of areas are likely to borrow money for their businesses only using their financial accounts, yet with greater likelihood in safer areas. Mobile accounts are found to be associated with business ownership only in safe areas, but not in areas where they do not feel safe.

These results highlight an advantage of mobile accounts as they provide an important service to women who are vulnerable to thefts and robberies, and enable them to take first steps toward having a business of they own by saving money for it. However, unsafe districts do not make environments that are conducive for entrepreneurship, and the increase in the likelihood of saving money for business purposes does not translate to actually having a business in these areas. Running the same specifications over a sample of men, there are no major differences between safe and unsafe areas.

Table 5. Marginal effects of financial and mobile accounts for women in safe and unsafe areas.

		(1)	(2)	(3)	(4)	(5)	(6)
		Saves for a business		Borrows for a business		Owns a business	
		Safe	Unsafe	Safe	Unsafe	Safe	Unsafe
Financial acc.	with mobile acc.	0.048	0.092	0.334***	0.221**	0.28*	-0.04
		(0.159)	(0.122)	(0.107)	(0.111)	(0.166)	(0.041)
	without mobile acc.	0.028	0.041	0.192***	0.118**	0.057*	-0.024
		(0.094)	(0.054)	(0.061)	(0.059)	(0.034)	(0.025)
Mobile acc.	with financial acc.	0.139	0.205***	0.171	0.145	0.218**	0.018
		(0.088)	(0.069)	(0.13)	(0.092)	(0.106)	(0.032)
	without financial acc.	0.119	0.151***	0.041	0.047	0.037**	0.032
		(0.075)	(0.051)	(0.032)	(0.03)	(0.018)	(0.055)
	Observations	3,253	3,172	3,237	3,178	3,237	3,172

It is interesting to point out that living in areas that were not safe at night by itself is not associated with women opening mobile accounts (Columns 3, 6, and 9 of Table 11), or any account for that matter (Tables 10 and 8). Hence, the association found in Column 2 of Table 5 is not driven by an effect of the area on account ownership, but rather more direct connection between account ownership and saving money for business purposes.

I test further possible heterogeneity within the subsample of women, to better understand personal situations that in which mobile accounts serve as an efficient tool for financial inclusion, which increases the likelihood of business ownership. However, the results of these tests should be read with caution, since one question from a survey might not capture the true nature of situation in the family. I regard this as a support to previous studies, and a call for new ones.

Column 1 and 2 of Table 13 in Appendix E split the subsample of female respondents to married (including women who have domestic partners) and unmarried women. The effect of mobile

account on business ownership is more statistically significant and possibly larger among the single women than for the married ones, even after controlling for age and other covariates. This result (weakly) supports the notion that married women are less likely to enjoy the full benefits of mobile accounts in business creation, since they are expected to focus on household activities.

Column 3 considers only female respondents who testified for not having a financial account since the financial institution (bank, microfinance institution, etc.) is too far – and Column 4 considers respondents who did not choose this reason when it was presented to them, yet also do not have financial accounts. Mobile accounts had a significant effect on entrepreneurship only among these for whom financial institutions were too far away. This finding may reveal some of the potential of financially including women, and the effect it can have on business ownership in areas that are not covered by the formal financial system.

Following a similar logic, Column 5 considers only female respondents who answered that a reason that they did not have an account is that a family member already had one. Mobile account had a stronger association with business ownership among this group than among women who did not choose this answer (Column 6). Although there is no information about who the family owner who holds a financial account is, one could assume that this is a male partner or a father. It could be that mobile accounts bring financial independence to women, which translate to business ownership. However, as mentioned earlier, this question should be examined with information that is more detailed.

6. Conclusion

As discussed by Banerjee and Duflo (2011), finance is not the only barrier to entrepreneurship in poor countries. Yet, since such large segments of the population of these countries are financially excluded, policies that increase access to saving, credit, and insurance products hold an opportunity to make a significant change by helping individuals to overcome the finance hurdle.

Overall, the results suggest positive effects of account ownership on entrepreneurship in developing countries. Having an account is associated with respondents' likelihood of saving money, borrowing money, or owning a business, the latter increasing by 5.6 percentage points. Breaking down the main regressor into two types of accounts - a bank account and a mobile money account - I find that both types increase the likelihood of having a business and borrowing money to have one, yet only mobile accounts are associated with a greater likelihood to save money. While results of previous research about the effect of different financial inclusion

elements on entrepreneurship were mixed, the outcome of this study takes the literature a step further towards understanding the link between the two. Assuming a link between entrepreneurship and poverty alleviation, and entrepreneurship and development, these findings establish entrepreneurship as a channel between financial inclusion and poverty reduction or development.

Since about two-thirds of the unbanked people in the world have mobile phones (Demirgüç-Kunt et al., 2017), financial technologies of mobile services may be able to serve those excluded by formal financial institutions. Moreover, since mobile accounts were found to be complementary to financial accounts, policy-makers may want to try to increase the coverage and inclusivity of the formal banking system even if their constituencies have access to mobile money services. Furthermore, a regulatory framework which allows entrance and spread of mobile services may be one method to achieve effective financial inclusion, even if formal institutions already operate in the area.

When analyzing the sample by gender, it appears that one size does not fit all. Financial accounts were found to increase the likelihood to start or maintain a business a business only among men, while mobile accounts were associated with greater probability of saving money for business purposes only among women. Having a mobile account is estimated to increase the likelihood of a woman having a business by almost 6 percentage points. This figure is almost twice as large as the proportion of female business owners in the population, proving the importance for this new financial tool for them. Looking deeper, I find that these results vary by the level of safety of the environment; in areas where women do not feel safe, they are more likely to use mobile accounts to accumulate money for their business - but less likely to translate it to business ownership. These results may settle inconsistencies that were found between previous studies, in which women captured the benefits of financial inclusion in certain settings, and men in others.

The cross-sectionality of the data makes it difficult to draw strong conclusions about causality, even after validation of the suggested instrument. The validity and relevance of the instrument would be increased by more precise data about actual distance to financial institutions and points of deposit for mobile money. Detailed information about peer-to-peer payments would be useful for unraveling better the channels through which accounts affect entrepreneurship.

Opportunities for future research lie in obtaining more detailed data, preferably in an individual-level panel form, which can move the literature closer to establishing causal claims, and learn

better about the conditions in which financial inclusion of individuals gives them an opportunity to become entrepreneurs.

References

Joshua D Angrist. The perils of peer effects. *Labour Economics*, 30:98–108, 2014.

Fernando Aportela. Effects of financial access on savings by low-income people, 1999.

Nava Ashraf. Spousal control and intra-household decision making: An experimental study in the philippines. *American Economic Review*, 99(4):1245–77, 2009.

Meghana Ayyagari, Thorsten Beck, and Asli Demirguc-Kunt. Small and medium enterprises across the globe. *Small Business Economics*, 29(4):415–434, 2007.

Meghana Ayyagari, Asli Demirgüç-Kunt, and Vojislav Maksimovic. How important are financing constraints? The role of finance in the business environment. *The World Bank Economic Review*, 22(3):483–516, 2008.

Abhijit Banerjee, Esther Duflo, Rachel Glennerster, and Cynthia Kinnan. The miracle of microfinance? Evidence from a randomized evaluation. *American Economic Journal: Applied Economics*, 7(1):22–53, 2015.

Abhijit V Banerjee and Esther Duflo. *Poor economics: A radical rethinking of the way to fight global poverty*. Public Affairs, 2011.

Abhijit V Banerjee and Andrew F Newman. Occupational choice and the process of development. *Journal of Political Economy*, 101(2):274–298, 1993.

Thorsten Beck, Asli Demirgüç-Kunt, and Ross Levine. SMEs, growth, and poverty: cross-country evidence. *Journal of Economic Growth*, 10(3):199–229, 2005.

Thorsten Beck, Asli Demirgüç-Kunt, and Ross Levine. Finance, inequality and the poor. *Journal of Economic Growth*, 12(1):27–49, 2007.

Thorsten Beck, Haki Pamuk, Ravindra Ramrattan, and Burak R Uras. Payment instruments, finance and development. *Journal of Development Economics*, 133:162–186, 2018.

Allen N Berger, Nathan H Miller, Mitchell A Petersen, Raghuram G Rajan, and Jeremy C Stein. Does function follow organizational form? evidence from the lending practices of large and small banks. *Journal of Financial economics*, 76(2):237–269, 2005.

Arielle Bernhardt, Erica Field, Rohini Pande, and Natalia Rigol. Household matters: Revisiting the returns to capital among female microentrepreneurs. *American Economic Review: Insights*, 1(2):141–60, 2019.

Muhammad Faress Bhuiyan and Artjoms Ivlevs. Micro-entrepreneurship and subjective well-being: Evidence from rural bangladesh. *Journal of Business Venturing*, 34(4):625–645, 2019.

Sandra E Black and Philip E Strahan. Entrepreneurship and bank credit availability. *The Journal of Finance*, 57(6):2807–2833, 2002.

Miriam Bruhn and Inessa Love. The real impact of improved access to finance: Evidence from Mexico. *The Journal of Finance*, 69(3):1347–1376, 2014.

Robin Burgess and Rohini Pande. Do rural banks matter? Evidence from the Indian social banking experiment. *American Economic Review*, 95(3):780–795, 2005.

Martin A Carree and A Roy Thurik. The impact of entrepreneurship on economic growth. In *Handbook of Entrepreneurship Research*, pages 557–594. Springer, 2010.

Marco Ceccagnoli. Appropriability, preemption, and firm performance. *Strategic Management Journal*, 30(1):81–98, 2009.

Beiting Cheng, Ioannis Ioannou, and George Serafeim. Corporate social responsibility and access to finance. *Strategic management journal*, 35(1):1–23, 2014.

Myrto Chliova, Jan Brinckmann, and Nina Rosenbusch. Is microcredit a blessing for the poor? a meta-analysis examining development outcomes and contextual considerations. *Journal of Business Venturing*, 30(3):467–487, 2015.

Patricio S Dalton, Haki Pamuk, Ravindra Ramrattan, Daan van Soest, and Burak Uras. Transparency and financial inclusion: Experimental evidence from mobile money. 2019.

Suresh de Mel, David McKenzie, and Christopher Woodruff. Returns to capital in microenterprises: evidence from a field experiment. *The Quarterly Journal of Economics*, 123(4):1329–1372, 2008.

Suresh De Mel, David McKenzie, and Christopher Woodruff. Are women more credit constrained? Experimental evidence on gender and microenterprise returns. *American Economic Journal: Applied Economics*, 1(3):1–32, 2009.

Asli Demirgüç-Kunt, Bingjie Hu, and Leora Klapper. Financial inclusion in the europe and central asia region: Recent trends and a research agenda, 2019.

Asli Demirgüç-Kunt, Leora Klapper, Dorothe Singer, Saniya Ansar, and Jake Hess. *The Global Findex Database 2017: Measuring financial inclusion and the Fintech revolution*. The World Bank, 2018.

Pascaline Dupas, Sarah Green, Anthony Keats, and Jonathan Robinson. Challenges in banking the rural poor: Evidence from kenya's western province. Technical report, National Bureau of Economic Research, 2012.

Pascaline Dupas, Dean Karlan, Jonathan Robinson, and Diego Ubfal. Banking the unbanked? Evidence from three countries. *American Economic Journal: Applied Economics*, 10(2):257– 97, 2018.

Pascaline Dupas and Jonathan Robinson. Savings constraints and microenterprise development: Evidence from a field experiment in kenya. *American Economic Journal: Applied Economics*, 5(1):163–92, 2013.

David S Evans and Linda S Leighton. Some empirical aspects of entrepreneurship. *American Economic Review*, 79:519–535, 1989.

Giulia Faggio and Olmo Silva. Self-employment and entrepreneurship in urban and rural labour markets. *Journal of Urban Economics*, 84:67–85, 2014.

Nathan Fiala. Returns to microcredit, cash grants and training for male and female microentrepreneurs in uganda. *World Development*, 105:189–200, 2018.

Raymond Fisman and Jakob Svensson. Are corruption and taxation really harmful to growth? Firm level evidence. *Journal of development economics*, 83(1):63–75, 2007.

Mariassunta Giannetti and Andrei Simonov. Social interactions and entrepreneurial activity. *Journal of Economics & Management Strategy*, 18(3):665–709, 2009.

Markus Goldstein and Christopher Udry. The profits of power: Land rights and agricultural investment in ghana. *Journal of political Economy*, 116(6):981–1022, 2008.

Michelle Hanlon, Shivaram Rajgopal, and Terry Shevlin. Are executive stock options associated with future earnings? *Journal of Accounting and Economics*, 36(1-3):3–43, 2003.

William Jack, Adam Ray, and Tavneet Suri. Transaction networks: Evidence from mobile money in Kenya. *American Economic Review*, 103(3):356–61, 2013.

William Jack and Tavneet Suri. Risk sharing and transactions costs: Evidence from kenya's mobile money revolution. *American Economic Review*, 104(1):183–223, 2014.

Pamela Jakiela and Owen Ozier. Does Africa need a rotten kin theorem? Experimental evidence from village economies. *The Review of Economic Studies*, 83(1):231–268, 2016.

Xiangping Jia, Cheng Xiang, and Jikun Huang. Microfinance, self-employment, and entrepreneurs in less developed areas of rural china. *China Economic Review*, 27:94–103, 2013.

Dean Karlan and Jonathan Zinman. Microcredit in theory and practice: Using randomized credit scoring for impact evaluation. *Science*, 332(6035):1278–1284, 2011.

Dean S Karlan and Jonathan Zinman. Expanding microenterprise credit access: Using randomized supply decisions to estimate the impacts in Manila. *CEPR Discussion Paper No. DP7396*, 2009.

Seung-Hyun Lee and David H Weng. Does bribery in the home country promote or dampen firm exports? *Strategic Management Journal*, 34(12):1472–1487, 2013.

Isaac Mbiti and David N Weil. Mobile banking: The impact of m-pesa in kenya. In *African Successes, Volume III: Modernization and Development*, pages 247–293. University of Chicago Press, 2015.

David McKenzie and Christopher Woodruff. Experimental evidence on returns to capital and access to finance in Mexico. *The World Bank Economic Review*, 22(3):457–482, 2008.

Jonathan Morduch. The microfinance promise. *Journal of Economic Literature*, 37(4):1569–1614, 1999.

Wim Naude, Thomas Gries, Eric Wood, and Aloe Meintjies. Regional determinants of entrepreneurial start-ups in a developing country. *Entrepreneurship and regional development*, 20(2):111–124, 2008.

Simon C Parker and C Mirjam Van Praag. Schooling, capital constraints, and entrepreneurial performance: The endogenous triangle. *Journal of Business & Economic Statistics*, 24(4):416–431, 2006.

Mitchell A Petersen and Raghuram G Rajan. Does distance still matter? the information revolution in small business lending. *The Journal of Finance*, 57(6):2533–2570, 2002.

Jean-Philippe Platteau. Egalitarian norms and economic growth. *Institutions, Social Norms and Economic Development*, pages 189–240.

Megan Plyler, Sherri Haas, and G Ngarajan. Community-level economic effects of M-PESA in Kenya: Initial findings. *College Park, MD: IRIS Center, Assessing the Impact of Innovation Grants in Financial Services Project*, 2010.

Silvia Prina. Banking the poor via savings accounts: Evidence from a field experiment. *Journal of Development Economics*, 115:16–31, 2015.

David Roodman. Fitting fully observed recursive mixed-process models with CMP. *The Stata Journal*, 11(2):159–206, 2011.

Tavneet Suri and William Jack. The long-run poverty and gender impacts of mobile money. *Science*, 354(6317):1288–1292, 2016.

Alessandro Tarozzi, Jaikishan Desai, and Kristin Johnson. The impacts of microcredit: Evidence from Ethiopia. *American Economic Journal: Applied Economics*, 7(1):54–89, 2015.

C Mirjam Van Praag and Peter H Versloot. What is the value of entrepreneurship? a review of recent research. *Small Business Economics*, 29(4):351–382, 2007.

Theodor Vladasel, Matthew J Lindquist, Joeri Sol, and Mirjam Van Praag. On the origins of entrepreneurship: Evidence from sibling correlations. *Journal of Business Venturing*, 2020.

Christina Wieser, Miriam Bruhn, Johannes Kinzinger, Christian Ruckteschler, and Soren Heitmann. *The impact of mobile money on poor rural households: Experimental evidence from Uganda*. The World Bank, 2019.

APPENDICES

A Full Results - Either Type of Account, Single Equation

Table 6. Effect of account ownership on entrepreneurship - single equation.

	(1)	(2)	(3)
	Saves	Borrows	Owns
Has an account	0.577***	0.504***	0.337***
	(0.042)	(0.046)	(0.058)
Woman	-0.123***	-0.093**	-0.232***
	(0.033)	(0.037)	(0.048)
% of peers with businesses	0.524***	0.309*	1.280***
	(0.152)	(0.169)	(0.177)
HH income, Second 20%	0.118*	0.005	0.316***
	(0.072)	(0.077)	(0.095)
HH income, Middle 20%	0.179***	0.007	0.261***
	(0.064)	(0.069)	(0.089)
HH income, Fourth 20%	0.207***	0.029	0.183**
	(0.064)	(0.070)	(0.086)
HH income, Richest 20%	0.412***	0.156**	0.435***
	(0.063)	(0.072)	(0.088)
Area is safe to walk at night	0.080**	-0.035	-0.041
	(0.037)	(0.042)	(0.052)
Age	0.038***	0.031***	0.032***
	(0.006)	(0.010)	(0.008)
Age sq	-0.001***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)
Rural area	0.151***	0.157***	-0.016
	(0.040)	(0.046)	(0.055)
Has children	0.055	0.150***	0.049
	(0.044)	(0.048)	(0.060)
Conditions get worse	-0.115**	-0.034	-0.060
	(0.050)	(0.060)	(0.075)
Conditions get better	0.034	-0.081	0.136*
	(0.047)	(0.054)	(0.070)
Education: completed secondary	-0.003	-0.079*	0.014
	(0.041)	(0.046)	(0.058)
Education: completed tertiary or more	0.147*	-0.049	0.266***
	(0.077)	(0.081)	(0.094)
Married	0.167***	0.094**	0.179***
	(0.041)	(0.047)	(0.056)
Constant	-2.482***	-2.171***	-2.656***
	(0.277)	(0.296)	(0.359)
Observations	12,238	12,327	12,327

Note: All specifications include country-year dummies. Robust standard errors are reported in parentheses. Statistically significant coefficients are indicated as follows: *10% **5% ***1%.

B Full results - either type of account, two-stage model

Table 7. Effect of Account Ownership on Entrepreneurship, instrumental variable results.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Saves for Business			Borrows for Business			Owns a Business		
	All	Men	Women	All	Men	Women	All	Men	Women
Has an account	0.414**	0.387	0.658**	0.844***	0.723**	0.965***	0.728***	0.787***	0.350
	(0.161)	(0.238)	(0.286)	(0.191)	(0.343)	(0.235)	(0.182)	(0.227)	(0.433)
Woman	-0.133***			-0.071*			-0.204***		
	(0.034)			(0.040)			(0.049)		
% of peers with businesses	0.543***	0.630***	0.389*	0.266	0.092	0.431*	1.222***	1.351***	1.277***
	(0.152)	(0.205)	(0.226)	(0.173)	(0.244)	(0.242)	(0.179)	(0.228)	(0.285)
HH income, Second 20%	0.124*	0.030	0.219**	-0.007	0.020	-0.019	0.299***	0.383***	0.296*
	(0.072)	(0.105)	(0.097)	(0.076)	(0.104)	(0.104)	(0.094)	(0.139)	(0.156)
HH income, Middle 20%	0.193***	0.166*	0.212**	-0.019	0.031	-0.036	0.229**	0.351***	0.131
	(0.066)	(0.096)	(0.090)	(0.070)	(0.100)	(0.091)	(0.089)	(0.121)	(0.141)
HH income, Fourth 20%	0.233***	0.261**	0.186**	-0.022	-0.018	0.011	0.125	0.301**	-0.080
	(0.068)	(0.102)	(0.095)	(0.074)	(0.113)	(0.098)	(0.089)	(0.126)	(0.144)
HH income, Richest 20%	0.448***	0.436***	0.448***	0.079	0.077	0.137	0.345***	0.472***	0.294*
	(0.072)	(0.110)	(0.101)	(0.085)	(0.131)	(0.108)	(0.095)	(0.128)	(0.160)
Area is safe to walk at night	0.082**	0.065	0.118**	-0.039	-0.086	0.010	-0.046	-0.051	-0.070
	(0.038)	(0.051)	(0.052)	(0.042)	(0.055)	(0.060)	(0.051)	(0.066)	(0.080)
Age	0.041***	0.048***	0.034***	0.026**	0.021	0.032***	0.025***	0.024**	0.040***
	(0.007)	(0.009)	(0.010)	(0.011)	(0.016)	(0.011)	(0.009)	(0.012)	(0.015)
Age sq	-0.001***	-0.001***	-0.000***	-0.000***	-0.000	-0.000***	-0.000***	-0.000*	-0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Rural area	0.143***	0.152**	0.163***	0.171***	0.115*	0.260***	0.003	0.049	-0.071
	(0.041)	(0.059)	(0.058)	(0.046)	(0.064)	(0.066)	(0.055)	(0.074)	(0.091)
Has children	0.057	0.020	0.122*	0.145***	0.130**	0.169**	0.045	0.075	0.001
	(0.044)	(0.057)	(0.066)	(0.048)	(0.063)	(0.071)	(0.060)	(0.073)	(0.105)
Conditions get worse	-0.113**	-0.091	-0.125*	-0.038	0.044	-0.107	-0.061	-0.058	-0.028
	(0.050)	(0.068)	(0.075)	(0.059)	(0.078)	(0.085)	(0.074)	(0.100)	(0.116)
Conditions get better	0.038	0.078	0.012	-0.089	-0.023	-0.136*	0.125*	0.104	0.174
	(0.047)	(0.065)	(0.070)	(0.054)	(0.075)	(0.077)	(0.070)	(0.092)	(0.114)
Education: completed secondary	0.025	-0.010	0.042	-0.135**	-0.077	-0.188**	-0.053	-0.073	0.052
	(0.049)	(0.067)	(0.077)	(0.054)	(0.085)	(0.077)	(0.065)	(0.082)	(0.117)
Education: completed tertiary or more	0.204**	0.270**	0.039	-0.173*	-0.020	-0.400***	0.121	0.117	0.357*
	(0.092)	(0.123)	(0.153)	(0.103)	(0.158)	(0.153)	(0.113)	(0.141)	(0.215)
Married	0.173***	0.116*	0.212***	0.080*	0.098	0.068	0.162***	0.089	0.307***
	(0.041)	(0.062)	(0.054)	(0.047)	(0.070)	(0.063)	(0.056)	(0.080)	(0.083)
Constant	-2.537***	-2.280***	-2.349***	-2.045***	-1.738***	-2.719***	-2.500***	-2.305***	-3.004***
	(0.281)	(0.358)	(0.308)	(0.308)	(0.439)	(0.539)	(0.362)	(0.442)	(0.482)
ρ	0.100	0.093	-0.005	-0.213*	-0.138	-0.266*	-0.243**	-0.316**	0.042
	(0.093)	(0.138)	(0.167)	(0.120)	(0.212)	(0.144)	(0.113)	(0.140)	(0.259)
Observations	12,327	5,875	6,452	12,327	5,875	6,452	12,327	5,875	6,452

Note: All specifications include country-year dummies. Robust standard errors are reported in parentheses.

Table 8. Likelihood for having any type of an account (first stage).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	All	Men	Women	All	Men	Women	All	Men	Women
% of peers with accounts	0.919***	0.933***	0.937***	0.931***	0.943***	0.944***	0.929***	0.956***	0.936***
	(0.068)	(0.098)	(0.092)	(0.067)	(0.097)	(0.091)	(0.067)	(0.097)	(0.091)
Woman	-0.217***			-0.214***			-0.217***		
	(0.032)			(0.032)			(0.032)		
% of peers with businesses	0.196	0.196	0.183	0.198	0.193	0.198	0.189	0.187	0.183
	(0.145)	(0.211)	(0.208)	(0.146)	(0.213)	(0.209)	(0.146)	(0.212)	(0.207)
HH income, Second 20%	0.170***	0.223**	0.136*	0.170***	0.222**	0.138*	0.172***	0.219**	0.135*
	(0.061)	(0.091)	(0.081)	(0.060)	(0.090)	(0.081)	(0.061)	(0.090)	(0.081)
HH income, Middle 20%	0.174***	0.293***	0.061	0.168***	0.287***	0.058	0.173***	0.288***	0.061
	(0.055)	(0.082)	(0.074)	(0.055)	(0.082)	(0.074)	(0.054)	(0.081)	(0.074)
HH income, Fourth 20%	0.379***	0.510***	0.272***	0.374***	0.507***	0.269***	0.377***	0.502***	0.271***
	(0.054)	(0.079)	(0.075)	(0.054)	(0.079)	(0.075)	(0.054)	(0.079)	(0.075)
HH income, Richest 20%	0.584***	0.709***	0.472***	0.578***	0.703***	0.470***	0.582***	0.700***	0.471***
	(0.056)	(0.080)	(0.078)	(0.055)	(0.080)	(0.077)	(0.055)	(0.079)	(0.078)
Area is safe to walk at night	0.050	0.128***	-0.026	0.050	0.128***	-0.026	0.049	0.127***	-0.026
	(0.033)	(0.047)	(0.047)	(0.033)	(0.047)	(0.047)	(0.033)	(0.047)	(0.047)
Age	0.051***	0.051***	0.051***	0.050***	0.051***	0.051***	0.051***	0.051***	0.051***
	(0.005)	(0.008)	(0.007)	(0.005)	(0.008)	(0.007)	(0.005)	(0.008)	(0.007)
Age sq	-0.000***	-0.001***	-0.001***	-0.000***	-0.001***	-0.001***	-0.000***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Rural area	-0.071*	-0.047	-0.102*	-0.069*	-0.046	-0.100*	-0.068*	-0.043	-0.102*
	(0.038)	(0.053)	(0.053)	(0.038)	(0.052)	(0.053)	(0.038)	(0.053)	(0.053)
Has children	0.048	0.047	0.046	0.047	0.048	0.047	0.049	0.046	0.045
	(0.039)	(0.055)	(0.056)	(0.039)	(0.055)	(0.056)	(0.039)	(0.055)	(0.056)
Conditions get worse	0.031	0.020	0.034	0.031	0.018	0.035	0.032	0.021	0.034
	(0.044)	(0.067)	(0.061)	(0.044)	(0.066)	(0.061)	(0.044)	(0.066)	(0.061)
Conditions get better	0.078*	0.092	0.071	0.078*	0.090	0.073	0.077*	0.093	0.072
	(0.045)	(0.065)	(0.064)	(0.045)	(0.064)	(0.064)	(0.045)	(0.064)	(0.064)
Education: completed secondary	0.499***	0.523***	0.481***	0.498***	0.523***	0.480***	0.499***	0.522***	0.482***
	(0.037)	(0.055)	(0.053)	(0.037)	(0.055)	(0.053)	(0.037)	(0.055)	(0.053)
Education: completed tertiary	1.157***	1.170***	1.160***	1.157***	1.168***	1.161***	1.159***	1.167***	1.159***
	(0.067)	(0.096)	(0.104)	(0.067)	(0.096)	(0.104)	(0.067)	(0.096)	(0.104)
Married	0.136***	0.165***	0.127***	0.137***	0.163***	0.132***	0.135***	0.165***	0.127***
	(0.037)	(0.058)	(0.048)	(0.037)	(0.058)	(0.049)	(0.037)	(0.058)	(0.049)
Constant	-3.086***	-3.647***	-2.799***	-3.086***	-3.631***	-2.817***	-3.087***	-3.625***	-2.797***
	(0.285)	(0.372)	(0.398)	(0.284)	(0.377)	(0.399)	(0.284)	(0.368)	(0.399)
Observations	12,327	5,875	6,452	12,327	5,875	6,452	12,327	5,875	6,452

Note: All specifications include country-year dummies. Specifications numbers correspond to the specifications of Table 7. Robust standard errors are reported in parentheses. Statistically significant coefficients are indicated as follows: *10% **5% ***1%.

C Full Results - Both Types of Accounts, Two-Stage Model

Table 9. Effect of Financial and Mobile Account Ownership on Entrepreneurship, instrumental variable results.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Saves for Business			Borrows for Business			Owns a Business		
	All	Men	Women	All	Men	Women	All	Men	Women
Has a financial account	0.045	0.012	0.141	0.774***	0.735**	0.856***	0.641***	0.834***	-0.009
	(0.148)	(0.206)	(0.258)	(0.189)	(0.337)	(0.251)	(0.194)	(0.257)	(0.385)
Has a mobile account	0.474***	0.358	0.681***	0.583***	0.689**	0.411	0.507***	0.345	0.869***
	(0.152)	(0.259)	(0.221)	(0.190)	(0.316)	(0.286)	(0.178)	(0.240)	(0.294)
Woman	-0.138***			-0.062			-0.199***		
	(0.034)			(0.039)			(0.048)		
% of peers with businesses	0.559***	0.655***	0.407*	0.261	0.085	0.419*	1.217***	1.371***	1.251***
	(0.152)	(0.205)	(0.227)	(0.173)	(0.241)	(0.243)	(0.179)	(0.227)	(0.282)
HH income, Second 20%	0.132*	0.045	0.218**	0.001	0.028	-0.016	0.307***	0.393***	0.285*
	(0.071)	(0.104)	(0.095)	(0.076)	(0.104)	(0.105)	(0.094)	(0.139)	(0.154)
HH income, Middle 20%	0.206***	0.195**	0.217**	-0.026	0.012	-0.036	0.231***	0.352***	0.122
	(0.065)	(0.093)	(0.089)	(0.070)	(0.097)	(0.092)	(0.089)	(0.122)	(0.139)
HH income, Fourth 20%	0.258***	0.306***	0.205**	-0.032	-0.049	0.011	0.123	0.297**	-0.094
	(0.067)	(0.098)	(0.091)	(0.073)	(0.105)	(0.098)	(0.087)	(0.125)	(0.141)
HH income, Richest 20%	0.487***	0.495***	0.485***	0.055	0.017	0.138	0.340***	0.453***	0.292*
	(0.069)	(0.104)	(0.095)	(0.082)	(0.124)	(0.108)	(0.096)	(0.132)	(0.155)
Area is safe to walk at night	0.082**	0.073	0.114**	-0.042	-0.087	0.003	-0.053	-0.048	-0.087
	(0.037)	(0.051)	(0.052)	(0.042)	(0.054)	(0.061)	(0.051)	(0.066)	(0.080)
Age	0.044***	0.053***	0.038***	0.025**	0.018	0.033***	0.026***	0.022*	0.042***
	(0.007)	(0.009)	(0.010)	(0.011)	(0.016)	(0.012)	(0.009)	(0.013)	(0.015)
Age sq	-0.001***	-0.001***	-0.000***	-0.000**	-0.000	-0.000***	-0.000***	-0.000*	-0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Rural area	0.136***	0.137**	0.157***	0.180***	0.120*	0.272***	0.009	0.055	-0.058
	(0.041)	(0.059)	(0.059)	(0.046)	(0.063)	(0.067)	(0.056)	(0.073)	(0.093)
Has children	0.065	0.026	0.136**	0.143***	0.121*	0.173**	0.041	0.059	0.013
	(0.043)	(0.057)	(0.065)	(0.049)	(0.064)	(0.072)	(0.060)	(0.074)	(0.105)
Conditions get worse	-0.114**	-0.094	-0.122	-0.044	0.033	-0.112	-0.068	-0.064	-0.035
	(0.050)	(0.068)	(0.076)	(0.059)	(0.077)	(0.085)	(0.074)	(0.100)	(0.118)
Conditions get better	0.039	0.075	0.022	-0.096*	-0.038	-0.142*	0.121*	0.099	0.183
	(0.047)	(0.066)	(0.070)	(0.054)	(0.075)	(0.078)	(0.070)	(0.091)	(0.116)
Educ: completed secondary	0.058	0.036	0.076	-0.162***	-0.122	-0.201**	-0.073	-0.108	0.052
	(0.049)	(0.068)	(0.075)	(0.054)	(0.081)	(0.080)	(0.065)	(0.083)	(0.111)
Educ: completed tertiary	0.274***	0.351***	0.151	-0.233**	-0.135	-0.401**	0.079	0.035	0.380*
	(0.091)	(0.121)	(0.142)	(0.103)	(0.154)	(0.157)	(0.115)	(0.148)	(0.202)
Married	0.176***	0.120*	0.217***	0.074	0.086	0.062	0.155***	0.078	0.316***
	(0.041)	(0.062)	(0.054)	(0.047)	(0.069)	(0.064)	(0.055)	(0.080)	(0.083)
Constant	-2.596***	-2.398***	-2.508***	-2.013***	-1.639***	-2.740***	-2.484***	-2.232***	-3.191***
	(0.274)	(0.357)	(0.355)	(0.308)	(0.449)	(0.538)	(0.364)	(0.450)	(0.494)
ρ[2nd-fin]	0.245***	0.254**	0.206	-0.204*	-0.188	-0.221	-0.242**	-0.338**	0.109
	(0.087)	(0.123)	(0.149)	(0.113)	(0.202)	(0.146)	(0.116)	(0.155)	(0.230)
ρ[2nd-mob]	0.037	0.083	-0.048	-0.151	-0.198	-0.064	-0.110	-0.110	-0.125
	(0.084)	(0.145)	(0.115)	(0.102)	(0.169)	(0.153)	(0.093)	(0.126)	(0.157)
ρ[fin-mob]	0.379***	0.392***	0.383***	0.378***	0.391***	0.380***	0.378***	0.393***	0.381***
	(0.030)	(0.045)	(0.044)	(0.030)	(0.044)	(0.044)	(0.030)	(0.045)	(0.044)
Observations	12,327	5,875	6,452	12,327	5,875	6,452	12,327	5,875	6,452

Note: 2nd Stage results. All specifications include country-year dummies. Robust standard errors are reported in parentheses. Statistically significant coefficients are indicated as follows: *10%; **5%; ***1%.

Table 10. Likelihood for having a financial account (first stage).

	(1) All	(2) Men	(3) Women	(4) All	(5) Men	(6) Women	(7) All	(8) Men	(9) Women
% of peers with financial accounts	0.889***	0.848***	0.949***	0.906***	0.865***	0.964***	0.904***	0.879***	0.958***
	(0.071)	(0.104)	(0.095)	(0.070)	(0.102)	(0.094)	(0.070)	(0.101)	(0.095)
Woman	-0.190***			-0.186***			-0.189***		
	(0.032)			(0.032)			(0.032)		
% of peers with businesses	0.177	0.090	0.289	0.175	0.077	0.296	0.172	0.070	0.297
	(0.150)	(0.218)	(0.210)	(0.151)	(0.221)	(0.210)	(0.152)	(0.221)	(0.209)
HH income, Second 20%	0.135**	0.167*	0.121	0.140**	0.177*	0.125	0.141**	0.167*	0.119
	(0.063)	(0.094)	(0.083)	(0.063)	(0.094)	(0.083)	(0.063)	(0.094)	(0.084)
HH income, Middle 20%	0.176***	0.316***	0.052	0.169***	0.309***	0.047	0.174***	0.309***	0.048
	(0.058)	(0.085)	(0.078)	(0.058)	(0.086)	(0.078)	(0.058)	(0.085)	(0.078)
HH income, Fourth 20%	0.372***	0.515***	0.260***	0.365***	0.507***	0.256***	0.369***	0.502***	0.256***
	(0.057)	(0.082)	(0.079)	(0.057)	(0.082)	(0.078)	(0.057)	(0.083)	(0.079)
HH income, Richest 20%	0.613***	0.768***	0.467***	0.607***	0.758***	0.465***	0.609***	0.752***	0.462***
	(0.059)	(0.083)	(0.083)	(0.059)	(0.083)	(0.082)	(0.059)	(0.083)	(0.083)
Area is safe to walk at night	0.033	0.074	-0.005	0.033	0.073	-0.005	0.033	0.075	-0.003
	(0.034)	(0.048)	(0.048)	(0.034)	(0.048)	(0.048)	(0.034)	(0.048)	(0.048)
Age	0.055***	0.060***	0.052***	0.055***	0.061***	0.052***	0.055***	0.061***	0.052***
	(0.005)	(0.008)	(0.007)	(0.005)	(0.008)	(0.007)	(0.005)	(0.008)	(0.007)
Age sq	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.000***	-0.001***	-0.001***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Rural area	-0.094**	-0.088*	-0.118**	-0.092**	-0.087	-0.115**	-0.090**	-0.082	-0.118**
	(0.038)	(0.053)	(0.054)	(0.038)	(0.053)	(0.054)	(0.038)	(0.053)	(0.054)
Has children	0.095**	0.121**	0.066	0.096**	0.120**	0.070	0.096**	0.116**	0.067
	(0.040)	(0.057)	(0.057)	(0.040)	(0.057)	(0.057)	(0.040)	(0.057)	(0.057)
Conditions get worse	0.056	0.041	0.069	0.054	0.038	0.067	0.054	0.039	0.066
	(0.044)	(0.067)	(0.061)	(0.044)	(0.067)	(0.061)	(0.044)	(0.067)	(0.061)
Conditions get better	0.098**	0.092	0.113*	0.095**	0.088	0.112*	0.094**	0.089	0.113*
	(0.044)	(0.065)	(0.064)	(0.044)	(0.064)	(0.065)	(0.044)	(0.064)	(0.065)
Education: completed secondary	0.534***	0.570***	0.508***	0.535***	0.576***	0.505***	0.537***	0.576***	0.508***
	(0.038)	(0.056)	(0.054)	(0.038)	(0.056)	(0.054)	(0.038)	(0.056)	(0.054)
Education: completed tertiary	1.210***	1.253***	1.191***	1.213***	1.258***	1.191***	1.216***	1.260***	1.189***
	(0.066)	(0.093)	(0.105)	(0.066)	(0.093)	(0.105)	(0.066)	(0.093)	(0.105)
Married	0.143***	0.139**	0.148***	0.142***	0.133**	0.152***	0.141***	0.136**	0.148***
	(0.037)	(0.059)	(0.049)	(0.038)	(0.059)	(0.050)	(0.038)	(0.058)	(0.049)
Constant	-3.280***	-3.953***	-2.909***	-3.284***	-3.926***	-2.926***	-3.284***	-3.925***	-2.905***
	(0.289)	(0.379)	(0.396)	(0.286)	(0.389)	(0.397)	(0.287)	(0.380)	(0.397)
Observations	12,327	5,875	6,452	12,327	5,875	6,452	12,327	5,875	6,452

Note: All specifications include country-year dummies. Specifications numbers correspond to the specifications of Table 9. Robust standard errors are reported in parentheses. Statistically significant coefficients are indicated as follows: *10% **5% ***1%.

Table 11. Likelihood for having a mobile account (first stage).

	(1) All	(2) Men	(3) Women	(4) All	(5) Men	(6) Women	(7) All	(8) Men	(9) Women
% of peers with mobile accounts	1.193***	1.173***	1.310***	1.201***	1.184***	1.299***	1.193***	1.175***	1.299***
	(0.106)	(0.141)	(0.149)	(0.106)	(0.141)	(0.153)	(0.105)	(0.140)	(0.147)
Woman	-0.230***			-0.231***			-0.230***		
	(0.043)			(0.042)			(0.042)		
% of peers with businesses	0.145	0.264	-0.054	0.140	0.248	-0.049	0.141	0.257	-0.057
	(0.170)	(0.241)	(0.254)	(0.170)	(0.239)	(0.254)	(0.170)	(0.240)	(0.254)
HH income, Second 20%	0.138	0.189	0.103	0.135	0.183	0.100	0.137	0.189	0.098
	(0.088)	(0.128)	(0.128)	(0.088)	(0.128)	(0.128)	(0.088)	(0.128)	(0.128)
HH income, Middle 20%	0.210***	0.248**	0.146	0.204**	0.235**	0.152	0.208***	0.243**	0.153
	(0.080)	(0.113)	(0.116)	(0.079)	(0.112)	(0.115)	(0.079)	(0.112)	(0.115)
HH income, Fourth 20%	0.346***	0.421***	0.305***	0.342***	0.413***	0.307***	0.346***	0.417***	0.313***
	(0.079)	(0.108)	(0.113)	(0.078)	(0.107)	(0.114)	(0.078)	(0.108)	(0.114)
HH income, Richest 20%	0.417***	0.470***	0.396***	0.412***	0.462***	0.400***	0.417***	0.466***	0.404***
	(0.077)	(0.108)	(0.113)	(0.077)	(0.107)	(0.113)	(0.077)	(0.107)	(0.113)
Area is safe to walk at night	0.070	0.149**	-0.038	0.069	0.148**	-0.039	0.070	0.151**	-0.038
	(0.045)	(0.063)	(0.064)	(0.044)	(0.061)	(0.064)	(0.044)	(0.061)	(0.064)
Age	0.025***	0.013	0.038***	0.024***	0.012	0.038***	0.025***	0.012	0.038***
	(0.008)	(0.010)	(0.012)	(0.008)	(0.010)	(0.012)	(0.008)	(0.010)	(0.012)
Age sq	-0.000***	-0.000**	-0.000***	-0.000***	-0.000**	-0.000***	-0.000***	-0.000**	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Rural area	-0.059	0.034	-0.156**	-0.058	0.036	-0.157**	-0.059	0.031	-0.156**
	(0.049)	(0.071)	(0.067)	(0.049)	(0.071)	(0.067)	(0.049)	(0.071)	(0.067)
Has children	-0.063	-0.094	-0.040	-0.062	-0.091	-0.039	-0.063	-0.093	-0.037
	(0.050)	(0.071)	(0.077)	(0.050)	(0.070)	(0.077)	(0.050)	(0.070)	(0.077)
Conditions get worse	0.044	0.058	-0.014	0.040	0.047	-0.018	0.045	0.055	-0.017
	(0.064)	(0.089)	(0.097)	(0.064)	(0.089)	(0.096)	(0.064)	(0.087)	(0.096)
Conditions get better	0.077	0.162*	-0.049	0.077	0.158*	-0.051	0.078	0.159*	-0.051
	(0.064)	(0.085)	(0.095)	(0.064)	(0.084)	(0.094)	(0.064)	(0.084)	(0.094)
Education: completed secondary	0.296***	0.272***	0.356***	0.293***	0.263***	0.358***	0.295***	0.270***	0.355***
	(0.051)	(0.069)	(0.074)	(0.051)	(0.070)	(0.075)	(0.051)	(0.069)	(0.074)
Education: completed tertiary	0.632***	0.614***	0.684***	0.630***	0.605***	0.685***	0.630***	0.609***	0.679***
	(0.088)	(0.112)	(0.134)	(0.088)	(0.112)	(0.135)	(0.088)	(0.112)	(0.136)
Married	0.094**	0.195***	0.056	0.095**	0.197***	0.059	0.093**	0.196***	0.056
	(0.048)	(0.071)	(0.070)	(0.048)	(0.070)	(0.070)	(0.048)	(0.070)	(0.070)
Constant	-1.232***	1.227***	-1.523***	-1.218***	1.184***	-1.513***	-1.226***	1.205***	-1.514***
	(0.209)	(0.256)	(0.354)	(0.211)	(0.257)	(0.354)	(0.210)	(0.259)	(0.352)
Observations	12,327	5,875	6,452	12,327	5,875	6,452	12,327	5,875	6,452

Note: All specifications include country-year dummies. Specifications numbers correspond to the specifications of Table 9. Robust standard errors are reported in parentheses. Statistically significant coefficients are indicated as follows: *10% **5% ***1%.

D Testing of Possible Sources of Gender Heterogeneity

Table 12. Effect of both types of account in safe and unsafe areas for women – 2nd stage results.

	(1)	(2)	(3)	(4)	(5)	(6)
	Saves for a business		Borrows for a business		Owns a business	
	Safe	Unsafe	Safe	Unsafe	Safe	Unsafe
Has a financial account	0.144	0.253	1.267***	0.885**	1.046*	-0.305
	(0.476)	(0.336)	(0.404)	(0.446)	(0.619)	(0.312)
Has a mobile account	0.599	0.914***	0.482	0.515	1.102**	0.314
	(0.377)	(0.307)	(0.367)	(0.328)	(0.533)	(0.548)
% of peers with businesses	0.258	0.509*	0.508	0.608*	1.291***	1.063***
	(0.305)	(0.306)	(0.320)	(0.337)	(0.459)	(0.362)
HH income, Second 20%	0.148	0.271*	-0.132	0.071	0.279	0.219
	(0.121)	(0.143)	(0.129)	(0.160)	(0.202)	(0.220)
HH income, Middle 20%	0.155	0.256**	-0.157	0.086	0.218	0.036
	(0.116)	(0.118)	(0.102)	(0.144)	(0.194)	(0.191)
HH income, Fourth 20%	0.122	0.284**	-0.050	0.053	-0.364*	0.065
	(0.143)	(0.124)	(0.128)	(0.153)	(0.205)	(0.193)
HH income, Richest 20%	0.392***	0.570***	-0.071	0.277	0.162	0.387*
	(0.145)	(0.134)	(0.130)	(0.172)	(0.170)	(0.207)
Age	0.048***	0.028**	0.024	0.041***	0.039*	0.048***
	(0.017)	(0.014)	(0.017)	(0.012)	(0.022)	(0.018)
Age sq	-0.001***	-0.000**	-0.000*	-0.001***	-0.000	-0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Rural area	0.094	0.267***	0.298***	0.301***	0.270*	-0.274**
	(0.083)	(0.086)	(0.096)	(0.115)	(0.160)	(0.135)
Has children	0.057	0.257***	0.195**	0.161*	-0.191	0.263*
	(0.093)	(0.092)	(0.096)	(0.096)	(0.136)	(0.139)
Conditions get worse	-0.201*	-0.095	-0.246**	0.044	-0.334*	0.123
	(0.112)	(0.113)	(0.125)	(0.121)	(0.184)	(0.144)
Conditions get better	0.015	0.008	-0.240**	-0.022	0.057	0.287*
	(0.099)	(0.090)	(0.100)	(0.116)	(0.159)	(0.167)
Education: completed secondary	0.107	0.063	-0.256**	-0.240**	-0.100	0.243
	(0.130)	(0.120)	(0.116)	(0.117)	(0.159)	(0.150)
Education: completed tertiary	0.133	0.158	-0.576**	-0.381	0.212	0.604***
	(0.223)	(0.195)	(0.246)	(0.239)	(0.356)	(0.195)
Married	0.171***	0.289***	-0.082	0.168*	0.368***	0.245**
	(0.062)	(0.087)	(0.087)	(0.090)	(0.133)	(0.113)
Constant	-2.066***	-3.071***	-1.870***	-2.987***	-3.457***	-3.432***
	0.237	0.131	-0.314	-0.319	-0.494	0.261
ρ[2nd-fin]	(0.272)	(0.179)	(0.233)	(0.277)	(0.414)	(0.201)
	0.014	-0.205	-0.066	-0.147	-0.226	0.112
ρ[2nd-mob]	(0.181)	(0.172)	(0.188)	(0.185)	(0.247)	(0.303)
	0.503***	0.325***	0.496***	0.327***	0.500***	0.325***
ρ[fin-mob]	(0.063)	(0.058)	(0.061)	(0.058)	(0.062)	(0.057)
Observations	3,253	3,172	3,237	3,178	3,237	3,172

Note: All specifications include country-year dummies. Robust standard errors are reported in parentheses. Statistically significant coefficients are indicated as follows: *10% **5% ***1%.

Table 13. Effect of mobile accounts on business ownership for women – 2nd stage results.

	(1)	(2)	(3)	(4)	(5)	(6)
	DV: Owns a business					
	Married	Unmarried	B/c bank too far	Not too far	B/c family already has account	Not b/c of family
Has a mobile account	0.836*	1.261**	2.574***	0.846	2.252***	1.062
	(0.495)	(0.526)	(0.214)	(0.919)	(0.332)	(1.022)
Has a financial account	0.095	0.769				
	(0.601)	(0.574)				
% of peers with businesses	1.603***	0.888**	1.229**	1.491***	2.443**	1.308***
	(0.398)	(0.449)	(0.592)	(0.529)	(1.098)	(0.491)
HH income, Second 20%	0.481**	0.018	0.048	0.096	-0.431	0.107
	(0.193)	(0.239)	(0.396)	(0.230)	(0.590)	(0.200)
HH income, Middle 20%	0.319*	-0.212	0.136	-0.078	-0.824	0.009
	(0.177)	(0.286)	(0.374)	(0.217)	(0.812)	(0.199)
HH income, Fourth 20%	0.013	-0.180	0.241	-0.402**	-0.968	-0.371**
	(0.188)	(0.184)	(0.366)	(0.184)	(0.612)	(0.185)
HH income, Richest 20%	0.492***	-0.018	0.386	-0.068	-0.317	-0.018
	(0.174)	(0.219)	(0.423)	(0.198)	(0.613)	(0.189)
Area is safe to walk at night	-0.047	-0.242*	0.199	-0.138	0.158	-0.177
	(0.101)	(0.144)	(0.229)	(0.122)	(0.267)	(0.131)
Age	0.038*	0.038	0.008	0.018	0.143**	0.021
	(0.020)	(0.029)	(0.033)	(0.021)	(0.060)	(0.019)
Age sq	-0.000	-0.000	-0.000	-0.000	-0.002***	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
Rural area	0.048	-0.106	-0.255	-0.270*	-0.363	-0.255*
	(0.123)	(0.172)	(0.486)	(0.138)	(0.292)	(0.142)
Has children	0.112	0.063	0.125	-0.039	0.487	-0.116
	(0.135)	(0.168)	(0.255)	(0.173)	(0.462)	(0.165)
Conditions get worse	0.057	-0.153	0.037	-0.036	0.318	0.032
	(0.124)	(0.202)	(0.253)	(0.172)	(0.442)	(0.169)
Conditions get better	0.259*	0.108	0.469**	0.207	0.464	0.376**
	(0.136)	(0.182)	(0.225)	(0.158)	(0.494)	(0.171)
Education: completed secondary	0.028	-0.130	0.088	-0.105	0.359	-0.141
	(0.157)	(0.188)	(0.273)	(0.158)	(0.314)	(0.164)
Education: completed tertiary	0.178	0.417		0.790**	1.496**	-0.111
	(0.266)	(0.364)		(0.321)	(0.653)	(0.409)
Constant	-2.836***	-2.191***	-1.572**	-1.817***	-4.286***	-1.830***
	(0.651)	(0.819)	(0.791)	(0.671)	(1.614)	(0.653)
Observations	3,523	2,890	456	2,280	259	2,310

Note: All specifications include country-year dummies. Robust standard errors are reported in parentheses. Statistically significant coefficients are indicated as follows: *10% **5% ***1%.

E Robustness Checks

Table 14: Effect of Account Ownership on Agricultural Entrepreneurship, instrumental variable results.

	(1)	(2)	(3)
	Owns a Business		
	All	Men	Women
Has an account	1.488**	2.827***	1.364***
	(0.743)	(0.170)	(0.488)
Woman	0.246		
	(0.181)		
% of peers with businesses	1.752**	1.783**	0.989
	(0.856)	(0.893)	(1.747)
HH income, Second 20%	0.298	0.241	0.114
	(0.230)	(0.278)	(0.464)
HH income, Middle 20%	0.087	0.232	-0.213
	(0.228)	(0.267)	(0.459)
HH income, Fourth 20%	0.479*	0.175	0.811
	(0.246)	(0.257)	(0.527)
HH income, Richest 20%	0.362	0.121	0.146
	(0.270)	(0.249)	(0.461)
Area is safe to walk at night	-0.069	0.123	0.082
	(0.178)	(0.167)	(0.379)
Age	0.037	0.004	0.100
	(0.028)	(0.030)	(0.074)
Age sq	-0.000	-0.000	-0.001
	(0.000)	(0.000)	(0.001)
Rural area	0.038	-0.007	0.879
	(0.242)	(0.237)	(0.708)
Has children	0.158	-0.072	1.123**
	(0.169)	(0.169)	(0.470)
Conditions get worse	0.165	-0.113	0.809*
	(0.198)	(0.207)	(0.469)
Conditions get better	0.055	-0.075	0.359
	(0.168)	(0.155)	(0.506)
Education: completed secondary	0.193	0.038	-0.637
	(0.234)	(0.183)	(0.687)
Education: completed tertiary	1.175*	0.410	1.208
	(0.604)	(0.588)	(0.783)
Married	0.337*	0.366**	0.180
	(0.176)	(0.179)	(0.354)
Constant	-3.206***	-3.081***	-5.313***
	(0.873)	(0.756)	(1.702)
Observations	1,106	757	349

Note: 2nd Stage results. All specifications include country-year dummies. Robust standard errors are reported in parentheses. Statistically significant coefficients are indicated as follows: *10%; **5%; ***1%.

F Deployment of Mobile Money Providers

In Table 15, I look at whether the deployment of mobile money service providers was associated with entrepreneurship-related observables at the country level. In particular, I correlate the number of providers in the country in year *t* with logged GDP per capita, proportion of mobile phone ownership, the paid-in minimum capital to start a business, the proportion of citizens with post-secondary education attainment, bank branches per capita, and the number of procedures required to register a business - all lagged by one year, for the period 2002-2017, subject to data availability. This method and choice of variables were inspired by Naude et al. (2008) and Jack and Suri (2014). Deployment of mobile finance service providers appears to follow the proportion of mobile phone holders. Although there are a few significant coefficients, I expect some to be significant just by chance. I find little evidence that the mobile money service providers deployment is correlated with observables that are likely to be associated with business creation. Having said that, it is possible that within a country, providers might concentrate on regions that may be more affluent, and this requires better information at the region-level. Using the number of providers as a dependent variable, rather than if the country has any mobile money services at all, should somewhat mitigate this problem. Jack and Suri (2014) find that the early geographic distribution of M-PESA agents was not systematically correlated with level of individual and household characteristics that could have been correlated with business-related outcomes.

Table 15: Deployment of mobile money service providers.

	(1)	(2)	(3)	(4)	(5)	(6)
	Number of mobile money services providers in the country					
Mobile phones per 100K	0.030***	0.025***	0.027***	0.025***	0.026***	0.027***
	(0.001)	(0.002)	(0.002)	(0.003)	(0.004)	(0.004)
log(GDP per capita)		0.359**	0.345	0.511	0.681	0.790*
		(0.177)	(0.213)	(0.335)	(0.438)	(0.470)
Pain-in minimum capital			-0.000**	-0.001*	-0.001	-0.001
			(0.000)	(0.001)	(0.001)	(0.001)
Post-secondary education attainment				0.035	0.046	0.044
				(0.030)	(0.040)	(0.041)
Average household size					0.152	0.163
					(0.384)	(0.394)
Bank branches per 100K						-0.031
						(0.031)
Procedures						-0.013
						(0.052)
Constant	-0.564***	-2.962**	-3.057**	-4.719**	-6.636*	-7.157*
	(0.082)	(1.204)	(1.474)	(2.380)	(3.757)	(4.015)
Observations	1,293	1,206	1,113	626	522	505
Number of countries	82	82	81	61	55	54

All specifications include fixed-effects at the country-level. Robust standard errors are reported in parentheses. Statistically significant coefficients are indicated as follows: *10%; **5%; ***1%. Data about the number of providers come from the website of the GSM Association. Information about average household size comes from the website of the United Nations. All the rest of the information comes from the World Bank.

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