Bringing modernity to prosocial crowdfunding's campaigns: An empirical examination of the transition to modern sectors

Ana Paula Matias Gama

University of Beira Interior, Research Center in Business Science (NECE) Covilhã, Portugal
amatias@ubi.pt
https://orcid.org/0000-0002-8064-6244

Ricardo Emanuel Correia

University of Beira Interior, Covilhã; BRU-IUL, Lisboa, Portugal
ricardo.emanuel.correia@ubi.pt
https://orcid.org/0000-0002-4520-4600
https://www.linkedin.com/in/ricardo-emanuel-correia/

Mário Augusto

University of Coimbra, CeBER, Faculty of Economics, Coimbra, Portugal
maugusto@fe.uc.pt
https://orcid.org/0000-0001-7345-1679

Fábio Duarte

CIICESI, ESTG, Politécnico do Porto, Porto, Portugal
fdd@estg.ipp.pt
https://orcid.org/0000-0002-4919-0736

This is an Accepted Manuscript of an article published by Taylor & Francis in [Applied Economics] on [2021], available online: http://www.tandfonline.com/ [10.1080/00036846.2021.1927968].

Bringing modernity to prosocial crowdfunding's campaigns: An empirical examination of the transition to modern sectors

Abstract

This study addresses the successive calls to better understand the contexts of crowdfunding as well as the interplay between social and financial factors in driving lender decisions by deploying economic development theory inspired on the two-sector model. Making recourse to the leading prosocial crowdfunding platform KIVA, this study examines the impact of the business-loan purpose (traditional vs modern) on the success of fundraising campaigns. The results indicate how modern-sector business loan campaigns lead to faster funding from crowdfunding campaigns. Furthermore, when directed towards modern sectors, large loans emerge as more appealing to lenders, indicating how large loans go to financing high-return projects. Female microentrepreneurs gain an advantage over men in both the traditional and modern sectors. However, the comparative advantage of female microentrepreneurs becomes less pronounced among modern-related loan campaigns. Overall, the findings support how the global crowdfunded microfinance ecosystem boosts the transition of poor microentrepreneurs to a modern economy and thereby avoiding development traps, and thus also providing theoretical insights into predicting prosocial lending decisions regarding sectoral choices.

Keywords: Business loans, Modern sectors, Traditional sectors, Prosocial crowdfunding, Peer-to-peer lending, Funding performance.

JEL classification codes: G21, O10, I30, C34

1. Introduction

Prosocial crowdfunding represents "a recent international business phenomenon which allows entrepreneurs from emerging nations to post microloan requests online for fundraising" (Jancenelle et al., 2019:802). This phenomenon has impacted on the global microfinance industry through providing a new funding source (implicit subsidies) for microfinance institutions (MFIs) (Allison et al., 2013, 2015), drawing on the generosity of lenders to access zero-interest capital (Ly and Mason, 2012). In crowdfunding microfinance, lenders make lending decisions based on both strategic (i.e., financial) and altruistic (i.e., prosocial) motives (Berns et al., 2020). However, scant attention has been provided to this dual nature of the lending process in crowdfunded microfinance and with empirical findings remaining inconclusive as to whether financial and prosocial motives are complementary or in mutual competition. This study addresses successive calls to better understand the contexts of crowdfunding (McKenny et al., 2017) as well as the interplay between social and financial factors in driving lender decisions (Galak et al., 2011) by deploying economic development theory (Ranis and Fei, 1961) inspired on the two-sector model (Lewis, 1954).

On prosocial crowdfunding platforms, lenders can select between business-loan campaigns[1] that target traditional or modern economic activities. In accordance with the dualistic approach of development economics, developing economies rely on traditional economic activities, with lower productivity rates and an orientation towards subsistence, which also coexist alongside high-productivity modern economic activities such as industry and internationally tradable services (i.e., Mining and Quarrying, Manufacturing, Electricity, Gas and Water, and Construction, as well as internationally

[1] The literature also references this funding type as a loan for productive purposes (e.g., Imai and Azam, 2012).

tradable services such as Transport, Storage and Communication, and Financing, Insurance and Business Services, excluding real estate) (Lavopa and Szirmai, 2018). Section 3.2.2 provides a detailed description of these activity sectors. Trajectories leading into modern sector activities may contribute to escaping poverty traps (Lavopa and Szirmai, 2018), fostering development in developing countries (Gries and Grundmann, 2020), and encouraging the self-employment and empowerment of microentrepreneurs (Yunus, 1998). Nonetheless, to the best of our knowledge, the attractiveness of the business-loan purpose from the perspective of lenders remains understudied.[2] This study contributes to filling this void through understanding how lending decisions over funding poor microentrepreneurs promote the modern economy in the developing world. To fill this gap, this paper therefore strives to respond to the following research question: *"How does the business-loan purpose impact on the loan-campaign attractiveness in prosocial crowdfunding?"*.

To answer this question, the study analyses the impact of business-loan orientation, that is campaigns targeting either the traditional sector or the modern sector, on fundraising success, controlling for the strategic and altruistic motivations of the lenders as well as for the level of competition between MFIs and the loan characteristics. To achieve this, the study proposes a classification of the so-called traditional and modern sectors, hitherto non-existent in the literature extant, providing additional theoretical insights for explaining the dynamics behind decisions taken regarding sectoral choices on prosocial-lending based crowdfunding platforms.

The sample comprises of 1,005,414 campaigns run by 180 MFIs, across 70 countries, posted between January 2011 and December 2018 on the Kiva platform. The results indicate that loan campaigns related to modern economic activities receive funding

[2] One notable exception is Gafni et al. (2020) that examine "Basic needs" versus "Business campaigns".

faster than do loans focused on traditional economic activities. This finding supports the hypothesis that certain sectors, such as modern sectors, return better crowdfunding performances. This strengthens the idea that crowdfunding platforms might change the type of projects funded by financing more financially sustainable and potentially more profitable activities. These results remain robust after controlling for competition between MFIs.

The proposition of a female advantage is by now well identified by scholars, from the marketing to the development literature, in which women receive funding faster than men, on average, in prosocial crowdfunding (e.g., Galak et al., 2011; Ly and Mason, 2012). The borrowers in the poorest context, in particular women, tend to attract a greater proportion of the funding available for developing countries, and thus creating new financial alternatives for the "unbanked" (Gleasure and Feller, 2016). This aligns with the microfinance practice of targeting women in poverty contexts.[3] In keeping with the literature, our results also demonstrate how female microentrepreneurs gain an advantage over men in both the traditional and modern sectors, thus in line with the hypothesis on a gender advantage for female entrepreneurs in social crowdlending. However, the comparative advantage of female microentrepreneurs is stronger for traditional-related loan campaigns compared to modern business loan campaigns, thus effectively driving females away from high-income business activities, consistent with the ethical blind spot reported by Gafni et al. (2020). Moreover, our results also convey how smaller business-loans are preferred by microfinance lenders. Yet, when targeting modern sectors, large loans achieve quicker funding suggesting that, by financing large loans, lenders perceive themselves as promoting business activities that generate high-income, thus boosting

[3] For a discussion on the advantage of lending to women, see, for example, Morduch (1999).

economic growth in developing economies. Overall, the results show how crowdfunding microfinance research needs to combine the dual nature of prosocial lending decisions in which lenders weigh both strategic and altruistic motivations in mitigating the potential tension between economic and social missions.

The structure of this paper is as follows. Following this introduction, section 2 presents the background and research hypotheses. Section 3 describes the data, variables, and methods. Section 4 presents the results and addresses the robustness checks. Finally, section 5 discusses the results and concludes.

2. Background and research hypotheses

2.1 Entrepreneurship by the poor and crowdfunding microfinance

The interplay between the field of entrepreneurship and crowdfunding research - crowdfunding microfinance in particular - has been developing rapidly (Berns et al., 2020). Two main reasons might explain why this entrepreneurial finance topic began to flourish. Firstly, entrepreneurship by the poor generates the opportunities to establish entrepreneurial businesses in poverty settings that create varying degrees of economic and social value (Bruton et al., 2013). Entrepreneurship constitutes a market-based solution that offers a long-run alternative for creating positive changes within poverty contexts by helping impoverished individuals to advance with their own ventures (Bruton et al., 2013). Entrepreneurship by the poor addresses the idea that "a substantial fraction of the poor act as entrepreneurs in the sense of raising capital, carrying out investment, and being the full residual claimants for the resulting earnings" (Banerjee and Duflo, 2007:151).

Secondly, crowdfunding and microfinance have emerged as solutions to the lack of capital faced by impoverished entrepreneurs (Allison et al., 2013, 2015; Bruton et al.,

2015). Notwithstanding how crowdfunded microfinance projects have recently provided new opportunities for microentrepreneurs, this promise is not promoted through traditional funding sources (Allison et al., 2013). Such opportunities rely on social investors, who make their lending decisions based on two primary criteria: who to lend to and what amount to lend (Galak et al., 2011). Thus, through foregoing their financial returns (interest), lenders fund small loans in the motivation of alleviating world poverty (Allison et al., 2015), and contributing to creating self-employment in the so called "informal sector" (Yunus, 1998). Microentrepreneurs benefit from pre-funding by the MFIs that incur risk by advancing their own funds. In exchange, MFIs charge interest payments to microentrepreneurs in order to cover their operating expenses and to generate profits (Galak et al., 2011), while counting on zero-interest, subsidized capital from the crowd of lenders whenever campaigns get fully funded (Ly and Mason, 2012). In this process, MFIs act as intermediary agents between lenders and microentrepreneurs, the so-called "pass-through microlending" model (Allison et al., 2013). This model is also now deployed by individuals and organizations to increasingly fund not only their own businesses but also their own basic needs through crowdfunding (e.g., Pollack et al., 2019), via prosocial platforms such as Kiva (e.g., Gafni et al., 2020). Therefore, differentiating between non-entrepreneurial and entrepreneurial campaigns constitutes a crucial dimension to crowdfunding research.

Regarding the primary motivations of lenders for engaging in crowdfunding, scholars have returned mixed evidence. For example, Galak et al. (2011) study the prosocial and financial effects on fundraising outcomes, and suggest the persistence of prosocial effects after controlling for financial factors. Allison et al. (2015) examine the linguistic cues and also report that lenders respond with a faster funding speed to narratives framed as the opportunity to help others, and at slower speeds regarding

business opportunities. In contrast, Berns et al. (2020) conclude that strategic motives (i.e., financing) hold a positive effect on funding success in prosocial crowdfunding, while altruistic motives (i.e., prosocial) are apparently detrimental. Therefore, crowdfunding platforms may drive changes in the type of projects funded, stimulating economic development in poor areas of the world (Armendáriz-de Aghion and Morduch, 2005). Despite the role of certain sectors in the success of crowdfunded entrepreneurial campaigns, this topic has thus far received scant attention from researchers.

This paper thus seeks to fulfil this gap through analysis of the success of business-loan purpose campaigns in prosocial crowdfunding through focusing on the perspective of lenders. In order to achieve this aim, we adopt the theoretical two-sector approach to analyse two types of business-loans campaigns: modern versus traditional.

2.2 The two-sector approach to crowdfunding microfinance

Economic development theory proposes a two-sector model for the developing world (Ranis and Fei, 1961). This dualistic perspective draws on dual-sector economies, explored by Lewis (1954), as well as the Rostow (1956) self-sustained growth approach. Traditional societies are mainly driven by agricultural economic activities, "using more or less unchanging production methods, saving and investing productively little more than is required to meet depreciation" (Rostow, 1956:27). This dynamic is prevalent in poor countries where the lack of finance inhibits vulnerable people to undertake business opportunities in activity sectors with higher marginal incomes and the overall society to take-off into the process of economic development promoted by the growth of capital formation.

Development occurs with the flourishing of industrial activities that are stimulated by a labour surplus generated by the reallocation of a proportion of the population

assigned to low productive activities, such as agricultural purposes (Rostow, 1956). The reallocation of population from agricultural to industrial activities benefits the growth of both the industrial and the agricultural sectors. This occurs because the physical productivity of the labour in the industrial sector positively relates with the association between the capital stock and the labour force, whereas a reducing of redundant labour force in agricultural sector increases the marginal productivity of such activities (Ranis and Fei, 1961).[4] This idea finds support in the Keynesian model that suggests that an increase in capital formation, promoted by the allocation of extra capital and labour surplus to industrial activities, also increases the outputs of consumer goods (Lewis, 1954). Thus, modern and traditional economic activities coexist in the model of economic development. In brief, the former constitutes the main drivers of economic development and growth (Lavopa and Szirmai, 2018; Zeira and Zoabi, 2015); the second should also grow through a take-off process for developing economies (Ranis and Fei, 1961). Recent empirical evidence provides support to these claims in suggesting that the growth of Gross Domestic Product (GDP) per capita positively correlates with both modern manufacturing and agricultural sector growth (Gries and Grundmann, 2020). However, these authors maintain there is a stronger association between growth in GDP and the expansion of the modern sector, as pointed out by Rostow (1956).

Lavopa and Szirmai (2018) split the dual economies into two main economic sectors: the "modern" and the "traditional". The former includes high-productivity activities, such as industry and internationally tradable services. The latter includes those activities with low productivity rates and oriented towards subsistence, such as agriculture or the wholesale and retail trade. Thus, the modern sector corresponds to the industrial sector and the traditional sector to the subsistence sector in the Lewis model.

[4] For a detailed analysis of this model, see the Diagrams 1.1 to 1.3 of Ranis and Fei (1961:535).

As microfinance promises to reduce unemployment and poverty (Morduch, 1999; Yunus, 1998), in particular through crowdfunding microfinance by granting microloans to microentrepreneurs to finance their small ventures – we may draw on the understanding of the drivers of thriving modern sectors able to cope with poverty traps. In this framework, Lavopa and Szirmai (2018) report that more than one third of the 140 countries studied contained development traps over the course of the economic development process. Nevertheless, the literature has understudied the impact of modern sectors on the success of crowdfunding campaigns.

Modern sector activities are crucial for the sustainable long-term development of developing countries and structurally transiting to modern economies (e.g., Gries and Grundmann, 2020; Lavopa and Szirmai, 2018). However, albeit the rising productivity in the modern sector, a growing economy can experience an increase in sectorial diversification before only afterwards undergoing a reduction, as well as a substitution effect between the traditional and modern sectors (Zeira and Zoabi, 2015). This literature is mainly based on macroeconomic perspectives even while micro-level analysis of entrepreneurial opportunities also contributes to understanding the modern sector's development drivers in developing countries from the microfinance lens. Some scholars provide theoretical arguments in support of this surmise. Yunus (1998) argues that classical microfinance can allow for the "people's economy" to flourish by supporting the efforts of poor people to create their own businesses. Thus, self-employment has the potential to alleviate poverty through improving the asset base of households. This purpose behind microfinance still remains in crowdfunding microfinance as scholars suggest that the goal of poverty alleviation plays a relevant role in the prosocial financial decisions of lenders (e.g., Allison et al., 2013; Galak et al., 2011).

The theory based on the two-sector approach predicts that entrepreneurs will move into the modern sector as the income in this sector rises in keeping with the increases in productivity (Zeira and Zoabi, 2015). In this sense, modern-sector campaigns have the potential to generate additional revenue and becoming the preference for poor microentrepreneurs as the means of generating high income, increasing their asset base and breaking out of the poverty cycle (Yunus, 1998). Thus, entrepreneurial campaigns on crowdfunded microfinance platforms for businesses in modern sectors are expected to achieve better funding time performance as lenders opt to support activities with greater potential for increasing the income of financially marginalized poor entrepreneurs.

Thus, applying the two-sector approach to investigate how business-loan purpose impacts on the attractiveness of the crowdfunding campaign to lenders, we hypothesize:

H1: *Modern sector campaigns achieve quicker funding speeds than traditional sector campaigns in crowdfunding microfinance.*

Research on economic development theory suggests that workforces unable to the modern sector tend to seek out other income-generating activities that, in the case of women, are mostly concentrated in precarious and low-wage jobs (Tokman, 1989). Hence, the take-off into economic development and the fight against poverty should primarily focus on women (Yunus, 1998), namely unbankable ones, with positive benefits for the overall society from financial (Morduch, 1999) and entrepreneurial (Yunus, 1998) perspectives. As female microentrepreneurs tend to be poorer than their male counterparts due to various gender inequalities, such as gender norms, the division of household assets, work, and responsibility (Huis et al., 2019), in addition to generally having lower levels of access to financial services, including informal sources (Demirguc-Kunt et al., 2018), granting small loans to women may allow them to engage in entrepreneurial activities. Therefore, through lending to women, microfinance addresses

these challenges by enhancing an asset based' growth (i.e., growth based on capital formation) promoted by self-employment in income-generating activities, that produces higher potential of empowerment than that offered by low-wage employment or household work (Yunus, 1998). This approach is consistent with prior research that demonstrates how microfinance targeting women returns higher social and financial impacts than that targeting men, namely on poverty alleviation, empowerment and well-being (Hermes and Lensink, 2011).

The economic empowerment of women represents a core mission of the United Nations Industrial Development Organizations (UNIDO, 2020), and empirical evidence demonstrates how microfinance platforms do support female entrepreneurs by providing funding faster than their male counterparts (e.g., Galak et al., 2011; Ly and Mason, 2012; Jancenelle et al., 2019). Hence, this expects engage female microentrepreneurs to receive more support in prosocial crowdfunding. Thus, we arrive at our following hypothesis:

H2*: Female microentrepreneurs achieve quicker funding speeds than male microentrepreneurs.*

Prosocial platforms focus on vulnerability and poor individuals in developing countries through the "democratization of financial services" by boosting access to credits supplied by microfinance markets (Gleasure and Feller, 2016). This resource allocation to women is a major concern as scholars seek to understand the barriers to accessing credit faced by self-employed women in poor countries from an economic development perspective (Mammen and Paxson, 2000). In the prosocial context, we may measure this as the gender effect on the availability of capital for modern-sector activities.

The microfinance literature identifies how women tend to invest more in the education of children, and in enhancing their household assets (Eddleston et al., 2016) as well as managing their family's health and expenditures better than men (Hermes and

Lensink, 2011), who mainly invest in basic need (Gafni et al., 2020). These arguments raise concerns on the gender moderating effects of the business-loan purpose. For instance, Gafni et al. (2020) report that female microentrepreneurs enjoy an absolute advantage over men in the success of their crowdfunding campaigns even while this becomes significantly lower when the loans are for business purposes. This may generate tensions between the economic and social missions (Dufays, 2019) as supporting entrepreneurial activities spurs growth. However, the potential cross effects of gender in terms of the business-loan purpose have been broadly overlooked in crowdfunding research as women tend to be overrepresented in traditional sectors with lower profits, less growth and harsher competition (D´Espallier et al., 2013). Therefore, to advance the limited knowledge in this area, we correspondingly hypothesize:

H3: *Female microentrepreneurs negatively moderate the modern sector's effect on funding speed.*

Asymmetric information prevails in every lending context. Usually, in traditional debt markets, the risk of loan and small borrowers' creditworthiness is assessed by a professional lender that relies on both hard information, produced by the due diligence process, and soft information collected from a closer relationship lending (Jiménez et al., 2009; Zambaldi et al., 2011). In prosocial crowdlending campaigns, lenders might look to signals of trust (Duan et al., 2020), or to third-party endorsements provided in descriptive texts of loan campaigns (e.g., Dorfleitner et al., 2019), to assess borrower reputation (Kgoroeadira et al., 2019), thus mitigating informational gaps. However, since this due diligence process is made by potential nonprofessional lenders (Yum et al., 2012) that live far distant to microentrepreneurs (Galak et al., 2011), the screening process of the borrower risks and the monitoring of borrower post lending behaviours are complex

for most lenders on prosocial crowdlending platforms, exposing them to adverse selection and moral hazard problems.

In such contexts, when there is limited information for evaluating the business-loan purpose, lenders may be cautious whenever lending (Colombo et al., 2015). Furthermore, the lack of collateral and the absence of any interest rate[5] generate additional risks for lenders, which deepen the problems with adverse selection and moral hazard (Bruton et al., 2011). Consequently, lenders adjust their investment behaviour through the size of their loan, that is to say, they may prefer microentrepreneurs requesting smaller loans as they deem such investments as less risky (Cowling and Westhead, 1996; Morduch, 1999).[6] This argument also finds support in the financial literature about traditional debt markets that suggest higher loan amounts decrease the ability of lenders to repay loans, and the incentives to fail tend to be even higher if that loan is not secured by collateral (Leeth and Scott, 1989).

Accordingly, this study sustains that to avoid riskier lending, lenders prefer small loans. We formally encapsulate this in the following hypothesis:

H4: *Small loans achieve quicker funding speeds than large loans.*

The reluctance of lenders to finance larger loans may vary in function with the purpose of the loan. Larger loan amounts allow for the funding of microentrepreneurs with high-return projects (Field et al., 2013), which promotes microentrepreneur empowerment through high income-generating activities (Bruton et al., 2015). Hence, in accordance with the economic development perspective, lenders may prefer to finance modern sector activities with large loans as such activities enhance financial sustainability and the profitability of new ventures, thus stimulating the transition of poor

[5] The interest rate signals the credit risk of the loan, as high interest rate is only accepted by microentrepreneurs with low credit worthiness, in line with the idea of lemon markets (Akerlof, 1970).
[6] Despite forgoing financial returns, thus interest, lenders aim to be repaid so they can then deploy the funds for further lending (Dorfleitner et al., 2020).

microentrepreneurs out of poverty settings and encouraging economic growth. Furthermore, previous studies on the prosocial context report that larger loans have slower funding speeds (e.g., Ly and Mason, 2012), and to further investigate the moderating effect of loan size on the relationship between the business-loan purpose and funding speed, we hereby hypothesize:

H5: *When directed towards modern sector activities, larger loan campaigns achieve quicker funding.*

3. Empirical design

3.1 Sample

We collected the data analysed in this study from the prosocial crowdfunding platform Kiva through its application programming interface. Kiva is now the largest online prosocial P2P crowdfunding platform, operating an All-Or-Nothing model. If the loan campaign does not achieve the fundraising goal (i.e., if not fully funded) all lenders are refunded and the MFI does not receive any funds (for a detailed description of the pass-through microlending process on Kiva, see Allison et al. (2013). By providing a middle ground between donation-based and purely financial-based platforms (Berns et al., 2020), Kiva strives to attract financially driven microfinance institutions and altruistic lenders, which enables us to examine the attractiveness to lenders of both traditional and modern related business loans.

The data collected comprises 1,005,414 of the campaigns to fund microloans posted on Kiva over the period 2011–2018.[7] Additionally, we applied the World Bank regional classification for the categorization of the microentrepreneur regions (East Asia

[7] This sample does not consider direct loans, i.e. loans requested by borrowers without a MFI. This option derives from focusing only on so-called "pass-through microlending" (Allison et al., 2013). The period starts in 2011 because Kiva changed its MFI protection rules in 2010. After 2010, the default risk switched from the MFI to the lenders (Dorfleitner and Oswald, 2016).

and Pacific, Europe and Central Asia; Latin America and Caribbean; Middle East and North Africa; North America; South Asia; Sub-Saharan Africa).

3.2 Variables

3.2.1 Dependent variable

The dependent variable applied is the speed of funding (*Speed*); which measures how fast a campaign receives full funding. According to Dorfleitner et al. (2019), the operationalisation of this variable calculates the logarithm of 1,000 divided by the funding time (i.e., the time until the loan campaign meets the funding goal) measured in days. *Speed* is set at equal to 0 for non-funded campaigns (because their funding time is infinite). In terms of the campaign durations, lenders are able to support loan campaigns until they are either fully funded or end without meeting the campaign goals during a fixed time window (i.e., 30 days) (Allison et al., 2013).

3.2.2 Independent variables

The model proposed incorporates three main covariate variables - *modern sector*, *female*, and *amount requested* as well as a set of control variables.

Modern sector: To measure the type of business-loan campaigns, we reclassify the Kiva activity sectors as either traditional or modern sector campaigns. The remaining activities regarding non-business loans, such as *Personal Use*, *Personal Housing Expenses, Education Expenses*, among others, fell beyond the scope of analysis in keeping with previous studies (e.g. Jancenelle et al., 2019). This classification procedure follows the rationale and guidelines existing in economic development studies. For example, Lavopa and Szirmai (2018) explain that modern economic activities typically register high productivity, such as industry (i.e., Mining, Manufacturing, and Construction) and internationally tradable services (e.g., Transport and

Telecommunications). These authors rank the remaining activities, with low levels of productivity, as traditional economic activities.[8] These definitions of the traditional and modern sectors extended to sectoral disaggregation in accordance with the International Standard Industrial Classification of All Economic Activities (ISIC rev3).[9]

For instance, on Kiva, modern sector activities include ventures engaging in manufacturing, construction, and furniture making, which compares to traditional sector activities such as farming, clothing sales, and fish selling. To illustrate the reasoning behind the classification of the modern sector, take the example of Parvee, a Pakistani mother of two children requesting a loan on Kiva. The platform classifies her campaign as in the manufacturing sector according to the following aim: "to purchase some raw materials for making a new design of shoe frame her husband is manufacturing". In the case of the traditional sector, one example is Ezakiniaina from Madasgascar. Her campaign aims to "buy 144 chickens to sell" and develop a new poultry business classified as in the traditional sector.

In accordance with these guidelines, the procedure categorized 144 sectors of activity as traditional or modern sector campaigns. Two authors classified these activity sectors on an individual basis. As a guarantee of robustness, another two authors also undertook the same procedure individually, and with the few activities subject to different classifications then discussed and reclassified according to standard practices. To the best of our knowledge, such a classification addressing sectoral modernisation in prosocial crowdfunding does not otherwise exist in the literature. Thus, this operationalises the *Modern sector* as a dummy variable equal to 1 when the campaign activity sector is the modern sector, and 0 when this belongs to the traditional sector.

[8] The Lavopa and Szirmai (2018) definition of the traditional sector derives from sectoral disaggregation according to ISIC rev 3 for the following sectors: A, B, G, H, L, M, N, O, P, Q (plus sector 70). In the case of the modern sector, the sectors included are: C, D, E, F, I, J, K (excluding sector 70).
[9] The choice of ISIC rev3 receives support from the previous work of Lavopa and Szirmai (2018).

Female: Prior studies on crowdfunded microfinance research have also commonly adopted microentrepreneur gender even though it is worth defining given the different definitions proposed in the literature (e.g., Dorfleitner et al., 2019; Galak et al., 2011). The variable *Female* is a dummy equal to 1 when the individual microentrepreneur is female or in a female-majority groups, and 0 when otherwise. In accordance with Gafni et al. (2020) and previous research, this analysis does not consider groups with equal weightings of males and females.

Amount requested: Progressive lending is widely implemented across microfinance, with small and uncollateralized loans financed by microfinancing (Morduch, 1999) and crowdfunded microfinance (Berns et al., 2020). The *Amount requested* by each microentrepreneur corresponds to the total loan amount requested (Galak et al., 2011).

3.2.3 Control variables

The model controls for the motivations that drive lender decisions, the competition between MFIs as well as loan characteristics. Following Berns et al. (2020), we selected the information on strategic (financial) and social appeal (altruistic) factors to capture the dual nature of lender decisions with two control variables for each dimension. First, this measures strategic orientation through the risk *Rating* of the MFI and *Exchange coverage*. *Rating* reflects one of the most distinctive characteristics of Kiva as the crowdfunding model relies on partnerships established with local "pass-through" MFIs (Allison et al., 2013). These MFIs act as intermediaries by selecting microborrowers, granting loans, and helping borrowers elaborate their online fundraising profiles (Meyskens and Bird, 2015) as well as monitoring loans and repayments (Ly and Mason, 2012). Thus, the MFI risk holds relevance to lender decision-making processes. To measure the MFI risk, we adopt here the *Rating* assigned by Kiva to each MFI, which ranges from 1 (i.e., high risk) to 5

(i.e., low risk) (Galak et al., 2011; Jancenelle et al., 2019). This also controlled for foreign exchange risk to account for lender exposure to loss of principal due to exchange rate fluctuations, consistent with prior studies (e.g., Allison et al., 2013). As such, *Exchange coverage* is a dummy variable that takes the value of 1 when Kiva's lenders choose loans with coverage against foreign exchange risk, and 0 otherwise.

Second, social orientation aims to capture the altruistic motives of lenders, hence, adopting two social orientation variables for analysis. Firstly, to capture the role of social performance badges on lending decisions (Berns et al., 2020), we select the *Antipoverty* social badge. Kiva attributes this badge to MFIs that make an outstanding contribution to poverty alleviation (Dorfleitner et al., 2020; Kiva, 2020b). We operationalise *Antipoverty* as a dummy variable that takes the value of 1 when the MFI holds an anti-poverty social badge on Kiva, and 0 otherwise. Secondly, following Berns et al. (2020), the altruistic narrative of microentrepreneurs also served as a control variable. Indeed, scholars have demonstrated how the entrepreneurial narratives produced by female and male microentrepreneurs differ and may influence crowdfunding success (e.g., Parhankangas and Renko, 2017). Moreover, crowdfunding scholars have reported mixed and inconclusive evidence regarding altruistic motives (e.g., Allison et al., 2015; Berns et al., 2020; Gafni et al., 2020). Hence, we made recourse to DICTION software[10] to perform text analysis of the altruistic narrative dictionary as proposed by Berns et al. (2020). The *Altruistic narrative* variable defines the altruistic-appealing keywords present in the descriptive narrative of the microentrepreneur's profile.

We apply competition controls to account for the effects of the competition prevailing among loan campaigns during the fundraising period. Previous studies convey

[10] This paper deploys the DICTION by introducing a validated dictionary as suggested by Berns et al. (2020) regarding the altruistic entrepreneurial narratives. DICTION calculates the variable as the average scores based on extrapolations of a standard passage-size of 500 words. For further details, please check the appendix of Berns et al. (2020).

how campaigns facing more competition achieve their funding goals at slower rates as lenders have a broader range of alternative campaigns but limited funds (Ly and Mason, 2012). In accordance with Ly and Mason (2012), we used three competition variables. Firstly, the number of loans sought by the same MFI until the date posted (*MFI competition*). Secondly, the number of loans in the same sector fundraising until the date posted (*Sector competition*). Finally, this study controls for the number of fundraising loans in the same region until the date posted (*Region competition*).

Loan variables such as loan *Maturity* (in months), and repayment serve as controls as they influence crowdfunding performance (e.g., Allison et al., 2013; Galak et al., 2011). We operationalise repayment through dummies variables for whether the repayment schedules are either *irregular*, *bullet* or *monthly*.

Table 1 summarizes the variables analysed and their definitions.

Table 1. Variables definition

Variable	Definition
Dependent variable	
Speed	The logarithm of 1,000 divided by the funding time measured in days.
Covariate variables	
Main variables	
Modern sector	Dummy variable that takes the value of 1 if the business-loan campaign is allocated to modern sectors and 0 otherwise.
Female	Dummy variable that takes the value of 1 for female entrepreneurs or female-majority groups and 0 otherwise.
Amount requested	Loan amount requested in thousands of US$.
Control variables	
Strategic orientation	
Rating	The MFI rating assigned by Kiva, ranging from 1 (i.e., high risk) to 5 (i.e., low risk).
Exchange coverage	Dummy variable that takes the value of 1 if Kiva's lenders have coverage to foreign exchange risk, and 0 otherwise.
Social orientation	
Antipoverty	Dummy variable that takes the value of 1 if the MFI has an antipoverty social badge on Kiva, and 0 otherwise.
Altruistic narrative	Altruistic-appealing keywords present in the descriptive narrative of the entrepreneurs' profile, following Berns et al. (2020).
Competition	
MFI competition	Number of loans by the same MFI fundraising until the date posted.
Sector competition	Number of loans by the same sector fundraising until the date posted.
Region competition	Number of loans by the same region fundraising until the date posted.
Loan characteristics	
Maturity	Loan maturity in months.
Irregular (*baseline*)	Dummy variable that takes the value of 1 if irregular repayment schedule, and 0 otherwise.
Bullet	Dummy variable that takes the value of 1 if bullet repayment, and 0 otherwise.
Monthly	Dummy variable that takes the value of 1 if monthly repayment, and 0 otherwise.

3.3 Descriptive statistics

Our sample includes 55,230 non-funded campaigns (5.5%) and 950,184 funded campaigns (94.5%). For those campaigns that received funding, the average funding time stands at 13.18 days (corresponding to an average *Speed* of 4.55). This value is in line with other crowdfunding studies on Kiva and pass-through microlending for loan funding (e.g., Gafni et al., 2020). In our sample, 8% of the loan campaign objectives fell into the *Modern sector* classification. Female microentrepreneurs represent 78% of the sample. The average amount requested is $820 dollars. Table 2 summarizes the descriptive statistics.

Table 2. Descriptive statistics

Variable	Obs.	Mean	Median	Standard deviation	Min.	Max.
Dependent						
Speed	1,005,414	4.55	4.68	1.56	0.00	13.49
Covariates						
Main variables						
Modern sector	1,005,414	0.08	0.00	0.27	0.00	1.00
Female	1,005,414	0.78	1.00	0.41	0.00	1.00
Amount requested	1,005,414	0.82	0.50	0.98	0.03	14.70
Control variables						
Strategic orientation						
Rating	1,005,414	3.28	3.50	0.97	1.00	4.50
Exchange coverage	1,005,414	0.10	0.00	0.30	0.00	1.00
Social orientation						
Antipoverty	1,005,414	0.73	1.00	0.44	0.00	1.00
Altruistic narrative	1,005,414	16.72	15.75	9.19	0.00	94.60
Competition						
MFI competition	1,005,414	226.82	101.00	345.97	1.00	3328.00
Sector competition	1,005,414	1282.95	1258.00	785.91	1.00	4083.00
Region competition	1,005,414	1596.26	1593.00	851.83	1.00	4879.00
Loan characteristics						
Maturity	1,005,414	12.60	12.00	6.21	2.00	122.00
Irregular	1,005,414	0.04	0.00	0.19	0.00	1.00
Bullet	1,005,414	0.10	0.00	0.31	0.00	1.00
Monthly	1,005,414	0.86	1.00	0.35	0.00	1.00

Note: See Table 1 for definition of the variables.

In general, there are low levels of covariate variable pair correlation and with no variance inflation factors (VIF) greater than 3.5, which comes in below the reference VIF value of 10 (Kennedy, 2008). Consequently, this does not pose noticeable problems for the precision of our calculations.[11]

3.4 Method

In keeping with the extant literature, we deployed a censored *Tobit* regression model to test the hypotheses (e.g., Dorfleitner et al., 2019; Kgoroeadira et al., 2019; Colombo et al., 2015). As the observations on funding *Speed* are conditioned to fully funded loans, our dependent variable contains a cluster of zeros for the non-funded campaigns. Hence, to test the hypotheses, we defined a *Tobit* model as a latent variable model using the Eicker–Huber–White robust standard errors (Gujarati, 1995; Wooldridge, 2002). To

[11] The correlation matrix is available upon request.

control for regional effect, we adopted the World Bank classification. In addition, the controls also extended to the year of the campaign (e.g., Jancenelle et al., 2019). The competition variables (i.e., *MFI*, *Sector* and *Region*), and the loan *Maturity* took a logarithmic form. Similarly, the operationalisation of the *Amount requested* takes the logarithm for the loan amount requested (in thousand U.S. dollars) plus one (Duan et al., 2020).

4. Results

4.1 Main findings

Table 3 summarizes the results of the censored *Tobit* estimations for funding *Speed*. The model estimated considers four specifications. The first specification (Column I) reports the estimations for the covariates of interest. The second specification (Columns II.1-II.5) includes the control variables. The third specification (Columns III.1, III.2) adds the interaction terms. Finally, the fourth specification (Column IV) presents the estimation for the full model. The positive and statistically significant coefficients for the *Modern Sector* (Columns I – IV) provide support to H1, thus modern-sector campaigns achieve quicker funding than traditional-sector campaigns in crowdfunding microfinance, suggesting that lenders are more willing to support high-return projects.

The results feature a positive and statistically significant coefficient for *Female* (Columns I – IV), thus supporting H2. *Female* microentrepreneurs, whether individually or in a group, return quicker funding speeds. This result suggests that women are still preferred by the crowd even after controlling for lender decision-making motivations, hence incorporating strategic (financial) and social (altruistic) motivations (e.g., Galak et al., 2011; Berns et al., 2020).

Table 3. Left-censored *Tobit* estimations: funding *Speed*

	Column I	**Column II**					**Column III**		**Column IV**
	Main Variables	+ Controls					+ Interactions		Full Model
		Strategic Orientation	Social Orientation	Competition	Loan	All	Female	Amount Requested	
	I	II.1	II.2	II.3	II.4	II.5	III.1	III.2	IV
Independent variables									
Modern sector (MS)	0.506***	0.501***	0.508***	0.310***	0.533***	0.399***	0.575***	0.146***	0.308***
	(0.005)	(0.005)	(0.005)	(0.006)	(0.005)	(0.006)	(0.011)	(0.008)	(0.012)
Female	0.882***	0.882***	0.875***	0.883***	0.755***	0.700***	0.721***	0.701***	0.719***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Female*MS							-0.231***		-0.197***
							(0.011)		(0.011)
Log(Amount requested+1)	-0.980***	-0.989***	-0.979***	-1.276***	-1.028***	-1.366***	-1.366***	-1.403***	-1.401***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Log(Amount requested+1) *MS								0.446***	0.426***
								(0.012)	(0.012)
Controls									
Strategic Orientation									
Rating		-0.004**				0.248***	0.247***	0.247***	0.247***
		(0.002)				(0.002)	(0.002)	(0.002)	(0.002)
Exchange loss coverage		0.206***				0.076***	0.075***	0.072***	0.071***
		(0.006)				(0.005)	(0.005)	(0.005)	(0.005)
Social Orientation									
Antipoverty			0.058***			0.051***	0.050***	0.049***	0.048***
			(0.004)			(0.003)	(0.003)	(0.003)	(0.003)
Altruistic narrative			0.002***			0.005***	0.005***	0.005***	0.005***
			(0.000)			(0.000)	(0.000)	(0.000)	(0.000)
Competition									
Log(MFI competition)				-0.284***		-0.358***	-0.358***	-0.358***	-0.358***
				(0.001)		(0.001)	(0.001)	(0.001)	(0.001)
Log(sector competition)				-0.082***		-0.061***	-0.059***	-0.063***	-0.061***
				(0.002)		(0.002)	(0.002)	(0.002)	(0.002)
Log(region				-0.661***		-0.622***	-0.623***	-0.622***	-0.623***
				(0.004)		(0.004)	(0.004)	(0.004)	(0.004)
Loan characteristics									
Log(Maturity)					-1.241***	-1.243***	-1.243***	-1.246***	-1.246***
					(0.005)	(0.004)	(0.004)	(0.004)	(0.004)
Bullet					-0.209***	-0.156***	-0.156***	-0.158***	-0.158***
					(0.010)	(0.009)	(0.009)	(0.009)	(0.009)
Monthly					-0.357***	-0.215***	-0.218***	-0.221***	-0.224***
					(0.009)	(0.008)	(0.008)	(0.008)	(0.008)
Constant	5.229***	5.169***	5.156***	11.383***	8.389***	13.342***	13.325***	13.389***	13.373***
	(0.007)	(0.009)	(0.008)	(0.023)	(0.016)	(0.027)	(0.027)	(0.027)	(0.027)
Regional controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,005,414	1,005,414	1,005,414	1,005,414	1,005,414	1,005,414	1,005,414	1,005,414	1,005,414
F-test	9,718	8,657	8,657	15,060	11,136	14,407	13,892	13,907	13,422
p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pseudo-R^2	0.0485	0.0488	0.0486	0.0836	0.0726	0.116	0.117	0.117	0.117
AIC	3,639,564	3,638,410	3,639,173	3,504,997	3,547,209	3,379,643	3,379,215	3,378,427	3,378,117
BIC	3,639,776	3,638,647	3,639,409	3,505,246	3,547,458	3,379,974	3,379,558	3,378,770	3,378,472

Notes: AIC is the Akaike information criterion, and BIC is the Bayesian information criterion. All regional and year controls are significant at least to the 10% significance level (base categories are year 2011 and region East Asia and Pacific). Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. See Table 1 for definition of the variables.

The negative and statistically significant coefficient returned by the interaction term *Female*Modern sector* (Columns III.1, $\beta_{Female*MS=-0.231}$: p-value<0.01) lends support to H3 which states that *Female* microentrepreneurs negatively moderates the *Modern sector*'s effect on funding speed. This negative moderating effect on funding speed indicates that the association between modern sector and funding speed becomes less pronounced among female microentrepreneurs. Indeed, compared to the traditional sector, *Modern sector* campaigns promoted (in the majority) by men achieve quicker funding speeds (Column III.1, $\beta_{MS=0.575}$) than those promoted (in the majority) by women (Column III.1, $\beta_{MS=0.575}+\beta_{Female*MS=-0.231}$) in crowdfunding microfinance. Hence, the comparative advantage of female microentrepreneurs emerges more strongly when requesting loans in the traditional sector (Column III.1: $\beta_{Female=0.721}$) than when targeting the modern sector (Column III.1: $\beta_{Female=0.721}+\beta_{Female*MS=-0.231}$).

In line with H4, the results also portray the negative effect of *Amount requested* on funding *Speed* (Columns I – IV, *p-value<0.01*). Microentrepreneurs asking for smaller loans receive funding faster than for larger loans. This result aligns with those of previous studies (e.g., Allison et al., 2013, 2015; Galak et al., 2011; Ly and Mason, 2012). Nevertheless, the estimations also identify how the loan size positively moderates the funding speed in modern sectors of activity as the coefficient of the interaction term between *Log(Amount requested +1)* and *Modern sector* is positive and statistically significant (Columns III.2, $\beta_{log(Amount\ requested\ +1)*MS=0.446}$, *p-value<0.01*). Thus, when seeking modern sectors, the size of the loan strengthens the fundraising success of those loans, thereby supporting H5.

The financial orientation of lenders (i.e., *Rating* and *Exchange loss coverage*) and their social orientation (i.e., *Antipoverty* badge and *Altruistic narratives*) report positive and statistically significant coefficients (*p-value<0.01*). These findings convey how,

despite its prosocial (in nature) setting, both the social and financial motivations of lenders determine the funding success of business loans targeting modern sector activities. This result finds support in the crowdfunded microfinance literature as prior studies argue that the prosocial-lending process contains a dual nature (e.g., Galak et al., 2011).

Finally, the MFI, loan, and regional competition coefficients (i.e., *Log(MFI competition)*, *Log(Sector competition)* and *Log(Region competition)*) and loan control covariates (i.e., *Log(Maturity), Bullet* and *Monthly*) all came in both negative and statistically significant (*p-value<0.01*). As expected, all measures of competition have negative effects on funding *Speed* as loan campaigns facing greater competition are funded at a slower pace given the increase in lender options over selecting where to apply their limited funding (Ly and Mason, 2012). Moreover, the results regarding loan *Maturity* and repayment, in terms of *Bullet* and *Monthly* schedules, also generate the expected results. The negative effect of higher loan maturities (in months) is consistent with Ly and Mason (2012) and the rationale applied in this study even while inconsistent with Allison et al. (2013). The differences in these types of control variables might partially stem from the usage of samples yielding systematically different results due to their different time spans (Pollack et al., 2019) as well as differences in the contexts (McKenny et al., 2017).

4.2 Robustness checks

As our sample is large, we check whether the results remain robust in a smaller sample (Kirk, 1996). Thus, the model was re-estimated for a random sample containing one third of the observations from the original sample (using the Stata command *sample* to draw a random sample). This re-examination of the results concludes that the findings obtained

for the random sample remain robust (i.e., with similar signs and statistical significance) when compared to the large sample (see Table A1 - Column I, in appendix).

Furthermore, to verify whether the previous findings are sensitive to the *Amount Requested*, we re-estimated the model specifications with the covariate interactions *Log (Amount Requested + 1)* replaced by four dummy variables: i. *Amount Requested 1Q* (baseline category) with the value of 1 when the loan amount pertains to the 1st quartile of the variable *Amount Requested*, and 0 otherwise; ii. *Amount Requested 2Q* that takes the value of 1 when the loan belongs to the 2nd quartile, and 0 otherwise; iii. *Amount Requested 3Q* that assumes the value of 1 when the loan amount falls into the 3rd quartile, and zero otherwise and, iv. *Amount Requested 4Q* that acquires the value of 1 when the loan amount pertains to the 4th quartile, and 0 otherwise. The results feature in Table A1-Column II in the appendix. The findings convey how large loans positively moderate the funding speed when directed towards Modern Sector campaigns. These relationships are linear and robust, thus in support of previous research results.

5. Discussion

Crowdfunding and microfinance have emerged as new alternatives for seeding entrepreneurship among impoverished entrepreneurs (Bruton et al., 2015). These capital sources promote entrepreneurial opportunities enabling entrepreneurs to escape poverty by launching their own businesses (Bruton et al., 2013). Economic theory – regarding the two-sector approach - helps to contextualize how sectoral differences and structural modernisation can provide supportive evidence to explain poverty and middle-income traps across countries (Lavopa and Szirmai, 2018). However, this literature strand has paid little attention to the micro level, regarding impoverished microentrepreneurs.

Based on prior research of the economic theory on two-sector models (Lewis, 1954), this study proposes a classification of the so-called traditional and modern sectors in crowdfunded microfinance that does not otherwise exist in the literature, thus providing theoretical insights into predicting prosocial lending decisions regarding sectoral choices. One of the main challenges stems from classifying activities into the modern sector due to the lack of disaggregated sectoral data at the national level. Departing from Lavopa and Szirmai (2018), this study provides deeper insights into whether the attractiveness of loan-campaigns influences lenders according to the business-loan purpose, specifically targeting the activity sectors embedded in entrepreneurial profiles.

The findings support how loans targeting modern sector activities return better crowdfunding performances, through increased funding speeds in the crowdfunded microfinance context. Crowdfunding platforms might hold the potential to change the type of entrepreneurial projects funded by the microfinance industry by emphasising the preference of lenders for modern sectors. Thus, by choosing more financially sustainable projects, lenders are driven by the idea that this is an efficient means to support economic activities that empower entrepreneurs, which in turn promotes economic growth that helps avoid the existing poverty traps. This behaviour may encourage progressive change throughout MFI modern economic activities as well as microentrepreneur project decisions, which may thus be more efficiently matched to the benefit of both parties. These results remain robust after controlling for MFI competition.

This study incorporates the two-sector approach with the potential moderating effect of gender and loan size on the relationship between the modern sector and funding speed. The findings report that female microentrepreneurs gain an advantage over men both for the traditional and modern sectors. However, the results suggest that, at least in crowdfunded microfinance, the comparative advantage of female microentrepreneurs

emerges more strongly in traditional activity related loan campaigns. According to the microfinance literature, this may arise for diverse reasons, such as women being more risk averse than men when it comes to starting up a business (Croson and Gneezy, 2009), women being more exposed to the seasonality faced in agriculture (Morduch, 1999), as well as the need for women to stay near their children (Yunus, 1998), which may encourage traditional activity sectors near their home locations, such as agriculture, with the consequent trend towards the overrepresentation of women in traditional sectors. These findings suggest that by supporting more traditional sectors, lenders may unintentionally drive women away from high-return ventures (e.g., Gafni et al., 2020), which may heighten the classical tensions between economic and social missions (Dufays, 2019).

The results also convey how lenders prefer smaller loan sizes, in line with findings from prior crowdfunding studies (e.g., Jancenelle et al., 2019). However, the findings also show that larger loan campaigns achieve quicker funding when directed to modern sectors, thus, by financing larger loans towards modern sectors, lenders place priority on high return projects which, according to economic theory, suggests a progressive change toward modernisation, shifting from traditional to more capital-intensive sectors. This behaviour suggests that lenders may have an economic rationale favouring the funding of potential high-income projects in the modern sector in conjunction with an altruistic rationale for helping those in need make this transition. In doing so, lenders fund microentrepreneurs with larger capital needs in modern sectors. This might promote the transition allowing the modern sector to prosper and ensuring long-term development with more income and jobs for people (Gries and Grundmann, 2020).

6. Conclusion

To address successive calls to better understand the context of crowdfunding, as well as the interplay between social and financial factors in driving lender decisions, this study departs from economic development theory inspired on the two-sector model to examine the impact of business-loan purpose on fundraising campaigns. Using more than 1,000,000 loan campaigns collected from KIVA and a censored Tobit regression model, the results identify how modern-sector business loan campaigns achieve quicker funding, especially when targeting modern sectors and with large loans emerging as more appealing to lenders. Nevertheless, while female entrepreneurs still retain an advantage over men, this advantage weakens in modern sectors, suggesting lenders may intentionally drive women away from high-return ventures.

This study advances research regarding the dual nature of lending processes in crowdfunded microfinance. The findings describe how lenders provide faster funding to business loan campaigns for modern sectors, balancing their financial and social orientations. By quicker finance for modern sectors, lenders also ensure their funds get repaid, thus enabling their reinvestment in other small entrepreneurs, and further extending Kiva's prosocial mission. These findings align with the literature on the warm-glow effect (e.g., Allison et al., 2013; Cecere et al., 2017) as lenders participate in prosocial crowdfunding to help those in need based on the anticipation of an emotional self-satisfaction (the warm glow). The results provide evidence supporting how these social-oriented motives might be complementary to financial-oriented motives in the growing crowdfunded microfinance context. This thereby extends the existing literature on crowdfunding microfinance by demonstrating the hybrid nature of prosocial lending decisions in which lenders weigh up both traditional investment factors and factors regarding prosocial and charitable giving (Allison et al., 2015; Galak et al., 2011).

In a nutshell, this paper contributes to prosocial crowdfunding, stressing that business-loan purpose matters to the loan-campaign attractiveness from the perspective of the lenders. Lenders appear to display a preference for modern sectors. Deploying the two-sector approach, this study provides support to the position that prosocial crowdfunding may encourage microentrepreneurs to transition to modern economic activities and drive progressive change to these activities through the microfinance sector.

This study returns practical implications for both crowdfunding and microfinance practitioners. In the crowdfunding context, this firstly contributes to extending the scarce attention hitherto paid to the determinants of economic modernisation. Secondly, this extends the literature strand on the competitive markets underlying prosocial crowdfunding platforms where MFIs compete for limited amounts of subsidized capital. In the microfinance context, this information may be key to lenders and MFIs seeking better allocations of limited financial resources for pursuing their social goal of alleviating world poverty with the sector driven by the modern sector.

This research is not without limitations. One factor stems from exclusively studying data made available by Kiva, which does not allow us to test for network externalities by controlling for active lenders. Hence, we acknowledge this limitation and call for future studies to adopt other crowdfunding platforms that provide such information to take network effects into account.

Acknowledgments

This work was supported by the *FCT - Fundação para a Ciência e a Tecnologia, I.P.* under Grants PTDC/EGE-OGE/31246/2017, UIDB/04630/2020, UIDB/00315/2020, UIDB/04728/2020, and UIDB/05037/2020.

Disclosure statement

No potential conflict of interest was reported by the authors.

Data availability statement

Data is publicly available on Kiva API (Application Programming Interface). Data was collected from https://www.kiva.org/build/data-snapshots.

References

Akerlof, G. A. (1970). The Market for" Lemons": Quality Uncertainty and the Market Mechanism. *The Quarterly Journal of Economics*, *84*(3), 488–500.

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*(1), 53–73.

Allison, T. H., McKenny, A. F., and 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.

Armendáriz-de Aghion, B., and Morduch, J. (2005). *The Economics of Microfinance*. Cambridge: MIT Press.

Banerjee, A. V., and Duflo, E. (2007). The economic lives of the poor. *Journal of Economic Perspectives*, 21(1), 141–168.

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

Bruton, G. D., Ketchen Jr, D. J., and Ireland, R. D. (2013). Entrepreneurship as a solution to poverty. *Journal of Business Venturing*, *28*(6), 683–689.

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

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

Cecere, G., Le Guel, F., and Rochelandet, F. (2017). Crowdfunding and social influence: An empirical investigation. *Applied Economics*, *49*(57), 5802–5813.

Colombo, M. G., Franzoni, C., and Rossi–Lamastra, C. (2015). Internal social capital and the attraction of early contributions in crowdfunding. *Entrepreneurship Theory and Practice*, *39*(1), 75–100.

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

Croson, R., and Gneezy, U. (2009). Gender differences in preferences. *Journal of Economic Literature*, *47*(2), 448–474.

D'Espallier, B., Guerin, I., and Mersland, R. (2013). Focus on women in microfinance institutions. *The Journal of Development Studies*, *49*(5), 589–608.

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

Dorfleitner, G., and Oswald, E.-M. (2016). Repayment behavior in peer-to-peer microfinancing: Empirical evidence from Kiva. *Review of Financial Economics*, *30*, 45–59.

Dorfleitner, G., Oswald, E.-M., and Röhe, M. (2020). The access of microfinance institutions to financing via the worldwide crowd. *The Quarterly Review of Economics and Finance*, *75*, 133–146.

Dorfleitner, G., Oswald, E.-M., and Zhang, R. (2019). From credit risk to social impact: On the funding determinants in interest-free peer-to-peer lending. *Journal of Business Ethics*, 1–26. https://doi.org/10.1007/s10551-019-04311-8

Duan, Y., Hsieh, T.-S., Wang, R. R., and Wang, Z. (2020). Entrepreneurs' facial trustworthiness, gender, and crowdfunding success. *Journal of Corporate Finance*, *64*, 1–24.

Dufays, F. (2019). Exploring the drivers of tensions in social innovation management in the context of social entrepreneurial teams. *Management Decision*, *57*(6), 1344–1361.

Eddleston, K. A., Ladge, J. J., Mitteness, C., and 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.

Field, E., Pande, R., Papp, J., and Rigol, N. (2013). Does the classic microfinance model discourage entrepreneurship among the poor? Experimental evidence from India. *The American Economic Review*, *103*(6), 2196–2226.

Gafni, H., Hudon, M., and Périlleux, A. (2020). Business or basic needs? The impact of loan purpose on social crowdfunding platforms. *Journal of Business Ethics*, 1-17. https://doi.org/10.1007/s10551-020-04530-4

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

Gleasure, R., and Feller, J. (2016). Emerging technologies and the democratisation of financial services: A metatriangulation of crowdfunding research. *Information and Organization*, *26*(4), 101–115.

Gries, T., and Grundmann, R. (2020). Modern sector development: The role of exports and institutions in developing countries. *Review of Development Economics*, *24*(2), 644–667.

Gujarati, D. N. (1995). *Basic Econometrics-Third Edition*. New York: McGraw-Hill International Editions.

Hermes, N., and Lensink, R. (2011). Microfinance: Its impact, outreach, and sustainability. *World Development*, *39*(6), 875–881.

Huis, M., Lensink, R., Vu, N., and 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., and Azam, M. S. (2012). Does microfinance reduce poverty in Bangladesh? New evidence from household panel data. *Journal of Development Studies*, *48*(5), 633–653.

Jancenelle, V. E., Javalgi, R. R. G., and Cavusgil, E. (2019). Cultural entrepreneurship and legitimate distinctiveness in international prosocial crowdfunding. *International Business Review*, *28*(4), 802–810.

Jiménez, G., Salas, V., and Saurina, J. (2009). Organizational distance and use of collateral for business loans. *Journal of Banking and Finance*, 33(2), 234–243.

Kennedy, P. (2008). *A Guide to Econometrics—6th Edition*. New York: Blackwell Publishing.

Kgoroeadira, R., Burke, A., and van Stel, A. (2019). Small business online loan crowdfunding: Who gets funded and what determines the rate of interest? *Small Business Economics*, *52*(1), 67–87.

Kirk, R. E. (1996). Practical significance: A concept whose time has come. *Educational and Psychological Measurement*, *56*(5), 746–759.

Kiva. (2020). *Social performance.* Retrieved from https://www.kiva.org/about/impact/socialperformance (11 January 2021).

Lavopa, A., and Szirmai, A. (2018). Structural modernisation and development traps. An empirical approach. *World Development*, *112*, 59–73.

Leeth, J. D., and Scott, J. A. (1989). The incidence of secured debt: Evidence from the small business community. *Journal of Financial and Quantitative Analysis*, 24(3), 379–394.

Lewis, W. A. (1954). Economic development with unlimited supplies of labour. In A. N. Agarwala and S. P. Singh, Economics of underdevelopment: A series of articles and papers, 400–449. London: Oxford University Press.

Ly, P., and Mason, G. (2012). Competition between microfinance NGOs: Evidence from Kiva. *World Development*, *40*(3), 643–655.

Mammen, K., and Paxson, C. (2000). Women's work and economic development. *Journal of Economic Perspectives*, *14*(4), 141–164.

McKenny, A. F., Allison, T. H., Ketchen Jr, D. J., Short, J. C., and 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.

Meyskens, M., and Bird, L. (2015). Crowdfunding and value creation. *Entrepreneurship Research Journal*, *5*(2), 155–166.

Morduch, J. (1999). The microfinance promise. *Journal of Economic Literature*, *37*(4), 1569–1614.

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

Pollack, J. M., Maula, M., Allison, T. H., Renko, M., and Günther, C. C. (2019). Making a Contribution to Entrepreneurship Research by Studying Crowd-Funded Entrepreneurial Opportunities. *Entrepreneurship Theory and Practice*, *Editorial*, (in press). https://doi.org/10.1177/1042258719888640

Ranis, G., and Fei, J. C. (1961). A theory of economic development. *The American Economic Review*, *51*(4), 533–565.

Rostow, W. W. (1956). The Take-Off into Self-Sustained. *Economic Journal*, 66(261), 25–48.

Tokman, V. E. (1989). Policies for a heterogeneous informal sector in Latin America. *World Development*, *17*(7), 1067–1076.

UNIDO. (2020). *Gender equality and the empowerment of women.* Retrieved from https://www.unido.org/our-focus-cross-cutting-services/gender-equality-and-empowerment-women (11 January 2021).

Wooldridge, J. M. (2002). *Econometric analysis of cross section and panel data*. Cambridge: The MIT press.

Yum, H., Lee, B., and Chae, M. (2012). From the wisdom of crowds to my own judgment in microfinance through online peer-to-peer lending platforms. *Electronic Commerce Research and Applications*, *11*(5), 469–483.

Yunus, M. (1998). Poverty alleviation: Is economics any help? Lessons from the Grameen Bank experience. *Journal of International Affairs*, *52*(1), 47–65.

Zambaldi, F., Aranha, F., Lopes, H., and Politi, R. (2011). Credit granting to small firms: A Brazilian case. *Journal of Business Research*, 64(3), 309–315.

Zeira, J., and Zoabi, H. (2015). Economic growth and sector dynamics. *European Economic Review*, *79*, 1–15.

Appendix

Table A1. Robustness (*Random sample* and *Amount Requested*) - Left-censored *Tobit* estimations: funding *Speed*

	Column I	**Column II**
	Random Sample	Amount Requested
Independent variables		
Modern sector (MS)	0.279***	0.175***
	(0.021)	(0.013)
Female	0.719***	0.664***
	(0.007)	(0.004)
Female*MS	-0.169***	-0.173***
	(0.019)	(0.011)
Log(Amount requested+1)	-1.408***	
	(0.009)	
Log(Amount requested+1) *MS	0.433***	
	(0.021)	
Amount Requested 2Q		-0.590***
		(0.003)
Amount Requested 3Q		-1.009***
		(0.004)
Amount Requested 4Q		-1.528***
		(0.004)
Amount Requested 2Q * MS		0.365***
		(0.011)
Amount Requested 3Q * MS		0.434***
		(0.012)
Amount Requested 4Q * MS		0.524***
		(0.012)
Controls		
Strategic Orientation		
Rating	0.246***	0.224***
	(0.003)	(0.002)
Exchange loss coverage	0.072***	0.139***
	(0.009)	(0.005)
Social Orientation		
Antipoverty	0.045***	0.006*
	(0.006)	(0.003)
Altruistic narrative	0.005***	0.004***
	(0.000)	(0.000)
Competition		
Log(MFI competition)	-0.360***	-0.350***
	(0.002)	(0.001)
Log(sector competition)	-0.063***	-0.066***
	(0.003)	(0.002)
Log(region competition)	-0.625***	-0.638***
	(0.006)	(0.004)
Loan characteristics		
Log(Maturity)	-1.244***	-1.073***
	(0.007)	(0.004)
Bullet	-0.126***	-0.142***
	(0.016)	(0.009)
Monthly	-0.206***	-0.242***
	(0.014)	(0.008)
Constant	13.384***	13.306***
	(0.047)	(0.027)
Regional controls	Yes	Yes
Year controls	Yes	Yes
Observations	335,138	1,005,414
F-test	4,484	13,011
p-value	0.000	0.000
Pseudo-R^2	0.117	0.123
AIC	1,124,919	3,353,123
BIC	1,125,240	3,353,525

AIC is the Akaike information criterion, and BIC is the Bayesian information criterion. All regional and year controls are significant at least to the 10% significance level (base categories are year 2011 and region East Asia and Pacific). Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. See Table 1 for definition of the variables.