



# Prosocial motivation and lending to the poor: evidence from an international crowdfunding platform

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## Abstract

Employing a prosocial perspective, this study examines how crowdfunders' prosocial motivation influences their lending decisions on international crowdfunding platforms, addressing the global challenge of poverty alleviation. We posit that prosocially motivated crowdfunders, concerned about economic inequality and others' well-being, are more likely to lend to poorer borrowers to minimize inequality and improve welfare. Analyzing a large dataset from Kiva.org with machine learning techniques, we find that higher prosocial motivation indeed leads to the lending choice of poorer borrowers across borders. However, cultural distance weakens this relationship by creating cognitive and emotional barriers, while crowdfunders' platform experience and women-owned businesses strengthen it. These findings highlight how digital platforms enable prosocial motivations to cross national borders in poverty-reduction efforts, while revealing barriers and enablers in cross-border lending. Our study contributes to the international business literature by introducing a prosocial perspective to digital platform research and advancing methodological approaches through machine learning. For practitioners, we suggest strategies to enhance prosocial crowdfunding platforms' effectiveness, including cultural bridge-building initiatives, leveraging experienced users as mentors, and highlighting women-owned businesses. Policymakers can use these insights to create frameworks maximizing prosocial crowdfunding's impact on poverty alleviation.

**Keywords** Prosocial motivation · Poverty · Digital platform · Crowdfunding · Machine learning

## Introduction

Recent international business (IB) research has started to pay attention to ecosystem social responsibility, with scholars arguing that global platforms should address grand societal

challenges owing to their ability to mobilize resources globally (Ciulli & Kolk, 2023; Yi et al., 2023). Among these challenges, poverty remains a severe global issue. Meanwhile, digitalization has opened new avenues for microfinance, a major potential alternative tool for the underbanked in emerging and transition economies to pursue entrepreneurial opportunities for alleviating poverty (Bruton et al., 2011; Sun & Liang, 2021). Prosocial crowdfunding platforms such as Kiva and Zidisha, which provide collateral-free loans with almost zero interest, enable crowdfunders to support the underbanked across national borders, especially in developing countries (Sabzehzar et al., 2023). The present study aims to examine how prosocial crowdfunders make lending decisions on an international prosocial crowdfunding platform.

Previous research has found that the lending decisions of crowdfunders on international platforms are influenced by various types of distances, such as geographic distance (Burtch, Ghose, & Wattal, 2014) and psychological distance (Sabzehzar et al., 2023). Given that most underserved people are located in distant (both in geography and

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culture) and poor countries, scholars have started to question whether prosocial crowdfunding has successfully fulfilled its goal of supporting these underserved groups (Epstein & Yuthas, 2010). Thus, to reconcile these inconsistent findings, emerging research has begun to examine how the demand-side borrower profiles and loan characteristics impact their likelihood of being fully funded (Dorfleitner et al., 2021; Figueroa-Armijos & Berns, 2022; Gafni et al., 2021). Despite these efforts, scarce attention to date has been paid to crowdfunders, whose motives directly influence their lending decisions across national borders (Ly & Mason, 2012). Thus, our study aims to provide a more fine-grained analysis to examine how the prosocial motivation of crowdfunders affects their lending decisions across national borders on an international lending platform. Moreover, we identify the moderating factors that impede or enable the effect of prosocial motivation on lending decisions.

Prosocial motivation is defined as the desire to help others or to keep their benefit in mind (Batson, 1987; Grant, 2008), highlighting the *social* aspect of one's actions or activities rather than the calculated personal return. Prosocial crowdfunding is a hybrid form of lending that lies between traditional and donation-based lending (Sabzehzar et al., 2023). Crowdfunders often have dual aims to help the underbanked poor and maintain their subsequent financial sustainability (Galak et al., 2011). Employing a prosocial perspective, we argue that prosocially motivated crowdfunders are concerned about inequality (Waples, 2016) and the well-being of the poor and will thus pay attention to poor borrowers on the platform. Meanwhile, driven by their empathy and a desire to improve the well-being of the poor and minimize economic inequality (Montada & Schneider, 1989), they are more likely to fund poor borrowers. Thus, we propose that crowdfunders with higher prosocial motivations tend to support the entrepreneurial projects of poorer borrowers.

We further propose moderators as enablers and barriers that could further affect the main relationship. First, we identify the importance of *cultural distance*. Previous studies have indicated that cultural distance can set up cognitive barriers that hinder the understanding of foreigners (Chua et al., 2015) and emotional barriers that impede the empathetic orientation toward people from different countries (Campbell, Eden, & Miller, 2012). Thus, we argue that cultural distance weakens the effect of crowdfunders' prosocial motivation on their lending decisions toward the poor. Second, we propose that *crowdfunders' experience* can enhance the ability of prosocial crowdfunders to better understand their interest in the projects posted by the poor, thus strengthening the main relationship. Finally, we propose that *women-owned businesses* enhance the emotional reactions of crowdfunders, thus strengthening the main relationship. With data obtained from Kiva.org, the largest international prosocial crowdfunding platform, we apply machine learning techniques to

capture the prosocial motivation of crowdfunders and find empirical support for our hypotheses.

We aim to make the following contributions. Our study introduces the prosocial perspective to the IB context and demonstrates how digital platforms can assist individual crowdfunders to participate in addressing grand global challenges, such as poverty, an examination that has been called for by scholars in the IB field (Benito et al., 2022; Tung, 2023). To our knowledge, our study is among the first in IB research to highlight the prosocial perspective on non-profit digital platforms. To capture the prosocial motivation, our study responds to recent calls for applying the machine learning method into IB research (Bosma & van Witteloostuijn, 2024) and extending individual-level research in IB (Cerar et al., 2021). In addition, as both barriers and enablers in an international context, our moderators indicate the boundary conditions of prosocial motivation in the context of prosocial crowdfunding, in turn extending the research on prosocial motivation (Liao et al., 2022).

## Theory and hypotheses

### A prosocial perspective in addressing poverty

How can we address the societal grand challenges of poverty? The recent developments of digital technology, especially cross-border platforms, have helped individuals in different countries and regions to get involved and connected in addressing poverty. In particular, prosocial crowdfunding platforms, which offer almost zero-interest loans to entrepreneurs in poor countries, are hailed as innovative and instrumental tools for supporting poor entrepreneurs.

What motivates crowdfunders to lend to poor borrowers/entrepreneurs without expecting interest? One major explanation is the prosocial perspective, which highlights the *social* aspect of work/action by emphasizing individuals' concerns about how their actions can affect the well-being of others (Batson, 1987; Grant, 2008). Employing the prosocial perspective, prior studies have found that crowdfunders respond positively to loans from crisis-affected areas (Wang et al., 2024). Crowdfunders prefer projects that meet the basic necessities of borrowers to those with business objectives (Gafni et al., 2021), because the pursuit of basic needs, such as sanitation and farming machinery requests, is more closely related to people's welfare, and is thus more likely to stimulate the prosocial motivation of crowdfunders. In a similar vein, studies have found that vulnerable borrowers, such as low-income people and minority women, are more likely to attract funding (Dorfleitner et al., 2021).



## Prosocial motivation and lending to the poor across borders

Building on the literature on prosocial motivation (Liao et al., 2022), we propose that crowdfunders with high prosocial motivations are more likely to fund the entrepreneurial projects of poor borrowers. Previous studies have suggested that people with high prosocial motivation have a high need for justice and concerns about inequality (Waples, 2016). According to motivated information processing theory (Dreu & Nauta, 2009; Lebel & Patil, 2018), people's desire and motivation influence the information they focus on when they make judgments and choices. In our research context, prosocially motivated crowdfunders pay more attention to poor borrowers on the platform. Meanwhile, people with high prosocial motivation naturally empathize with the disadvantaged and are emotionally driven to make a difference for them. When confronting people who are considerably less fortunate, concerns about social justice often evoke strong emotional reactions aimed at improving the welfare of the disadvantaged and minimizing inequality (Montada & Schneider, 1989). Thus, prosocially motivated crowdfunders are likely to choose poorer borrowers to improve their welfare and minimize inequality.

Thus, we propose the following hypothesis:

**Hypothesis 1** The prosocial motivation of crowdfunders is positively related to their selection of poor loan borrowers across borders.

Although prosocial motivation encourages crowdfunders to help the poor, it may be contextually restricted or encouraged in the course of decision-making (Bommer et al., 2003). In our research context, we further propose that barriers and enablers at different levels could moderate the relationship between the prosocial motivation of crowdfunders and their lending decisions.

### Contingent effect of cultural distance

In international platforms, questions have arisen as to whether distance still matters because digital tools can reduce the communication and coordination costs of transactions (Nambisan et al., 2019). In our research context, we propose that cultural distance still plays a role in our research context.

Cultural distance refers to differences in social norms, religions, languages, and ethnicities between two countries (Shenkar, 2001). As cultural distance decreases, it becomes easier for prosocial crowdfunders to understand the projects posted by poor foreign borrowers (Burtch et al., 2014). Previous studies on corporate social

responsibility have likewise indicated that smaller cultural distance is associated with higher perceived similarity and increased empathetic response from decision-makers (Campbell et al., 2012), leading to an increased likelihood of philanthropic behavior. In our research context, as the cultural distance between the crowdfunders' and borrowers' nations decreases, the emotional reactions to help will be enhanced, further motivating the prosocial crowdfunders to lend to the poor. Conversely, when the cultural distance increases, the likelihood of cognitive understanding and empathy decreases. That is, high cultural distance is expected to result in emotional and cognitive barriers for crowdfunders, weakening the effect of prosocial motivation on lending to the poor.

Thus, we make the following hypothesis:

**Hypothesis 2** Cultural distance weakens the positive relationship between the prosocial motivation level of crowdfunders and the selection of poor loan borrowers.

### Contingent effects of crowdfunders' funding experience

Organizational learning theory suggests that international experience manifests itself in organizational knowledge and should reduce the impact of cognitive barriers on understanding business in a foreign market (Orlikowski, 2002). Studies have found that the foreign experience of a firm can help investors better understand the foreign market (Cho & Padmanabhan, 2005). IB studies have suggested that general IB experience, which is gained through operations in diverse national markets over time, enhances a firm's ability to deal with differences, uncertainties, and potential conflicts in diverse foreign markets (Barkema & Vermeulen, 1998).

In our research context, crowdfunders who have experienced making loans over the international platform are more capable of understanding foreign projects from poor countries. In such situations, experience could enhance the positive effect of prosocial motivation on lending to the poor. By contrast, rookie crowdfunders without experience on the platform are less capable of evaluating projects in poor countries and are thus less comfortable with lending to the poor, weakening the effect of prosocial motivation on lending decisions. Thus, we propose the following hypothesis:

**Hypothesis 3** The funding experience of crowdfunders in crowdfunding platforms strengthens the positive relationship between the prosocial motivation level of crowdfunders and the selection of poor loan borrowers.



## Contingent effects of women-owned business

Research has suggested that women entrepreneurs do not enjoy the same funding opportunities as men (Buttner & Rosen, 1989), a situation that is particularly salient in developing countries (Demirgüç-Kunt et al., 2013). However, research on prosocial platforms finds that women borrowers/entrepreneurs are often regarded as a vulnerable group and are more likely to attract prosocial crowdfunders to fund them (Figueroa-Armijos & Berns, 2022).

Accordingly, in our research context, we argue that women borrowers are regarded as a vulnerable group in the eyes of prosocial crowdfunders and are thus more likely to evoke the empathy of crowdfunders (Wesemann & Wincent, 2021). This effect, in turn, will enhance the emotional resolve of crowdfunders to help the poor. On the contrary, there is less sympathy on the part of prosocial crowdfunders for male entrepreneurs, which will weaken the effect of the prosocial motivation of crowdfunders on lending to the poor. Thus, we make the following hypothesis:

**Hypothesis 4** Women-owned businesses whose borrowers are female entrepreneurs strengthen the positive relationship between the prosocial motivation level of crowdfunders and the selection of poor loan borrowers.

## Methods

### Data and sample

This study utilizes data from Kiva.org, the world's largest online prosocial crowdfunding platform. Kiva provides loan solicitations containing borrower details and loan information, allowing crowdfunders (primarily from developed countries) to select projects to fund. The platform also offers crowdfunder information, including reasons for joining Kiva if they disclose them. Kiva data have been frequently used in microfinance and prosocial crowdfunding research (e.g., Burtch et al., 2014; Galak et al., 2011).

Our analysis focused on crowdfunder-loan transactions from 2010 to 2019, involving crowdfunders from the five leading countries: the United States, Canada, Australia, the United Kingdom, and Germany.<sup>1</sup> These countries represented 85.51% of Kiva's total crowdfunder population, with the US accounting for the majority (65.46%), followed by Canada (8.78%), Australia (4.78%), the UK (4.31%), and

Germany (2.18%). Each selected country constituted at least 2% of the total crowdfunder population. After verifying data availability for our key variables, our final sample consisted of 4,881,463 crowdfunder-loan transactions. These transactions involved 102,380 crowdfunders funding 953,754 loans to borrowers across 28 countries from 2010 to 2019. Table A1 in Online Appendix shows the distributions of loan borrowers and crowdfunders.

## Key variables and measures

### Dependent variable

Our unit of analysis was the crowdfunder ( $i$ )-loan ( $j$ ) transaction level. The dependent variable is the lending decisions of crowdfunders based on the consideration of the poorness of borrowers. As individual poverty assessment was impractical, we used population average poverty measures as a proxy. Borrower poorness was thus proxied by the poverty level of their home country, quantified as the reverse sign of the GDP per capita of the borrowers' country for loan  $j$  in a given year, following Van Vliert, (2003). A larger value indicated a poorer borrower. GDP per capita data were sourced from the World Development Index database.

For robustness checks, we employed two additional World Bank measures to proxy borrower poorness: the "poverty rate" (poverty headcount rate at national poverty lines, percent of population) and the "multidimensional poverty measure" (MPM, based on the Multidimensional Poverty Index with an added monetary poverty threshold of \$2.15 per day).

### Independent variable

Our study's primary predictor variable was the *Prosocial motivation* level of crowdfunders, which we assessed using machine learning techniques to analyze their self-reported motivations for joining Kiva. During registration, new crowdfunders were prompted to complete an "I loan because..." field with a text narrative explaining their reasons for joining. Following Liu et al., (2012), we applied *machine learning methods* to determine each crowdfunder's prosocial motivation level. Our sample comprised 102,380 narratives from active crowdfunders who funded at least one loan between 2010 and 2019.

We developed a human coding scheme to categorize statements into three levels of prosocial motivation (0–2). Our training dataset of 3500 cross-validated statements included 197 non-prosocial (level 0), 2547 average prosocial (level 1), and 756 highly prosocial (level 2) statements. We also extracted common prosocial indicator words (e.g., "want to help," "better their lives") from these statements. For our primary measure, we used a BERT model with LSTM regression to determine prosocial motivation levels. As a

<sup>1</sup> We focused on crowdfunders from the five leading crowdfunder countries by considering the data availability and, more importantly, the representativeness of crowdfunders from relatively more developed countries.





robustness check, we also used the frequency of prosocial indicator words in crowdfunders' statements.

Comprehensive details regarding manual coding, illustrative examples, machine learning methodologies, and processing of indicative words can be found in the "Details of Machine Learning" section of Online Appendix A.

### Moderators

Our study included three moderating variables: cultural distance, funding experience, and a women-owned business. *Cultural distance* was measured using the modified approach of Fedenia et al., (2023)<sup>2</sup>, with GLOBE and World Values Survey (WVS) data used for robustness checks<sup>3</sup> (Zanaki et al., 2016). *Funding experience* was quantified as the number of loans a crowdfunder had previously funded, indicating their familiarity with the process. "*Women-owned*" variable was binary, denoting whether the loan was for a business owned by a woman.

### Control variables

We included a set of control variables to address potential confounding effects and alternative explanations, based on previous literature (Burtch et al., 2014; Sabzehzar et al., 2023). Specifically, we controlled for "*Loan proportion*," the monthly percentage of loans from each country, to account for country-specific loan popularity and selection odds. At the loan level, we accounted for *loan amount*, *repayment term*, *whether the description was in English*, and *sector (first or second)*. At the crowdfunder level, we included *membership duration*, *presence of a profile picture*, and *number of friend invites sent* (until January 2020), all indicating platform familiarity and activity. We also incorporated crowdfunder country dummies to account for potential background differences.

<sup>2</sup> Considering our sample, we incorporated the variables of Dow & Karunaratna, (2006) (i.e., religion, language, democracy, and education distance; industrial development distance was excluded due to its high correlation with our dependent variable), CEPII variables (i.e., common official language and linguistic proximity; colonial relationship was excluded as only the UK has such information and it is included in the fixed effects), and Hofstede's cultural dimensions (limited to four dimensions due to data constraints: power distance, individualism, masculinity, and uncertainty avoidance). A composite measure of cultural distance was constructed using Mahalanobis distances, accounting for the scale, correlation, and shape of the dimensions.

<sup>3</sup> We were unable to use them in the main analysis given that they were inadequate to cover the full sample in our context. Hence, they were used to construct alternative measures of cultural distance to test the robustness of its moderating effect (see Online Appendix B and Table A3).

## Statistical estimation

For the main effects, our model specification was set up as follows:

$$Y_{ijt} = \delta_t + \beta_1 \cdot X_i + \gamma \cdot CTRL_{ijt} + \varepsilon_{ijt} \quad (1)$$

where  $Y_{ijt}$  denotes the funding decision of crowdfunder  $i$  based on the consideration of borrowers' poorness, as proxied by the *poverty* level of the country where loan  $j$  was raised at time  $t$ .  $\delta_t$  denotes the year-month fixed effects capturing crowdfunders' funding patterns over time.  $X_i$  refers to the level of prosocial motivation for crowdfunder  $i$ .  $CTRL_{ijt}$  is a vector of the aforementioned control variables regarding loan- and crowdfunder-level factors. Our primary interest is  $\beta_1$ , which presents the effect of crowdfunders' prosocial motivation on their likelihood of lending to poorer borrowers.

For the moderating effects, our model specification was set up as follows:

$$\cdot \quad (2)$$

where  $Z_{ij}$  refers to moderators including cultural distance between the country of crowdfunder  $i$  and the country of loan  $j$  (*Cultural distance*), crowdfunder  $i$ 's experience (*Funding experience*), and gender of loan  $j$  borrowers (*Women-owned*). Our primary interest is  $\beta_3$ , which captures the moderating effects of these factors.

Given our continuous dependent variable, we employed ordinary least squares (OLS) estimation with two-way cluster robust standard errors to account for correlated errors across crowdfunder and loan dimensions. We implemented the model using STATA version 18's "reghdfe" package.

## Results

### Main effect

Table 1 shows descriptive statistics and bivariate correlations for all variables. The average variance inflation factor of 1.84 (well below the threshold of 5) indicates no significant multicollinearity (O'Brien, 2007). Key continuous variables were standardized before creating interaction terms to further mitigate multicollinearity.

Table 2 presents the results of the OLS estimation. Model 1 shows that the prosocial motivation of crowdfunders ( $\beta_1 = 0.256$ ,  $p = 0.000$ ) is positively related to the poorness level of borrowers (proxied by the poverty level of their home country), supporting Hypothesis 1. This means that one standard deviation increase in crowdfunders' prosocial motivation is associated with a 0.256 unit increase in the



**Table 1** Descriptive statistics and correlations

	Mean	Std. dev.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Borrower's poorness	-4.18	3.30	1.00													
2 Prosocial motivation	1.29	0.25	0.11	1.00												
3 Cultural distance	7.49	0.81	0.35	0.04	1.00											
4 Funding experience	3.37	11.74	0.01	0.13	0.03	1.00										
5 Women-owned	0.24	0.43	0.01	0.02	0.10	0.07	1.00									
6 Loan proportion	0.10	0.07	0.19	-0.03	0.05	0.01	-0.01	1.00								
7 Loan amount	1.69	5.28	-0.07	-0.01	-0.01	-0.03	-0.01	-0.10	1.00							
8 Repayment term	13.69	9.29	-0.12	-0.01	-0.10	-0.02	0.01	-0.22	0.09	1.00						
9 English description	0.61	0.49	0.42	0.04	0.04	0.02	0.09	0.14	0.02	0.00	1.00					
10 First sector	0.26	0.44	0.06	0.02	0.02	0.14	-0.04	0.08	0.01	0.05	-0.02	1.00				
11 Second sector	0.08	0.28	-0.03	0.00	-0.01	-0.03	0.02	-0.08	-0.01	-0.02	-0.03	-0.18	1.00			
12 Membership duration	1.99	1.12	-0.01	0.02	0.05	0.01	0.26	-0.10	0.06	0.08	0.09	0.06	-0.02	1.00		
13 Crowdfunder picture	0.88	0.32	0.00	-0.01	-0.01	0.08	0.01	0.00	0.00	-0.01	-0.01	0.00	0.00	0.00	1.00	
14 No. of invites	0.02	0.54	0.00	0.00	0.00	0.00	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.01	1.00

Borrower's poorness (proxied by the poverty level of the borrower's country), funding experience, loan amount, number of invites, and membership duration are measured in thousands  
 N = 4,881,463 (953,754 loans funded by 102,380 crowdfunders); Correlations > |0.001| are statistically significant at the 0.05 level



**Table 2** Predicting funding decisions: Main effects of prosocial motivation and contingent effects

	Model 1		Model 2		Model 3		Model 4		Model 5	
	DV = Crowdfunder Choice Decisions Based on the Borrower's Poorness (Proxied by Poverty Level of the Borrower's Country)									
	$\beta$ (SE)	<i>p</i> value	$\beta$ (SE)	<i>p</i> value	$\beta$ (SE)	<i>p</i> value	$\beta$ (SE)	<i>p</i> value	$\beta$ (SE)	<i>p</i> value
Prosocial motivation	<b>0.256</b> ( <b>0.014</b> )	<b>(0.000)</b>	0.257 (0.014)	(0.000)	0.262 (0.021)	(0.000)	0.247 (0.013)	(0.000)	0.259 (0.021)	(0.000)
Cultural distance	1.300 (0.016)	(0.000)	1.299 (0.016)	(0.000)	1.300 (0.016)	(0.000)	1.300 (0.016)	(0.000)	1.299 (0.016)	(0.000)
Funding experience	0.023 (0.025)	(0.357)	0.024 (0.025)	(0.333)	-0.013 (0.040)	(0.756)	0.022 (0.025)	(0.368)	-0.014 (0.041)	(0.741)
Women-owned	-0.435 (0.018)	(0.000)	-0.435 (0.018)	(0.000)	-0.434 (0.019)	(0.000)	-0.436 (0.018)	(0.000)	-0.435 (0.019)	(0.000)
Prosocial motivation $\times$ Cultural distance (H2)			-0.042 (0.014)	(0.002)					-0.054 (0.015)	(0.000)
Prosocial motivation $\times$ Funding experience (H3)					0.104 (0.051)	(0.041)			0.110 (0.052)	(0.034)
Prosocial motivation $\times$ Women-owned (H4)							0.037 (0.017)	(0.030)	0.022 (0.015)	(0.134)
Loan proportion	4.727 (0.212)	(0.000)	4.700 (0.211)	(0.000)	4.777 (0.223)	(0.000)	4.724 (0.212)	(0.000)	4.743 (0.221)	(0.000)
Loan amount	-0.034 (0.001)	(0.000)	-0.034 (0.001)	(0.000)	-0.034 (0.001)	(0.000)	-0.034 (0.001)	(0.000)	-0.034 (0.001)	(0.000)
Repayment term	-0.018 (0.001)	(0.000)	-0.018 (0.001)	(0.000)	-0.018 (0.001)	(0.000)	-0.018 (0.001)	(0.000)	-0.018 (0.001)	(0.000)
English description	2.671 (0.020)	(0.000)	2.672 (0.020)	(0.000)	2.666 (0.019)	(0.000)	2.672 (0.020)	(0.000)	2.667 (0.019)	(0.000)
First sector	0.440 (0.015)	(0.000)	0.440 (0.015)	(0.000)	0.425 (0.012)	(0.000)	0.440 (0.015)	(0.000)	0.424 (0.012)	(0.000)
Second sector	0.061 (0.012)	(0.000)	0.061 (0.012)	(0.000)	0.061 (0.011)	(0.000)	0.060 (0.011)	(0.000)	0.061 (0.011)	(0.000)
Membership duration	0.012 (0.001)	(0.000)	0.012 (0.001)	(0.000)	0.013 (0.001)	(0.000)	0.012 (0.001)	(0.000)	0.013 (0.001)	(0.000)
Crowdfunder picture	0.004 (0.015)	(0.794)	0.005 (0.015)	(0.744)	0.006 (0.016)	(0.692)	0.004 (0.015)	(0.797)	0.008 (0.016)	(0.629)
No. of invites	-0.005 (0.050)	(0.914)	-0.006 (0.050)	(0.906)	-0.000 (0.053)	(0.993)	-0.006 (0.050)	(0.913)	-0.001 (0.052)	(0.988)
Constant	-5.993 (0.064)	(0.000)	-5.991 (0.063)	(0.000)	-6.014 (0.070)	(0.000)	-5.993 (0.064)	(0.000)	-6.011 (0.069)	(0.000)



Table 2 (continued)

	Model 1		Model 2		Model 3		Model 4		Model 5	
	$\beta$ (SE)	p value	$\beta$ (SE)	p value	$\beta$ (SE)	p value	$\beta$ (SE)	p value	$\beta$ (SE)	p value
Year-month fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Crowdfunder country dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations (crowdfunder-loan transactions)	4,881,463	4,881,463	4,881,463	4,881,463	4,881,463	4,881,463	4,881,463	4,881,463	4,881,463	4,881,463
No. of loans	953,754	953,754	953,754	953,754	953,754	953,754	953,754	953,754	953,754	953,754
No. of crowdfunders	102,380	102,380	102,380	102,380	102,380	102,380	102,380	102,380	102,380	102,380
R-squared	0.349	0.349	0.349	0.349	0.349	0.349	0.349	0.349	0.349	0.350

Two-way cluster robust standard errors across both the crowdfunder and loan dimensions are reported in parentheses, accounting for potential serial correlation

poorness level of the borrowers they are inclined to fund, holding other variables constant.

### Moderating effects

The results of the moderating effects are also detailed in Table 2. Model 2 illustrates the contingent effects of cultural distances on the relationship between crowdfunders' prosocial motivation and their funding support to poorer borrowers. As indicated by the model, *Cultural distance* ( $\beta_3 = -0.042$ ,  $p = 0.002$ ) acts as a barrier, deterring crowdfunders with prosocial motivation from funding loans sought by poorer borrowers. Consequently, Hypothesis 2 is corroborated.

Model 3 details the moderating effect of crowdfunders' experience prior to the focal funding transaction. It shows that crowdfunders' prior funding experience significantly amplifies the positive effect of prosocial motivation on funding poorer borrowers ( $\beta_3 = 0.104$ ,  $p = 0.041$ ), supporting Hypothesis 3. Model 4 demonstrates that crowdfunders with heightened prosocial motivation are inclined to fund loans for poorer borrowers, particularly when the loan is intended to support a women-owned business ( $\beta_3 = 0.037$ ,  $p = 0.030$ ), supporting Hypothesis 4. Model 5 including all three moderators simultaneously shows similar results.

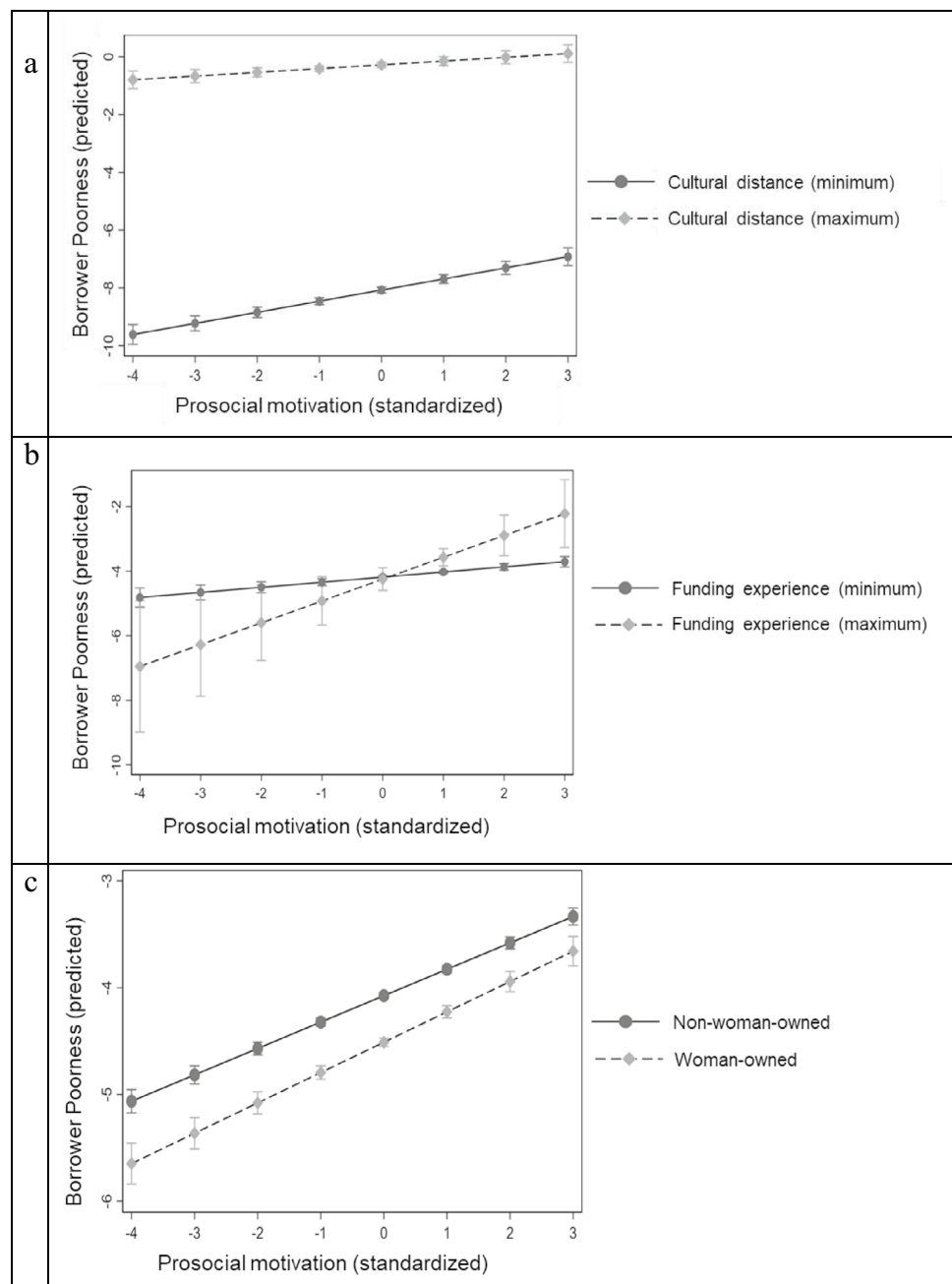
Figure 1 illustrates the moderating effect size. Panel a shows that with low cultural distance, as crowdfunders' prosocial motivation increases, the predicted poorness level of chosen borrowers rises by 2.69 units (from  $-9.61$  to  $-6.92$ ). With high cultural distance, the change is marginal, increasing by only 0.91 units (from  $-0.80$  to  $0.11$ ). In panel b, experienced crowdfunders show a 4.73 unit increase in predicted poorness level (from  $-6.95$  to  $-2.22$ ) with rising prosocial motivation, while for inexperienced crowdfunders, this increment is only 1.11 units (from  $-4.82$  to  $-3.71$ ). Panel c demonstrates that for women-owned businesses, an increase in the prosocial motivation of crowdfunders is associated with a 1.99-unit elevation in the predicted poorness level of chosen borrowers (from  $-5.65$  to  $-3.66$ ), compared to a 1.73-unit increase for non-women-owned businesses (from  $-5.06$  to  $-3.33$ ).

### Effects using alternative dependent/independent variable measures

The results based on alternative measures of our dependent and independent variables are reported in Table 3. First, when proxying the borrower's poorness based on the poverty level of their country, regardless of poverty rate or MPM, the effect of crowdfunders' prosocial motivation on their funding decisions toward poorer borrowers remains consistent (Model 6:  $\beta_1 = 0.673$ ,  $p = 0.000$ ; Model 7:  $\beta_1 = 1.872$ ,  $p = 0.000$ ). Second, we used the frequency of



**Fig. 1** Effect size of moderators. **a** Size of the moderating effect of cultural distance. **b** Size of the moderating effect of crowd-funders' funding experience. **c** Size of the moderating effect of women-owned businesses



words indicative of crowd-funders' prosocial motivation as our independent variable. As shown in Model 8 of Table 3, the effect of crowd-funders' prosocial motivation still holds ( $\beta_1 = 0.013$ ,  $p = 0.046$ ).

Our findings remain robust across alternative measures of cultural distance, refined sample selections, and analyses accounting for potential changes in crowd-funders' motivations over time. Detailed results are available in Online Appendix B.

## Discussions

In this study, employing a prosocial perspective and using Kiva as our research context, we find that the higher the prosocial motivation of crowd-funders, the more likely they are to choose poorer borrowers as recipients of their loans. In addition, we identified three moderators: cultural distance, crowd-funders' experience, and women-owned business. Our study makes the following contributions.



**Table 3** Alternative measures of borrower's poorness and prosocial motivation

	Model 6		Model 7		Model 8	
	DV = Crowdfunder Choice Decisions Based on the Borrower's Poorness					
	<i>Poverty rate</i>		<i>Multidimensional poverty measure</i>		(original)	
	$\beta$ (SE)	<i>p</i> value	$\beta$ (SE)	<i>p</i> value	$\beta$ (SE)	<i>p</i> value
Prosocial motivation (original)	0.673 (0.074)	(0.000)	1.872 (0.123)	(0.000)		
Prosocial word frequency					0.013 (0.007)	(0.046) Yes
Moderator and controls	Yes		Yes		Yes	
Year-month fixed effects	Yes		Yes		Yes	
Crowdfunder country dummies	Yes		Yes		4,881,463	
Observations (crowdfunder-loan transactions)	4,881,463		Yes		953,754	
No. of loans	953,754		Yes		102,380	
No. of lenders	102,380		Yes		0.343	
R-squared	0.123		Yes			

Two-way cluster robust standard errors across both the crowdfunder and loan dimensions are reported in parentheses, accounting for potential serial correlation. In Model 7, the data of India are not available for multidimensional poverty measure

First, we extend the prosocial perspective into IB research, contributing to the emerging research on ecosystem social responsibility (Yi et al., 2023) and responding to the call for employing new perspectives to broaden IB scholarship (Tung, 2023). We identified that individual prosocial motivation matters and digital platforms enable the prosocial motivation of individuals to cross national borders. In doing so, our research paves the way for future research that could incorporate prosocial motivation in addressing global societal challenges. There has been a persistently low level of individual-level studies among the growing body of research using secondary data across IB studies, which impedes the theoretical pluralism of IB (Cerar et al., 2021). By taking advantage of the machine learning method, our study enabled us to explicate individual motivations and demonstrate how individuals could participate in helping address major global challenges in an international platform.

Second, our findings suggest that cross-border distance remains a barrier to prosocial crowdfunding on an international platform. With the facilitation of digitalization, microfinance has become more accessible, enabling distant microlenders and borrowers to participate. Consequently, distance seems to matter less on cross-border prosocial microlending platforms, because digital tools have nullified cross-border barriers to some extent (Nambisan et al., 2019). However, our findings suggest that cultural distance remains a barrier for prosocial crowdfunders to extend loans to entrepreneurs in poor countries. In doing so, we respond to the call for a

more nuanced view to examine the idiosyncratic effects of cultural distance in the digital platform context (Luo, 2022). We found that the funding experience of crowdfunders helps mitigate the information asymmetry between the crowdfunders and borrowers, facilitating the lending of prosocial crowdfunders to the poor. This finding also extends the IB research on “learning by doing” into the context of digital platforms.

Finally, we respond to the call in IB research to address poverty, one of the UN's grand challenges (Tung, 2023) as well as equality, diversity, and inclusion (EDI) issues (Fitzsimmons, Özbilgin, Thomas, & Nkomo, 2023). Prosocial motivation helps finance the poor and mitigate economic inequality. In addition, we found that the moderator of woman borrowers/entrepreneurs strengthens the effects of prosocial motivation on lending to the poor. Previous studies have indicated that woman entrepreneurs did not have the same funding opportunities, even in crowdfunding platforms (Ramos & Gaer, 2016). In our research context, prosocial crowdfunders have sympathy for women entrepreneurs. In particular, poor female entrepreneurs could have an advantage over poor male entrepreneurs in obtaining funding from prosocial crowdfunders, which implies that prosocial crowdfunding platforms might help minimize gender inequality in entrepreneurship. Thus, future research could continue to further explore how the prosocial crowdfunding platform might help achieve more comprehensive EDI goals.



## Limitations and future directions

Owing to data availability, we included only the Kiva data in our research. While prosocial crowdfunding is more than platforms such as Kiva, future research can replicate and extend our study with data from other platforms that might have more information on crowdfunders, providing more empirical evidence to support our theoretical ideas outlined here. In addition, the mechanisms of the main relationship center on the cognitive and emotional drivers underlying prosocial motivations. However, we cannot exclude other explanations. It is possible that crowdfunders with high prosocial motivation do not pay much attention to the risk, which is more associated with economic logic, and are thus more likely to lend to poor borrowers. Nevertheless, this mechanism does not contradict our logic, and we leave it for future research.

## Managerial implications

To address global societal issues such as poverty, digital tools can be employed and individual prosocial motivation should be promoted. For global platforms, since cultural distance remains a barrier for crowdfunders to help the poor in foreign countries, intercultural exchange and communication should be encouraged to promote cross-cultural understanding and mitigate cultural barriers. Individuals can better understand one another and are more capable of exerting joint efforts on global issues via international platforms.

## Conclusion

Our study is among the first efforts to examine how prosocial motivation can help address societal grand challenges, such as poverty, via international digital platforms. Cultural distance remains a barrier and weakens the effect of prosocial motivation on lending to the poor. By contrast, the funding experience of crowdfunders and women entrepreneurs as borrowers can enhance the main effect. Our research paves the way for future research that can engage prosocial individuals in addressing the significant societal challenges in the digital era.

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