GENDER DISCRIMINATION IN ONLINE PEER-TO-PEER CREDIT LENDING: EVIDENCE FROM LENDING PLATFORM IN CHINA

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Abstract

Gender discrimination in accessing financial resources is a mounting concern in developing countries, but empirical evidence of such discrimination is limited. Using data collected from PPdai.com, one of the largest P2P lending platforms in China, we investigate potential gender discrimination in online P2P credit lending market in China. The results illustrate that female borrowers are more likely to be funded than male borrowers; but for the funded loans, female borrowers have to pay higher interest rates. Moreover, the default rate of loans from female borrowers is lower than that from male borrowers. The findings imply that statistical discrimination and costly taste-based discrimination co-exist in this online peer-to-peer lending market, but the underlying reasons for the discriminations are different. The implications for research and practice along with the limitations of this study are discussed accordingly.

Keywords: Gender Discrimination, Online Peer-to-Peer Lending, Microfinance

1 INTRODUCTION

Microfinance is regarded to be a development tool that could provide vast number of the poor, especially women, with sustainable financial services to support their livelihood. It is commonly believed that, compared to males, females are less likely to be able to access financial resources, thus they are more likely to be in a less advantaged social-economical position (Baydas, Meyer, & Aguilera-Alfred, 1994). Such gender discrimination is especially prominent in developing countries (De Mel, McKenzie, & Woodruff, 2009), such as in China. The issue of gender discrimination has been observed in a variety of areas, such as employment and career promotions in labor market (Grün, 2004; Kuhn & Shen, 2013; Wright & Ermisch, 1991), access and utilization of microfinance resources (Carter, Shaw, Lam, & Wilson, 2007; Ge & Qiu, 2007), and educations in personal development (Hensel, 1991; Rosti & Chelli, 2005). While it has long been a frequent topic of discussion by academia, general public, and policy makers, gender discrimination in the financial market, especially in developing countries, still lacks empirical evidence.

There are two classes of discrimination theories, namely statistical discrimination and taste-based discrimination (Aigner & Cain, 1977; Arrow, 1973; Becker, 2010). The former is economically efficient for discriminators, while the later stems from an animus toward one group and often leads to economic losses for discriminators. As these two different theories often lead to different policy recommendations, it is important to understand the extent to which observed discrimination is consistent with these theories. Due to a lack of data, it is often difficult to empirically examine the different theories of discrimination in financial markets (Sydnor & Pope, 2011). Online peer-to-peer lending, a notable innovation in the financial services industry (Lin, Prabhala, & Viswanathan, 2013), presents a unique opportunity for studying individual's financial behavior in a real life setting.

The central research objectives of this study is to examine the existence of gender discrimination in online peer-to-peer lending market and to assess the different theories of discrimination in this market in China. Specifically, the goal of this study is to find out:

(1) whether males and females have the same chance of getting loans in the online peer-to-peer lending market in developing countries such as China,

(2) whether male and female borrowers need to pay the same interest rate for their loans, and

(3) whether loan performances are the same for male and female borrowers.

The remainder of the paper is organized as follows. First, we briefly review the literature pertaining to online peer-to-peer lending and discrimination in financial markets, followed by the development of a research framework. Subsequently, we present the research methodology and results of data analysis. Finally, we conclude our paper with a discussion of findings and implications, limitations, and avenues for future research.

2 LITERATURE BACKGROUND

Discrimination occurs when terms of transactions are influenced by personal characteristics of the participants that are not relevant to the transaction (Blanchflower, Levine, & Zimmerman, 2003).

Such discrimination is referred to as taste-based discrimination (Becker, 2010; Stiglitz, 1973). It is resulted from the desire of individuals to avoid contacting certain groups. As a result, undesired groups have to offer more favorable terms than those of desired groups in order to complete transactions. For instance, in the financial market, the groups that are discriminated against by financial institutions have to provide more favorable terms to get financial services (i.e. loans), such as paying a higher interest rate or having to possess some better characteristics (i.e. a lower expected default rate) to qualify for any given interest rate (Sydnor & Pope, 2011).

Discrimination may also be stimulated by rational choice, which is known as statistical discrimination (Arrow, 1973; Phelps, 1972). The theory of statistical discrimination states that in a competitive market marked with incomplete and asymmetric information, it is possible for there to be equilibrium with discrimination. In the financial market, financial institutions use demographic characteristics, such as race or gender, to infer the likelihood of default on the loan. If experience has suggested that certain groups of individuals (i.e. female borrowers) are less trustworthy, then they may use such information (i.e. gender) to economize on the costs of gathering more directly relevant information (Blanchflower et al., 2003). Such statistical discrimination is not stimulated by preference, but rather is caused by an attempt to minimize costs. The rationale of such discrimination is that unobserved characteristics of a borrower's credit worthiness could be indicated by his/her personal demographic characteristics, such as race or gender.

There are some empirical studies about gender discrimination in the traditional financial markets. Alesina, Lotti, and Mistrulli (2013) studied Italian micro-firms and self-employed individuals and found that women pay higher interest rates despite that they exhibit a lightly better credit history. Women are kept being more credit-constrained than men by MFIs (Berger, 1990; Fletschner, 2009). Built on a unique database from Brazilian microfinance institution over an eleven-year period, Agier and Szafarz (2013) detected no discriminatory practice in the approval rate, but uncovered a gender gap in loan size. They concluded that glass ceiling effect was greater for female borrowers than for male borrowers.

Evidence of discriminations have also been studied and found in the online peer-to-peer lending market. Walter (2008) investigated the incidences and causes of racial discrimination in an online lending market and get a different conclusion from what is obtained in the traditional bank loan market. He discovered that by reducing interest rates for black borrowers, competition could ameliorate discrimination. Therefore, he concluded that racial prejudice does not appear to drive disparate treatment and the market appears to possess an inefficient degree of statistical discrimination. Sydnor and Pope (2011) further discovered in the online peer-to-peer lending market that loan requests with blacks in the attached picture are 25 to 35 percent less likely to receive funding than those of whites given other things equal. For any borrowers who receive loans, the interest rate paid by blacks is 60 to 80 basis points higher than that paid by whites given other things equal. But gender discrimination has not yet been found in the online peer-to-peer lending market. Barasinska (2010) found that gender does not affect borrowers' chances of funding success in the platform of Smava.de in Germany, holding other things equal. They argued that gender discrimination might be a platform-specific phenomenon rather than a common attribute in the online lending market.

The above findings showed that discriminations are prominent in the financial markets, but limited studies have been conducted to examine whether they are taste-based or purely statistical. Moreover, due to a lack of data, studies of discrimination in developing countries are even more scarce (Agier &

Szafarz, 2013). Fortunately, the presence of online peer-to-peer lending provides a unique opportunity to empirically examine and understand this phenomenon in developing countries.

We contribute to the literature of discrimination in financial markets in three ways. First, we show that gender discrimination is present in the online peer-to-peer lending market in developing countries such as in China, which is quite different from the findings of Barasinska (2010). Second, our findings indicate that the degree of gender discrimination may vary across different lending platforms, so the research outcomes from developed countries cannot be applied to the developing countries without verifications. Third, we find that asted-based and statistical discrimination co-exist in the online peer-to-peer lending market, which is also quite different from prior studies.

3 ONLINE PEER-TO-PEER LENDING

Peer-to-peer lending is a way of direct lending and borrowing between individuals without intermediation of a traditional financial institutions (Greiner & Wang, 2010). Users who register to be borrowers can create loan requests, called listings, on the lending website. Borrowers are expected to indicate the amount they want to borrow and the maximum rate they are willing to offer, and to provide some other optional information, such as loan purpose, repayment period, listing auction format, etc. There are two auction formats: open and close. Once a listing is specified as open for bidding, lenders can continue to bid down the interest rate after the listing is fully funded in a specified period. In contrast, the bidding process would immediately end when a listing is fully funded if it is specified as close for bidding. Any registered potential lenders can see and bid any listings shown in the lending website. A lender doesn't have to finance the entire amount of a listing; instead, they can bid at a minimum amount specified by the lending website, such as $50 on Prosper in the U.S. and 50 RMB on Ppdai.com in China. Some lending platforms, such as My089.com in China, provide functions of instant messaging for potential lenders and borrowers to communicate directly through online website.

Although there have been a lot of listings in the lending platforms, only a small fraction of them can be fully funded and materialized into a loan. Which kinds of listings are preferable to lenders is worthy of close examination. Because potential lenders can easily get the gender information of borrowers, their lending behaviors provide a unique opportunity to study the gender discrimination in financial market.

4 DATA SET

Our data set includes information of all loan requests, or listings, on Ppdai.com between August 2007 and August 2011. Borrowers' information, such as gender, age, credit level, user IDs, and outcome of their listings were obtained. A total of 23,171 individuals applied for loans. Females account for 4783 (20.64%) and males account for 18388 (79.36%) of loan applicants. The total number of listings is 52906, among which 9435 (18.34%) are posted by females, while 42016 are posted by males (81.68%). Each individual may apply for loans for more than once, so the total number of listings is much larger than the total number of applicants.

Our data set also includes the performance data as of August, 2011, at which point the loans made

during our sample are created from July 2010 to June 2011. A loan is in the status of "current" if it has not yet paid off and repayments occur on time, and is in the status of "paid off" if it has paid off all the repayments. If a loan has not yet paid off and the repayments don't occur on time, this loan is in the status of "late". Loans late for more than two months are regarded as defaults (Gross & Souleles, 2002). A total of 5026 loan records with performances were obtained, among which 4747 loans had been paid off or in the status of "current", 94 loans had been "late" for less than 30 days, 46 "late" for more than 30 days but less than 60 days, 24 "late" for more than 60 days but less than 90 days, and the rest 115 had been "late" for more than 90 days.

5 EMPIRICAL MODELING AND IDENTIFICATION

5.1. Probability of Funding

The first research question is whether male and female borrowers have equal chances of getting funds holding loan terms and all observable characteristics equal. Based on the discrimination theory, discrimination in the financial market may emerge either because of imperfect information about the borrowers' quality that leads to statistical discrimination (Arrow, 1973; Phelps, 1972), or because of distaste or prejudice that leads to taste-based discrimination (Becker, 2010). Both types of discrimination imply that, if gender discrimination exists in the online peer-to-peer lending market, borrowers of a particular gender have to pay to more favorable terms than the other particular gender, *ceteris paribus*. In other words, the chances of funding success may be different for male and female borrowers if they offer the same loan terms and have the same observable personal characteristics. Thus, the first basic empirical strategy involves estimating the probability that a loan listing gets funded as a function of borrower gender and other listing characteristics that are observable to lenders. If *x* is a vector of information of a listing, we use the following regression framework:

$$\Pr(Funded = 1 \mid \mathbf{x}) = \Phi(\alpha + \beta \cdot Gender + \mathbf{Controls}\cdot\theta) \quad (1)$$

Where Φ denotes the standard normal cumulative distribution function, **x** is a vector of information about a listing, and **Controls** are a vector of variables capturing all observable characteristics of borrowers and loan terms. The dependent variable is a binary variable, which equals 1 if a loan is successfully funded and 0 otherwise. Because a majority of the listings are not able to be fully funded, we use two different indicators of funding success as suggested by Barasinska (2010). Listings that are completely funded are considered as funding success in the first indicator, and listings that at least 50% of the requested amount is raised are considered as funding success in the second indicator. Table 1 reports the estimated marginal effects of the explanatory variables.

The first two columns of Table 1 report results for the case when the dependent variable equals 1 if the listing is completely funded and 0 otherwise. The result of the baseline specification of Equation 1 is shown in column (1), which includes a dummy variable of gender, a set of variables about the characteristics of listings (e.g., interest rate, amount requested, etc.), and a set of other variables about the characteristics of borrowers (e.g., borrower credit score, age, marital status, etc.). Column (2) reports the results for an extended model including all observable listing attributes (e.g., loan purpose, etc.) and time effects (e.g., weekday fixed effects, etc.).

Both model showed that listings with higher interest rate, smaller requesting amount, and shorter

listing durations are more likely to be funded, which is quite consistent with prior findings (Barasinska, 2010; Sydnor & Pope, 2011). Some other characteristics, such as loan purpose and time effects, also play significant roles in determining funding success, but the impact of place of residence of a borrower on funding success is not significant. The Pseudo-R^2 is much larger for the extended model (column (2)), indicating that the extended model is more powerful in predicting the funding success.

Gender is a strong predictor of funding probability. In contrast to our expectations, compared to male borrowers, female borrowers' probability of funding is significantly higher holding other control variables equal in the baseline model (see column (1)). Such result implies that lenders favor females rather than males in the bidding process. This finding is quite inconsistent with the prior studies of gender discrimination in the traditional financial market (e.g.,Baydas et al., 1994; Blanchflower et al., 2003) or in the online peer-to-peer lending market in the Prosper.com in the USA (e.g.,Barasinska, 2010). Such result holds when we extend the model's specification by including additional control variables such as loan purpose and time effects (see Column 2 in Table 1). The estimated coefficients of variable Gender suggests that compared to listings from male borrowers, the log odds of funding success (completely funded) increases by 0.471 for listings from female borrowers holding other observable characteristics equal.

Colum (3) and (4) in Table 1 report the results for the case that dependent variable equals 1 if at least 50% of the amount requested are funded and 0 otherwise. As with previous models, the baseline model in column (3) only contains a few explanatory variables, and the extended model in column (4) incorporates almost all observable listing and borrower characteristics. The results are quite the same as the ones in column (1) and column (2). Loan terms, such as amount requested, interest rate, and listing duration, and borrower characteristics, such as borrower credit score, have significant impacts on funding success, as with previous findings. More importantly, the result also revealed that listings from female borrows are more likely to be funded than from male borrowers, indicating gender discrimination against male borrowers. In this case, the log odds of funding success (50% funded) increases by 0.482 for listings from female borrowers.

	(1) Completely Funded I	(2) Completely Funded II	(3) 50% Funded I	(4) 50% Funded II
Gender	0.307***	0.471***	0.316***	0.482***
	(7.66)	(9.20)	(7.95)	(9.58)
Amount Requested	-3.27e-5***	-2.42e-5***	-3.33e-5***	-2.61e-5***
	(-12.85)	(-6.97)	(-13.19)	(-7.57)
Interest Rate Offered	0.0296***	0.0758***	0.0279***	0.0703***
	(8.97)	(15.39)	(8.56)	(14.76)
Repayment Times	-0.0776***	-0.103***	-0.0759***	-0.0991***
	(-17.86)	(-16.53)	(-17.67)	(-16.22)
Listing Duration	-0.0407***	-0.0149**	-0.0389***	-0.0131**
	(-7.48)	(-2.24)	(-7.24)	(-2.01)
Borrower Credit Score	0.0693***	0.0612***	0.0704***	0.0620***
	(74.82)	(56.80)	(75.82)	(57.83)
Age	0.0110***	0.0215***	0.0118***	0.0217***
	(3.75)	(5.56)	(4.08)	(5.72)
Other Borrower Characteristics	X	X	X	X
Loan Purpose Fixed Effects		X		X

Weekday Fixed Effects		X		X
Place of Residence Fixed Effects		X		X
Year Fixed Effects		X		X
Observations	50191	41923	50191	41923
adj. R^2 / pseudo R^2	0.407	0.447	0.412	0.448

Table 1 The effect of gender on funding success

Notes: The *t* statistics are in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

5.2. Interest Rate on Funded Loans

The second research question is whether male and female borrowers pay the same interest rates for their funded loans holding other things equal. We regress interest rate on gender, loan terms, and other observable borrower characteristics for loans that are successfully funded using the following regression framework:

$$E(r \mid \mathbf{x}, funded = 1) = \alpha + \beta \cdot Gender + \mathbf{Controls}\cdot\theta \quad (2)$$

where r is the interest rate of a listing. The results are reported in Table 2. Column (1) is the baseline model, showing that gender has a significant impact on the final interest rate that borrowers have to pay. All else equal, a funded listing from a female borrower ends up with interest rate much higher than that from a male borrower. The impact of gender on final interest rate is still significant if we take more control variables into consideration. Column (2) shows that after considering the fixed effects of loan purpose, weekday, place of residence, and year, the coefficient for gender is still statistically significant.

Such result implies that female borrowers have to pay higher interest rate for their funded loans given anything else equal, which means they are discriminated against by lenders in the online peer-to-peer lending market. This finding is not consistent with the previous findings that female borrowers are more likely to be funded given anything else equal, which means they are favored by lenders in this very lending market. One possible explanation is that female borrowers have always been discriminated against in the financial market, so they tend to offer higher interest rate than male borrowers to increase their funding probability. To test the validity of this explanation, we use interest rate offered by borrowers as dependent variables. The coefficients are shown in Column (3). Given all else equal, gender has a significant impact on the interest rate offered by borrowers, and the magnitude of the coefficient is quite close to the one in Column (2), confirming that the phenomenon that female borrowers have to pay higher final interest rate for their funded loans than male borrowers is caused by borrower themselves rather than by discriminations from lenders.

	(1) Interest Rate Final OLS I	(2) Interest Rate Final OLS II	(3) Interest Rate Offered OLS
Gender	0.622***	0.311**	0.330***
	(5.18)	(2.24)	(2.66)
Amount Requested	-4.85e-7	1.03e-5	1.40e-6
	(-0.74)	(1.21)	(0.18)
Repayment Times	0.0240*	0.0138	-0.0846***
	(1.81)	(0.88)	(-6.02)
Listing Duration	0.762***	0.354***	0.216***

	(40.94)	(18.82)	(12.82)
Borrower Credit Score	-0.0132***	-0.00515*	-0.00606**
	(-4.96)	(-1.86)	(-2.44)
Other Borrower Characteristics	X	X	X
Loan Purpose Fixed Effects		X	X
Weekday Fixed Effects		X	X
Place of Residence Fixed Effects		X	X
Year Fixed Effects		X	X
Observations	10522	5715	5715
adj. R^2	0.173	0.315	0.364

Table 2 The Effect of Gender on Interest Rate for Funded Loans

Notes: The *t* statistics are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

5.3. Loan Performance

The third research question is whether loan performance is different between male and female borrowers given other things equal. Following the consumer finance literature (e.g., Gross and Souleles, 2002), we model the time-to-default using a Cox proportional hazards specification (Cox, 1972; Bhattacharjee et al. 2007). The hazard h(t) in this model is specified as

$$h(t \mid \mathbf{x}) = h_0(t)\exp(\beta \cdot Gender + \mathbf{Controls}\cdot\theta)$$

Where $h_0(t)$ is a baseline hazard rate, and x is a vector of the information of a loan. The hazard-model estimation results are shown in Table 3. Column (1) is the baseline model, in which a default occurs if a repayment is late by at least two months (60 days) as suggested by Lin et al. (2013). The result reveals that loans from female borrowers are less likely to default than loans from male borrowers. Furthermore, the greater amount requested and the higher final interest rate, the higher default rate. Borrowers with higher credit scores are less likely to default. Column (2) shows that after considering the fixed effects of loan purpose, weekday, and year, the coefficient of gender is still statistically significant.

The robustness of the results is also investigated. As a large fraction of loans are in the status of "current" or have been late for less than two months, we don't know whether such loans will be paid off or default in the future. Therefore, we exclude such data and use the performance data that already have had a determined outcome for Logit regression to check the robustness of the results. In this Logit regression model, the dependent variable equals to 1 if the loan defaults, and 0 if the loan has been paid off. The result is shown in Column (3). It reports that gender remains to have a significant impact on loan performance, and female borrowers are less likely to default than male borrowers holding other things equal.

Some financial institutions may use a different way to define the concept of "default". For instance, some lending platforms in China regard a loan to be a default only if it has been late for more than 90 days. Therefore, Column (4) reports the coefficients of another Cox hazard proportional model in which default event occurs if a repayment is late by at least three months (90 days). In this model, the default rate is still significantly higher for male borrowers than for female borrowers, suggesting the robustness of the results.

	(1)	(2)	(3)	(4)

	Default (60 days) Cox Model I	Default (60 days) Cox Model II	Default (60 days) Logit	Default (90 days) Cox Model
Gender	-0.674***	-0.946**	-0.998***	-0.537*
	(-2.59)	(-2.52)	(-2.94)	(-1.91)
Amount Requested	1.88e-5*	4.13e-5**	6.72e-5***	2.13e-5*
	(1.80)	(2.00)	(3.51)	(1.79)
Interest Rate Final	0.194***	0.213***	0.237***	0.195***
	(6.71)	(5.01)	(6.24)	(6.29)
Repayment Times	-0.0677**	-0.0546	0.334***	-0.105***
	(-2.21)	(-1.28)	(6.98)	(-2.95)
Listing Duration	0.106*	0.0250	-0.0167	0.0817
	(1.76)	(0.34)	(-0.25)	(1.25)
Borrower Credit Score	-0.0972***	-0.102***	-0.132***	-0.107***
	(-19.36)	(-15.15)	(-13.51)	(-18.69)
Other Borrower Characteristics	X	X	X	X
Loan Purpose Fixed Effects		X	X	X
Weekday Fixed Effects		X	X	X
Year Fixed Effects		X	X	X
Observations	4916	1842	2727	4916
pseudo R^2	0.209	0.263	0.425	0.249

Table 3 The effect of gender on default rate

Notes: The *t* statistics are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

6 DISCUSSIONS AND IMPLICATIONS

The findings of our study make a significant extension to prior literature. First, our study focused on gender discrimination in the context of online lending market in China, which presents a pioneering empirical study in this field. Gender discrimination in accessing financial resources is a mounting concern in developing countries, especially in China. However, there are very few empirical studies for this important issue. Our study further enriches the literature on gender discrimination in the niche market of online peer-to-peer lending in China. Second, our results shed light on the intriguing relationship between borrower gender and financial resources accessibility. We find that female borrowers are more creditworthy than male borrowers and are more likely to be funded in the online peer-to-peer lending market. This is quite inconsistent with the gender discrimination literature, which suggests that females are more likely to be rejected for loan applications. Our result suggests that discrimination against male borrowers may be present in the context of online peer-to-peer lending market. Third, our analysis separates taste-based discrimination from statistical discrimination that may lead to different policy recommendations. Both types of discriminations will cause the favor of certain groups by lenders, although the underlying causes are different. We discovered that costly taste-based discrimination and statistical discrimination co-exist in the online peer-to-peer lending market. Such findings are quite novel. On the one hand, compared to male borrowers, female borrowers have to pay more for their funded loans even though the default rate of female borrowers are lower than male borrowers. On the other hand, female borrowers are rewarded for their low default rate because they have greater chances to be funded than male borrowers. Previous gender discrimination research often focused on the presence of discrimination in the financial market without considering its underlying causes and features, and thus might lead to incorrect policy recommendations. Finally, our research findings show how cultural traditions and auction mechanisms influence discriminations in the financial market. We find that female borrowers have to

pay higher interest rates for their loans although their default rates are lower. We argue that, as female borrowers are often discriminated against in other financial markets, they are accustomed to providing higher cost for accessing financial services. Therefore, in order to improve fund success rate, female borrowers offer higher interest rate to attract potential lenders, ignoring the fact that lenders in general have noticed that female borrowers are more trustworthy than male borrowers. Although listings with open auction format allow lenders to continue to bid down the interest rate after they are fully funded in a specified period, their attractiveness drops sharply when they are fully funded (Herzenstein, Dholakia, & Andrews, 2011). Furthermore, borrowers may choose to forgo the "bid-down" process and receive their loan funds at the interest rate they set as soon as the listing is fully funded. Thus, the majority of funded listings end up with interest rates that are offered by borrowers. As a result, the final interest rate paid by female borrowers is significantly higher than by male borrowers. Such taste-based discrimination may be formed by historical and cultural traditions and are caused by female borrowers themselves.

This study provides valuable insights for borrowers, lenders, and lending platforms. First, the result reveals that female borrowers are more likely to be funded, suggesting that the development of online peer-to-peer lending helps to mitigate the economic divide on accessing financial services between males and females. As females are often discriminated against when accessing economical resources, they are more likely to be in poverty in developing countries such as China. Online peer-to-peer lending platform provides females with a good way to access financial services. Such lending market is not only beneficial for market participants, but also beneficial for social balance and economic development. Therefore, policy-makers are recommended to encourage the development of online peer-to-peer lending market. Second, we found that the discrimination favoring female borrowers are statistical, suggesting the importance of keeping a good credit record for getting future loans. The relatively high fund success rate of female borrowers may be caused by the fact of their low default rate. This suggests that keeping a good credit record is the key to securing future loans. With relative lower incomes, the amount requested by female borrowers is recommended to be no larger than the amount that they can repay. Only if they have a good repayment record, female borrowers could have opportunities to raise fund again in the future. Moreover, as females are often discriminated against in other financial markets, it is important for them to make a good use of this valuable financing channel for their economic success. Finally, the findings suggest that female borrowers have paid relatively higher interest rate for their loans, which may not be necessary. Given that loans lent to female borrowers are less likely to default, lenders may be even more willing to lend to female borrowers than to male borrowers at the same interest rate.

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