

Getting Credit to High Return Microentrepreneurs: The Results of an Information Intervention[#]

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Abstract

Small scale entrepreneurs most commonly cite access to finance as the most important constraint to growth. Recent randomized experiments have shown the return to capital to be very high for the average microenterprise in Sri Lanka. This paper examines the impact of an intervention designed to improve access to credit among these high-return microenterprises without subsidizing interest rates or requiring group-lending. The intervention consisted of information sessions providing details of the microfinance loan product offered by an existing regional development bank, and a reduction from two to one in the number of personal guarantors required for these loans. Ten percent of the microenterprises invited to the information meetings received a new loan, doubling the proportion of firms receiving loans over this period. However, we find that loans do not appear to be going to particularly high return firms, but rather those with more household assets. Many more firms would like loans, but are constrained by inability to find personal guarantors and by other bureaucratic procedures. The results suggest information alone is unlikely to be enough for most firms, and point towards the need for credit bureaus which cover microfinance loans, and for continued innovation in designing loan products which can reach the urban microenterprise sector.

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1. Introduction

Access to finance is the most common constraint to growth cited by entrepreneurs in a broad range of countries. Surveys of small and medium sized firms in 54 countries indicate that financing constraints are particularly severe for small firms. Moreover, firms identifying finance as a constraint are found to grow more slowly (Beck et al., 2005), suggesting that bridging the finance gap is important for stimulating entrepreneurship. In most countries microenterprises are even less likely than small and medium firms to have access to finance from formal channels, resulting in very large returns to capital for these firms. Recent randomized experiments in Sri Lanka and Mexico providing grants of US\$100-200 to microenterprises found mean real returns to capital of over five percent *per month* in Sri Lanka and twenty percent or more *per month* in Mexico (de Mel et al, 2008; McKenzie and Woodruff, 2008). These high returns—well in excess of microlending interest rates in these countries—motivate the central research and policy question of this paper: how can the formal financial system get credit to these high return microentrepreneurs?

The traditional government response to the credit needs of microenterprises has been subsidized interest rate programs. Such programs have been criticized for being costly, politically directed, and damaging to the incentives for the financial sector to find innovative ways to expand access (World Bank, 2008). For firms with high returns, the issue of access is more important than the level of interest rates. More recently, microfinance has succeeded in expanding access to credit for the poor. However, the group lending approach that has worked well with groups of rural women has required adaptation to meet the demands of urban business owners; in urban areas, individual loans offered by microfinance providers often require collateral and larger loan sizes

(Armendáriz and Morduch, 2007). Sri Lanka has the fourth highest microfinance penetration in the world, with 4.3 percent of the population as loan clients (Honohan, 2004). Yet only 5.2 percent of the Sri Lankan microenterprises in our sample received a microfinance loan in the year prior to our intervention.

Why aren't more microenterprises receiving credit? The low frequency of observed credit may reflect credit supply issues—borrowers may not be able to meet the criteria set by formal financial institutions. The lending criteria include collateral requirements, legal title, records and forms, and other requirements that lenders ask for and potential borrowers may not be able to supply. In a sample of much larger firms than the ones we study here, Banerjee and Duflo (2008) show that supply constraints are an important determinant of credit to small firms. Alternatively, the low levels of observed credit may reflect a lack of demand for credit on the part of entrepreneurs. The lack of demand might derive from either of two distinct circumstances. First, entrepreneurs may not want credit at available interest rates. On the surface, a lack of demand seems at odds with the high average returns to capital in microenterprises. But there is considerable heterogeneity in these returns, and even when the expected returns exceed market interest rates, some owners may object to loans on religious grounds, or due to risk aversion. Alternatively, entrepreneurs may want credit but not know where or how to get it. This possibility has received far less attention in the literature, and concerns the role of information and financial literacy. Information and financial literacy problems are likely to be particularly prevalent in a developing country setting where schooling levels are

low, use of outside financial advisors or accountants is rare, and people have little experience with the financial system (Miller, 2008).¹

This paper reports on a specific financial literacy intervention carried out by the authors in Sri Lanka which allows us to assess the role of these three explanations in understanding why more microenterprises do not receive credit. The intervention aimed to increase access to credit at market interest rates by providing specific information about the availability of and procedures for obtaining loans from a local development bank. Providing information has recently been found to have large effects in other domains of behavior, such as schooling decisions in the Dominican Republic (Jensen, 2010), risky sexual behavior among girls in Kenya (Dupas, 2011) and retirement plan decisions among employees of a large university in the United States (Duflo and Saez, 2003). Holding information sessions is less costly and controversial than interest subsidies, so, if effective, this could provide a useful tool for increasing financial sector participation of the poor.

Microentrepreneurs in two districts (similar to states) received a letter informing them of an existing loan product offered by the Ruhuna Development Bank (RDB), and inviting them to an information meeting with bank staff where they would be told more about the loans available and how to fill out a loan application. Discussions with branch managers also led RDB to relax their requirements on the number of guarantors required for loans from two to one. Thus, the intervention both provided new information and relaxed slightly the loan requirements.

¹ For example, in a study in Zambia, only half of the adult population knew how to use the most basic financial products such as a savings account (DFID, 2008). Even existing clients of financial institutions in India and South Africa were found to have little knowledge of compound interest, products available, or why a bank charges fees (Cohen et al, 2006).

We found significant interest among microenterprises in obtaining a loan; 62 percent of the enterprises attended the information meetings. Using difference-in-differences and fixed effects methods we show that the intervention doubled the number of firms receiving a loan in a three month period, a sizeable effect. However, this still represents new loans for only ten percent of the firms invited to the meetings, and is a likely upper bound on the impact of information. The main reasons for not obtaining a loan among those attending the meeting were inability to find a guarantor for the loan, and the fact that with no credit bureau, applicants were required to travel to other banks and microfinance institutions to obtain endorsements showing the absence of loan commitments to these organizations. Using data from the randomized capital injections described in de Mel et al (2008), we find that the firms receiving loans are not those with the highest predicted returns to capital, but rather those with higher household assets and capital stock. Even at the margin, the existing financial system is thus directing loans to those with higher ex-ante assets, rather than those who stand to gain the highest returns from the loans.

The remainder of the paper is structured as follows. Section 2 describes the financial system in Sri Lanka and the intervention carried out by the authors. Section 3 discusses the data, and Section 4 describes the results of the intervention. Section 5 discusses the policy implications of the results and concludes.

2. Setting and the Intervention

Sri Lanka has a population of approximately 20 million, with GDP per capita of \$US1070 in 2006. The financial sector consists of a wide range of institutions including commercial banks (both state-owned and private), six regional development banks owned

by the Government, the privately-owned Sanasa development bank, finance and leasing companies, co-operatives, NGOs, and Samurdhi Banks which are part of the state run Samurdhi welfare program (Duflos et al. 2006, GTZ, 2007). Outreach is fairly extensive, with a recent GTZ report finding that 78 percent of urban households had accessed financial institutions for savings and 40 percent for loans. Microfinance institutions, which include regional development banks, Sanasa, Samurdhi banks, NGOs and community-based organizations, play an important role in the financial system, with more than 15 million deposit accounts and 2 million outstanding microloans in 2004 (Duflos et al, 2006).

However, the GTZ report also found a large unmet demand for credit, with collateral requirements, excessive documentation, rigid terms and conditions, and long processing periods all viewed as key barriers, particularly amongst poorer households. Sri Lanka's credit bureau only reports on loans over SLRs 100,000 (approximately US\$1,000), and is accessible only to its shareholders, which are commercial banks, licensed specialized banks, and the regional development banks. There is no organized credit information sharing among microfinance providers. This lack of information coupled with the large number of competing microfinance providers leads to concerns about clients taking out multiple loans (GTZ, 2007).

Direct evidence of credit-constraints among microenterprises can be seen in the results of a randomized experiment conducted by the authors, in which grants of US\$100-200 were given to a randomly chosen subset of microenterprises surveyed in the Kalutara, Galle and Matara districts of Sri Lanka (de Mel et al, 2008). We found real returns to capital averaging 5 percent per month, with returns highest for the firm owners

with higher ability and lower wealth. In light of these high returns, we designed the intervention in this paper, which aimed to increase access to credit.

2.1 The Ruhuna Development Bank

The Ruhuna Development Bank was the first state-owned regional development bank to be incorporated under the Regional Development Bank Act of 1997. It began operations in July 1998 through the amalgamation of three existing regional rural development banks, in the districts of Galle, Matara and Hambantota, all located along the southern coast of Sri Lanka. The bank is keen to position itself as the “premier development bank of the masses of Ruhuna” (RDB, 2007). At the end of 2007 it had 440 employees, 408,000 savers, and 171,000 active borrowers with an average loan balance of US\$254.² Given the regional focus of the bank on the southern districts of the country and its emphasis on promoting self employment activities for development, RDB was a natural partner for the implementation of the microfinance intervention.

2.2 The Loan Product

Discussions with the RDB management enabled the design of a loan scheme that was very similar to existing loan products offered by the RDB to similar micro-level enterprises. The loan product offered to the research project’s enterprises had the following features and conditions (summarized in Appendix Table 1):

1. Loan Amount: Enterprises could apply for any loan in the Rs. 5,000—25,000 range (approx US\$ 50-250). Recall the average loan balance among all RDB customers is US\$254, so these loans were at the lower end of what the bank offered. The bank had the

² <http://www.mixmarket.org/mfi/ruhuna/data> [accessed December 17, 2008].

flexibility in making the final decision on the loan amount, subject to usual investigations and procedures.

2. Interest Rate: The regular lending rate of 16 percent per annum was charged to all enterprises. This interest rate is competitive in the local market, comparable to the interest rates offered by other development banks, and cheaper than interest rates of around 22 percent offered by local microfinance organizations.

3. Loan Repayment: A common 2 year repayment period for all loans was implemented. Normal RDB practice allows for a grace period of 3 months when necessary. The bank offers either a reducing balance (where the interest payment, and therefore the installment, reduces as principal gets paid off) or an equal installment loan. Given the nature/size of the enterprises and the education levels of the entrepreneurs, an equal monthly installment method was preferred. Under this scenario, the monthly installment for a Rs. 10,000 and Rs. 20,000 loan were Rs. 486 and Rs. 972 respectively.³

4. Collateral: RDB usually requires collateral; however, for small loans the branch has the discretion to relax this requirement. For the purposes of the research project loan scheme, this requirement was not imposed. To stress the importance of loan repayment, loan officers had the discretion to take an inventory of household assets.

5. Guarantors: RDB usually requires two co-signers as loan guarantors. The standard personal guarantor should have a steady income from wage/business employment or access to liquid assets. For the purposes of the research project loan scheme, the bank relaxed requirements to allow guarantors to be family members and/or mutual loan

³ Under a reducing balance system, the firms would pay more in the first months, with the repayment amount falling as the remaining balance falls. For a 20,000 loan, they would pay 1,100 in the first month, declining slowly to 844 in the last month. The equal installment method averages these payments out, and is calculated by the Bank so that the same amount of interest is paid over two years (3,333 on a 20,000 loan) as would be paid under reducing balance.

applicants (“inter-person” guarantee). Individual branches also had the discretion to reduce the number of guarantors from two to one.

6. Endorsements by other financial institutions: RDB usually requires all loan applicants to provide information on existing bank accounts and loan commitments. In the absence of a credit bureau serving microfinance, applicants must obtain a written endorsement from each banks and microfinance intermediary in the area. For the purposes of the research project loan scheme, this process was limited to the 5 leading microfinance intermediaries in the area (Sanasa, Samurdhi, SEEDS, Rural Bank and Ceylinco Grameen) and verification against the centralized RDB database.

7. Residence Verification by Grama Niladari Officer: RDB usually requires that all applicants obtain a verification of their residential address by the Grama Niladari officer (the smallest administrative unit). For the purposes of the research project loan scheme, this was imposed as usual.

8. Oath of Attestation: RDB usually requires applicants to furnish an Oath of Attestation, signed in the presence of a Justice of the Peace, certifying the fixed and movable assets owned by the applicant. For the purposes of the research project, the branches were given discretion to waive this requirement.

9. Salary certification by Employer: RDB usually requires employee loan applicants to provide a salary certification from their employers. Since the research project is targeted to self employed enterprise owners, this was not imposed.

10. Business Registration: Required for larger loans, this is usually not imposed as a pre-condition for loan approval at the lower loan amounts.

11. Age: If enterprise owner is over 55 years of age, RDB usually requires a joint application with a younger immediate family member. This condition was imposed as usual.

12. RDB Account Holder Condition: All loan applicants are required to be pre-existing RDB savings account holders. Existing account holders were asked to bring their savings account books. Those without accounts were required to open new savings accounts with an initial deposit of Rs. 250 (approx \$2.50), paid by the firm. The usual 3 months waiting period between opening of savings account and loan application was not imposed.

13. Loan Application related Administrative Costs: RDB usually charges an administrative fee from all loan applicants which is deducted from the loan amount credited to the account. These costs (Rs. 250 from each loan applicant) were borne by the research project.

As a result, the loan offered was similar to existing RDB loan products, but with fewer constraints in terms of guarantors. The main reason the bank agreed to relax the constraints was that the number and size of loans were small compared to their overall portfolio. From the project viewpoint, we were unsure ex ante how many firms would meet the requirements, and so viewed this mild relaxation of conditions as potentially helping to ensure there would be some loan applicants to learn from.

2.3 Information Intervention

The 383 enterprises in the Galle and Matara districts of the Sri Lanka Microenterprise Survey (to be described in Section 3) were divided up among 8 bank branches – 4 branches in each district – by the RDB regional managers based on geographic location. In late August 2006, the enterprises were sent a letter informing

them about the RDB loan scheme. The letter stated that: (a) loan amounts would range from 5000 SLR to 25,000 SLR, with the final amount being at the discretion of the bank; (b) the interest rate would be 16%; (c) the loan would be repayable over 24 months in equal monthly installments (with examples given of Rs 10,000 and Rs. 20,000 loans); and (d) the administrative fees of the loan application would not be charged to the applicant. Special emphasis was drawn to the fact that this was not a grant but a loan that would be subject to the prevailing rules and regulations of the bank and that this was a transaction between the loan applicant and the bank with the research project only playing a facilitator role.⁴ Those interested in obtaining more information about the loan offer and the application process were invited to attend a meeting at an identified venue (such as a community hall) in the area. Loan applicants were also requested to bring either their existing savings accounts books (if already RDB account holders) or the initial deposit (Rs 250) and identity card to open an RDB account on that day.

Although the costs of going to a bank branch to learn the conditions and details of a particular loan product may be modest, firms are unlikely to make inquiries if they do not know the bank exists, that it offers products to firms like theirs, or that it is willing to spend the time to talk with them. Thus we view the information intervention as important in providing credible information both about specific loan products and the willingness of RDB to lend to enterprise like those in our sample. The presence of a loan officer from the RDB at the meetings was therefore likely particularly important in convincing the participants that RDB is indeed willing to take the time to discuss loans with potential clients like them.

⁴ Given previous randomized interventions with equipment and cash grants with these enterprises in 2005 (see de Mel et al, 2008a), special care was taken to differentiate the current intervention as being a loan. This fact was re-emphasized at the loan awareness meetings held in September 2006.

These awareness meetings were held in mid-September 2006 at 8 locations attended by both RDB and research project staff. At the meetings more details on the features of the loan product and the conditions for obtaining a loan were explained. For non-account holders, RDB staff opened new accounts. 118 new accounts were opened, while 72 attendees were existing account holders. Loan application forms were distributed and explained. RDB and project staff helped answer questions that the applicants had and in filling out the applications. Loan application forms could not be handed in on that day itself because of the need to get various third-party endorsements (e.g. residence verification by GN officer, endorsements on loan commitments from other financial institutions, personal guarantors etc.).

The median firm spent 7 days between receiving the application form and submitting the application. Median times reported by the firms to fulfill the different requirements were approximately 1 hour to fill out the application form, 2 hours to obtain the residence verification, 7 hours obtaining the required guarantors and filling out their associated forms, 3 hours obtaining the endorsements of other financial institutions, and 1 hour submitting the application. The median applicant spent 26 hours completing all of the procedures for the loan application.

The complete application, including the required endorsements, was then handed in to the assigned RDB branch. 41 enterprises completed the application process during September-October 2006. After verification of the information provided on the application by the RDB loan officer, which also included a field visit, 38 of the loans

were approved and 3 were rejected.⁵ Funds were dispersed during the months of November-December 2006.⁶

2.4 Why design the intervention this way?

This experiment was designed to build on and leverage the knowledge gained from our prior experiment with these firms. This offered two advantages. First, it offered a setting where we had good knowledge of the returns to capital and characteristics of the firms, and several observations on the firms before the intervention. Second, using an existing sample of firms allowed us to learn about the constraints to finance with relatively low marginal costs, making the intervention possible from a budgetary standpoint. However, this choice also raised three key issues.

The first issue is whether participation in the prior experiment—in which randomly selected firms had received grants—would change their behavior in the loan experiment. This raises the issue of external validity. On one hand, firms which had received grants before might have felt obliged to attend the meetings, or those that did not receive the grant might have shown up in expectation of receiving benefits this time. This would imply higher meeting attendance than one might see in another sample of microenterprises. However, in contrast, if the grants succeeded in alleviating credit constraints, they may have reduced the demand for loans. This might have led to lower attendance among firms that received the earlier grants. In section 4, we examine how serious this concern is by testing whether prior receipt of the grant is a significant

⁵ RDB loan officers usually carry out a field visit prior to loan approval. In this case, it was mainly to verify the existence and status of the enterprise. If deemed necessary, loan officers also had the discretion to visit the residence and take an inventory of household assets.

⁶ Except for two loan applicants who handed in their application material late and had loans approved in early January 2007.

determinant of loan-seeking behavior, and find a small and insignificant effect. This suggests these concerns may not be a first-order issue.

The second issue is that this is not a randomized experiment – the intervention was carried out in the two districts where RDB operates, and not in Kalutara where it does not. Given the sample size we had and the small number of RDB branches in Galle and Matara, it did not make sense to randomly introduce the intervention to say only 4 out of the 8 branches in these districts, and we did not randomize at the individual firm level due to the possibility of information spillovers and the smaller sample size we would have obtained. As a result we must rely on non-experimental estimation. However, we believe our setting offers a number of characteristics which make this non-experimental estimation reasonably convincing. First, the comparison district is adjacent to those treated, and very similar in characteristics. Second, we have 6 rounds of panel data on both treated and control firms before the intervention, making the difference-in-difference approach more credible. We also conduct a matching exercise coupled with this difference-in-differences to ensure comparisons are only made among firms with similar characteristics.

The final issue is that the intervention is a combination of information and a modest change in the loan approval process. These changes were made to improve the chances of at least some firms getting loans; but the drawback is that we cannot ascribe the impacts we see to information alone. Rather, we interpret the results as representing an upper bound on the effect of information provision. We use detailed questions directed at firms to attempt to unpack the dimensions along which the intervention mattered. Nevertheless, we acknowledge this limitation, and see the present study as a first step in

learning what the constraints to getting access to credit are, which future experiments can build upon.

3. Data

The main data source is the Sri Lanka Microenterprise Survey (SLMS), a panel survey of 617 microenterprises in three Southern and South-Western districts of Sri Lanka: Kalutara, Galle and Matara. The baseline survey was carried out in April 2005, with eight additional waves then conducted at quarterly intervals through April 2007. Two additional waves of the survey were conducted in October 2007 and April 2008. Finally, preliminary data from a December 2010 revisit is used to provide some additional evidence. The survey was designed in part to study the process of recovery from the December 26, 2004 Indian Ocean tsunami, and the sample was selected to draw equally from areas along the coast where firms suffered direct damage from the tsunami, areas slightly inland where firms did not suffer direct damage, and inland areas where neither assets nor demand were affected by the tsunami. A door-to-door screening survey in 25 Grama Niladhari divisions (GNs) in these three districts were used to select full-time self-employed workers running firms which had invested capital of 100,000 Sri Lanka Rupees (LKR) (about US\$1000) or less, excluding investments in land and buildings, with no paid workers, in the sectors of manufacturing, services, and retail trade. See de Mel et al. (2008, 2010) for more details on this survey.

In this paper we focus on the 574 firms remaining in the sample after six rounds of the panel survey (July 2006), which was the last survey round before the intervention occurred. There are 383 firms in Galle and Matara districts which received the invitation to the RDB meetings, and 191 in the Kalutara district which did not receive this invitation

because they were outside the coverage area of RDB. The first two columns of Table 1 summarize the characteristics of the owner and firm in the Kalutara and Galle/Matara firms respectively. In Galle and Matara, where the intervention took place, firm owners are approximately evenly split between male and female owners. The average owner is 43 years old, is married, and has 9 years education. Mean firm profits in June 2006 were 5,814 LKR (about US\$58 per month), and mean capital stock aside from land and buildings was 41,428 LKR (US\$414). One quarter of the firms had been in business for three years or less in the baseline survey. The firms are largely informal: only 20 percent of firms are registered with the Pradeshiya Saba or District Secretariat, only 27 percent keep business records, and 70 percent are operated out of the home of the enterprise owner.

We collected GPS coordinates of the location of the bank branches and firms, and use this to calculate the straight-line distance between the firm and the bank branch where meetings were held and loan applications had to be delivered to. The mean (median) firm is 3.6 (2.2) kilometers away from the branch, with the top quartile according to distance between 5.2 and 32 kilometers away. Straight-line distances will understate the travel distance to the banks, but should be a reasonable approximation for the majority of firms given a reasonably dense urban road network (Gibson and McKenzie, 2007).

The SLMS contains rich data on the characteristics of the owner. In terms of the demand for credit, potential attributes of interest include measures of general and entrepreneurial ability (education, digitspan recall and self-assessed entrepreneurial self-efficacy), risk aversion (measured as the coefficient of relative risk aversion obtained from playing lottery games with the firm owners for real money, and via self-assessed risk seeking in the general and financial domains on a 10-point scale, as used in the

German Socioeconomic Panel), a household asset index (the first principal component of a set of indicators of ownership of different durable goods), the number of wage workers in the household (which can serve as an alternative form of financing for the firm), and the religion of the owner. Seven percent of the firm owners in our Galle and Matara sample are Muslim.

We supplement the data from the SLMS with administrative data obtained from the RDB on loan applications and loan decisions, and with a questionnaire administered during the RDB meetings to 128 of firm owners.⁷

The baseline survey asked whether the business had ever received a loan from a private bank, government bank, microfinance organization, Samurdhi, Sanasa, and IRDP/REAP.⁸ We term a loan from any of these sources a *formal loan*. The survey also asked whether they have ever had a loan from a moneylender or family and friends, which we term an *informal loan*. Each subsequent round of the survey then asks whether the firm has received a loan in the past three months from any of the same sources. In Galle and Matara, 25 percent of firms had had some form of formal loan in the baseline survey, and 21 percent had received a formal loan in the year prior to the intervention. There does not appear to be any one preferred lender to this group of firms, with formal loans spread across a variety of sources: 3.9 percent had received a loan from a private bank, 5.0 percent from a government or development bank, 5.2 percent from a

⁷ In particular, we use administrative records on who applied for a loan, and who was granted a loan. Survey self-reports match these administrative records quite closely, and the results of our estimations are qualitatively similar if we use survey self-reports of applying for or receiving a loan in place of the administrative records.

⁸ Samurdhi is the main government poverty alleviation program since 1995. Although it is mainly a direct welfare grant, it also has a credit component which includes group savings and intra-group emergency credit, credit schemes implemented by the two state banks (Bank of Ceylon and People's Bank) and microfinance loans from Samurdhi banking societies. The Sanasa Development Bank was set up as a licensed specialized bank in 1997, functions as the apex of the thrift and credit cooperative movement and provides microfinance loans to its membership. The Integrated Rural Development Program (IRDP) and the Rural Economic Advancement Program (REAP) are lending programs run at the regional level.

microfinance organization, 6.0 percent from Samurdhi, 3.7 percent from Sanasa, and 1.6 percent from IRDP/REAP. Only 2.6 percent had borrowed from a moneylender in the last year, and 5.0 percent had received a loan from family or friends in the past year.

Our survey included two questions on basic financial literacy used by Lusardi and Mitchell (2006) in the United States, and designed to assess whether individuals understand basic concepts of compound interest and inflation. The two questions are:

- a) Suppose you had 100 SLR in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow: more than 102 SLR, exactly 102 SLR, or less than 102 SLR?
- b) Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, would you be able to buy more than, exactly the same as, or less than today with the money in this account?

In Galle and Matara, 91 percent of firm owners got the first question correct, and 74 percent the second correct. We refer to the 70 percent who got both questions correct as *financially literate*. This compares favorably to the sample of older Americans in Lusardi and Mitchell (2006), where only 56 percent got both questions right.

While general basic financial literacy is reasonably high, product specific literacy is more limited. In the short survey given to attendees of the RDB meetings, attendees were asked what their knowledge of RDB was before receiving the letter. Prior to receiving the letter, 36 percent of firms said they didn't think the RDB offered loans to small businesses, 62 percent said they had no idea what interest rate RDB would charge on a loan of 10,000 SLR, and only 10 percent of firms responded with the correct 16 percent per annum rate. The emerging consensus among practitioners of financial literacy

training is that product-specific financial literacy training is more effective than general financial literacy training. For example, telling someone in general how to apply for a loan is less effective than walking them through step by step of how to apply for a loan from a particular bank using the bank's exact forms.⁹ In this context, despite the reasonably high levels of basic financial literacy, the lack of RDB-specific financial literacy among those attending the meeting suggests considerable scope for the intervention to provide new information.

4. Results

4.1 Meeting Attendance

Meeting attendance was high, with 237 out of the 383 invited firm owners (62 percent) attending the meeting.¹⁰ The third column of Table 1 presents sample means for the group of firm owners attending the meeting, and indicates where a t-test finds a significant difference in means between meeting attendees and non-attendees (based on pre-meeting data). Those attending the meeting are more likely to be married, and have slightly less education and household durable assets than those not attending. They are also slightly less likely to be keeping business records.

The first three columns of Table 2 present the results of a probit estimation of the correlates of meeting attendance. Since the loan meeting invitation letter only mentioned the availability of the loan and the interest rate and repayment period, and not the

⁹ While related, this is different from the marketing efforts of banks. The point of marketing is to sell services to new customers, and part of the marketing outreach efforts by some financial intermediaries includes financial literacy training. In our intervention, we did not try and sell the firms on all the things they could use a loan for, or encourage them to get a loan, but rather provided information on how one would go about applying for a loan at this particular financial institution if one wanted such a loan.

¹⁰ 231 firm owners said they attended the meeting in survey round 7, which immediately following the meetings, while our research assistant records indicate that 208 owners attended. We classify a firm owner as having attended if either the research assistant recorded them as attending, or they say they attending. The results are robust to using either measure separately.

relaxation of guarantor requirements, it seems reasonable to view this reduced form as revealing the correlates of demand for loans.

The first column considers both owner and firm characteristics, the second column a subset of owner characteristics, and the third column a subset of the firm characteristics. We see that those attending and not-attending are similar in many respects, and the differences in Table 1 continue to hold after controlling for other variables. The probability of attending is lower for those with more education, Muslims, those with more household assets or higher pre-intervention capital stock, and unmarried owners. However, the ability of the owner, their risk aversion, the pre-intervention profitability of the firm, industry, and level of exposure to the tsunami are all uncorrelated with meeting attendance. Receipt of a grant during our prior randomized experiment on returns to capital (de Mel et al. 2008) is also uncorrelated with meeting attendance, as is the distance to the RDB bank branch where the meeting occurred.

Firm owners who did not attend the RDB meetings were directly asked why they did not attend the meeting. Table 3 tabulates the results. The main reason for not attending is personal reasons, such as illness or family emergency, given by 41 percent of non-attendees. It seems unlikely that illness and emergencies would affect so many owners; more likely, other personal reasons are the main factor in many of these cases, with this being a “catch-all” category for reasons such as not getting round to it, not feeling like making the effort to attend, etc.. The next two most common responses, expressed by 14 percent of non-attendees, are that they have no need for a loan, or don't like taking the loan. One in ten non-attendees claims to not have known about the meeting. The potential requirements for a loan, or terms for a loan are not particularly important reasons for failing to attend the meeting: only 22 percent of non-attendees gave

one of the several responses indicating that the loan requirements or conditions caused them to have no interest in obtaining a loan.

4.2 Loan Application and Loan Outcomes

Only 41 firm owners submitted a loan application, and 38 of these were granted a loan. Only one of the firm owners submitting a loan application had not attended the meeting. The majority of applications were submitted in the last few days of September 2006 and in October 2006, with most loans being approved and disbursed in November and December 2006. The last approval and disbursement occurred on January 8, 2007. Most (30 out of 38) loans were for 25,000 SLR (\$250), with 2 firms receiving 10,000 SLR, 5 firms receiving 20,000 SLR, and 1 firm receiving 75,000 SLR. The importance of product-specific information can be seen in the fact that 19 percent of those receiving loans did not know where the RDB branches were located before our intervention, 38 percent did not think that the RDB offered loans to small businesses like theirs, and only 15 percent had any idea before receiving the information letter what interest rate the RDB charges on loans.

The fourth column of Table 1 provides summary statistics for the individuals who applied for the loan amongst those who attended the meetings, and indicates where t-tests show a difference in means compared to the individuals who attended the meetings but did not apply for the loans. Columns 4 through 6 of Table 2 provide marginal effects from probit estimations of the determinants of loan application among those attending the meeting. These reflect the joint outcome of both the demand for loans, and the supply restrictions imposed by lenders, and so are intended just as a description of who got

credit.¹¹ Although those attending the meetings were somewhat poorer and less formal than those not attending the meetings, the subsample of firm owners who applied for the loan have more household assets, higher capital stock, and are more likely to be registered than meeting attendees who did not apply. Conditional on other covariates, individuals who received a formal loan in the past year were 10 to 15 percentage points less likely to apply for a loan. During the meetings, firm owners with existing loans were dissuaded from making new loan applications. The only other significant variable is the dummy for Muslim, as no Muslim applied for a loan. As only three firm owners had their loan application rejected, the characteristics of those approved for the loan are very similar to those who applied – the last column of Table 1 shows how the three rejected applicants differ from those whose applications were approved.

One plausible reason why more firms do not apply for credit is that of risk-rationing (Boucher et al, 2008). Even if average returns to capital are high, risk-averse individuals may not choose to borrow because of the risk of losing collateral or putting their guarantor under pressure in a state of the world where they cannot pay. While the wealth measures discussed above provide some support for this, other measures suggest this is not the prime reason for lack of take-up in our case. First, Table 2 shows our measures of risk aversion are not significantly associated with either meeting attendance or loan application. Second, Tables 3 and 4 show only 5.4 percent of firm owners say that a lack of confidence that they can make regular loan repayments is a reason for not attending the meeting, and only 9.7 percent of those who attending the meetings and didn't apply for a loan give this uncertainty about whether they can make payments as a reason. Finally, in December 2010 we asked firm owners what they perceived as the

¹¹ One approach would be to try and jointly model supply and demand for credit as a system of equations. Given the small number of firms that ultimately received credit and the lack of convincing identifying restrictions to separate supply and demand at this second stage, we do not pursue this approach here.

consequences of missing a payment on a loan. Only 3.7 percent believed the bank would seize collateral, and only 17 percent thought the bank would ask the guarantor for payment – whereas 74 percent say they would have to pay additional interest and get extra time to repay, and 30 percent say they would be given extra time to repay without paying additional interest. Thus, most firms believe there is likely some scope for flexibility in repayment if they cannot pay in a given month.

4.3 Do the firms that didn't apply simply not need credit?

Given that 21 percent of firms had some formal loan at baseline and that other recent studies have found modest take-up rates for credit, it is reasonable to ask whether lack of demand explains the low application rate.¹² We have some evidence from both direct questioning and economic estimation that suggests firms may not have applied for loans even though they are, by standard definitions, credit-constrained.

The October 2006 survey, which occurred in the month after the meetings, asked firm owners whether they had applied, had decided not to apply, or had not applied but planned to do so in the near future. 57 firm owners said they planned to apply in the near future, but only 8 eventually did (they are included in the 41). Table 4 presents the reasons given for not applying for those who said they had not applied. The most important reasons given for not applying were not meeting the criteria for a loan: 25 percent say inability to find guarantors or collateral, and 21 percent say not being able to fulfill other criteria. The next most important set of criteria are lack of demand at the going interest rates: 21 percent say the interest rate is too high, 19 percent say they don't

¹² See, for example, Banerjee et al. (2010), where 27 percent of urban households take a loan after microfinance introduction in newly urbanized areas of Hyderabad. One difference worth noting in the Banerjee et al. study is that the lender was offering a group-lending microfinance product directed at women only. Overall demand for credit without these restrictions of group-lending and to women only may have been higher in their population.

like loans, and 13 percent say they don't currently have a use for a loan. Only 3.4 percent say that one reason is that the bank branch is too far away or too inconvenient to get to.

We also asked the reasons for delaying the application among those who intended to apply in the near future. Half of these firm owners say the reason for delay is difficulty finding guarantors, 19 percent delayed while they decided whether or not to apply, and 16 percent said a reason for the delay was the process of getting endorsements from other banks. Finally, when asked directly in a re-visit to the firms in December 2010, 61.6 percent of firms in our sample that did not have formal loans said they would apply for a 20,000 Rs loan at the same interest rate and terms as the loan in our intervention if they knew a bank would approve this application.

Thus at least half of the firms which did not apply indicate demand for credit when asking directly. There is also econometric evidence of returns far in excess of interest rates from our previous randomized experiment (de Mel et al., 2008). These high-returns to capital generated by grants are found to be more likely to result from credit constraints than risk aversion. Returns to the grants were higher for male-owned enterprises, for enterprise owners with more education and higher digitspan recalls, and for owners with lower household assets and fewer wage workers in the household. The higher returns suggest these individuals are more credit constrained.

We find marginally significant evidence that firm owners with fewer household assets and lower capital stocks are more likely to attend the meetings, and clearer evidence that the less educated are more likely to attend. Moreover, among those attending the meeting, we find clear evidence that firms with higher capital stock and more household assets are more likely to apply. That is, while those with the highest predicted returns are more likely to attend the meetings, they are not more likely to have

obtained a loan through the intervention. Rather the main determinant of receiving a loan is higher household assets.

One might question whether the inability to find a guarantor really reflects a lack of suitable candidates, or whether it reflects the fact that those in a position to guarantee a loan know the business and think it unlikely to succeed. Ninety percent of those obtaining a loan have a government employee as their guarantor. We asked firm owners whether they had parents or parents-in-law, sibling, uncles, aunts and cousins who were wage workers in the government sector. Among those giving lack of a guarantor as a reason for not applying, only 2 percent of have a parent or parent-in-law who is a government wage worker, while only 24 percent have a sibling, and 43 percent a more distant relative (uncle, aunt or cousin) who is a government wage worker. Thus the majority of those who say they cannot find a guarantor do not have a family member or close relative in a position where they could possibly act as a guarantor.

If guarantors were basing their decision to guarantee a loan on the potential returns to the loan, we would expect to find more educated, higher ability, less wealthy firm owners having guarantors and getting granted the loan. Table 5 compares the characteristics of those approved for a loan with those who say the reason for not applying or for delaying (and then not applying) was the inability to find guarantors for the loan. We see those who couldn't find guarantors have lower levels of household durable assets, lower capital stock (although not significantly so), and are less likely to be formally registered. Thus wealth seems the main factor determining whether or not a guarantor is available among those who wish to apply for the loan or who would apply if they had a guarantor. Gender, the ability of the owner, and factors de Mel et al (2008, 2009) associate with higher returns do not appear linked to the availability of a guarantor.

Guarantors thus appear to be acting in a similar regard to the bank, ensuring the potential loan applicant has sufficient collateral, and not taking into account the expected returns to capital.

4.4 What did firms receiving credit see as the most important part of the intervention?

The intervention consisted of providing various types of information, relaxing the number of guarantors from 2 to 1, and paying the administrative fee of 250 SLR (\$2.50) charged by the RDB. Firms that received loans were asked how important each of these components of the intervention were in helping them to get the loan, and asked to state which was the most important. Table 6 displays the results. Information comes through as the most important component of the intervention according to the firms. Three-quarters of the borrowers say that the information that the RDB would lend to small firms like theirs was very important, and 51 percent state that it was the most important component of the intervention. The second most important component was the information that business registration wasn't necessary, which 60 percent of firms viewed as very important and 24 percent as the most important component. Relaxing the guarantor requirement is important for some, but not all firms. 40 percent say it was very important, but only 8 percent say it was the most important component. When asked if they could have provided two guarantors, 48 percent of firms say they could have. Paying the administrative fee is only viewed as very important by 11 percent of the firms, and 86 percent of firms say they would have paid if we had not.

4.5 Did the Intervention increase access to credit?

We find that 38 out of the 383, or 10 percent, of the targeted firm owners received a loan from the RDB. It is of course possible that all of these firms would have received loans in the absence of our intervention, either from the RDB or from other financial institutions. We therefore use our panel data to ask whether the intervention worked in terms of increasing access to credit to microenterprises in Galle and Matara.

Figure 1 graphically summarizes our identification strategy. It plots the share of enterprises receiving a new loan in the past three months by survey wave, both in Galle and Matara where the intervention took place, and in neighboring Kalutara where it did not. On average 7.2 percent of firms in Galle and Matara and 8.7 percent of firms in Kalutara obtained a new loan in any given three month period over the 15 months preceding the start of the intervention (survey rounds 2 through 6). This likely overstates the share of firms receiving new loans due to double-counting: 36 percent of those receiving a loan in the last three months report also having received a new loan in the previous survey round, and 39 percent who received a loan in survey round t but not $t-1$ report receiving a new loan in survey round $t+1$. Since most loans are for periods of one to two years, we believe this represents double-counting of loan dates. We generate a new variable *unique formal loan* for firms reporting a formal loan in the last three months but not in the previous survey round. 5.9 percent of Galle and Matara firms and 6.7 percent of Kalutara firms obtained a unique formal loan in the 12 months preceding the intervention (survey rounds 3 through 6).

Loan applications were processed during the seventh survey wave, and we then see a large spike in new loans in the eighth survey wave in January 2007, when most of the loans had been approved. There is some spillover into the ninth survey wave in April

2007 – both due to double-counting and to a few loans being approved in January 2007. No such spike is apparent in Kalutara.

We will use difference-in-differences and fixed effects to identify the impact of the intervention on new loans issued. For difference-in-differences estimation, we use the 574 firms in all surveyed areas, and estimate the following equation:

$$FormalLoan_{i,t} = \alpha + \beta Treat_{i,t} + \lambda' X_i + \delta_t + \varepsilon_{i,t} \quad (1)$$

Where $FormalLoan_{i,t}$ is an indicator of whether firm i received a new loan in the three months up to time t , $Treat_{i,t}$ is a dummy variable that takes value 1 in survey round 8 for the Galle and Matara firms and zero otherwise, X_i are controls for characteristics of the firm and owner, and the δ_t are survey round fixed effects. We use a linear model to ease interpretation of the coefficients – the signs and significance remain the same when we use panel logit models. We cluster the standard errors at the firm level.

We begin with ordinary least squares (OLS) estimation, and in column 1 of Table 7, present the difference-in-differences estimate when we do not include any firm or owner characteristics as controls. Although Figure 1 shows that the Kalutara and Galle and Matara firms had similar trends in new loans in the period preceding our intervention, Table 1 revealed some differences in baseline characteristics between the firms in both areas. Column 2 adds controls for these characteristics. We can also use propensity score matching to match Kalutara and Galle and Matara firms on characteristics prior to the intervention, and restrict our analysis to firms in the domain of overlapping support with estimated propensity score above 0.10 and below 0.90. Columns 3 and 4 show that this matching and adding controls reduces our estimate of the treatment effect slightly, lowering it to 5.2-7.7 percentage points instead of 8.0 percentage points in column 1. Column 5 of Table 6 presents the panel fixed effects

estimate, which is a 7.0 percentage point increase in formal loans. Columns 6 and 7 use the unique loans measure, to show robustness to potential double-counting of loans. The sample uses waves 3 through 10 of the SLMS, since in the second wave survey we do not know which of the loans reported in the last three months would also have been reported in the last three months in the baseline survey. The results are robust to using this measure of new loan uptake.

The difference-in-difference matching and fixed effects estimates therefore both show that the intervention succeeded in increasing access to credit, leading to a 5.4 to 7.0 percentage point increase in the proportion of firms receiving loans in the past three months. Since only 5.9 to 7.2 percent of Galle and Matara firms were receiving loans in the period prior to the intervention, this represents a doubling of the proportion receiving loans, and is thus a sizeable treatment effect.

Finally, in columns 8 and 9 of Table 7 we examine whether the increase in formal loans substituted for or crowded out informal loans from moneylenders, friends and family. Use of such loans is limited, and we find the treatment had no significant effect on use of informal credit. Thus the increase in credit from the intervention is not coming from a substitution away from informal credit.

4.6 What was the impact of this credit on the firms receiving it?

Table 8 reports what the firms receiving loans said that they had spent the loan proceeds on in January 2007. The most common use for the loan was buying inventories and raw materials: 59 percent of firms had done this by January 2007, with the amount spent averaging 38 percent of the loan amount (42 percent when we remove the outlier firm that received a 75,000 loan). The next most common items were savings (reflecting

that in January 2007 many had just received the loan and had not yet spent it), and equipment for the business. Together business assets and savings account for 67 percent of the loan amount received. Household uses account for 14 percent, capital stock for other household businesses 5 percent, and repayment of prior loans 4 percent. The remaining 10 percent was spent for other miscellaneous purposes. The categories and shares are reasonably similar to that observed when we gave firms grants of 10,000 to 20,000 SLR (see de Mel et al., 2008).

Of course money is fungible, and so simply asking people what they spent the loan on may not truly reflect its marginal effect. We lack an ideal comparison group against which to measure marginal impacts. But we can provide at least suggestive evidence on the marginal returns to capital using a before-after comparison and using the group of firms not receiving a loan. We first estimate the return to capital for the firms receiving loans via fixed effects panel instrumental variables. In particular, we use only firms with loans approved and estimate:

$$profits_{i,t} = \alpha_i + \beta K_{i,t} + \varepsilon_{i,t} \quad (2)$$

We instrument capital stock, $K_{i,t}$, with a dummy variable which is zero in the periods before the loan was approved and one thereafter. Loan approval does significantly predict capital stock – the first stage F-statistic is 13.53. This estimates the return to the change in capital coming from the loan.

While equation (2) is estimated on a self-selected group of borrowers, the timing of loan approval was dictated by our loan intervention rather than the firm's decision to seek out a loan, providing at least some level of exogeneity. Moreover, so long as the return to capital is stable over the survey period, (2) will still correctly identify the return to capital for the firms receiving the loans. De Mel et al (2008) find evidence consistent

with constant returns to capital among the full sample of enterprises. Alternatively, we can use the other Galle and Matara firms as controls for time effects, and estimate the following via instrumental variables:

$$profits_{i,t} = \alpha_i + \beta K_{i,t} + \delta_t + \varepsilon_{i,t} \quad (3)$$

Column 1 of Table 9 then reports the implied real monthly return to capital under equation (2), which is 5.7 percent, and column 2 reports the implied return under (3), which is 6.6 percent. These estimates of returns are similar under the two estimation strategies, suggesting that it is indeed reasonable to assume the return to capital is reasonably constant for these firms over the time period studied. The estimated return is very similar to the 5.8 percent average return estimated for the full sample of firms not directly affected by the tsunami in de Mel et al. (2008), and lower than the 9.9 percent average return for tsunami-affected firms reported in de Mel et al. (2008b).¹³ Since 32 percent of firms receiving loans were directly affected by the tsunami, the weighted average of the 5.8 and 9.9 returns is 7.1 percent. Subtracting a 1.3 percent per month interest rate, which is subtracted from profits when calculating the return to the loan but not the grant, gives a 5.8 percent real return for comparison. The fact that the point estimate of the return to capital for firms receiving loans is the same as that found for the full sample using grants suggests that loans were not made to firms with particularly high returns to capital.

4.7 Did the firms repay their loans?

¹³ In de Mel et al. (2008a) we discuss adjustments that can be made to account for changes in the labor hours worked by the owner in response to the treatment, which lower the returns to capital to closer to 5.0 percent. Given the small number of firms receiving loans and the sensitivity of some of these adjustments to outliers, we do not adjust for hours worked here, and compare the results to the specifications in de Mel et al. (2008a) that also do not adjust for hours worked.

The intervention succeeded in increasing the number of firms with loans. We have seen these loans are associated with higher capital stocks and higher profits for the firms receiving them. A key question of interest for banks considering extending credit to these marginal firms is whether these loans will be repaid. Data from the tenth wave of the SLMS in October 2007 provide evidence on repayment during the first year of the loan. Monthly installments ranged from 500 SLR (\$5) to 2000 SLR (\$20), with a median of 1325 SLR. All firms had begun repayments, and no firms had defaulted on the loans. Five of the 38 firms say they had delayed a loan payment at least once: 2 had delayed one payment, and 3 two payments. However, at the time of repayment, administrative data indicate that repayment rates exceeded the RDB average.

Preliminary data from a re-survey of firms in December 2010 show that 35 out of 37 firms had fully repaid their loans.¹⁴ Only 5 out of this 37 had subsequently taken another RDB loan, and only 12 currently had a loan from any formal source. Those who took the first RDB loan are still more likely to have a formal loan than the rest of the firms in Galle and Matara, or than the average firm in Kalutara. When asked the reason for not taking another loan, approximately two-thirds of the RDB loan sample gave reasons related to lack of demand for another loan (e.g. no need for a loan, it is too difficult to repay a loan) while one-third gave reasons related to loan supply (e.g. bank rejected my application, difficult to find guarantor, my age is higher than the threshold the bank uses now so they rejected the loan). Supply reasons thus still appear to affect the ability to obtain loans.

5. Discussion and Conclusions

¹⁴ One firm said that while they had been approved for a loan, they had ultimately decided not to take the loan. They are thus in our records and bank records as being approved, but never received the loan.

The average microenterprise in Sri Lanka has returns to capital well above market interest rates, but is not receiving credit. Our intervention provided information on loans offered by one financial institution, and led to the relaxing of the requirement of two loan guarantors to one loan guarantor. One in ten microenterprises participating in the intervention received a new loan, doubling the proportion of firms receiving a loan in the last three months. Information therefore appears to have some impact. One-third of the microenterprises receiving the new loans did not think the bank would lend to firms like theirs, and few knew the interest rate and terms that the bank charged. Since general financial literacy of microenterprise owners was relatively high, we conclude that providing product specific financial literacy can improve access to credit among microenterprises. Since ultimate repayment rates exceeded the RDB average, neither reducing the number of guarantors nor expanding the pool of borrowers appears to have had an adverse effect on the quality of the loans. This is consistent with Karlan and Zinman's (2009) finding that expanding the borrowing pool is profitable for lenders.

However, this is a likely upper bound on the impact of information, given that the intervention also modestly relaxed lending conditions. We conclude that information alone is not enough for most microenterprises to get credit. Among those not receiving loans, we find that demand and supply constraints both contribute to the lack of credit. Some 36 percent of non-borrowers say they did not apply for reasons attributable to a lack of demand at prevailing interest rates. However, 44 percent say they did not apply for reasons related to the requirements imposed by the bank to obtain a loan. The most important of these was the need to find a guarantor. A second administrative barrier was the requirement applicants travel to other financial institutions and obtain letters of

endorsement showing they did not have outstanding loans. This was made necessary by the absence of a credit bureau covering microfinance.

The results suggest several avenues for policymakers and financial institutions seeking to expand access to credit to small scale entrepreneurs. The first is the development of a credit registry which includes information from microfinance organizations and development banks. This would remove the barrier of having to seek endorsements from other lenders. Secondly, banks and other financial institutions can expand their customer base through product-specific financial education. Thirdly, there needs to be continued development of innovative ways of delivering collateral-free individual loans to microenterprises. The development of a credit registry which includes microfinance also aids in this regard.

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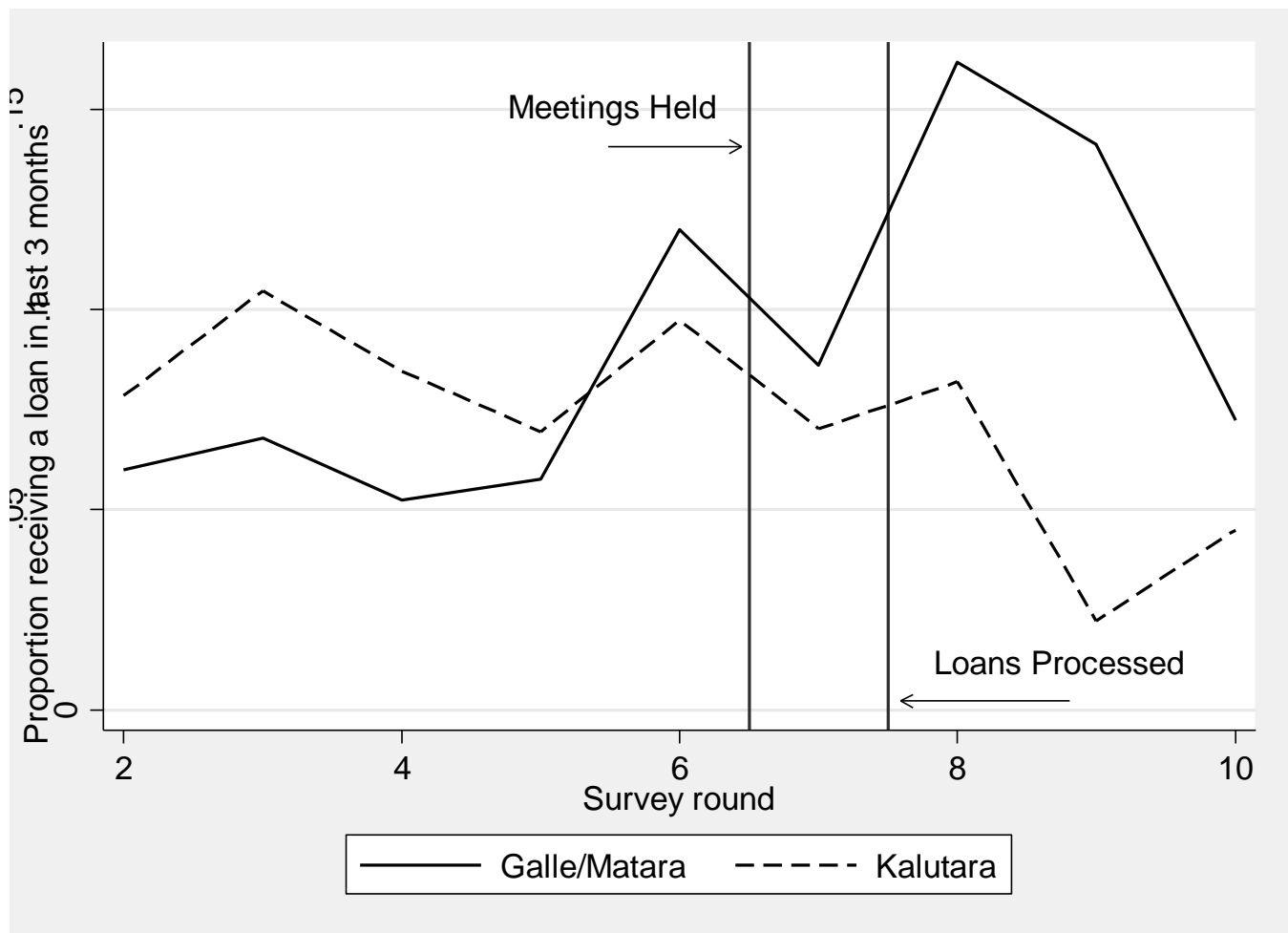


Figure 1: Proportion of Firms Getting a Formal Loan in the last three months by Geographic Region.

Table 1: Comparison of Means

	Kalutara Firms	Galle and Matara Firms			
		Invited to Meeting	Attended Meeting	Applied for Loan	Application Refused
<i>Owner characteristics</i>					
Female owner	0.43	0.52*	0.54	0.55	0.33
Age of owner	40.9	42.8*	42.7	42.3	46.0
Married	0.80	0.82	0.86 ⁺⁺	0.80	0.33 [~]
Years of Education	9.63	9.23	8.97 ⁺⁺	9.05	10.00
Muslim	0.16	0.07 ^{***}	0.06	0.00 [#]	0.00
Digitspan Recall	5.94	5.89	5.83	5.83	6.67
Risk aversion (lottery-based)	0.41	0.08 ^{**}	0.03	-0.02	-0.16
Overall Risk-seeking behavior	6.93	6.24 ^{***}	6.12	6.28	5.67
Financial Risk-seeking behavior	6.10	5.40 ^{***}	5.38	5.33	5.33
Entrepreneurial Self-efficacy	33.8	29.9 ^{***}	29.9	30.1	29.7
Household Asset Index	0.10	0.06	-0.08 ⁺	0.41 ^{##}	0.70
Number of Wage Workers in Household	0.69	0.66	0.65	0.65	1.67 [~]
Financially Literate	0.49	0.70 ^{***}	0.71	0.74	0.67
<i>Firm characteristics</i>					
Capital stock (excluding land and buildings) in June 2006	45259	41428	38748	50952 [#]	45750
Real profits in June 2006	6789	5814*	6000	6370	3465
Real revenues in June 2006	23345	17137 ^{***}	17638	18977	21545
Owner hours in June 2006	50.0	47.8	48.6	52.4	54.7
Registered Firm	0.18	0.20	0.17	0.30 ^{##}	0.33
Manufacturing/Services	0.36	0.57 ^{***}	0.59	0.55	0.33
Three years or less in age	0.40	0.24 ^{***}	0.22	0.28	0.67
Business operated out of the home	0.46	0.70 ^{***}	0.70	0.65	0.00 [~]
Business records kept	0.24	0.27	0.23 ⁺⁺	0.28	0.33
Received Grant	0.59	0.59	0.58	0.60	0.00 [~]
Had previously had a loan in March 2005	0.24	0.25	0.25	0.23	0.00
Received a formal loan in the year to June 2006.	0.24	0.21	0.20	0.15	0.00
Directly affected by the tsunami	0.34	0.34	0.33	0.30	0.33
Distance to the bank branch (kilometers)	n.a.	3.59	3.54	3.99	3.34
Sample Size	191	383	237	40	3

Notes:

*, **, and *** denote difference in means between Kalutara and Galle/Matara firms at the 10, 5 and 1% level respectively.

+, ++, and +++ denote difference in means compared to non-attendees among Galle/Matara firms at the 10, 5 and 1% level respectively.

#, ##, and ### denote difference in means compared to non-applicants among attendees at the 10, 5 and 1% level respectively.

~, ~~, and ~~~ denote difference in means compared to approved loans among loan applicants at the 10, 5 and 1% level respectively.

Table 2: Determinants of Attending Meeting and Applying for Loan

Marginal effects from probit estimation

	Attending Meeting			Applying for Loan		
	(1)	(2)	(3)	(4)	(5)	(6)
Female owner	0.00202 (0.071)	0.0407 (0.054)		-0.0243 (0.066)	-0.0199 (0.053)	
Age of owner	-0.00334 (0.0029)	-0.00381 (0.0025)		0.000269 (0.0029)	-0.00117 (0.0026)	
Married owner	0.203** (0.085)	0.138* (0.071)		-0.129 (0.11)	-0.0309 (0.074)	
Years of Education	-0.0118 (0.012)	-0.0189** (0.0096)		-0.0105 (0.0099)	-0.00512 (0.0087)	
Muslim owner	-0.197 (0.12)	-0.176* (0.11)				
Digitspan recall	0.00745 (0.025)	-0.0103 (0.021)		0.0322 (0.022)	0.0108 (0.019)	
Risk aversion (lottery based)	0.00329 (0.021)			0.0164 (0.020)		
Overall risk-seeking behavior	-0.0230 (0.016)			-0.00443 (0.014)		
Financial risk-seeking behavior	0.00709 (0.016)	-0.00348 (0.012)		0.00806 (0.013)	-0.00102 (0.010)	
Entrepreneurial self-efficacy	0.000737 (0.0059)			0.000904 (0.0065)		
Household Asset index	-0.0146 (0.020)	-0.0266 (0.016)		0.0351* (0.020)	0.0396** (0.016)	
Number of wage workers in household	-0.0123 (0.037)			-0.0148 (0.038)		
Financially literate	0.0691 (0.070)	0.0646 (0.058)		0.0839 (0.057)	0.00876 (0.058)	
Log Capital stock (excluding land and buildings)	-0.0219 (0.031)		-0.0505** (0.025)	-0.0137 (0.030)		-0.000988 (0.022)
Log real profits	-0.00772 (0.034)		0.0333 (0.029)	0.000532 (0.032)		-0.000359 (0.024)
Log real sales	0.0364 (0.023)			-0.000940 (0.023)		
Owner hours worked per week	0.00132 (0.0015)			0.00119 (0.0016)		
Registered Firm	-0.0244 (0.086)		-0.0153 (0.074)	0.105 (0.10)		0.215** (0.099)
Manufacturing/Services	0.0240 (0.082)		0.0626 (0.067)	0.107 (0.071)		0.0683 (0.055)
Three years or less in age	-0.0205 (0.081)		-0.0241 (0.069)	0.166 (0.11)		0.121 (0.077)
Business operated out of home	0.00696 (0.079)		-0.0463 (0.068)	0.0112 (0.074)		0.00449 (0.058)
Business records kept	-0.114 (0.075)		-0.116* (0.064)	-0.0182 (0.074)		0.00377 (0.062)
Received Grant	-0.0361 (0.065)		-0.000615 (0.056)	-0.00583 (0.066)		0.0110 (0.051)
Had previously had a loan by March 2005	0.0456 (0.071)			-0.0116 (0.064)		
Received a formal loan in the year to June 2006	-0.103 (0.078)		-0.0272 (0.067)	-0.145*** (0.047)		-0.0949** (0.048)
Directly affected by the tsunami	-0.0751 (0.068)		-0.0416 (0.060)	-0.0349 (0.059)		-0.0164 (0.053)
Log distance to the bank branch	-0.00480 (0.032)		0.00630 (0.026)	-0.00998 (0.031)		0.0130 (0.025)
Observations	282	369	340	163	215	209

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 3: Reasons given for not attending the meeting

<i>Reason</i>	<i>% saying this was a reason</i>
Personal reasons (e.g. illness, family emergency)	41.9
I dislike/do not believe in taking loans	14.2
I do not currently have any use for a loan	14.2
Because I did not know about the meeting	10.8
Because interest rate on loan is too high	6.1
I am still paying back a loan from another institution	5.4
I don't have confidence I could make regular loan repayments	5.4
Because loan amount is insufficient	4.7
I will not be able to fulfil other RDB criteria other than guarantees/collateral	4.7
Dislike closing the business to attend	2.7
Because of time and effort to fill out application forms, etc.	2.7
Inability to find guarantors and collateral for the loan	2.7
Bank branch is too far/too inconvenient	1.4
I do not have much faith in development banks such as RDB	1.4
Sample Size	149

Note: responses from October 2006 (SLMS round 7)

Table 4: Reasons given for deciding not to apply for loan among meeting attendees

<i>Reason</i>	<i>% saying this was a reason</i>
Inability to find guarantors and collateral for loan	24.7
I will not be able to fulfil other RDB criteria other than guarantees	21.3
Because interest rate on loan is too high	21.0
I dislike/do not believe in taking loans	18.7
I do not currently have any use for a loan	13.1
Because of the time and effort in filling out loan applications, collecting signatures	12.0
I am still paying back a loan from another bank/institution	10.9
I don't have confidence I could make regular loan repayments	9.7
Because loan amount is insufficient	7.9
I do not have much faith in development banks such as RDB	4.5
The bank branch is too far/too inconvenient	3.4
I have already taken a loan from RDB and are still repaying	1.5
Sample Size	267

Note: responses from October 2006 (SLMS round 7)

Table 5: Differences in Characteristics between those receiving loans and those who couldn't find guarantors

	Approved	No Guarantor	P-value
<i>Owner characteristics</i>			
Female owner	0.55	0.49	0.514
Age of owner	42.4	41.5	0.645
Married	0.84	0.87	0.718
Years of Education	8.95	8.52	0.492
Muslim	0.00	0.11	0.032
Digitspan Recall	5.74	5.73	0.978
Risk aversion (lottery-based)	-0.01	-0.09	0.784
Overall Risk-seeking behavior	6.32	6.13	0.647
Financial Risk-seeking behavior	5.34	5.39	0.912
Entrepreneurial Self-efficacy	29.9	29.4	0.545
Household Asset Index	0.41	-0.47	0.004
Number of Wage Workers in Household	0.55	0.67	0.539
Financially Literate	0.76	0.61	0.119
<i>Firm characteristics</i>			
Capital stock (excluding land and buildings) in June 2006	50308	36219	0.195
Real profits in June 2006	6556	5312	0.328
Real revenues in June 2006	18290	17407	0.844
Owner hours in June 2006	52.4	48.3	0.341
Registered Firm	0.32	0.11	0.005
Manufacturing/Services	0.58	0.61	0.737
Three years or less in age	0.24	0.14	0.209
Business operated out of the home	0.71	0.78	0.421
Business records kept	0.26	0.30	0.677
Received Grant	0.63	0.54	0.367
Had previously had a loan in March 2005	0.24	0.26	0.825
Received a formal loan in the year to June 2006.	0.18	0.19	0.951
Directly affected by the tsunami	0.32	0.32	0.944
Distance to the bank branch (kilometers)	4.03	3.32	0.231
Sample Size	38	90	

Table 6: What do firms receiving loans see as the most important part of the intervention?

	% saying	% who rank this
	very important	as most important
Providing information that RDB would lend to small firms like theirs	75.7	51.4
Providing information that RDB would lend without collateral	62.2	13.5
Providing information that business registration wasn't necessary	59.5	24.3
Showing them how to fill out the application forms	56.8	0.0
Reducing the number of guarantors from 2 to 1	40.5	8.1
Providing information on terms and requirements of loan	24.3	2.7
Paying the 250 SLR administrative cost charged by the bank	10.8	0.0

Table 7: Did the Intervention increase the proportion of firms with formal loans and did it crowd out loans from moneylenders and family (informal loans)?

Dependent Variable: Proportion of Firms with a Loan in last three months

	Formal Loans					Unique formal loans		Informal Loans	
	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) FE	(6) OLS	(7) FE	(8) OLS	(9) FE
Treatment dummy	0.080*** (0.027)	0.063** (0.029)	0.077** (0.032)	0.052 (0.032)	0.0702*** (0.025)	0.054** (0.026)	0.0701*** (0.024)	0.015 (0.015)	0.0164 (0.014)
Owner and Firm controls	No	Yes	No	Yes	No	Yes	No	Yes	No
Matched Sample	No	No	Yes	Yes	No	Yes	No	Yes	No
Firm*period observations	5089	4830	3536	3536	5089	3143	4515	3536	5089
Number of firms	574	537	393	393	574	393	574	393	574

Notes:

All interventions also include survey wave dummies.

Treatment dummy takes value one in round 8 (January 2007) and zero in other survey rounds.

Unique formal loans are those for which there is no new formal loan in the previous survey round.

Standard errors clustered at the firm level in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Owner and Firm controls include gender, age, marital status, education, muslim dummy, digitspan recall, risk aversion, overall risk seeking behavior, financial risk seeking behavior, entrepreneurial self-efficacy, household asset index, number of wage workers in household, financial literacy dummy, formality dummy, manufacturing and services dummy, age of firm less than three years dummy, at home business dummy keeps business records dummy, ever received grant dummy, and dummy for previously having had credit in baseline survey. These same variables were used for propensity score matching and the matched sample is trimmed to include only firms with propensity score above 0.10 and below 0.90.

Table 8: What those receiving the loans say they say they spent the loans on?

	Proportion spending on this:	Average amount spent on this (Rupees)	Share of total spent	Share excluding 75000 outlier
Household durables	0.08	608	2.5	2.8
Food for home consumption	0.16	788	3.3	3.6
School supplies or fees	0.08	297	1.2	1.3
Religious festivals and ceremonies	0.03	270	1.1	1.2
Repairs to the house	0.08	1064	4.4	4.8
Repayment of loans	0.14	851	3.5	3.9
Savings	0.30	3935	16.3	14.8
Inventories and raw material for business	0.59	9195	38.1	41.7
Equipment for business	0.16	2504	10.4	11.3
Inventories and equipment for another business	0.11	2432	10.1	4.9
Other	0.11	2162	9.0	9.8
Total		24106		

Source: SLMS round 8 survey (January 2007)

Table 9: Impact for those receiving loans on return to capital

Dependent Variable: Real Profits (SLR)

	Before- After IV-FE (1)	Using other Galle/Matara firms as controls IV-FE (2)
Capital Stock	0.0577* (0.031)	0.0663 (0.085)
Firm*Period observations	345	3434
Number of Firms	37	376

Note: Receipt of loan is used as an instrument for capital stock

Robust standard errors in parentheses, clustered at the firm level. *** p<0.01, ** p<0.05, * p<0.1

Appendix Table 1: Summary of Conditions of Loan

	Usual RDB condition	Modification
Loan Amount	Rs 5,000-25,000	none
Interest rate	16% per annum	none
Repayment period	2 years, equal instalment or declining balance	equal instalment offered
Collateral	Often waived on small loans	Waived
Guarantors	Two guarantors required	Allowed family members and/or mutual loan applicants to act as guarantors. Branch discretion on number.
Endorsements from other financial institutions	Required	none
Residence verification by GN	Required	none
Oath attested by Justice of the Peace	Required	Branch discretion
Salary certification by employer	Not required for self-employed	none
Business registration	Not required for self-employed	none
Age	If over 55, joint application with younger family member	none
RDB Account holder	Must be existing account holder, 3 month waiting period	3 month waiting period waived
Loan application fee	Rs 250	none