Business is tough, but family can be worse: Experimental results on family constraints and enterprise development*

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March 2, 2015

DRAFT: PLEASE DO NOT CITE

Abstract

Do family pressures affect business investment decisions? Utilizing a field experiment and incentivized games, this paper explores the role of family pressure on capital usage. Individuals were randomly selected to receive capital through either a loan, grant, or pairing capital with training. I find that male owned businesses expand significantly from the loan program when paired with training, but do not expand when training is not offered. There is no effect from the cash grants for male businesses, or any of the programs for female owned businesses. Individuals played a game where they could hide money from their spouse at a significant cost in order to identify the quality of intra-household bargaining and financial decision making. Unmarried men show large increases in business performance. Amoung those that are married, men that do not hide money perform well, while those that do hide money show no effects from the programs. The opposite is the case for women: women that don't trust their husbands with money obtain business growth, while those that do trust their spouse perform poorly from the interventions. This effect is even stronger when extended family lives nearby. These results suggest there is an inefficiency in household decisions that significantly hurts business outcomes. This inefficiency is reduced when women have more control over money. Additonal heterogeneity tests show the effects for men were greatest for those with low starting profit, no previous loan experience, higher patience, higher skills and low risk preferences. None of the additional subsample analysis shows effects for women. A test of the mechanisms suggests the increased returns are due to higher sales and hired employees.

*This project was registered under the American Economic Association pre-analysis program, ID# AEARCTR-0000401. The data collection for this work was funded by the International Labour Organization. I would like to thank Susana Puerto-Gonzalez, Drew Gardiner and Markus Pilgrim for their input. Kalie Pierce, with support from Innovations for Poverty Action, provided excellent research assistance. Franca Patera conducted the qualitative data collection and analysis. All errors are entirely my own.

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1 Introduction

Recent research has consistently found a lack of effect from capital programs on enterprise growth for female-run enterprises in developing counties, and mixed results for men. Microenterprises are vital in countries where there are limited formal employment options, both for providing informal employment and ensuring household economic security for business owners. However, research on business growth suggests only a small number of firms upgrade into larger businesses, leading to doubts that small businesses generate general economic growth (Berner et al 2012, Ffajnzylber et al 2006, Fajnzylber et al 2009 and Mead 1994). It is unclear why businesses fail to expand.

A relatively recent approach to business growth has been the expansion of provite microfinance. However, experimental work has consistently failed to find increased profits for existing business. If capital is not always used effectively, perhaps this is because business owners lack the skills to use the funds well. The majority of studies on business skills training though fail to find an effect on profits and sales from trainings. Recent work has focused on some of the behavioral constraints to business growth, such as the ability, patience, etc. of business owners. This paper explores the effects of a capital program to small enterprises and focuses on the role of family pressure in business investment decisions.

From August to October 2012, 1,550 microenterprise owners in Uganda were offered randomly either a loan, grant, a loan paired with businesses skills training, a grant paired with businesses skills training, or no program (the control group). Initial results from 6 months and 9 months after the programs ended, described in Fiala (2015), found that men benefitted initially from both loan programs, but over time results were sustained for only the loan paired with training program. Men did not benefit from any of the cash programs. Women did not benefit from any of the programs.

This paper presents the results from a two-year follow-up survey. The results largely support the previous findings for male run businesses, though the effect is only present for the total income from all businesses owned by the man. This suggests the money was distributed across different business opportunities. Running a number of smaller businesses rather than one large business is a common approach to diversifying risk in Africa.

I find that men that were offered the loan program paired with training have sustained increases in business profits two years after the program ended. Men that were offered the loan only program show no impacts on business outcomes. This is also the case for both cash transfer interventions. Interestingly, I find an increase in household assets for men that were offered the loan only program, but no impacts on assets from the other interventions.

This is not surprising given that the loan only intervention had intial significant impacts. Since these impacts disappear quickly, but the loan with training impacts stay, the results are suggestive of an investment effect from the trainings. Men benefit from loans generally, but slow or stop investment in the business and use their profits for household purchases. The training however appears to have induced men to continue investing in their businesses at the expense of household asset accumulation.

The results of the two year endline also support previous findings for women. Female owned businesses did not benefit from any of the interventions. The results for women lead to a number of open questions. Qualitative interviews with women conducted during the final data collection suggest that women feel pressure from their family, especially when children are present, to contribute to the household. They also feel pressure from husbands to invest in other businesses in the household. The interviews also suggest there may be an alternative objective for women in business beyond profit maximization. Women often claimed that businesses offered a way to increase autonomy and independence from their family. Strategic investment may therefore be more complicated than expected when solving for optimal investment.

To identify the role of intra-household bargaining decisions on these outcomes, husbands and wives were invited to participate in a small game at the end of the surveys. The survey team offered respondents the opportunity to receive a small windfall amount of money. Repondents were then given the option of hiding this money from their spouse, but at a significant cost. A large number of both men and women chose to hide money from their spouse.

First, the effects from the loan with training intervention are largest amoung men that are single. Amoung those that are married, I find that men who do not hide money from their spouse perform well in both the loan only and loan with training programs. However, men that hide money from their spouse sow no effect from any of the interventions. The opposite is the case for women: women that do not hide money from their spouse show large impacts from both the grant only and grant with training programs, but not from the loans. Those that do not hide money from their spouse perform poorly from the interventions, sometimes with negative returns to profit. This effect is largest when extended family is nearby and for interventions that included training. I find large effects on husband income for the loans, suggesting the money was used effectively, but not in the woman's enterprise. The effect from training may be due to increased attention to women as family were more aware of them receiving the programs, or a better understanding of what is an efficient use

of money. For these male and female subsamples, there appears to be no value addition from training, and potentially some large negative effects for women. These results from this game suggest there is an inefficiency in household decisions that significantly hurts business outcomes. This inefficiency is reduced when women have more control over money.

Additonal heterogeneity tests show the effects for men were greatest for those with low starting profit, no previous loan experience, higher patience, higher skills and low risk preferences. None of the additional subsample analysis shows effects for women. A test of the mechanisms for returns for men suggests the increased returns are due to higher sales and hired employees.

In countries where there is little formal employment, the informal microenterprises I study here are increasingly being relied on to help produce employment. Efforts to expand enterprises though have failed to identify what holds entrepreneurs back from investing in their enterprises. The results I discuss here suggest that family pressure is a key problem for women. For men, it is best to be single, but for those that are married, it appears best that family pressure can be a benefit.

2 Model of family pressure and investment decisions

In this section I discuss briefly a model of household bargaining over how to utilize a shock to business capital.

3 Data

A main baseline survey was conducted in February 2012, followed by a smaller follow-up baseline in May 2012 that collected only information on interest in the programs and business revenues, expenses and profits. The interventions were then given to individuals from August to October 2012. The follow-up data collection analyzed here was conducted in August to October 2014.

A summary of the baseline data is presented in Table 1. The business owners that are part of this study are more likely to be female (61%) and predominantly range in age from 24 to 35. The majority of business owners are also married (69%) and report being literate (77%). A significant number (26%) report having received some kind of business-skills training in the past. The majority of businesses (67%) report having at least one employee and keep written records of some kind of their business (59%), though a significant

number report only keeping the records "in their head"(32%). Average revenue in the last 4 weeks was 732,000 USH (approximately $285), though this includes a significant amount of variation, with some businesses reporting exceptionally high revenues. Last month profits for the businesses averaged 318,000 USH ($120) and showed a much lower variation.

Business owners were also asked a number of basic intelligence and ability questions in the baseline. In a number recall question, enumerators read off a list of 8 numbers and asked owners to repeat the numbers back to them from memory. On average, the business owners were able to repeat 4 numbers back. Four math questions were also asked, though most business owners were able to respond correctly to them. An ability index is created by normalizing and summing the results from the number recall and math tests, along with years of education and literacy. This index is then normalized again.

Before informing them of the intent of the survey to identify businesses that wanted loans and training, business owners were asked if they had ever taken loans (49% said yes). A range of assets questions were also asked with the intent of developing an asset index using principal component analysis. This is normalized at 0, and there is significant variation in the number of items people own.

The main benefit of a randomized design is the balance of characteristics between treatment and control samples. While it is impossible to comment on the balance of unobservable characteristics, it is important to test for the balance of observable characteristics. The results of a balance test for treatment assignment are presented in Table 1 and suggest that randomization worked well. In expectation, 10% of the variables should be significant at the 90% level or better. Of the 26 variables of interest collected during the baseline, 3 are significant. The control group is more likely to be female, slightly younger and reports higher average months profit, though not last months profit.

The survey team made significant efforts to follow-up businesses during the endline data collection. As the business owners were very busy, the survey was kept short. Some business owners were also visited after business hours to ensure they had time to speak with an enumerator. Of the 1,550 business owners the survey team tracked, the survey team was unable to find 211 people, or 13% of the sample. Of those found, 8 were not willing to share their profit data. Thus, for the main variable of interest there is a 14% attrition rate. This is a common attrition rate for a mobile population such as this. However, the missing individuals could present a bias to the results. I test for selection on attrition in Table 2. This presents the results of a Probit regression on whether the person was found at endline or not, with the full set of baseline controls included as dependent variables. As none of the

coefficients are large or statistically significant, this suggests that there is likely little or no selection bias present in the attrition.

4 Methods

Individuals had been randomly divided into five different groups. 406 were assigned to the loans intervention, 401 to the loans and training, 167 to grants, 219 to grants and training, and 357 to the control group. The sample sizes were based on power calculations after taking into account implementation budget limitations. The design is presented in Figure 1.

A local microfinance organization, PRIDE Microfinance, provided the loans. Unknown to the participants, the loans were guaranteed by the ILO as the sample came from all businesses that expressed interest in a loan and these businesses may not have fit the lending requirements of PRIDE. PRIDE normally provides loans with an interest rate of 26% and requires 100% collateral. Lenders reduced the interest rate to 20% and described the program as a special promotion to individuals. For those who were not able to provide 100% collateral, PRIDE agreed to accept 50% collateral instead. This special promotion was designed to encourage participation in the loan program and to reflect what a subsidized loan program might be like if conducted in the future. Individuals were then required to repay the loan in monthly installments, starting in the first month.

The loans ranged between $180 and $220. The cash grants were $200 and delivered through PRIDE bank accounts. The ILO contacted individuals to attend information meetings explaining how the cash grant program would work. They were then asked to open a free savings account, where the money would be deposited.

The ILO conducted the trainings using the Start and Improve Your Business (SIYB) training modules. This training program reached 4.5 million people in 100 countries from 2003 to 2010. Researchers have evaluated the trainings experimentally twice before. First, Mano et al 2012 looked at the effect of giving training to 53 business owners. In keeping with other training results, they found survival rates increased, as did the incidence of good business practices such as keeping budgets, with no consistent effects on business profit. de Mel et al (2008) also use the SIYB training on female business training and cash grants in Sri Lanka. They found no effect on profits for those already in business for training, but some initial effect for the grants that disappears after the second year. There is also increased entry for those without business and some income growth. The trainings have thus been evaluated previously and have presented mixed results. It was decided not to pursue a pure

training treatment arm, but instead use trainings as a potential augmenting effect on the use of cash grants and loans to test if training can increase the effects of decreasing capital constraints through better business management practices or attitudes.

To identify the impact of the programs on individual business outcomes, I run the following intention to treat (ITT) OLS regression model:

$$Y_{it} = \alpha + \beta T_{it} + \gamma T_{it} * F + \theta R + \pi X_{i,t-1} + \epsilon_{it} \tag{1}$$

where t is time, i refers to an individual and Y_{it} is the outcome of interest. T_{it} is the treatment status of an individual. F is a dummy for whether the participant is a woman. The effect of the program on men is thus obtained through β, while the effect on women is obtained through $\beta + \gamma$. R is a matrix of region and sample dummies, X are baseline variables used as controls and ϵ_{it} is the error term. In addition to this specification, heterogeneity analysis is conducted where both treatment status and the interaction of treatment with the female dummy is interacted with the heterogeneity of interest.

5 Results

5.1 Main results on income and wealth

The results for the main question of interest, the effect of the programs on participant and household income and wealth, are presented in Table 3. The first column looks at the effect of the program on the main business run by the respondent. None of the results are significant for men or women. However, this changes when taking into account all of the businesses and income sources of the respondent, presented in column 2. The total income of all men offered loans paired with training increases by 283,000 USH, significant at the 11% level. This is a 66% increase in profits over the control group. This is consistent with the findings from previous rounds of data collection on this sample and suggest a very large effect from the program. There are no effects from the loan only intervention or any of the cash grant interventions for men. For women, the coefficient on the loan paired with training program is large, significant and negative, counteracting the effect for men. Women therefore did not benefit significantly from any of the interventions.

Column 3 presents the effect of the programs on spouse outcomes. This reduces the sample size to only those with spouses. None of the effects are significant. For the full sample,

there does not appear to have been an allocation of funds from women to the business of the husband. The results for household total are the combination of main respondent, spouse and other family member income and shows results consistent with the main respondent results.

To explore the effect of the programs on wealth, column 5 looks at the effects on household assets. There is a large and statistically significant effect of the loan only program on assets for men, while there are no effects for the other programs and nothing again for women. These results support the previous results showing short-term, short-lived impacts from the loan only program. It is likely that male business owners utilized the loans to increase initial business returns, eventually turning these into assets for the home. For men with the loan and training program, it appears that despite the sustained, increased returns from the business, men are not spending money on household assets. Results below suggest that this may be due to investment into the business rather than the household, though it is also possible that the returns have been used for short-term consumption for men.

5.2 Family interactions

To test the role of household interaction in the outcomes obtained, the survey team ran a set of games with respondents and spouses as described earlier. Table 4 explores the interaction with treatment for whether married and, for those that are married, whether they trusted their spouse with the windfall money or were willing to pay a relatively large price to keep the money hidden from their spouse. Columns 1 and 2 present the results of marriage interaction for main respondent income and spouse income, respectively. Columns 3 and 4 explore the interaction of whether the person sent money to their spouse, again by main and spouse income respecitvely.

The effect of the loan with training program is large, positive and significant for men that are not married, while the interaction term is large, negative and statistically significant. The effect of the program is thus mostly due to single men. There are no significant results for women. Likewise, none of the spouse incomes are significant.

From column 3, men that do not trust their spouse show no effects from the program. However, men that did trust their spouse see a significant impact from both of the loan interventions. There are no signifcant effects for women that trust their spouse, though there is a large negative coefficient for women that were offered either loans paired with training, or cash grants. This is suggestive that businesses owned by women that trust their spouse perform poorly.

Turing to those that did not trust their spouse, the results largely reverse. Men that do not trust their spouse with money actually show large negative effects from the program for all interventions, with the coefficient on the grant only program being statistically significant. This is the opposite for women: women that do not trust their spouse show large, positive effects from both of the grant programs. This may be suggestive that the grant programs were easier for women to hide from their spouse, and those that did performed well. An additional interesting effect comes from women that trust their spouse: their spouses income is significantly larger from the loan with training and cash grant programs.

The proximity of family was previously found to have large implications for the impact of the program for women. Table 5 explores how family presence interacts with trust with money within the household between spouses. The effects are largely similar to those found already, though the impact becomes even more pronounced.

For men, the coefficients are mostly insignificant, except for those that do not hide money from their spouse and have family living far away. The effect of the loan program on business profits is very large and statistically significant.

The results for women are much stronger. Women that did not hide money from their spouses and have family living near have a large, negative effect from both the loan and grant programs paired with training. This effect is partially offset by an increase in spouse income for the loan with training program. This result suggests that after the programs were delivered, women that do not hide money from their spouse disinvested from their businesses, with some investment going into the spouse's business. In fact, the results for women that do not hide money from their spouse are consistent whether their family lives nearby or not for the grant with training program.

5.3 Other effects

In addition to these main heterogeneity tests, there are a number of additional heterogeneities that are of interest. Table 6 explore dividing the sample into whether had a previous loan or not (columns 1 and 2), high and low baseline profits (3 and 4), central and northern regions (5 and 6) and low and high levels of patience measured immediately after the programs (7 and 8). Table 7 presents low and high ability as measured at baseline (1 and 2), high and low empowerment (3 and 4), and high versus low risk preferences (5 and 6).

The main effects for men from the loan paired with training program come through those that had low starting profit, no previous loan experience, higher patience, higher skills and low risk preferences. None of the additional subsample analysis shows effects for women.

There is a surprising outcome for men that were offered the grant paired with trainings. For those that had high patience or low ability, there are large, positive and statistically significant effects. The effect for the grant with training intervention for those with high patience is not significantly different from those that received the loan and training program, though they are different for those with low ability. This results suggests there is likely some long-run impacts from the trainings for a subsample of participants. Both of these characteristics were specifically pre-specificed as potential important heterogeneities.

Finally, there are additional outcomes that are of interest for these programs, presented in Table 8. I look at effects on sales (column 1), employees (2 and 3), capital stock (4) and school missed for children in the household (5). For men, I find large effects for sales in the last month for the loan paired with training intervention and the number of hired employees. The channel of impact of the loan with training program thus likely came through increases in sales and hiring of employees. For women, there are no significant effects for any of the interventions on any of the outcomes. Women do not have changes in sales, employees, capital stock, or missed school of children. There are also no effects for women's empowerment from any of the interventions.

6 Conclusion

The problem of how to push businesses to expand, especially female-owned businesses, has been a pressing problem for researchers and policy makers. This experiment presents some strong evidence on why business owners fail to invest and expand, while opening up additional questions.

As discussed in Fiala (2015), the results are consistent with commitment and skills problems for men: men that received the loan with the training intervention perform significantly better than the control group or those that received cash grants or loans without training. The increase in profits is quite large and suggests that there are substantial returns to increasing family employment and capital. The results are being driven by single men with higher baseline profits and higher ability and are strongest in the central region.

The results for women are significantly more pessimistic. None of the interventions helped the full sample of women expand their business income. Family pressure appears to be a big component of this effect. Family pressure in developing countries has long been a problem for women. Keeping cash in hand is difficult when there is pressure to spend money on school fees, health care and funerals. The evidence presented here suggests that these pressures

matter a lot for women who want to expand their business but have family members nearby. Men often do not face the same pressures.

There is some good news. Counter to previous evidence on microfinance, loans when paired with training have a dramatic and positive effect for men and women that hide money from their husbands. The results suggest that microfinance can be quite useful for men in general, and for a subset of women.

7 References

Berner, Erhard, Georgina Gomez, and Peter Knorringa, Helping a Large Number of People Become a Little Less Poor: The Logic of Survival Entrepreneurs," European Journal of Development Research, 2012, 24, 382396.

Blattman, Christopher, Nathan Fiala, and Sebastian Martinez, Credit Constraints, Occupational Choice, and the Process of Development: Long Run Evidence from Cash Transfers in Uganda," Working Paper, 2013.

De Mel, Suresh, David McKenzie and Christopher Woodruff, Business Training and Female Enterprise Start-up, Growth and Dynamics: Experimental Evidence from Sri Lanka," World Bank Policy Research Working Paper 6145, 2012.

Fajnzylber, Pablo, William Maloney, and Gabriel Montes Rojas, Microenterprise Dynamics in Developing Countries: How Similar are They to Those in the Industrialized World? Evidence from Mexico," World Bank Economic Review, 2006, 20 (3), 389419.

Fajnzylber, Pablo, William Maloney, and Gabriel Montes Rojas, Releasing Constraints to Growth or Pushing on a String? Policies and Performance of Mexican Micro-Firms," Journal of Development Studies, 2009, 45 (7), 10271047.

Field, Erica, Rohini Pande, John Papp, and Natalia Rigol, Does the Classic Micro-finance Model Discourage Entrepreneurship among the Poor? Experimental Evidence from India," American Economic Review, October 2013, 103 (6).

Mano, Yukichi, Al Hassan Iddrisu, Yutaka Yoshino, and Tetsushi Sonobe, How Can Micro and Small Enterprises in Sub-Saharan Africa Become More Productive? The Impacts of Experimental Basic Managerial Training," World Development, 2012, 40 (3), 458468.

Mead, Donald, The Contribution of Small Enterprises to Employment Growth in Southern and Eastern Africa," World Development, 1994, 22 (12).

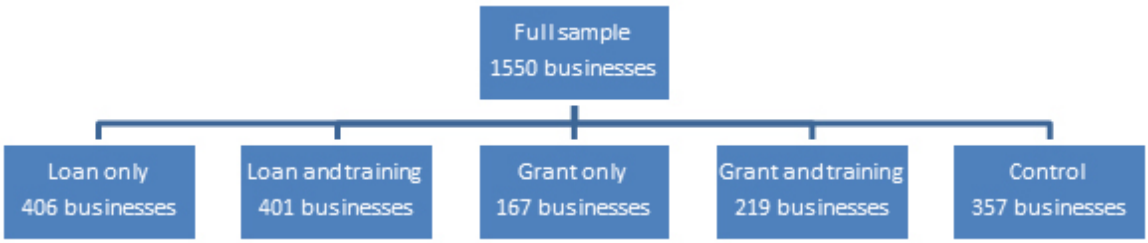

Fig. 1: Experimental design with sample sizes

Table 1: Summary statistics and balance tests

	Male sample			Female Sample			Means by Treatment Group: Full Sample		
Baseline Characteristic	N	Mean	Std. Dev.	N	Mean	Std. Dev.	Control	Treated	p-value
Female	604	0.00	0.00	942	1.00	0.00	0.630	0.595	0.25
Age 18-23	604	0.18	0.39	942	0.08	0.27	0.140	0.117	0.25
Age 24-29	604	0.37	0.48	942	0.32	0.47	0.350	0.366	0.58
Age 30-35	604	0.26	0.44	942	0.32	0.47	0.310	0.305	0.87
Age 36-41	604	0.10	0.30	942	0.16	0.37	0.150	0.127	0.26
Age 41-50	604	0.09	0.28	942	0.12	0.33	0.060	0.095	0.06
Married	604	0.65	0.48	942	0.72	0.45	0.650	0.638	0.68
Literate	604	0.87	0.33	942	0.70	0.46	0.810	0.807	0.90
Previous training	604	0.26	0.44	942	0.25	0.43	0.260	0.254	0.83
Number of employees	604	0.90	1.51	942	0.52	1.20	0.340	0.369	0.51
Employees hours worked	417	55.69	94.50	606	34.39	60.93	0.630	0.700	0.39
Does not keep records	601	0.04	0.20	937	0.07	0.25	43.200	50.150	0.21
Keeps records on computer	601	0.04	0.20	937	0.02	0.13	0.009	0.009	0.99
Keeps written records	601	0.67	0.47	937	0.55	0.50	0.025	0.037	0.22
Keeps record in head	601	0.24	0.43	937	0.35	0.48	0.600	0.605	0.86
Keeps money in separate bags	601	0.00	0.00	937	0.01	0.09	0.380	0.357	0.40
Last month's revenue (1000 USh)	604	807.72	774.11	942	662.94	643.75	715.100	663.600	0.23
Average months revenue (1000 USh)	593	1126.62	2112.66	932	1087.13	7257.18	759.300	1067.400	0.39
Last month's profit (1000 USh)	604	387.66	1032.37	942	259.89	533.24	341.900	320.000	0.64
Average month's profit (1000 USh)	583	543.91	2391.52	907	297.43	469.87	600.300	450.000	0.12
Stock value (1000 USh)	568	3662.82	10811.38	879	1519.77	3171.81	3336.600	2858.800	0.30
Value of liabilities (1000 USh)	437	252.07	936.50	680	136.29	534.77	145.400	179.500	0.52
Longest string of numbers recalled	604	4.59	2.20	942	3.83	1.98	3.800	3.790	0.94
Math questions answered correctly	604	3.65	0.52	942	3.47	0.61	3.540	3.558	0.61
Ability Index	604	0.29	0.88	942	-0.17	1.02	-0.005	0.009	0.82
Had a loan previously	599	0.38	0.49	934	0.53	0.50	0.440	0.478	0.21
Asset index	604	0.29	1.80	942	-0.16	1.45	-0.150	-0.061	0.37

Table 2: Attrition analysis

	(1) att_w5
Loan	0.0014
	(0.01)
Loan and	-0.014
Training	(0.01)
Grant	-0.0070
	(0.01)
Grant and	0.012
Training	(0.01)
Female x	-0.0052
loan	(0.01)
Female x	0.014
loan with training	(0.01)
Female x	0.011
grant	(0.02)
Female x	-0.019
grant with training	(0.01)
Female	0.0083
	(0.01)
Buikwe	-0.0055
	(0.01)
Gulu	0.0048
	(0.01)
Jinja	0.0061
	(0.01)
Additional	0.0071
Sample	(0.01)
Age	0.00091
	(0.00)
Married	-0.0028
	(0.00)
Ability	0.0030
	(0.00)
Total	-0.00087
Employees	(0.00)
Assets	-0.0016
	(0.00)
Baseline	-0.0000031
profits	(0.00)
N	1334
R^2	0.01

Table 3: Treatment effects on business profits for respondent and household

	(1) Main	(2) Total	(3) Spouse total	(4) HH total	(5) HH assets
Loan	77.0	79.3	-29.5	-3.73	0.41*
	(99.26)	(170.70)	(49.12)	(208.80)	(0.23)
Loan and	99.4	283.0+	-3.44	303.5+	0.14
Training	(100.34)	(172.27)	(49.07)	(208.73)	(0.23)
Grant	-112.1	-246.1	-21.8	-297.5	0.092
	(130.19)	(223.42)	(63.42)	(270.34)	(0.30)
Grant and	81.8	147.3	-2.67	156.5	0.020
Training	(117.13)	(201.78)	(57.15)	(243.06)	(0.27)
Female x	-148.7	-152.7	-13.7	-133.4	-0.47+
loan	(124.63)	(214.00)	(61.31)	(259.99)	(0.29)
Female x	-162.0	-377.1*	-7.63	-417.0+	-0.053
loan with training	(125.80)	(216.00)	(61.10)	(259.09)	(0.29)
Female x	75.8	277.2	3.03	343.8	0.13
grant	(159.09)	(273.11)	(77.27)	(328.75)	(0.37)
Female x	-160.3	-179.6	0.63	-203.1	-0.43
grant with training	(146.58)	(252.21)	(71.56)	(304.27)	(0.34)
Female	-44.2	-89.3	68.6+	-41.5	-0.086
	(93.08)	(159.92)	(45.65)	(194.09)	(0.22)
Control Mean	359.7	427.2	69.2	505.8	0.024
R2	0.040	0.034	0.019	0.035	0.13
N	1326	1319	1137	1127	1321

Notes: This table reports the OLS regression results for the impact of assignment to the four interventions on business profits. Controls include district dummies, age of respondent, whether married at baseline, index of ability, number of employees at baseline, assets and profits at baseline.*** p<0.01, ** p<0.05, * p<0.1.

Table 4: Treatment effects on business outcomes

	Married (1) Own	Married (2) Spouse	Trust (3) Own	Trust (4) Spouse
Loan	-43.8	-94.2	-106.6	9.35
	(247.29)	(68.59)	(192.21)	(84.04)
Loan and Training	758.8***	2.04	-62.3	2.63
	(231.28)	(63.49)	(199.30)	(83.70)
Grant	-331.3	-44.9	-346.2	-9.25
	(345.00)	(94.12)	(294.86)	(132.63)
Grant and Training	262.8	-35.6	23.2	-14.8
	(322.86)	(90.07)	(240.89)	(102.74)
Female x loan	-47.1	96.7	62.9	-175.3
	(303.21)	(83.76)	(259.90)	(113.36)
Female x loan with training	-821.8***	11.8	47.1	-153.2
	(290.84)	(79.55)	(269.41)	(113.20)
Female x grant	234.3	50	493.6	-108.1
	(414.19)	(112.78)	(357.45)	(158.83)
Female x grant with training	-424.9	118.3	631.1*	-140
	(375.94)	(104.30)	(346.13)	(155.55)
Female x interaction	94.1	167.6***	-196	195.0***
	(182.13)	(50.65)	(178.74)	(75.06)
Loan x interaction	169.6	94.2	510.8*	-182.5
	(251.46)	(69.89)	(294.49)	(120.94)
Loan with training x interaction	-738.4***	-8.15	416.9*	-40.1
	(239.46)	(65.50)	(222.16)	(93.00)
Grant x interaction	128.9	36.7	103.9	-25.2
	(383.46)	(105.62)	(239.30)	(100.13)
Grant with training x interaction	-154	47.6	243.2	-14.2
	(345.66)	(95.80)	(355.96)	(152.56)
Female x loan x interaction	-132.6	-192.1*	94.2	20.5
	(359.10)	(101.16)	(294.14)	(119.84)
Female x loan with training x interaction	672.4*	-42.3	-569.9	400.4**
	(352.48)	(97.79)	(447.01)	(189.44)
Female x grant x interaction	109.5	-99.8	-746.5	481.7**
	(501.84)	(139.74)	(453.39)	(190.59)
Female x grant with training x interaction	579.6	-264.9*	-74.3	333.4
	(472.10)	(135.44)	(599.76)	(250.89)
Female	-139.1	-7.22	-1431.6**	97
	(180.86)	(51.01)	(563.66)	(243.24)
Control Mean	360.1	368.7	412.5	426.3
R2	0.046	0.038	0.071	0.056
N	1319	1137	718	579

Notes: This table reports the OLS regression results for the impact of assignment to the four interventions on business profits. Controls include district dummies, age of respondent, whether married at baseline, index of ability, number of employees at baseline, assets and profits at baseline.*** p<0.01, ** p<0.05, * p<0.1.

Table 5: Treatment effects on business outcomes

	Close family (1) Own	Close family (2) Spouse	Far family (3) Own	Far family (4) Spouse
Loan	-212.2	20.3	-0.14	-20.8
	(188.20)	(106.78)	(332.13)	(126.45)
Loan and Training	-282.3	28.1	188.2	-29.6
	(183.23)	(99.64)	(370.78)	(139.71)
Grant	-453.9	70.2	-259.7	-71.8
	(295.84)	(166.95)	(498.06)	(202.75)
Grant and Training	-163.4	76.4	195.3	-46.7
	(235.43)	(132.07)	(422.30)	(156.52)
Female x loan	167.6	-74.0	-91.8	-367.4**
	(248.83)	(138.40)	(461.80)	(178.00)
Female x loan with training	365.6	-58.5	-333.7	-361.7*
	(251.88)	(134.42)	(494.17)	(187.99)
Female x grant	402.0	-3.32	499.4	-288.0
	(353.63)	(194.55)	(613.82)	(246.94)
Female x grant with training	73.4	-113.2	731.5	-301.1
	(362.74)	(197.05)	(583.71)	(240.73)
Female x trust	989.0***	-13.8	5.64	-429.2**
	(281.74)	(137.80)	(521.08)	(204.49)
Loan x trust	146.8	-14.5	919.3**	-11.9
	(207.98)	(108.80)	(425.65)	(167.21)
Loan with training x trust	66.0	7.00	11.6	-20.5
	(260.66)	(144.59)	(402.74)	(151.98)
Grant x trust	71.9	-46.4	311.9	25.8
	(420.61)	(231.39)	(559.65)	(218.68)
Grant with training x trust	224.2	85.8	-3.36	-22.9
	(324.17)	(179.97)	(476.33)	(169.41)
Female x loan x trust	-444.9	10.6	-823.1	747.6**
	(442.36)	(236.68)	(780.96)	(306.09)
Female x loan with training x trust	-1052.7**	869.7***	-227.2	470.0
	(475.60)	(254.16)	(770.06)	(298.17)
Female x grant x trust	-348.4	-63.5	199.3	549.9
	(748.15)	(457.58)	(945.27)	(361.29)
Female x grant with training x trust	-1251.6**	-71.8	-1234.3	367.0
	(604.90)	(344.80)	(925.05)	(362.90)
Female	-330.5**	91.2	4.89	395.1***
	(164.69)	(90.83)	(332.21)	(122.49)
Control Mean	532.9	55.2	477.4	213.0
R2	0.13	0.18	0.092	0.099
N	340	277	378	302

Notes: This table reports the OLS regression results for the impact of assignment to the four interventions on business profits. Controls include district dummies, age of respondent, whether married at baseline, index of ability, number of employees at baseline, assets and profits at baseline.*** p<0.01, ** p<0.05, * p<0.1.

Table 6: Other heterogeneity effects

	(1) Previous loan	(2) No loan	(3) High profit	(4) Low Profit	(5) Central	(6) Northern	(7) Low Patience	(8) High Patience
Loan	349.0	-59.5	-204.8	464.6	123.1	50.1	186.6	-84.3
	(212.83)	(258.08)	(149.07)	(330.33)	(270.99)	(115.31)	(343.00)	(161.64)
Loan and	82.3	409.8	-80.0	773.4**	480.9*	66.3	406.0	225.6
Training	(207.03)	(266.84)	(149.96)	(335.46)	(276.92)	(115.37)	(342.51)	(171.68)
Grant	-155.6	-296.6	-292.6	-152.3	-327.9		-494.2	-70.5
	(257.60)	(361.17)	(200.46)	(419.78)	(294.81)		(422.72)	(222.44)
Grant and	115.3	182.9	301.1	63.9	62.4		-139.0	379.3*
Training	(238.30)	(318.65)	(186.92)	(368.34)	(271.37)		(385.53)	(202.85)
Female x	-255.8	-185.3	193.4	-570.3	-188.2	-93.9	-435.5	170.0
loan	(251.26)	(343.59)	(198.80)	(393.92)	(348.61)	(140.06)	(425.76)	(200.53)
Female x	-97.2	-573.2	-2.69	-885.9**	-543.2	-161.7	-564.6	-234.3
loan with training	(247.01)	(353.05)	(195.59)	(403.80)	(354.36)	(140.72)	(426.48)	(211.06)
Female x	166.3	376.4	462.9*	62.3	482.8		570.8	-1.19
grant	(301.96)	(457.97)	(251.26)	(499.87)	(372.34)		(530.39)	(262.78)
Female x	34.2	-439.9	-447.3*	28.7	20.7		161.1	-482.1*
grant with training	(282.64)	(424.62)	(233.58)	(459.42)	(348.97)		(477.55)	(254.01)
Female	-104.5	-41.5	-228.2	114.1	-274.3	99.7	-111.3	-63.8
	(184.72)	(258.27)	(143.56)	(300.57)	(260.76)	(105.87)	(321.75)	(151.81)
Control Mean	311.3	401.4	508.6	328.1	494.6	375.1	470.5	410.5
R2	0.058	0.039	0.072	0.038	0.042	0.049	0.041	0.076
N	648	662	654	665	853	466	616	559

Notes: This table reports the OLS regression results for the impact of assignment to the four interventions on business profits. Controls include district dummies, age of respondent, whether married at baseline, index of ability, number of employees at baseline, assets and profits at baseline.*** p<0.01, ** p<0.05, * p<0.1.

Table 7: Other heterogeneity effects

	(1) Low Ability	(2) High Ability	(3) High Empowerment	(4) Low Empowerment	(5) High Risk	(6) Low Risk
Loan	125.5	31.4	385.9	-197.2	27.7	67.0
	(175.59)	(291.56)	(269.08)	(204.21)	(255.30)	(199.78)
Loan and	64.8	409.9	-21.9	19.0	298.9	294.9
Training	(175.38)	(295.52)	(276.99)	(210.88)	(259.68)	(201.87)
Grant	-90.2	-429.9	-269.7	-191.6	-396.9	-33.9
	(227.90)	(383.40)	(364.16)	(262.18)	(304.71)	(357.78)
Grant and	480.0**	-143.6	-65.6	152.0	-182.2	922.1***
Training	(215.49)	(340.61)	(335.84)	(228.89)	(293.93)	(249.44)
Female x	-154.2	-190.7	-343.6	18.8	-83.4	-214.8
loan	(208.81)	(394.21)	(366.52)	(277.81)	(316.71)	(251.69)
Female x	-95.7	-615.6	-218.6	-141.7	-342.3	-529.5**
loan with training	(210.01)	(393.64)	(376.45)	(283.51)	(319.40)	(257.04)
Female x	246.9	257.4	366.9	428.7	448.3	-155.6
grant	(270.92)	(484.10)	(455.38)	(348.70)	(374.01)	(423.79)
Female x	-277.7	-259.5	1134.1**	-357.1	251.5	-1203.6***
grant with training	(252.76)	(461.20)	(517.15)	(320.79)	(365.73)	(312.70)
Female	-79.0	-76.4	-101.9	-36.8	-231.3	179.5
	(152.09)	(295.55)	(262.86)	(216.15)	(238.94)	(187.37)
Control Mean	319.5	560.3	465.4	571.0	437.7	426.1
R2	0.035	0.045	0.084	0.069	0.035	0.10
N	698	621	367	351	845	402

Notes: This table reports the OLS regression results for the impact of assignment to the four interventions on business profits. Controls include district dummies, age of respondent, whether married at baseline, index of ability, number of employees at baseline, assets and profits at baseline.*** p<0.01, ** p<0.05, * p<0.1.

Table 8: Additional treatment effects

	Total	Employees	Employees	Stock	
	(1)	(2)	(3)	(4)	(5)
	Sales	Family	Hired	Capital	Miss
Loan	1193.9	-0.058	-0.54	2351778.9*	-0.078
	(787.24)	(0.10)	(35.64)	(1409424.05)	(0.07)
Loan and	1733.1**	-0.13	76.1**	1983189.1	-0.11
Training	(798.20)	(0.10)	(35.94)	(1419379.95)	(0.08)
Grant	-134.8	-0.25*	10.2	1573040.8	0.071
	(1031.12)	(0.13)	(46.60)	(1840058.87)	(0.10)
Grant and	925.3	-0.12	9.91	1574720.2	-0.050
Training	(931.36)	(0.12)	(42.17)	(1665194.12)	(0.09)
Female x	-1528.5	0.17	3.37	-2960339.9*	0.058
loan	(986.45)	(0.13)	(44.80)	(1770470.66)	(0.09)
Female x	-2037.2**	0.22*	-75.5*	-2294107.3	0.12
loan with training	(998.42)	(0.13)	(45.15)	(1783334.88)	(0.09)
Female x	684.8	0.24	2.19	-1266629.0	-0.080
grant	(1259.04)	(0.16)	(57.05)	(2252813.68)	(0.12)
Female x	-859.3	0.17	3.02	-837177.6	0.12
grant with training	(1163.11)	(0.15)	(52.74)	(2082292.60)	(0.11)
Female	-142.3	-0.21**	-6.13	-1145774.1	0.023
	(739.10)	(0.10)	(33.45)	(1320707.19)	(0.07)
Control Mean	1416.3	0.36	0.65	3394125.3	0.37
R2	0.041	0.026	0.0098	0.070	0.033
N	1317	1333	1333	1332	1093

Notes: This table reports the OLS regression results for the impact of assignment to the four interventions on business profits. Controls include district dummies, age of respondent, whether married at baseline, index of ability, number of employees at baseline, assets and profits at baseline.*** p<0.01, ** p<0.05, * p<0.1.