NHH

INSTITUTT FOR SAMFUNNSØKONOMI

DEPARTMENT OF ECONOMICS

SAM 1 2011

ISSN: 0804-6824

JANUARY 2011

Discussion paper

Human and financial capital for microenterprise development: Evidence from a field and lab experiment

BY

LARS IVAR OPPEDAL BERGE, KJETIL BJORVATN, AND **BERTIL TUNGODDEN**

Norges Handelshøyskole

NORWEGIAN SCHOOL OF ECONOMICS AND BUSINESS ADMINISTRATION

Human and financial capital for microenterprise development: Evidence from a field and lab experiment

Lars Ivar Oppedal Berge, Kjetil Bjorvatn, Bertil Tungodden*

JANUARY 12, 2011

Abstract

Which is the most binding constraint to microenterprise development, human capital or financial capital? To answer this question, we present the first field experiment that jointly investigates these two constraints for poor microentrepreneurs, by introducing separate treatments of business training and a business grant. We combine survey data and data from a lab experiment to investigate treatment effects on business results, business practices, business skills and mind-set. Our study demonstrates a strong effect of business training on male entrepreneurs, while the effect on female entrepreneurs is much more muted. There is no effect of the business grant for either males or females. The results suggest that human capital may be the more important constraint for poor microentrepreneurs, but also point to the need for more comprehensive measures to promote development among female entrepreneurs.

---

*Berge: Norwegian School of Economics and Business Administration, Bergen, e-mail: lars.ivar.berge@nhh.no. Bjorvatn: Norwegian School of Economics and Business Administration, Bergen, e-mail: kjetil.bjorvatn@nhh.no. Tungodden: Norwegian School of Economics and Business Administration, Bergen and Chr. Michelsen Institute, Bergen, e-mail: bertil.tungodden@nhh.no..We would like to thank Ingvild Almås, Fred Finnan, Rune Jansen Hagen, Linda Helgesson Sekei, Vegard Iversen, Sturla F. Kvamsdal, Edward Miguel, Erik Ø. Sørensen, Russell Toth, and Jakob Svensson for very useful comments and suggestions. The paper is part of a larger joint project between the research groups in development economics and experimental economics at the Department of Economics, Norwegian School of Economics and Business Administration and the research centre Equality, Social Organization, and Performance (ESOP) at the Department of Economics, University of Oslo. We have also received financial support from Sparebanken Vest and the Research Council of Norway. We warmly acknowledge the support of Promotion of Rural Initiatives and Development Enterprises (PRIDE, Tanzania), Research on Poverty Alleviation (REPOA, Tanzania), and University of Dar es Salaam Entrepreneurship Centre (UDEC, Tanzania) in the design and implementation of the business training program. A special thanks for excellent research assistance to Maria T. Frengstad, Linda Helgesson Sekei, Sheena Keller, and Juda Lyamai.

1. INTRODUCTION

Microentrepreneurs in developing countries face a number of constraints on business growth. Lack of access to capital has received a lot of attention amongst donors and practitioners, as witnessed by the rise of the microfinance movement. But while there is a lot of optimism about the power of finance for small scale business development, research demonstrates that success cannot be taken for granted (Karlan and Morduch, 2009). Field experiments on the impact of financial capital, in the form of business grants (de Mel et al., 2008) and microfinance (Banerjee et al., 2009), demonstrate that the growth effect of finance may critically depend on dimensions such as the entrepreneur's educational background, business skills, and mind-set.

Moreover, the literature challenges the popular notion that microfinance is a particularly powerful tool for business growth when given to female entrepreneurs. de Mel et al. (2007) find on average no effects of business grants given to female entrepreneurs, and conclude that: "The experience with the grants does indicate that permanently raising the income of women running small microenterprises may be more difficult than raising the income of men in a similar position (p. 24)."

Partly as a result of the mixed evidence on the importance of financial capital, focus is shifting toward other constraints on microenterprise development, and in particular lack of human capital. Intuitively, returns to microfinance for entrepreneurs with low human capital, particularly in the form of weak business skills, can be expected to be modest. However, the message from the only published field experiment on business training to microfinance clients (Karlan and Valdivia, 2010) is not very optimistic. While training is shown to have some impact on business practices, they find no robust effects on business profits and sales.[1]

The present study is, to our knowledge, the first field experiment that jointly investigates the financial and human capital constraints for poor microentrepreneurs. In collaboration with the largest microfinance institution in Tanzania, Promotion of Rural Initiatives and Development Enterprise (PRIDE), we introduced separate treatments offering business training and a

[1] Bruhn, Karlan, and Schoar (2010) focus on the importance of managerial capital, and also cite unpublished work on different forms of business training showing more positive results than reported in Karlan and Valdivia (2010).

business grant of similar size to the cost of training, which allows us to investigate the relative importance of the human and financial capital constraints for microenterprise development.

To study in more detail the mechanisms of change initiated by the different treatments, we also use the novel hybrid approach of combining the field experiment with a lab experiment where individuals make incentivized choices (Jakiela et al., 2010).[2] This design allows us to study the causal impact of the training on the microentrepreneurs' business knowledge (book keeping, marketing, investment analysis) and mind-set (willingness to compete, confidence, risk- and time preferences). It also provides us with a better understanding of how male and female entrepreneurs differ in their business knowledge and mind-set, which may shed some light on why policy interventions targeting microentrepreneurs in developing countries may have less impact on the business performance of female entrepreneurs.

The present paper also adds to the literature on microfinance and entrepreneurship by focusing on Africa. Most research until now has addressed the situation in either Asia or Latin America, reflecting the longer history and larger outreach of microfinance in these regions. However, microfinance is on the rise in Sub-Saharan Africa, and it is clearly of first order importance to understand how the various initiatives may contribute to growth and poverty alleviation in the poorest region of the world.[3]

The paper offers three main findings. First, we show that the human capital intervention causes a substantial increase in the profits of male entrepreneurs, whereas the financial capital intervention has no impact on business performance. This provides evidence of the human capital constraint being of fundamental importance for microenterprise development and more binding than the financial capital constraint. Second, we show that the human capital intervention works through increased sales among male entrepreneurs, whereas we do not see any changes in profit margins. This suggests that the impact of training goes through an expansion effect, and we demonstrate that trained males to a greater extent than trained females have implemented new business practices conducive to business growth. Third, we show that the human capital intervention has improved the business knowledge of both female

[2] Deaton (2010) underscores the importance of investigating mechanisms in randomized controlled trials, and points to the merger between behavioral economics and development economics as a promising line of research. See also Falk and Heckman (2009).

[3] See for instance the report "Sub-Saharan Africa 2009: Microfinance analysis and benchmarking report," by the Microfinance Information Exchange (MIX) and Consultative Group to Assist the Poor (CGAP), available at www.themix.org.

and male entrepreneurs, and has also caused a change in their mind-set. On important dimensions, such as attitude to risk and self-confidence, the training has contributed to closing the gender gap, but the lab experiment reveals that even among the trained entrepreneurs, females are less willing to compete than males. We argue that this difference in mind-set, together with all the external constraints facing female entrepreneurs, may explain why a human capital intervention works very differently for male and female entrepreneurs.

The remainder of the paper is organized as follows. Section 2 gives a description of the context in which the interventions were carried out, based on baseline data on the entrepreneurs and their businesses. Section 3 describes the intervention and provides data on the treatment-control balance. Section 4 discusses data and estimation methods, and Section 5 reports treatment effects on the performance of the businesses. Section 6 and Section 7 discuss mechanisms that may explain these treatment effects. Section 8 concludes.

2. THE CONTEXT: FINDINGS FROM BASELINE

The participants in the present study were all at the time of the baseline members of PRIDE, the largest microfinance institution in Tanzania.[4] PRIDE has 70 000 clients, the majority of whom are females, in 48 branches all over the country. They employ a modified Grameen Bank model, where group members are jointly responsible for each other's loans. To become a member of PRIDE, one must have an operating business and join a self-selected solidarity group of five members (called an enterprise group). We conducted our study in two branches of PRIDE in Dar es Salaam, namely Magomeni and Buguruni. These branches are located in different parts of the city and each of them has approximately 7500 clients.

Table 1 provides a description of the entrepreneurs in our sample, based on the baseline data collected in June-July 2008. The average entrepreneur is about 38 years old and has completed eight years of schooling. They run small businesses, typically hiring only one worker, and only around 20 percent of the businesses are registered by the government. The majority of the entrepreneurs keep some kind of business records. Commerce is the most common sector, involving around 70 percent of the entrepreneurs, while 38 percent of the entrepreneurs have a business in the service sector, and 15 percent in the manufacturing

[4] For further details on the organization, see www.pride-tz.org.

sector.[5] Kiosks and small market stalls are typical activities in commerce, small restaurants and repair shops are common in services, whereas furniture and brick making are examples of manufacturing activities in the sample. There is a balance between males and females in commerce, while female entrepreneurs dominate in services and males in manufacturing.

Average monthly profits in 2008 were 568 497 Tanzanian Shillings (TZS), equivalent to approximately 480 USD, and average sales were 2 489 228 TZS. We observe that male entrepreneurs operate on a larger scale than females, with around 50 percent higher sales, 20 percent higher profits, and 35 percent higher investments. The female entrepreneurs, on the other hand, have a somewhat higher profit margin, 24.6 percent versus 20.4 percent. There are no significant gender differences in the business practices with respect to record keeping and marketing, but the male entrepreneurs have a higher score on a baseline test of business skills. Females, on the other hand, have somewhat more education, measured as number of completed years of schooling.

3. THE INTERVENTIONS AND RANDOMIZATION PROCEDURE

3.1 The Interventions

The interventions were designed as randomized field experiments, and took place during 2008 and 2009. Business training was offered on a weekly basis from August 2008 to January 2009, and the business grant was given to a subset of the participants, trained and untrained, in March 2009.

The business training course consisted of 21 sessions, each lasting 45 minutes, starting directly after the clients' weekly loan meetings at the PRIDE premises. The course was developed by the Entrepreneurship Centre at the University of Dar Es Salaam (UDEC) and tailored to microentrepreneurs, with the aim of unleashing entrepreneurship and creating business growth. The course was piloted extensively in the spring of 2008, with trial sessions offered to microcredit clients from PRIDE's Kariakoo branch in Dar es Salaam (who are not part of the present study), to credit officers in PRIDE working on a daily basis with the entrepreneurs, and to local researchers working on microenterprise development in Tanzania.

[5] Many entrepreneurs have more than one business, and may hence be involved in more than one sector.

The final training program covered a range of topics particularly relevant for microentrepreneurs in Tanzania, including "Entrepreneurship and Entrepreneurial character", "Improving customer service", "Managing people in your business" and "Marketing strategies". A full list of topics is given in Appendix B. The lectures, which were given by UDEC staff in Kiswahili, were practically oriented, and topics were often illustrated by the use of case studies and role play. Frequently, the clients were given homework to prepare for the next class. There was neither a course fee nor any seating allowances.

A graduation ceremony was held at the end of January 2009, where clients who had participated in ten or more sessions were awarded a diploma. The diploma and the threshold were announced at an early stage in order to motivate clients to attend the sessions. The attendance was monitored closely by teachers and credit officers, and absent clients were contacted either at the branch or by phone. The average attendance rate at a session was 70 percent, while 83 percent of the clients qualified for a diploma, see also Figure 1A in Appendix A. Entry control was strictly enforced, and only those assigned to training were allowed to enter the classroom.

The business grant was offered to a subsample of the participants, both trained and non-trained, six weeks after the graduation ceremony. It was approximately equal to the average cost per participant of providing the business training, 100 000 TZS. To most entrepreneurs this is a substantial grant, corresponding to around 50 percent of average investments in the businesses in 2008 (see Table 1). The grant was given in cash and framed to improve the entrepreneur's business. The recipients of the grant were asked to keep records of how they spent the money. A copy of the letter accompanying the business grant is provided in Appendix B.

3.2 Selection and Randomization Procedure

In the randomization procedure, we exploit the fact that loan groups are randomly assigned to loan meeting days and hours according to availability of time slots at the branches, and therefore are independent of the characteristics of the entrepreneurs. For the business course, we randomly chose Tuesday (Magomeni) and Thursday (Buguruni) for training, and Monday

(Magomeni) and Wednesday (Buguruni) for non-training. In this way, no training took place on days when members of the non-training group attended their weekly loan meeting.

We only considered clients with PRIDE loans between 500 000 TZS and 1 000 000 TZS, which at the time of the baseline represented the second and third steps on the loan-ladder in the group lending program. This was motivated by the fact that there are very high dropout rates among clients with smaller loans, and also that we wanted to avoid a too heterogeneous target group for the lectures. For logistical reasons, we also only considered loan groups with loan meetings at 09:00, 10:00, 12:00 and 13:00. Applying this eligibility rule, 565 clients were eligible for training (the 'training group'), and 576 clients were eligible for non-training (the 'non-training group'). Out of the 1164 eligible clients, we interviewed 644 clients on the basis of accessibility, balanced between the training group (319) and the non-training group (325). Clients were interviewed at their business location. The objective of the baseline survey was framed as "to identify strategies to improve the functioning of microcredit institutions in Tanzania". Hence, clients were not informed about the prospective business training course. Moreover, the enumerators did not know who had been assigned to training and non-training.

After the business training was completed in January 2009, we randomly selected a subset of 252 clients to receive a business grant of 100 000 TZS, balanced between the training group (126) and the non-training group (126). All clients in our sample with loan-group meetings at 12:00 as well as those meeting at 09:00 on Wednesdays and Thursdays were offered a business grant.[6]

Table 2 shows that most baseline characteristics of the entrepreneur are not significantly correlated with the treatment status, indicating that our selection procedures created balanced treatment groups.

[6] An additional ten males were offered a grant in order to improve the gender balance. The males were randomly selected among the members in our sample with meeting times later than 09:00 on Wednesdays and Thursdays. The grant was collected by 247 out of the 252 entrepreneurs. We were not able, in our follow-up survey in 2009, to track down and interview the five entrepreneurs who did not collect the business grant.

4. DATA AND ESTIMATION METHODS

4.1 Data Issue

Data stem from the baseline survey conducted in June - July 2008, a post-intervention follow-up survey conducted in June - August 2009, and a lab experiment conducted in March 2009, after the training, but before the business grant was offered. In the follow-up survey, we reached 530 of the 644 clients; of these, 526 were still actively doing business.[7] A randomly selected subset of the sample, 126 entrepreneurs from the training group and 126 entrepreneurs from the non-training group, were invited to take part in the lab experiment; of these, 211 attended the lab, 107 from the training group and 104 from the non-training group.[8]

In line with previous studies in this field (de Mel et al., 2007, 2008; Karlan and Valdivia, 2010), the main source of information in the follow-up survey is self-reported data from the entrepreneurs. This raises the concern that respondents may exaggerate key outcome variables such as profits in order to impress the enumerator, or underreport true business results out of fear that the information will be spread to tax authorities. In order to deal with these issues, we asked about average monthly profits in two different ways, stated and calculated. The former is based on the entrepreneur's own estimate of operating profits on a normal business day. The latter is based on a more interactive process between the enumerator and the entrepreneur, to the extent possible by making use of business records, where the operating profits are calculated by subtracting the different categories of operating costs from income.

Figure 1 provides a histogram of the difference between monthly stated and calculated profits in our sample. We observe that the two measures of profits closely overlap, the average difference corresponding to only 3.9 percent of stated profit (25 410 TZS). However, as shown in Table 3, column (1), in the sample of 526 clients who were active entrepreneurs at the time of the follow-up survey, there is a statistically significant positive relation between training status and the difference between stated and calculated profits for male entrepreneurs. This may reflect a tendency of exaggerating profits among trained male entrepreneurs, or of underreporting profits among non-training male entrepreneurs. There is no statistically significant effect for female entrepreneurs or of the business grant.

[7] In Appendix A, Table A1, we report the upper and lower bounds for our main estimates, taking into account the level of attrition in the sample.

[8] The reported reasons for not attending the lab were that clients had exited PRIDE, illness, travelling, attending a funeral, and taking care of pressing family matters. Table A2 in Appendix A shows that we also had a balanced sample of clients in the lab. The detailed instructions for the lab experiment are provided in Appendix B.

In order to deal with this potential bias in our analysis, we trim the sample by removing entrepreneurs with the largest discrepancy between stated and calculated profit. As shown in Table 3, column (3), if we remove six percent of the sample (32 entrepreneurs), there is no statistically significant relationship between training treatment status and the discrepancy between stated and calculated profits. The remainder of our discussion of the follow-up survey is based on this trimmed sample of 494 entrepreneurs, but our main results are not sensitive to this trimming.[9] As we show in Appendix A, Tables A5-A7, we find similar effects for the whole sample of 526 clients and for samples based on other trimming rules.

We focus on stated profits in the following discussion, since this is in line with what has been done in the related literature. In particular, de Mel et al. (2009) argue that self-reported profits give a more precise estimate of true profits than calculated profits. In Appendix A, Tables A8-A9, however, we show that our main results are robust to using calculated profits, or to considering stated profits and calculated profits as defining a range for the true profits.

4.2 Intention To Treat Estimator

We estimate the basic intention to treat estimators (ITT) for each individual outcome Y_i. Gender turns out to be a crucial dimension in our analysis, and we therefore include the interaction term to capture differences in the impact of training between males and females. We have also studied possible interaction effects between gender and the business grant and between training and the business grant, but do not find any statistically significant patterns. Thus, in the following, we focus on estimations of the following specification:

$$Y_i = \alpha + \beta_1 Training_i + \beta_2 Grant_i + \beta_3 Female + \beta_4 (Training_i * Female_i) + \beta_5 Y_{i-1} + \beta_6 X_i + \varepsilon_i .$$

Training and *Grant* are dummy variables taking the value one if client *i* has been offered training and business grant, respectively. *Female* is a dummy taking the value one if the client is female; the interaction term between training and female is given by *Training*Female*; Y_{i-1} is the lagged dependent variable (measured in the baseline survey); X_i is a vector of the covariates, including baseline characteristics of the entrepreneurs and their businesses.

[9] Tables A3-A4 in Appendix A show that we also have balanced treatment groups for the trimmed subsample.

The ITT-estimators of the training are thus given by β_1 for male entrepreneurs and $(\beta_1 + \beta_4)$ for female entrepreneurs (in the tables we refer to the latter as *Sum Female*), β_2 is the ITT-estimator of the effect of a business grant and β_4 captures the degree to which the impact of the training is different for males and females.

For the business outcome regressions, we report the estimated treatment effect both with and without the vector of covariates, X_i. Given that *Training* and *Grant* are uncorrelated with unobserved explanatory factors, there is no need to include a covariate matrix to get unbiased ITT estimates, but including control variables makes the estimation more precise.[10]

4.3 Average Treatment Effect on the Treated

The intention to treat estimator does not take into account the fact that not all participants attended the lectures. In particular, 17 percent of the clients did not qualify to receive a diploma at the end of the course, most of whom only attended a few lectures. It is therefore interesting also to consider the impact on the clients who actually completed the course, and we do so by reporting the average treatment effect on the treated (ATET) for the main outcome variables.

We instrument whether a client completed the course (and received a diploma) by his or her treatment status.[11] To estimate ATET, there must only be one-sided non-compliance (Bloom, 1984), which in our case is satisfied since no one from the control group participated in the training. In addition, the instrument should only operate through one single known causal channel (Angrist and Pischke, 2009), which means that spillover effects from compliers to non-compliers in the training group or to clients in the non-training group should be ruled out. In the follow-up study, only three percent of the clients responded that they knew a client that attended a loan meeting in their branch on the other day that was included in this study, which means that we can rule out spillover effects from compliers to the non-training group. Moreover, Berge (2010) studies in detail possible spillover effects within loan groups from

[10] We include standard controls suggested by the literature as well as variables where our treatment-control balance shows a statistically significant difference at a five percent level. See Angrist & Pischke (2009) for a comprehensive discussion of control variables in experiments.

[11] We obtain similar ATET-estimates if we instrument whether a client attended any lectures at all by his or her treatment status.

the training program, but finds no evidence of spillover effects on the main outcome variables. We can therefore also rule out spillover effects from compliers to non-compliers within the training group. Finally, we have to assume that the non-compliers did not benefit directly from the course, which seems rather uncontroversial given that they only attended a few lectures (and 25 percent of the non-compliers no lectures at all). In sum, we thus argue that ATET gives us the estimated effect of the training on the clients that actually completed the course.

5. RESULTS ON BUSINESS PERFORMANCE

In this section we study the extent to which the interventions have improved the performance of the entrepreneurs in terms of profits, and whether this has worked through increasing the profit margin or the sales of the businesses.

Table 4A shows that training had a statistically significant effect on the businesses of males, increasing profits by around 20-30 percent, whereas we do not find any evidence of the training improving the profits of the businesses of females. We observe that the interaction term between training and female is statistically significant (with the exception of the ITT estimates without covariates), which shows that the there was a systematic difference between males and females in how the training impacted their businesses. As expected, the ATET estimates for the impact on male clients are higher than the ITT estimates, reflecting the assumption that the impact of the training worked through the subset of clients completing the course. Finally, we report the OLS estimates, showing the difference in profits between clients who received training (the compliers) and clients who did not receive training (the non-compliers and the clients in the non-training group). The OLS estimates are slightly higher than the ATET estimates for the male clients, illustrating that there was a small selection effect working through unobserved characteristics, where male clients benefitting more from the training or with more promising businesses were more likely to complete the course.

In contrast, we do not find any evidence of the business grant increasing the profits of the clients' businesses. As shown in Table 4A, both for males and females, the business grant coefficient is not statistically significant for any of the specifications. Thus, in sum, for the male entrepreneurs in our sample, the human capital constraint seems to be more binding than

the financial capital constraint, whereas for the female entrepreneurs none of the interventions improved the profits of their businesses.

An entrepreneur can increase profits by making the business more cost efficient, and thereby increase the profit margin (defined as profits divided by sales), and by expanding the business, and thereby increase sales. Table 4B reports how the training and the business grant have impacted the profit margins and sales. Interestingly, neither for males nor for females do we find an impact from the training on the profit margin. Thus, the increase in profits for male entrepreneurs has taken place through an increase in sales at the same level as profits, estimated to be around 20-30 percent. In contrast, trained females have not increased their sales, and, again, we observe that the interaction term between training and female is statistically significant. Finally, as with profits, we do not observe any impact from the business grant on the profit margin or sales.

These findings leave us with two puzzles. Why does the human capital intervention only affect the business performance of male entrepreneurs? And: Why does the financial capital intervention not have any effect at all? To gain a firmer understanding of these questions, we investigate in the following two sections the effects of the training and the business grant on business practices and entrepreneurial characteristics.

6. CHANGES IN BUSINESS PRACTICES

Tables 5A-5C provide an overview of how the interventions changed the business practices of the entrepreneurs, where we focus on the ITT estimates.[12] Overall, we observe that the training had a larger impact on the business practices of male entrepreneurs than of female entrepreneurs, and that the business grant did not have any marked impact on business practices. Both of these findings are consistent with the observed effects on the business performance.

If the entrepreneurs were credit constrained in their businesses, we would have expected the business grant to have an impact on investments, and possibly also on other financial dimensions. In Table 5A, we observe that the business grant did not cause any statistically

[12] The ATET-estimates provide the same picture, only strengthening the effects from training on the various business practices.

significant changes in the financial dimensions, which suggests that these entrepreneurs are not primarily constrained by financial capital. From Table 5C, we observe that the business grant did reduce the involvement in commerce for male entrepreneurs, which may reflect that some of them used the business grant to invest in equipment that enabled them to operate in the manufacturing or service sector. This may not necessarily have been a profitable move, however, since we observe both from the baseline survey and from the follow-up survey that entrepreneurs operating in the commerce sector have significantly higher profits than other entrepreneurs (t-tests of equality, $p<0.001$). The fact that the business grant did not change other business practices like employee relations and marketing, as shown in Tables 5B-5C, is in line with what we should expect, since this intervention did not target these dimensions.

In contrast, the training initiated important changes in business practices, both among males and females. In particular, from Tables 5B-5C, we observe that the training made the entrepreneurs more active in their employee relations, marketing, and record keeping, which are topics that were covered in depth in the lectures. We suggest that some of these changes may also shed light on why we only find an increase in profits and sales among trained male entrepreneurs. In particular, we observe from Table 5B that the training had a strong effect on the willingness of trained males to fire employees, whereas we do not see any such change for females. The profitability of improving employee management, for instance by the shedding of unproductive workers, has been shown in other studies of microfinance clients (Karlan and Zinman, 2009). The importance and difficulty of finding trustworthy workers were also highlighted by our entrepreneurs in the follow-up survey (to which we return in the following section). A number of clients reported that the employees had been stealing from them, and others that they were unable to expand because they could not find skilled workers. Thus, the fact that the trained male entrepreneurs were active in firing workers suggests that the training enabled them to improve the quality of their employees, and thereby also placed them in a better position to increase their sales and hence profits. The training also led to increased use of bonuses, where we find a statistically significant effect among females. However, this is arguably a softer strategy of employee management than the firing of workers. Furthermore, we observe that the estimated coefficient on the marketing index is higher for trained males than for trained females (even though the interaction term between training and female is not significant in this case), which provides suggestive evidence of the trained male entrepreneurs pursuing more aggressively a business strategy conducive to expansion and increased sales.

Finally, we note that there is a significant treatment effect on trained males' involvement in commerce, which was the sector with the highest profits and sales both in the baseline survey and in the follow-up survey, whereas we do not see a similar expansion of commercial activity among females.

In sum, our findings indicate that more active employee management, increased marketing, and a move into commerce were important drivers of the business expansion for male entrepreneurs. A fundamental question still remains, why did not the female entrepreneurs adopt the same set of strategies for their businesses?

7. EXPLORING THE MECHANISMS: GENDER AND ENTREPRENEURSHIP

The identification of new profitable business practices requires knowledge and understanding of how to best operate a business, whereas the decision to implement new business ideas requires the opportunities to do so and a mind-set that is conducive to business growth. In this way, differences in the effect of training on male and female entrepreneurs could stem from gender differences in business knowledge, mind-set, and external constraints. In this section we provide further discussion of how each of these dimensions sheds light on our findings, using evidence from both the surveys and the lab-experiment.[13]

7.1 Business Knowledge

Business knowledge was studied in the lab through a set of incentivized questions on best practice in business, covering topics such as customer care, employee management, time management, and definitions of sales, profits, variable costs and working capital.[14] In the follow-up survey, we asked a separate set of non-incentivized questions on the profit concept. We measure a client's business knowledge by the number of correct answers he or she had in these tests. As shown in Table 6A, column (1) and column (2), we obtain somewhat different results from the lab and the follow-up survey, but in none of the specifications do we find a statistically significant difference in the impact of the training on males and females (measured by the coefficient of the interaction term between training and female). Focusing

[13] Detailed instructions for the lab experiment are provided in Appendix B.

[14] For further discussion of the lab-test on business knowledge, see Bjorvatn and Tungodden (2010).

on column (3), which reports the overall performance of the lab sample on both tests, we observe that the training has increased the business knowledge of both male and female entrepreneurs.

In the follow-up survey we also invited the entrepreneurs to take part in a business plan competition. They were asked: "Suppose you were given 100 000 TZS as a business grant to invest in your business. How would you spend this money most profitably? Explain your choices." They were informed that the plans would later be evaluated, and that the three best plans would each be awarded a prize of 100 000 TZS.[15] Column (4) in Table 6A shows that the training has significantly improved the ability of females to formulate business plans, whereas we do not see a similar effect for males. Possibly, the stronger effect of training on females is due to their lower initial skills, as reflected in males scoring significantly better in the non-training group.

In sum, we conclude that the observed difference in impact from training on business practices and business performance cannot be explained by females not benefitting in business knowledge from the course. If anything, our results point to training having a larger impact on the business knowledge of females, which could be due to the fact that female entrepreneurs had less knowledge to start with.

7.2 Mind-Set

The lab experiment also investigated different mind-set variables. Willingness to compete and confidence were measured based on a set of questions on five different topics that were unrelated to the training (sports, maths, politics, health, and geography). In the first round, the clients were paid a fixed amount of 250 TZS for each correct answer, and, as expected, the

[15] Roughly speaking, the plans can be divided into two categories; those that were justified (42 percent) and those that were not, including a few cases where the entrepreneurs were unable to come up with any business plan at all (58 percent). An example of a justified plan is the following: "She would buy sealed boxes to sell the food that she delivers. This way she will attract more customers, the food will look more expensive and professional. She would also buy shoes for her employees. That way, they would look more professional." An example of an unjustified plan is the following: "She would invest the money in her fish business, to buy more stock of the same fish." Our main results are also robust to more nuanced evaluations of the business plans, e.g. using a scale 1-4.

training and the non-training group performed equally well (25.9 versus 25.3 correct answers; t-test of equality, p=0.581). Before the second round, the participants were asked about their expectations about own performance ("Are you better than, equal to, or worse than a typical microcredit client in answering questions on topic X"), which gave us a measure of confidence, and then, for each of the five topics, they had to choose whether to compete or not. If they decided to compete and performed better than the average microcredit client, they were paid 750 TZS per correct answer; if they performed worse, on the other hand, they were paid nothing. Alternatively, they could decide to work for the fixed rate of 250 TZS. The number of times they entered the competition gave us a measure of their willingness to compete.

Risk preferences were measured by the number of times the participant chose a risky alternative when a safe alternative was available. The participants were presented with four situations where they could choose between a risky alternative with two equally likely outcomes, 6000 TZS or nothing, and a safe alternative. The value of the safe alternative varied across situations, taking the values 1000 TZS, 1500 TZS, 2000 TZS and 2500 TZS.

Time preferences were measured at the end of the experiment. The participants were given the choice of whether to pick up their participation fee one week after the lab, at which point they would receive 15 000 TZS, three weeks after the lab and receive 20 000 TZS, or five weeks after the lab and be given 25 000 TZS. Hence, by waiting four weeks their participation fee would increase by 67 percent. We here report their time preference by a dummy, which takes the value one if the participant chose the five-week option.[16]

Table 6B summarizes the findings for the mind-set variables from the lab experiment. We observe that the training has had an impact on the mind-set of the entrepreneurs. It increased the confidence of the female entrepreneurs, and it made the male entrepreneurs more risk averse. Interestingly, this contributed to eliminating gender differences: in the training group, there are no statistically significant differences between females and males when it comes to confidence and risk preferences (t-tests of equality, p=0.643 and p=0.289), whereas the males are much more confident and risk-willing than the females in the non-training group (t-tests of

[16] In Appendix A, Table A10, we show that our results on risk- and time preferences are robust to adopting the approach of Benjamin et al. (2010), who use interval regressions where the dependent variables are the minimum risk premium that the client requires to choose the risky alternative and the log of the minimum continuously compounded weekly interest rate that the participant requires to choose the delayed payment.

equality, $p<0.001$ and $p=0.001$). There is no significant gender difference or treatment effect on time preferences. Finally, in the lab, we do not see any impact of the training on the willingness to compete. But here we observe a stark difference between males and females both in the training group and in the non-training group; females are much less willing to compete than males (t-tests of equality, $p=0.049$ and $p=0.013$). The observation that females are less inclined to compete is in line with the literature on gender and competitiveness (Niederle and Vesterlund, 2007, Croson and Gneezy, 2009, Fletschner, Anderson, Cullen, 2010).

In the follow-up survey, we also asked some general mind-set questions on what the entrepreneurs considered as obstacles to business growth, and also whether they preferred to do the same kind of business as their neighbor. The last question was motivated by a concern expressed both by the management of PRIDE and by researchers at UDEC, namely that too many microentrepreneurs were involved in copycatting the businesses of their neighbors. In the words of Donath Olomi, former Director of UDEC "One of the most debilitating constraints is limited awareness and capacity of existing and potential business operators, in terms of exposure, values, knowledge and skills. The result is that most simply duplicate what their neighbors are doing and do not appreciate the importance of innovation, quality, credibility, and customer care" (Olomi, 2007, page 16). From Table 8, we observe that the training has changed the entrepreneurs' perceptions of business obstacles. Fewer trained male entrepreneurs consider the quality of workers and bureaucratic barriers to be serious obstacles to business growth, and fewer trained female entrepreneurs consider demand to be a serious obstacle to business growth. In the training group, we find statistically significant differences between males and females with respect to their views on quality of workers and bureaucratic barriers (t-test of equality, $p=0.064$ and $p=0.007$). We do not see any influence from training on the clients' preference for copycatting, but, in the training group, more female than male entrepreneurs express a preference for doing the same kind of business as their neighbor (t-test of equality, $p=0.015$).

In sum, the human capital intervention had an impact on a range of mind-set variables. Notably, however, training had no effect on the entrepreneurs' willingness to compete, with both trained and non-trained males being significantly more willing to compete than females. We argue that the difference in willingness to compete represents a fundamental difference in

mind-set between the male and female entrepreneurs, and that the greater aversion to competition among the female entrepreneurs may constitute an 'internal' constraint on business growth.

7.3 External Constraints

In Tanzania, as in most other countries, females face more binding external constraints on their activities than males. For instance, females typically have the main responsibility for the household. One indication of this in our data is the fact that females spend on average ten hours less per week than men in their businesses. Qualitative information from our surveys also shows that females more often than males operate their businesses in or close to their home, which suggests domestic commitments.

Moreover, females may in some cases have a lesser say in decisions that are important for the household, including business decisions. One indication of this from our survey is the fact that females are less informed about their husbands' income than vice versa. In the follow-up survey, we asked the married clients whether they knew what their spouse's income was in a normal month: 79 percent of the male entrepreneurs responded positively, whereas only 45 percent of the female entrepreneurs reported to have this information. In the follow-up survey we also gathered anecdotal evidence suggesting that in some cases the husbands were in charge of businesses formally operated by female PRIDE members.

It seems reasonable to assume that domestic obligations and lack of influence over business decisions make females less able to implement business knowledge from the training program. In particular, such constraints are likely to form a significant barrier to carrying out important business decisions like firing employees and introducing new business activities, which seem to be driving forces for increased sales and profits among the male entrepreneurs in our data set.[17] Moreover, we find no effect of training on time spent in the business or on how informed married, female entrepreneurs are about their spouse's income, which indicates that the training has not eased the external constraints on business growth faced by the female entrepreneurs.

[17] Accordingly, when reflecting upon the possible impact of the training program immediately after its completion, the teachers involved expressed concerns as to whether the female participants would benefit from it, stating that: "Because of culture, most women are marginalized and sometimes interfered by their male counterparts when it comes to growing their business."

7.4 A Simple Model

We here outline a simple model that illustrates how a complementarity between business knowledge and internal and external constraints, or simply constraints for short, may explain the gender difference in impact from training. Let the sales of entrepreneurs *i* be determined by two factors; knowledge (k_i) and constraints (c_i). Moreover, in line with the data, let profits be proportional to sales. 'Knowledge' is assumed to be exogenously given, based on the realistic assumption that there is no market for business training of small scale entrepreneurs.[18] Increased knowledge is the target of business training. 'Constraints' captures the degree to which entrepreneurs have the freedom or willingness to implement their ideas in practice. In line with what we observed in the follow-up survey and in the lab, we assume that these constraints are not affected by the training.

To highlight the key mechanism in the clearest possible way, we assume that knowledge and constraints are perfectly complementary in explaining the level of sales (and hence profits):

$$y_i = \arg\min(k_i, c_i)\,. \tag{1}$$

Consider two types of entrepreneurs, males and females, i=*m,f*, where $c_m > c_f$. Assume now that the level of knowledge, both prior to training and after training, is in the interval:

$$c_f < k_i < c_m\,, \tag{2}$$

implying that c_f is a binding constraint for females, while males are constrained by knowledge.[19] Clearly, when the inequality in (2) holds, the model predicts that the increase in k_i caused by the human capital intervention should boost sales and profits of male entrepreneurs only. Even though trained females become more skillful in identifying profitable business opportunities, this is of no value if they do not have the freedom and willingness to implement these ideas in practice.

[18] Business training courses do exist in Tanzania, but are costly, and typically targeted to more advanced entrepreneurs than the average microfinance client.

[19] Our lab-results also show that males prior to training have a higher level of business knowledge, but given that (2) holds, this fact is not important for our argument. For completeness, if $k_i < c_f$, training would stimulate the businesses of both males and females, while if $k_i > c_m$, it would not affect the businesses of either gender.

A similar model can also be used to explain the lack of impact from the business training grant. If we interpret the variable *c* in the model above as representing financial capital, and assume that business knowledge, both prior to and after the training, is the binding constraint for both males and females, then it follows that there will be no impact from the business grant intervention.

8. CONCLUDING REMARKS

Our study has shown that a human capital intervention in the form of business training can have a powerful effect on business performance of poor microenterpreneurs. In contrast, a comparable infusion of financial capital had no effect on the businesses. This suggests that human capital is a fundamental constraint for microenterprise development and more binding than the financial capital constraint.[20]

We find that the effect of the human capital intervention is contingent on gender. In particular, we find on average no effect on business performance of training for female entrepreneurs, while male entrepreneurs experience an increase in sales and profits of around 20-30 percent. The lack of treatment effect on business outcomes for female entrepreneurs harmonizes with the findings in Karlan and Valdivia (2010), who do not observe any effect on sales of the business training program implemented amongst members of a female-only microfinance institution in Peru. Taken together, the Peru-study, the present Tanzania-study on business training, and the studies by de Mel et al. (2007, 2008) on the returns to capital among microentrepreneurs in Sri Lanka, suggest that promoting business development is more challenging among female entrepreneurs than among male entrepreneurs.

Bruhn, Karlan, and Schoar (2010) emphasize the importance of managerial capital as a determinant for business performance. Their argument is that different levels of managerial capital, in dealing with financial capital, workers and customers, can explain the heterogeneous effects of capital grants found by for instance de Mel et al. (2008). However, an important ambition of the business training program evaluated in the present paper was precisely to provide the entrepreneurs with more management skills. The fact that this

[20] In the surveys, we also asked questions about household and health issues, but in general find very weak treatment effects on these dimensions.

treatment had very different impacts on male and female entrepreneurs points to the importance of other, and perhaps deeper, factors that may constrain the female entrepreneurs. Here, we have referred to these factors as internal and external constraints, and linked them to lab evidence on the willingness to compete and to survey and other interview-based evidence on the social position of women in Tanzania. Our research indicates that, given the more binding constraints facing female entrepreneurs, adding human or financial capital may be relatively fruitless. An important policy implication from our research is thus that more comprehensive measures are necessary in order to promote development among female entrepreneurs, paying greater attention to their motivation for joining microfinance and to the external constraints which may limit their ambitions.

REFERENCES

Angrist, Joshua. D. and Jörn-Steffen Pischke (2009). *Mostly Harmless Econometrics: An Empiricist's Companion*, Princeton University Press.

Banerjee, Abhijit, Esther Duflo, Rachel Glennerster, and Cynthia Kinnnan (2009). "The miracle of microfinance? Evidence from a randomized evaluation," mimeo, MIT Department of Economics.

Berge, Lars Ivar Oppedal (2010). "Measuring spillover effects from entrepreneurship training: evidence from a field experiment in Tanzania," mimeo, NHH, Department of Economics.

Bjorvatn, Kjetil and Bertil Tungodden (2010). "Teaching entrepreneurship in Tanzania: Evaluating participation and performance," *Journal of the European Economic Association,* 8(2–3): 561–570.

Benjamin, Daniel J., James J. Choi, and A. Joshua Strickland (2010). "Social identity and preferences," *American Economic Review,* 100 (4): 1913-1928.

Bruhn, Miriam, Dean Karlan, and Antoinette Schoar (2010). "What capital is missing in developing countries?" *American Economic Review: Papers and Proceedings* 100 (2): 629-633.

Croson, Rachel and Uri Gneezy (2009). "Gender differences in preferences," *Journal of Economic Literature* 47 (2): 448-474.

Deaton, Angus (2010). "Instruments, randomization, and learning about development," *Journal of Economic Literature* 48 (2): 424-455.

de Mel, Suresh, David McKenzie, and Christopher Woodruff (2007). "Who does microfinance fail to reach? Experimental evidence on gender and microenterprise returns," BREAD working paper No. 157.

de Mel, Suresh, David McKenzie, and Christopher Woodruff (2008). "Returns to capital in microenterprises: Evidence from a field experiment," *Quarterly Journal of Economics*, 123 (4): 1329-1371.

de Mel, Suresh, David McKenzie, and Christopher Woodruff (2009). "Measuring microenterprise profits: Must we ask how the sausage is made?" *Journal of Development Economics*, 88 (1): 19-31.

Emran, M. Shahe, AKM Mahbub Morshed and Joseph. E. Stiglitz (2009). "Microfinance and missing markets," mimeo, Columbia University, Department of Economics.

Falk, Armin and James J. Heckman (2009). "Lab experiments are a major source of knowledge in social sciences," *Science*, 326: 535-538.

Fletschner, Diana, C. Leigh Anderson, and Alison Cullen (2010). "Are women as likely to take risks and compete? Behavioural findings from Central Vietnam," *Journal of Development Studies*, 46 (8): 1459-1479.

Jakiela, Pamela, Edward Miguel, and Vera L. te Velde (2010). "You've earned it: Combining field and lab experiments to estimate the impact of human capital on social preferences," NBER Working Paper 16449.

Karlan, Dean and Jonathan Morduch (2009). "Access to finance," in Dani Rodrik and Mark Rosenzweig, eds., *Handbook of Development Economics*, Volume 5. Amsterdam: Elsevier: 4704-4784.

Karlan, Dean and Jonathan Zinmam (2009). "Expanding microenterprise credit access: Using randomized supply decisions to estimate the impacts in Manila," CEPR Discussion Paper No. 7396, August 2009.

Karlan, Dean and Martin Valdivia (2010). "Teaching entrepreneurship: Impact of business training on microfinance clients and institutions," Forthcoming *Review of Economics and Statistics.*

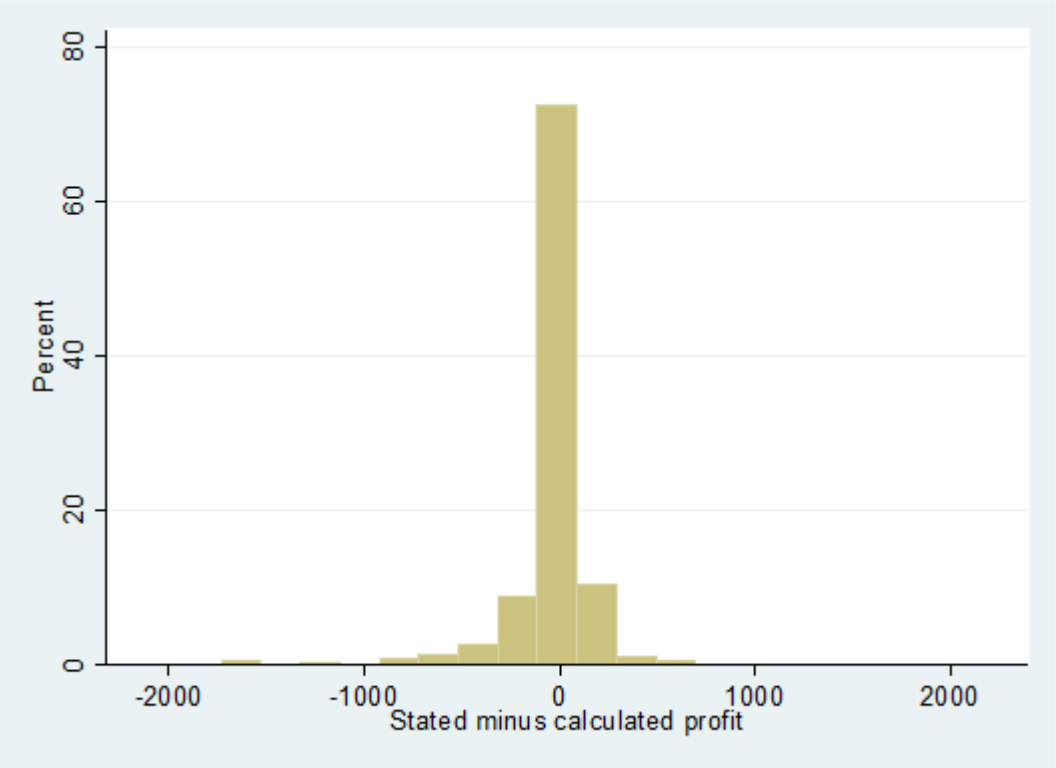
Klinger, Bailey and Matthias Schündeln (2008). "Can entrepreneurial activity be taught? Quasi-experimental evidence from Central America," CID Working Paper No. 153.

Lee, David (2005). "Training, wages, and sample selection: Estimating sharp bounds on treatment," NBER Working Paper No. 11721.

Niederle, Muriel and Lise Vesterlund (2007). "Do women shy away from competition? Do men compete too much?" *Quarterly Journal of Economics*, 122 (3): 1067-1101.

Olomi, Donath (2007). "Unleashing entrepreneurial potentials of the poor in Tanzania: Prospects, challenges and way forward," mimeo, Dar es Salaam, Tanzania

Figure 1



Note: The figure shows the distribution of the difference between stated profits and calculated profits (both in 1000 TZS) in the follow-up survey.

Table 1: Baseline values by gender

	(1) Total	(2) Male	(3) Female	(4) Difference
BUSINESS OUTCOMES				
Profit	568.497	625.206	538.664	86.542**
	(17.914)	(34.305)	(20.417)	(37.565)
Sales	2489.228	3062.518	2187.640	874.877***
	(143.895)	(228.591)	(182.218)	(301.021)
Profit margin	0.332	0.311	0.343	-0.032**
	(0.007)	(0.013)	(0.009)	(0.015)
SECTOR				
Commerce	0.699	0.703	0.697	0.006
	(0.018)	(0.031)	(0.022)	(0.038)
Service	0.377	0.257	0.441	-0.184***
	(0.019)	(0.029)	(0.024)	(0.040)
Manufacturing	0.154	0.234	0.111	0.123***
	(0.014)	(0.029)	(0.015)	(0.030)
SCALE OF BUSINESS				
Employees	1.084	1.180	1.033	0.147
	(0.064)	(0.102)	(0.082)	(0.135)
PRIDE loan	770.342	766.677	772.275	-5.608
	(9.394)	(16.009)	(11.614)	(19.780)
Investments	198.983	249.937	172.178	77.760*
	(20.692)	(43.369)	(21.762)	(43.462)
BUSINESS PRACTICE				
Keeping records	0.663	0.667	0.661	0.006
	(0.019)	(0.032)	(0.023)	(0.039)
Registration	0.207	0.230	0.194	0.035
	(0.016)	(0.028)	(0.019)	(0.034)
Marketing Index	0.490	0.498	0.485	0.014
	(0.012)	(0.019	(0.015)	(0.024)
Business knowledge	0.704	0.722	0.694	0.028**
	(0.006)	(0.011)	(0.008)	(0.013)
CHARACTERISTICS OF THE ENTREPRENEUR				
Age	37.710	37.30	37.92	-0.622
	(0.333)	(0.591)	(0.402)	(0.701)
Education	7.935	7.734	8.040	-0.306*
	(0.084)	(0.137	(0.105)	(0.176)
Muslim	0.662	0.730	0.626	0.104***
	(0.019)	(0.030	(0.024)	(0.039)
Observations	644	222	422	

Note: The table reports average values from the baseline survey in 2008. Profit: Monthly profit in the businesses of the entrepreneur, in thousand TZS. Sales: Monthly sales in the businesses of the entrepreneur, in thousand TZS. Profit Margin: Profit/Sales. Commerce, Service, and Manufacturing: Share of clients involved in each of these sectors. Employees: Number of employees in the businesses of the entrepreneur. PRIDE loan: Initial size of loan in PRIDE, in thousand TZS. Investments: Investments in the businesses of the entrepreneur in the last 12 months, excluding additions to stocks, in thousand TZS. Keeping records: Indicator variable taking the value one if the entrepreneur reports keeping records. Registration: Indicator variable taking the value one if at least one of the businesses of the entrepreneur is registered by the government. Marketing index: An index of marketing initiatives made by entrepreneur the last year, from zero (no initiatives) to one (initiatives along three

*dimensions to attract customers. Business knowledge: Test of business skills, share of correct answers. Age: The age of the entrepreneur, in number of years. Education: The number of years of schooling of the entrepreneur. Muslim: Indicator variable taking the value one if the entrepreneur is Muslim. Cluster-robust standard errors in parentheses; *p<0.10, ** p<0.05, *** p<0.01.*

Table 2: Verification of randomization

	(1) Training, Full Sample	(2) Training, Female	(3) Training, Male	(4) Grant, Full Sample	(5) Grant, Female	(6) Grant, Male
Profit (log)	-0.021	-0.036	0.016	-0.016	-0.036	0.021
	(0.040)	(0.052)	(0.072)	(0.039)	(0.052)	(0.065)
Sales (log)	0.001	-0.002	-0.020	0.035	0.047	0.038
	(0.035)	(0.046)	(0.058)	(0.035)	(0.046)	(0.058)
Commerce	0.068	0.045	0.115	-0.086	-0.100	-0.029
	(0.055)	(0.068)	(0.098)	(0.054)	(0.063)	(0.094)
Service	0.095*	0.108*	0.075	-0.010	-0.063	0.150
	(0.053)	(0.062)	(0.102)	(0.053)	(0.059)	(0.104)
Manufacturing	0.071	0.130	-0.018	-0.050	-0.148*	0.149
	(0.063)	(0.085)	(0.113)	(0.060)	(0.076)	(0.109)
Employees	0.006	0.005	0.017	-0.016	-0.007	-0.054*
	(0.013)	(0.015)	(0.031)	(0.011)	(0.013)	(0.028)
PRIDE loan	-0.066	0.051	-0.245	0.011	0.006	-0.029
	(0.087)	(0.105)	(0.156)	(0.087)	(0.103)	(0.157)
Investments	-0.029	-0.063	-0.031	0.010	0.076	-0.066
	(0.041)	(0.052)	(0.053)	(0.040)	(0.048)	(0.043)
Keeping records	0.044	0.005	0.104	-0.066	-0.080	-0.017
	(0.046)	(0.057)	(0.079)	(0.046)	(0.058)	(0.077)
Registration	0.093*	0.084	0.108	0.014	0.000	0.044
	(0.050)	(0.065)	(0.081)	(0.051)	(0.062)	(0.097)
Marketing Index	-0.190**	-0.121	-0.298**	-0.001	0.010	-0.007
	(0.074)	(0.084)	(0.128)	(0.071)	(0.086)	(0.121)
Age	-0.004	-0.006*	-0.001	0.004	0.006*	0.002
	(0.002)	(0.003)	(0.004)	(0.002)	(0.003)	(0.005)
Education	-0.017*	-0.029**	0.011	-0.003	0.002	-0.016
	(0.010)	(0.012)	(0.018)	(0.011)	(0.012)	(0.020)
Muslim	0.067	0.058	0.054	-0.117***	-0.060	-0.271***
	(0.045)	(0.054)	(0.083)	(0.045)	(0.055)	(0.081)
Business Knowledge	0.156	0.134	0.071	-0.011	-0.106	0.060
	(0.122)	(0.156)	(0.213)	(0.120)	(0.152)	(0.202)
Grant	0.021	0.036	0.006			
	(0.056)	(0.066)	(0.084)			
Training				0.020	0.035	0.006
				(0.054)	(0.064)	(0.080)
Observations	644	422	222	644	422	222

*Note: The table reports regressions of treatment status on variables from the baseline survey in 2008. Profit: Monthly profit in the businesses of the entrepreneur, in thousand TZS. Sales: Monthly sales in the businesses of the entrepreneur, in thousand TZS. Commerce, Service, and Manufacturing: Share of clients involved in each of these sectors. Employees: Number of employees in the businesses of the entrepreneur. PRIDE loan: Initial size of loan in PRIDE, in thousand TZS. Investments: Investments in the businesses of the entrepreneur in the last 12 months, excluding additions to stocks, in thousand TZS. Keeping Records: Indicator variable taking the value one if the entrepreneur reports keeping records. Registration: Indicator variable taking the value one if at least one of the businesses of the entrepreneur is registered by the government. Marketing index: An index of marketing initiatives made by entrepreneur the last year, from zero (no initiatives) to one (initiatives along three dimensions to attract customers. Business knowledge: Test of business skills, share of correct answers.Age: The age of the entrepreneur, in number of years. Education: The number of years of schooling of the entrepreneur. Muslim: Indicator variable taking the value one if the entrepreneur is Muslim. Cluster-robust standard errors in parentheses; *p<0.10, ** p<0.05, *** p<0.01.*

Table 3: Stated profit vs. calculated profit

	(1)	(2)	(3)	(4)
Training	0.109**	0.074	0.042	0.038
	(0.049)	(0.048)	(0.046)	(0.039)
Grant	-0.003	-0.015	-0.021	-0.024
	(0.032)	(0.029)	(0.027)	(0.025)
Training*Female	-0.155**	-0.110*	-0.070	-0.063
	(0.063)	(0.059)	(0.057)	(0.051)
Female	0.079*	0.054	0.043	0.035
	(0.046)	(0.043)	(0.042)	(0.036)
Sum Female	-0.045	-0.036	-0.029	-0.025
	(0.040)	(0.035)	(0.034)	(0.032)
Observations	526	510	494	478

*Note: The table reports regressions of the difference between stated and calculated profits on treatment status, controlling for gender. Column (1) is for the full sample of active entrepreneurs in the follow-up survey. Columns (2) – (4) are trimmed samples, where we have removed the entrepreneurs with the largest difference between stated and calculated profits. Cluster-robust standard errors in parentheses; *p<0.10, ** p<0.05, ***p<0.01.*

Table 4A: Profits

	(1) ITT no covar.	(2) ITT with covar.	(3) ATET no covar.	(4) ATET with covar.	(5) OLS with covar.	(6) OLS no covar
Training	0.211*	0.253**	0.237*	0.283**	0.265**	0.305***
	(0.117)	(0.115)	(0.130)	(0.127)	(0.115)	(0.115)
Grant	0.057	0.027	0.056	0.025	0.055	0.025
	(0.071)	(0.075)	(0.070)	(0.074)	(0.070)	(0.075)
Training*Female	-0.255*	-0.309**	-0.289*	-0.350**	-0.253*	-0.308**
	(0.150)	(0.150)	(0.171)	(0.169)	(0.149)	(0.148)
Female	-0.027	-0.004	-0.027	-0.004	-0.039	-0.019
	(0.109)	(0.107)	(0.108)	(0.106)	(0.102)	(0.102)
Sum Female	-0.045	-0.057	-0.052	-0.067	0.012	-0.003
	(0.091)	(0.091)	(0.106)	(0.105)	(0.090)	(0.090)
Observations	494	494	494	494	494	494

*Note: The table reports regressions of profits on treatment status, controlling for gender. Covariates include age, gender, education, number of businesses, PRIDE branch, PRIDE loan size, marketing index, religion, and the lagged dependent variable. Cluster-robust standard errors in parentheses; *p<0.10, ** p<0.05, *** p<0.01.*

Table 4B: Profit margin and sales

	(1) Profit Margin ITT	(2) Profit Margin ATET	(3) Sales ITT	(4) Sales ATET
Training	-0.014	-0.015	0.257**	0.288**
	(0.028)	(0.031)	(0.123)	(0.137)
Grant	-0.004	-0.004	0.038	0.036
	(0.016)	(0.015)	(0.073)	(0.072)
Training*Female	0.003	0.003	-0.262*	-0.295*
	(0.033)	(0.037)	(0.157)	(0.177)
Female	-0.013	-0.013	0.044	0.044
	(0.024)	(0.024)	(0.110)	(0.109)
Sum Female	-0.010	-0.012	-0.006	-0.007
	(0.018)	(0.021)	(0.089)	(0.103)
Observations	494	494	494	494

*Note: The table reports regressions of profit margin and sales on treatment status, all regressions controlling for gender and covariates. Covariates include age, gender, education, number of businesses, PRIDE branch, PRIDE loan size, marketing index, religion, and the lagged dependent variable. Cluster-robust standard errors in parentheses; *p<0.10, ** p<0.05, *** p<0.01.*

Table 5A: Finance and investment

	(1) Total Savings ITT	(2) Total Loans ITT	(3) Total Investments ITT	(4) Consump./Loan ITT
Training	218.059***	173.668**	-38.395	-0.096**
	(82.246)	(78.592)	(177.041)	(0.047)
Grant	6.359	13.988	12.143	-0.050
	(63.705)	(47.380)	(90.523)	(0.033)
Training*Female	-172.751	-174.798*	75.188	0.068
	(107.680)	(91.262)	(196.098)	(0.061)
Female	37.364	52.654	-97.901	0.040
	(75.420)	(57.195)	(167.152)	(0.046)
Sum Female	45.308	-1.130	36.792	-0.028
	(67.688)	(48.473)	(81.628)	(0.038)
Observations	494	494	494	494

*Note: The table reports ITT regressions of total savings, total loans, total investments, and share of consumption of PRIDE loan on treatment status, all regressions controlling for gender and covariates. Covariates include age, gender, education, number of businesses, PRIDE branch, PRIDE loan size, marketing index, religion, and the lagged dependent variable (not available in (4)). Cluster-robust standard errors in parentheses; *p<0.10, ** p<0.05, *** p<0.01.*

Table 5B: Employee relations

	(1) No of workers ITT	(2) No fired ITT	(3) No given bonus ITT
Training	-0.053	0.273***	0.141
	(0.200)	(0.086)	(0.161)
Grant	0.015	0.111*	0.020
	(0.104)	(0.066)	(0.079)
Training*Female	0.227	-0.214*	0.035
	(0.226)	(0.112)	(0.182)
Female	-0.226	0.080	-0.102
	(0.181)	(0.054)	(0.140)
Sum Female	0.174	0.059	0.176**
	(0.113)	(0.064)	(0.078)
Observations	494	494	494

*Note: The table reports ITT regressions of total number of workers, total number of fired workers, and total number of workers given bonus on treatment status, all regressions controlling for gender and covariates. Covariates include age, gender, education, number of businesses, PRIDE branch, PRIDE loan size, marketing index, religion, and the lagged dependent variable. Cluster-robust standard errors in parentheses; *p<0.10, **p<0.05, *** p<0.01.*

Table 5C: Other business practices

	(1) Marketing Index ITT	(2) Commerce ITT	(3) Record Keeping ITT	(4) Registration ITT
Training	0.125***	0.130**	0.255***	-0.087
	(0.045)	(0.059)	(0.065)	(0.070)
Grant	-0.003	-0.067*	0.025	0.056
	(0.027)	(0.034)	(0.040)	(0.035)
Training*Female	-0.049	-0.078	-0.082	0.104
	(0.054)	(0.076)	(0.082)	(0.078)
Female	0.013	0.075	0.024	-0.146**
	(0.041)	(0.056)	(0.066)	(0.064)
Sum Female	0.076**	0.052	0.173***	0.017
	(0.030)	(0.042)	(0.049)	(0.036)
Observations	494	494	494	494

*Note: The table reports ITT regressions of a marketing index, involvement in commerce, record keeping, and formal registration of the business on treatment status, all regressions controlling for gender and covariates. Covariates include age, gender, education, number of businesses, PRIDE branch, PRIDE loan size, marketing index, religion, and the lagged dependent variable. Cluster-robust standard errors in parentheses; *p<0.10, ** p<0.05, *** p<0.01.*

Table 6A: Business knowledge

	(1) Lab ITT	(2) Survey ITT	(3) Combined ITT	(4) Business Plan ITT
Training	0.044	0.052**	0.161*	-0.048
	(0.040)	(0.024)	(0.089)	(0.079)
Grant	–	0.022	–	0.046
		(0.015)		(0.046)
Training*Female	0.037	-0.023	-0.052	0.192*
	(0.052)	(0.030)	(0.108)	(0.099)
Female	-0.099**	-0.020	-0.110	-0.149*
	(0.041)	(0.021)	(0.080)	(0.076)
Sum Female	0.080**	0.029*	0.110*	0.144**
	(0.033)	(0.017)	(0.060)	(0.058)
Observations	211	494	211	494

*Note: The table reports ITT regressions of business knowledge on treatment status, all regressions controlling for gender and covariates. Covariates include age, gender, education, number of businesses, PRIDE branch, PRIDE loan size, marketing index, and religion. Column (1) is from an incentivized test in the lab, column (2) from a non-incentivized test in the follow-up survey. The dependent variable in column (3) is the sum of the performance on the two tests. Grant is not included in columns (1) and (3), since the lab took place prior to the distribution of the business grant. Column (4) reports the result of the business plan competition from the follow-up survey, where the dependent variable is a dummy taking the value one if the plan was justified and zero otherwise. Covariates include age, gender, education, number of businesses, PRIDE branch, PRIDE loan size, marketing index, religion, and the lagged dependent variable (not available for regressions (1) and (4)). Cluster-robust standard errors in parentheses; *p<0.10, ** p<0.05, *** p<0.01.*

Table 6B: Mindset: Lab

	(1) Confidence ITT	(2) Compete ITT	(3) Risk ITT	(4) Time ITT
Training	-0.535	-0.042	-0.834***	-0.001
	(0.440)	(0.512)	(0.315)	(0.119)
Training*Female	1.289**	0.309	1.120***	0.136
	(0.557)	(0.650)	(0.393)	(0.144)
Female	-1.654***	-1.436***	-0.917***	-0.108
	(0.355)	(0.482)	(0.263)	(0.098)
Sum Female	0.754**	0.027	0.229	0.135
	(0.323)	(0.400)	(0.229)	(0.084)
Observations	211	211	211	211

*Note: The table reports ITT regressions of the entrepreneur's confidence, willingness to compete, risk- and time preferences, controlling for gender and covariates. Confidence is measured on a scale from minus one (worse than others) to one (better than others), willingness to compete is measured as the number of times the entrepreneur decides to compete, risk is measured as the number of times the entrepreneur chooses the risky alternative, and time is a dummy taking the value one if the entrepreneur decides to wait with the payment for five weeks. Covariates include age, gender, education, number of businesses, PRIDE branch, PRIDE loan size, marketing index, and religion. Cluster-robust standard errors in parentheses; *p<0.10, ** p<0.05, *** p<0.01.*

Table 6C: Mindset: Survey

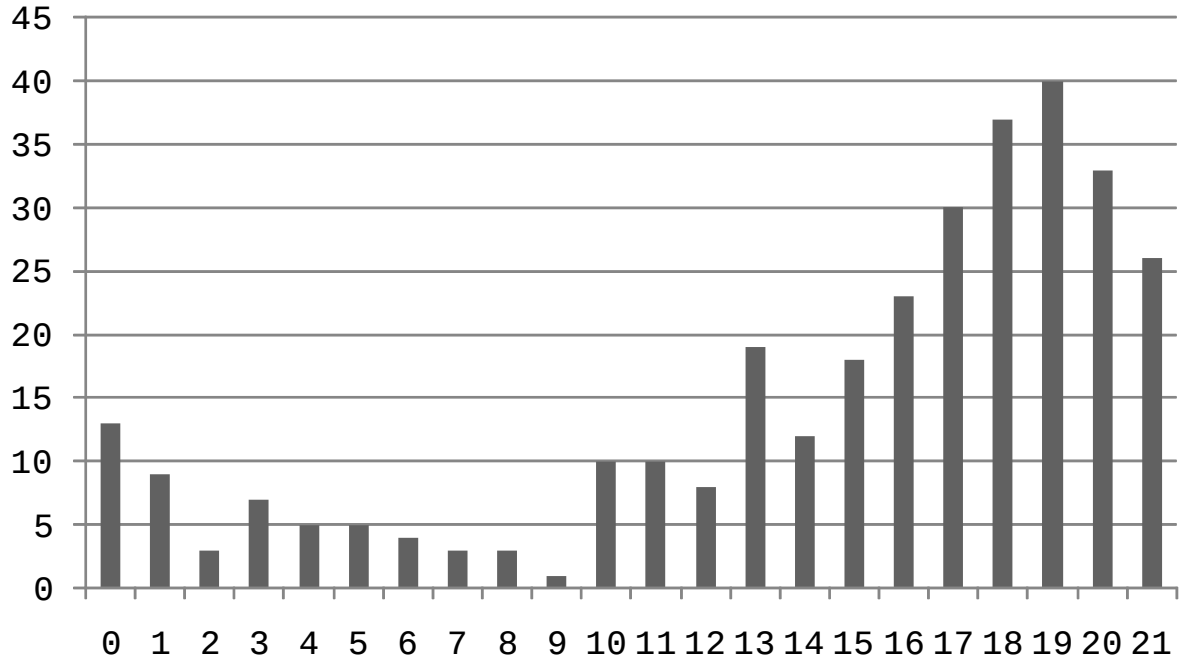
	(1) Quality of worker ITT	(2) Bureaucratic barriers ITT	(3) Market size ITT	(4) Copycatting ITT
Training	0.139**	0.124*	0.001	0.071
	(0.069)	(0.072)	(0.038)	(0.063)
Training*Female	-0.171*	-0.169*	0.053	-0.110
	(0.088)	(0.093)	(0.050)	(0.084)
Grant	-0.050	-0.023	0.033	0.054
	(0.044)	(0.045)	(0.026)	(0.044)
Female	0.060	0.005	0.008	-0.036
	(0.064)	(0.069)	(0.036)	(0.062)
Sum Female	-0.032	-0.045	0.053	-0.039
	(0.054)	(0.055)	(0.033)	(0.055)
Observations	493	493	493	493

*Note: The table reports ITT regressions of the entrepreneur's responses to general mind-set questions in the follow-up survey, controlling for gender and covariates The dependent variable is in columns (1)-(3) a dummy variable taking the value one if the entrepreneur does not consider the dimension to represent an obstacle. The three dimensions are the quality of workers, bureaucratic barriers, and market size. The dependent variable in column (4) is a dummy variable taking the value one if the entrepreneur would not prefer to do the same thing as the neighbour. One observation is missing for this part of the follow-up survey. Cluster-robust standard errors in parentheses; *p<0.10, ** p<0.05, *** p<0.01.*

Appendix A (not for publication, to be posted on the web)

We here present various tables referred to in the main text.

FIGURE 1A



Note. The figure shows attendance at the training program, with the number of lectures on the horizontal axis and the number of entrepreneurs on the vertical axis.

Table A1: Bounds on profit estimates

	(1) Lower Lee Bound ITT With covar.	(2) Lower Lee Bound ATET With covar.	(3) Original Estimates ITT With covar.	(4) Original Estimates ATET With covar.	(5) Upper Lee Bound ITT With covar.	(6) Upper Lee Bound ATET With covar.
Training	0.083	0.095	0.247**	0.278**	0.303***	0.334***
	(0.108)	(0.122)	(0.115)	(0.128)	(0.113)	(0.124)
Grant	0.003	0.003	0.027	0.025	0.052	0.050
	(0.071)	(0.070)	(0.075)	(0.074)	(0.072)	(0.071)
Training*Female	-0.179	-0.209	-0.303**	-0.343**	-0.207	-0.222
	(0.142)	(0.162)	(0.150)	(0.169)	(0.143)	(0.160)
Female	-0.009	-0.008	-0.010	-0.010	-0.024	-0.025
	(0.107)	(0.106)	(0.107)	(0.106)	(0.106)	(0.105)
Sum Female	-0.097	-0.114	-0.056	-0.066	0.096	0.112
	(0.088)	(0.103)	(0.090)	(0.105)	(0.084)	(0.096)
Observations	477	477	494	494	477	477

*Note: The table reports upper and lower bounds for the ITT and ATET estimates of the treatment effect on profits, following the approach in Lee (2005) and controlling for gender and covariates. Covariates include age, gender, education, number of businesses, PRIDE branch, PRIDE loan size, marketing index, religion, and the lagged dependent variable. Cluster-robust standard errors in parentheses; *p<0.10, ** p<0.05, *** p<0.01.*

Table A2: Verification of randomization: Lab sample

	(1) Training, Full Sample	(2) Training, Female	(3) Training, Male
Profit (log)	-0.012	-0.054	0.168
	(0.078)	(0.107)	(0.124)
Sales (log)	0.004	-0.008	-0.019
	(0.066)	(0.095)	(0.090)
Commerce	-0.037	-0.145	0.072
	(0.091)	(0.114)	(0.163)
Service	0.089	0.012	0.182
	(0.103)	(0.126)	(0.158)
Manufacturing	0.144	0.039	0.252
	(0.117)	(0.179)	(0.156)
Employees	0.002	-0.009	0.025
	(0.029)	(0.032)	(0.055)
PRIDE loan	0.103	0.205	-0.024
	(0.168)	(0.205)	(0.289)
Investments	-0.081	-0.042	-0.347***
	(0.054)	(0.079)	(0.109)
Keeping records	0.117	0.043	0.176
	(0.080)	(0.101)	(0.148)
Registration	0.153*	0.108	0.222
	(0.085)	(0.119)	(0.162)
Marketing index	-0.263**	-0.268*	-0.221
	(0.117)	(0.146)	(0.179)
Age	-0.002	-0.005	0.006
	(0.005)	(0.006)	(0.009)
Education	-0.023	-0.043**	0.012
	(0.016)	(0.019)	(0.035)
Muslim	0.052	0.013	-0.058
	(0.078)	(0.106)	(0.130)
Business knowledge	0.111	-0.014	-0.166
	(0.215)	(0.301)	(0.347)
Observations	211	137	74

*Note: The table reports regressions of treatment status on variables from the baseline survey in 2008 for the entrepreneurs taking part in the lab experiment in March 2009. Profit: Monthly profit in the businesses of the entrepreneur, in thousand TZS. Sales: Monthly sales in the businesses of the entrepreneur, in thousand TZS. Commerce, Service, and Manufacturing: Share of clients involved in each of these sectors. Employees: Number of employees in the businesses of the entrepreneur. PRIDE loan: Initial size of loan in PRIDE, in thousand TZS. Investments: Investments in the businesses of the entrepreneur in the last 12 months, excluding additions to stocks, in thousand TZS. Keeping Records: Indicator variable taking the value one if the entrepreneur reports keeping records. Registration: Indicator variable taking the value one if at least one of the businesses of the entrepreneur is registered by the government. Marketing index: An index of marketing initiatives made by entrepreneur the last year, from 0 (no initiatives) to 1 (initiatives along three dimensions to attract customers). Business knowledge: Test of business skills, share of correct answers. Age: The age of the entrepreneur, in number of years. Education: The number of years of schooling of the entrepreneur. Muslim: Indicator variable taking the value one if the entrepreneur is Muslim. Cluster-robust standard errors in parentheses; *p<0.10, ** p<0.05, *** p<0.01.*

Table A3: Baseline values by gender: Trimmed sample

	(1) Total	(2) Male	(3) Female	(4) Difference
BUSINESS OUTCOMES				
Profit	544.692	606.770	511.828	94.942**
	(19.354)	(37.609)	(21.728)	(40.498)
Sales	2263.485	2911.545	1920.395	991.151***
	(119.517)	(234.655)	(130.392)	(247.475)
Profit margin	0.335	0.316	0.345	-0.030*
	(0.008)	(0.015)	(0.010)	(0.017)
SECTOR				
Commerce	0.664	0.661	0.666	-0.005
	(0.021)	(0.036)	(0.026)	(0.045)
Service	0.399	0.269	0.467	-0.198***
	(0.022)	(0.034)	(0.028)	(0.046)
Manufacturing	0.170	0.281	0.111	0.169***
	(0.017)	(0.034)	(0.018)	(0.035)
SCALE OF BUSINESS				
Employees	1.093	1.263	1.003	0.260*
	(0.068)	(0.123)	(0.081)	(0.143)
PRIDE loan	776.113	766.667	781.115	-14.448
	(10.661)	(18.248)	(13.146)	(22.422)
Investments	216.649	274.444	186.051	88.394
	(25.857)	(53.399)	(27.571)	(54.259)
BUSINESS PRACTICE				
Keeping records	0.648	0.655	0.644	0.011
	(0.021)	(0.037)	(0.027)	(0.045)
Registration	0.229	0.269	0.207	0.062
	(0.019)	(0.034)	(0.023)	(0.040)
Marketing index	0.491	0.493	0.489	0.004
	(0.013)	(0.021)	(0.016)	(0.027)
Business knowledge	0.704	0.718	0.696	0.023
	(0.007)	(0.012)	(0.009)	(0.015)
CHARACTERISTICS OF THE ENTREPRENEUR				
Age	37.990	37.579	38.207	-0.628
	(0.372	(0.659	0.450)	(0.782)
Education	7.933	7.731	8.040	-0.309
	(0.094	(0.148	(0.120)	(0.197)
Muslim	0.670	0.737	0.635	0.102**
	(0.021)	(0.034)	(0.027)	(0.044)
Observations	494	171	323	

Note: The table reports average values from the baseline survey in 2008 for the trimmed sample of 494 participants. Profit: Monthly profit in the businesses of the entrepreneur, in thousand TZS. Sales: Monthly sales in the businesses of the entrepreneur, in thousand TZS. Profit Margin: Profit/Sales. Commerce, Service, and Manufacturing: Share of clients involved in each of these sectors. Employees: Number of employees in the businesses of the entrepreneur. PRIDE loan: Initial size of loan in PRIDE, in thousand TZS. Investments: Investments in the businesses of the entrepreneur in the last 12 months, excluding additions to stocks, in thousand TZS. Keeping records: Indicator variable taking the value one if the entrepreneur reports keeping records. Registration: Indicator variable taking the value one if at least one of the businesses of the entrepreneur is registered by the government. Marketing index: An index of marketing initiatives made by entrepreneur the

*last year, from zero (no initiatives) to one (initiatives along three dimensions to attract customers). Business knowledge: Test of business skills, share of correct answers. Age: The age of the entrepreneur, in number of years. Education: The number of years of schooling of the entrepreneur. Muslim: Indicator variable taking the value one if the entrepreneur is Muslim. p-values are from t-tests of equality; *p<0.10, ** p<0.05, *** p<0.01.*

Table A4: Verification of randomization: Trimmed Sample

	(1) Training, Full Sample	(2) Training, Female	(3) Training, Male	(4) Grant, Full Sample	(5) Grant, Female	(6) Grant, Male
Profit (log)	-0.039	-0.020	-0.009	-0.007	-0.048	0.053
	(0.044)	(0.059)	(0.079)	(0.044)	(0.059)	(0.074)
Sales (log)	0.036	-0.006	0.030	0.003	0.031	-0.007
	(0.040)	(0.056)	(0.063)	(0.041)	(0.056)	(0.065)
Commerce	0.032	0.001	0.076	-0.075	-0.081	0.014
	(0.061)	(0.077)	(0.103)	(0.059)	(0.071)	(0.098)
Service	0.066	0.087	0.038	0.001	-0.054	0.203*
	(0.059)	(0.073)	(0.114)	(0.060)	(0.068)	(0.108)
Manufacturing	0.054	0.107	-0.035	-0.062	-0.157*	0.137
	(0.070)	(0.099)	(0.119)	(0.069)	(0.090)	(0.122)
Employees	-0.001	-0.015	0.025	-0.009	0.007	-0.045
	(0.018)	(0.020)	(0.034)	(0.016)	(0.020)	(0.031)
PRIDE loan	-0.074	0.032	-0.232	-0.032	-0.057	-0.035
	(0.102)	(0.124)	(0.176)	(0.103)	(0.123)	(0.183)
Investments	-0.012	-0.052	-0.022	0.005	0.088*	-0.097**
	(0.044)	(0.058)	(0.052)	(0.042)	(0.045)	(0.042)
Keeping records	0.058	0.010	0.115	-0.057	-0.070	0.019
	(0.050)	(0.064)	(0.087)	(0.052)	(0.067)	(0.087)
Registration	0.087	0.120	0.036	0.046	0.025	0.076
	(0.058)	(0.076)	(0.092)	(0.058)	(0.073)	(0.099)
Marketing index	-0.149*	-0.072	-0.281*	0.031	0.029	0.053
	(0.084)	(0.099)	(0.154)	(0.082)	(0.098)	(0.142)
Age	-0.003	-0.005	-0.002	0.003	0.005	0.002
	(0.003)	(0.004)	(0.005)	(0.003)	(0.004)	(0.005)
Education	-0.017	-0.026*	0.010	-0.007	-0.000	-0.029
	(0.012)	(0.014)	(0.022)	(0.012)	(0.014)	(0.023)
Muslim	0.064	0.041	0.075	-0.126**	-0.079	-0.270***
	(0.052)	(0.065)	(0.095)	(0.052)	(0.065)	(0.091)
Business knowledge	0.238*	0.205	0.111	-0.062	-0.072	-0.269
	(0.142)	(0.181)	(0.250)	(0.137)	(0.173)	(0.240)
Grant	-0.009	0.015	-0.030			
	(0.061)	(0.074)	(0.093)			
Training				-0.009	0.015	-0.029
				(0.059)	(0.072)	(0.090)
Observations	494	323	171	494	323	171

*Note: The table reports regressions of treatment status on variables from the baseline survey in 2008 for the trimmed sample of 494 entrepreneurs. Profit: Monthly profit in the businesses of the entrepreneur, in thousand TZS. Sales: Monthly sales in the businesses of the entrepreneur, in thousand TZS. Commerce, Service, and Manufacturing: Share of clients involved in each of these sectors. Employees: Number of employees in the businesses of the entrepreneur. PRIDE loan: Initial size of loan in PRIDE, in thousand TZS. Investments: Investments in the businesses of the entrepreneur in the last 12 months, excluding additions to stocks, in thousand TZS. Keeping Records: Indicator variable taking the value one if the entrepreneur reports keeping records. Registration: Indicator variable taking the value one if at least one of the businesses of the entrepreneur is registered by the government. Marketing index: An index of marketing initiatives made by entrepreneur the last year, from zero (no initiatives) to one (initiatives along three dimensions to attract customers). Business knowledge: Test of business skills, share of correct answers. Age: The age of the entrepreneur, in number of years. Education: The number of years of schooling of the entrepreneur. Muslim: Indicator variable taking the value one if the entrepreneur is Muslim. Cluster-robust standard errors in parentheses; *p<0.10, ** p<0.05, *** p<0.01.*

Table A5: Stated profit: Full sample

	(1) ITT no covar.	(2) ITT with covar.	(3) ATET no covar.	(4) ATET with covar.	(5) OLS no covar.	(6) OLS with covar.
Training	0.169	0.219*	0.189	0.245*	0.228**	0.278**
	(0.115)	(0.114)	(0.127)	(0.125)	(0.113)	(0.113)
Grant	0.078	0.043	0.077	0.041	0.076	0.040
	(0.070)	(0.072)	(0.070)	(0.072)	(0.070)	(0.072)
Training*Female	-0.245	-0.304**	-0.278	-0.345**	-0.260*	-0.324**
	(0.151)	(0.152)	(0.171)	(0.172)	(0.147)	(0.148)
Female	-0.006	0.017	-0.006	0.018	-0.009	0.013
	(0.110)	(0.109)	(0.110)	(0.108)	(0.104)	(0.104)
Sum Female	-0.076	-0.085	-0.089	-0.100	-0.032	-0.047
	(0.093)	(0.091)	(0.108)	(0.105)	(0.091)	(0.091)
Observations	526	526	526	526	526	526

*Note: The table reports regressions of stated profits on treatment status for the full sample of 526 entrepreneurs, controlling for gender. Covariates include age, gender, education, number of businesses, PRIDE branch, PRIDE loan size, marketing index, religion, and the lagged dependent variable. Cluster-robust standard errors in parentheses; *p<0.10, ** p<0.05, *** p<0.01.*

Table A6: Stated profit: Trimmed sample (510)

	(1) ITT no covar.	(2) ITT with covar.	(3) ATET no covar.	(4) ATET with covar.	(5) OLS no covar.	(6) OLS with covar.
Training	0.220*	0.261**	0.245*	0.292**	0.275**	0.316***
	(0.114)	(0.112)	(0.126)	(0.124)	(0.112)	(0.112)
Grant	0.050	0.025	0.048	0.022	0.046	0.022
	(0.069)	(0.074)	(0.069)	(0.072)	(0.069)	(0.073)
Training*Female	-0.263*	-0.309**	-0.295*	-0.348**	-0.257*	-0.306**
	(0.148)	(0.149)	(0.167)	(0.167)	(0.146)	(0.147)
Female	-0.017	-0.002	-0.017	-0.002	-0.029	-0.016
	(0.106)	(0.106)	(0.106)	(0.105)	(0.101)	(0.100)
Sum Female	-0.043	-0.048	-0.050	-0.056	0.018	0.010
	(0.090)	(0.090)	(0.104)	(0.104)	(0.090)	(0.090)
Observations	510	510	510	510	510	510

*Note: The table reports regressions of stated profits on treatment status for the trimmed sample of 510 entrepreneurs where the 16 entrepreneurs with the largest absolute difference between stated and calculated profits have been removed, controlling for gender and covariates. Covariates include age, gender, education, number of businesses, PRIDE branch, PRIDE loan size, marketing index, and the lagged dependent variable. Cluster-robust standard errors in parentheses; *p<0.10, ** p<0.05, *** p<0.01.*

Table A7: Stated profit: Trimmed sample (478)

	(1) ITT no covar.	(2) ITT with covar.	(3) ATET no covar.	(4) ATET with covar.	(5) OLS with covar.
Training	0.210*	0.254**	0.232*	0.280**	0.265**
	(0.117)	(0.117)	(0.129)	(0.127)	(0.116)
Grant	0.034	0.001	0.032	-0.003	0.032
	(0.072)	(0.077)	(0.071)	(0.075)	(0.071)
Training*Female	-0.256*	-0.313**	-0.286*	-0.351**	-0.256*
	(0.151)	(0.151)	(0.170)	(0.168)	(0.149)
Female	-0.025	0.000	-0.025	0.000	-0.033
	(0.107)	(0.106)	(0.106)	(0.105)	(0.103)
Sum Female	-0.046	-0.060	-0.054	-0.071	0.009
	(0.091)	(0.091)	(0.106)	(0.105)	(0.090)
Observations	478	478	478	478	478

*Note: The table reports regressions of stated profits on treatment status for the trimmed sample of 478 entrepreneurs, where the 48 entrepreneurs with the largest absolute difference between stated and calculated profits have been removed, controlling for gender and covariates. Covariates include age, gender, education, number of businesses, PRIDE branch, PRIDE loan size, marketing index, religion, and the lagged dependent variable. Cluster-robust standard errors in parentheses; *p<0.10, ** p<0.05, *** p<0.01.*

Table A8: Calculated profit

	(1) ITT no covar.	(2) ITT with covar.	(3) ATET no covar.	(4) ATET with covar.	(5) OLS with covar.	(6) OLS no covar.
Training	0.164	0.201*	0.184	0.226*	0.221*	0.256**
	(0.119)	(0.119)	(0.132)	(0.131)	(0.118)	(0.119)
Grant	0.077	0.055	0.076	0.053	0.075	0.053
	(0.072)	(0.076)	(0.071)	(0.075)	(0.072)	(0.076)
Training*Female	-0.180	-0.223	-0.203	-0.251	-0.179	-0.221
	(0.154)	(0.155)	(0.175)	(0.175)	(0.155)	(0.156)
Female	-0.078	-0.065	-0.078	-0.065	-0.084	-0.074
	(0.110)	(0.111)	(0.109)	(0.110)	(0.103)	(0.104)
Sum Female	-0.016	-0.021	-0.018	-0.025	0.041	0.035
	(0.093)	(0.093)	(0.108)	(0.108)	(0.094)	(0.095)
Observations	494	494	494	494	494	494

*Note: The table reports regressions on calculated profits for the trimmed sample of 494 entrepreneurs, where the 32 entrepreneurs with the largest absolute difference between stated and calculated profits have been removed, controlling for gender and covariates. Covariates include age, gender, education, number of businesses, PRIDE branch, PRIDE loan size, marketing index, religion and a lagged dependent variable. Cluster-robust standard errors in parentheses; *p<0.10, ** p<0.05, *** p<0.01.*

Table A9: Profit: Interval regressions

	(1) ITT no covar.	(2) ITT with covar.
Training	0.230*	0.260**
	(0.120)	(0.115)
Grant	0.050	0.037
	(0.076)	(0.077)
Training*Female	-0.280*	-0.326**
	(0.155)	(0.150)
Female	-0.085	-0.072
	(0.107)	(0.104)
Sum Female	-0.049	-0.066
	(0.098)	(0.096)
Observations	494	494

*Note: The table reports interval regressions on stated profits for a trimmed sample where the 32 entrepreneurs with the largest absolute difference between stated and calculated profits have been removed, controlling for gender and covariates. The lower bound is defined as min(stated profit, calculated profit) and the upper bound is defined as max(stated profit, operating profit). Covariates include age, education, number of businesses, PRIDE branch, PRIDE loan size, an index of marketing effort, religion, and a lagged dependent variable (stated profit). Cluster-robust standard errors in parentheses; p<0.10, ** p<0.05, *** p<0.01.*

Table A10: Risk and time preference: Interval regressions

	(1) Interval Regression - Risk	(2) Interval Regression - Time
Training	0.621**	0.021
	(0.295)	(0.138)
Training*Female	-0.838**	-0.149
	(0.376)	(0.168)
Female	0.565**	0.108
	(0.262)	(0.110)
Sum Female	-0.217	-0.128
	(0.217)	(0.097)
Observations	211	211

*Note: The table reports interval regressions on time and risk preferences, following the approach of Benjamin et al. (2010). The dependent variables are the minimum risk premium that the client requires to choose the risky alternative and the log of the minimum continuously compounded weekly interest rate that the participant requires to choose the delayed payment. We control for gender and covariates. Covariates include age, education, number of businesses, PRIDE branch, PRIDE loan size, an index of marketing effort and religion. Cluster-robust standard errors in parentheses; p<0.10, ** p<0.05, *** p<0.01.*

Appendix B-1 (Not for publication, to be posted on the web):

Topics in the business training program

1	Entrepreneurship and entrepreneurial character
2	Developing an entrepreneurial behaviour
3	Importance of long-term view and orientation in the business
4	Identification of creative business ideas
5	Understanding of business environment
6	Planning for your business
7	Understanding of the market for your business
8	Marketing strategies/techniques for your business
9	Improving customer service
10	Pillars of good customer service
11	Managing people in your business
12	How to get good workers
13	Allocating responsibilities and appraising employee performance
14	Keeping business records
15	Costing and pricing
16	Managing working capital
17	Sources of finance for small businesses

Appendix B-2 (Not for publication, to be posted on the web): Business Grant Letter

Dear entrepreneur,

Please find enclosed a business grant of 100 000 TZS, which we give to you for free to develop your business. We trust that you will spend this money wisely. The funders of this grant require that we register how this money has been spent. For this purpose, we would like you to make a list of the items that you have spent the business grant on. We will collect this sheet when we visit your business in June-July 2009.

I have invested in the following items:	**TSZ**
1.	
2.	
3.	
4.	
5.	
6.	
7.	
Sum	**100 000**

Date when sheet is collected by research team:

Signed

Appendix B-3 (Not for publication, to be posted on the web): Lab Instructions

[Introduction]

Welcome. We appreciate your willingness to participate in this session, which I will lead. In this session you will be asked to make some economic choices, and you will earn money based on your choices and your performance.

The results from this session will be used in a research project on microcredit and entrepreneurship. It is therefore very important that all of you follow certain rules of conduct. You are not allowed to talk to any of the other participants during the session. If you have any questions or need any help, please raise your hand and one of us will assist you. All cell-phones must be turned off and put away If someone does not follow these instructions, we will have to ask him or her to leave the workshop.

If you need to go to the bathroom during the workshop, please raise your hand. Importantly, do not leave the room without permission.

We will now ask you to turn over the sheet which is on your desk. This is the registration form, which I will now read.

My assistant will now collect the sheets.

The session will be conducted under anonymity. It will not be possible for the other participants or anyone else, except for the researchers, ever to find out what choices you make, and hence what you earn in the session. This session consists of three activities. First, you will be asked some general questions not related to business. Second, you will be asked to make some choices under uncertainty. Finally, you will be asked some questions related to business. The activities are completely independent, which means that your performance in one activity has no impact on what happens in the other activities. The estimated time of the whole session is approximately two hours.

In each activity, you can earn money. You will not be informed about how much money you have earned until the end of the session. The payment to you is organized as follows. The researchers keep track of how much money you earn throughout the session. At the end of the session, they prepare an envelope containing the money you have earned, where they will ensure that it is impossible to identify the amount of money inside the envelope simply by looking at it. This envelope will be handed over to you in private when you leave the session.

[First round of questions - fixed rate]

We will now explain the first activity in this session. We will shortly ask you some general questions not related to business. These questions are grouped in five different topics; sports and leisure, math, politics, health and nutrition, and places in Dar es Salaam and Tanzania.

On each topic, we ask you 10 questions, and for each question you can choose between four different answers. Your job is to tick off the correct answer. You should only tick off one alternative. If you tick off more than one alternative, your answer will be considered incorrect. We now provide an example of how you should do this.

Your job is to tick off one of these answers. The correct answer is 67. Hence, if you tick off any of the other numbers, your answer is incorrect. In particular, you should never tick off more than one alternative.

For each correct answer, you are paid the fixed rate of 250 TSZ.

We will now hand out the questions on the first topic, sports and leisure, but please do not turn over the page before you are told to do so.

You can now turn over the sheet. First, now and for all sheets that you receive, make sure that you fill in your correct desk number, so that we can pay you correctly. We will now read question by question, and then for each question you tick off what you think is the correct answer.

Is this clear to everyone? If not, then please raise your hand and we will assist you.

I'll now start reading the first question.

You have now answered all the questions on this topic. My assistants will collect the sheets, and hand out the questions for the second topic, math. Again, please do not turn over the sheet before you are told to do so.

I'll now start reading the questions that are on your sheet.

You have now answered all the questions on this topic. My assistants will collect the sheets, and hand out the questions for the third topic, politics. Again, please do not turn over the sheet before you are told to do so.

I'll now start reading the questions that are on your sheet.

You have now answered all the questions on this topic. My assistants will collect the sheets, and hand out the questions for the fourth topic, health and nutrition. Again, please do not turn over the sheet before you are told to do so.

I'll now start reading the questions that are on your sheet.

You have now answered all the questions on this topic. My assistants will collect the sheets, and hand out the questions for the fifth topic, places in Dar es Salaam and Tanzania. Again, please do not turn over the sheet before you are told to do so.

I'll now start reading the questions that are on your sheet

You have now answered all the questions on this topic. My assistants will now collect the sheets.

[Second round of questions – competition]

You have now completed the first set of questions on the five topics.

We will now ask you to answer a second set of questions on the same topics. This time, however, we will give you a choice between two different kinds of payment. One option for you is to work for the same fixed rate as you did with the first set of questions, namely that you receive 250 TSZ for each correct answer. Alternatively, you may choose to enter into a competition. Your payment will then depend on how well you perform relative to other microcredit clients from PRIDE. Let us explain in

more detail. We collected a group of microcredit clients at the same loan level as you from a different branch in PRIDE. We asked them to answer the same kind of questions as you will now answer, and we then calculated the average number of correct answers among these microcredit clients. It is this average that you can choose to compete against. In the following, for short, we will refer to this average as the performance of a typical microcredit client. If you decide to compete, you will be paid TSZ per correct answer if you provide at least as many correct answers as the typical microcredit client. However, if you provide fewer correct answers than the typical microcredit client, you will receive nothing.

To give an example, suppose that the typical microcredit client provides 5 correct answers, and you manage to provide 6 answers correctly. If you chose to compete, you will then be rewarded the high rate of 750 TSZ per correct answer. However, if you only manage 4 correct answers, which is less than 5, you will receive nothing.

On the other hand, if you choose not to compete, you will always be rewarded the fixed rate of 250 TSZ for each correct answer.

The choice you have to make is summarized on the overhead projector.

To repeat, if you choose not to compete you will earn 250 TSZ per correct answer. If you choose to compete, you will earn 750 TSZ per correct answer if you correctly answer at least as many as the typical microcredit client. Otherwise, you will receive nothing. Please raise your hand if you don't understand.

You can choose between the fixed rate and the competition for each of the five topics. We will soon hand out a sheet where you have to make this choice for sports and leisure. However, let us first provide you with an example of how to do this. Look at this overhead:

To repeat: First, you are asked to state whether you think you are better than, equally good as, or worse than a typical microcredit client in answering questions on sports and leisure. Second, you are asked to decide whether you want to work for a fixed rate or compete when answering questions on sports and leisure. Is this clear to everyone? If not, please raise your hand.

We will now hand out this sheet. Please do not turn over the sheet before you are told to do so.

I will now read the sheet.

We will now collect the sheet for sports and leisure

We will now hand out the same sheet for the second topic, math. Please do not turn over the sheet before you are told to do so.

I will now read the sheet.

We will now collect the sheet for math

We will now hand out the same sheet for the third topic, politics. Please do not turn over the sheet before you are told to do so.

I will now read the sheet.

We will now collect the sheet on politics.

We will now hand out the same sheet for the fourth topic, health and nutrition. Please do not turn over the sheet before you are told to do so.

I will now read the sheet.

We will now collect the sheet for health and nutrition.

We will now hand out the same sheet for the fifth topic, places in Dar es Salaam and Tanzania. Please do not turn over the sheet before you are told to do so.

I will now read the sheet.

We will now collect the sheet for places in Dar es Salaam and Tanzania.

We will now hand out the second set of questions, where again we start with sports and leisure. Please do not turn over the sheet until you are told to do so.

I'll now start reading the questions on your sheet.

You have now answered all the questions on this topic. My assistants will collect the sheets, and hand out the questions for the second topic, math. Again, please do not turn over the sheet before you are told to do so.

I'll now start reading the questions that are on your sheet.

You have now answered all the questions on this topic. My assistants will collect the sheets, and hand out the questions for the third topic, politics. Again, please do not turn over the sheet before you are told to do so.

I'll now start reading the questions that are on your sheet.

You have now answered all the questions on this topic. My assistants will collect the sheets, and hand out the questions for the fourth topic, health and nutrition. Again, please do not turn over the sheet before you are told to do so.

I'll now start reading the questions that are on your sheet.

You have now answered all the questions on this topic. My assistants will collect the sheets, and hand out the questions for the fifth topic, places in Dar es Salaam and Tanzania. Again, please do not turn over the sheet before you are told to do so.

I'll now start reading the questions that are on your sheet.

You have now answered all the questions on this topic. My assistants will now collect the sheets.

You have now completed this part of the session. Our assistants will now calculate what you have earned in answering these questions, and prepare your payment from this part of the workshop. You will receive this payment at the end of the workshop.

[Choices under uncertainty]

We now move to the second part of the workshop, where you also can earn money, but in a different way. Let's explain in more detail.

First, we will simply give each of you 1000 TSZ. This is your money. You may decide to add it to the total amount of money that you are paid at the end of the session, or you may decide to take a risk. If you take the risk, then you can be lucky or unlucky. If you are lucky, you will get 6000 TSZ instead of 1000 TSZ. If you are unlucky, you lose the 1000 TSZ and nothing is added to your final payment from this situation

Here is how we decide whether you have been lucky or unlucky. When everyone has made their choice of whether to take the risk or not, we prepare two pieces of paper; one piece with the word LUCKY, the other piece with the word UNLUCKY.

We will then put them into two identical and empty envelopes, and the envelopes will be placed in this bowl. Thus it will be impossible for any of us to identify which envelope contains the word LUCKY. We will randomly select one of you to make the draw of one of the envelopes. If this envelope contains the word LUCKY, we will pay 6000 TSZ to those of you who chose to take risk. However, if this envelope contains the word UNLUCKY, those who chose to take the risk will not receive anything in this situation. Thus, it is equally likely that those who take the risk are LUCKY or UNLUCKY.

For those of you who chose the certain payment, the outcome of this draw does not affect your pay. In any case, you receive the certain payment of 1000 TSZ.

Is this understood? If there are any questions please raise your hands now and we will assist you.

On the overhead, we summarize the choice you have to make.

Is this understood? If there are any questions please raise your hands now and we will assist you.

We will now hand out the sheet where you have to make the choice of whether to risk your 1000 TSZ or keep them. Please do not turn over the sheet until you are told to do so.

You should now make the choice of whether to risk your 1000 TSZ or keep them.

We will now collect the sheet.

We will now proceed to determine the outcome for those of you who took the risk in this situation.

We will now put the envelopes in the bowl, and then decide who should make the draw of one of the envelopes. We do this by picking at random one of the desk numbers from this bowl.

Desk number xx is chosen to pick one of the envelopes.

We will shortly open the envelope and reveal whether the participants who took the risk were LUCKY or UNLUCKY in this situation. However, first we will ask you to make a few more choices of this kind. In the meantime, we post the envelope on the wall.

Now we move on to a new situation. Again, we will give you some money, this time 1500 TSZ. This is your money. You may decide to add it to the total amount of money that you are paid at the end of the session, or you may decide to take a risk. If you take the risk, then you can be lucky or unlucky. If you are lucky, you will get 6000 TSZ instead of 1500 TSZ. If you are unlucky, you lose the 1500 TSZ and nothing is added to your final payment from this situation

After everyone has made their choice, we will again prepare two envelopes and follow the same procedure as earlier. Thus, it is equally likely that those who take the risk are LUCKY or UNLUCKY.

Is this understood? If there are any questions please raise your hands now and we will assist you.

On the overhead, we summarize the choice you have to make.

We will now hand out the sheet where you have to make the choice of whether to risk your 1500 TSZ or keep them. Please do not turn over the sheet until you are told to do so.

You should now make the choice of whether to risk your 1500 TSZ or keep them.

We will now collect the sheet.

We will now proceed to determine the outcome for those of you who took the risk in this situation.

We will now put the envelopes in the bowl, and then decide who should make the draw of one of the envelopes.

Desk number xx is chosen to pick one of the envelopes.

Now we move on to the next situation. Again, we will give you some money, this time 2000 TSZ. This is your money. You may decide to add it to the total amount of money that you are paid at the end of the session, or you may decide to take a risk. If you take the risk, then you can be lucky or unlucky. If you are lucky, you will get 6000 TSZ instead of 2000 TSZ. If you are unlucky, you lose the 2000 TSZ and nothing is added to your final payment from this situation

After everyone has made their choice, we will again prepare two envelopes and follow the same procedure as earlier.

On the overhead, we summarize the choice you have to make.

We will now hand out the sheet where you have to make the choice of whether to risk your 2000 TSZ or keep them. Please do not turn over the sheet until you are told to do so.

You should now make the choice of whether to risk your 2000 TSZ or keep them.

We will now collect the sheet.

We will now proceed to determine the outcome for those of you who took the risk in this situation.

We will now put the envelopes in the bowl, and then decide who should make the draw of one of the envelopes.

Desk number xx is chosen to pick one of the envelopes.

We now turn to the last situation in this section of the workshop

Again, we will give you some money, this time 2500 TSZ. This is your money. You may decide to add it to the total amount of money that you are paid at the end of the session, or you may decide to take a risk. If you take the risk, then you can be lucky or unlucky. If you are lucky, you will get 6000 TSZ instead of 2500 TSZ. If you are unlucky, you lose the 2500 TSZ and nothing is added to your final payment from this situation

After everyone has made their choice, we will again prepare two envelopes and follow the same procedure as earlier.

On the overhead, we summarize the choice you have to make.

We will now hand out the sheet where you have to make the choice of whether to risk your 2500 TSZ or keep them. Please do not turn over the sheet until you are told to do so.

You should now make the choice of whether to risk your 2500 TSZ or keep them.

We will now collect the sheet.

We will now proceed to determine the outcome for those of you who took the risk in this situation.

We will now put the envelopes in the bowl, and then decide who should make the draw of one of the envelopes.

Desk number xx is chosen to pick one of the envelopes.

We have now completed all four situations in this part of the session.

We will now, for each of the four situations, reveal whether those who took the risk were lucky or unlucky. Let us start with the first situation.

Those who took the risk in the first situation were….

You have now completed the second part of this session. Our assistants will now calculate what you have earned when making these choices, and prepare your payment from this part of the workshop. You will receive this payment at the end of the workshop.

[Best practices in business - fixed rate]

We now move to the third part of the workshop, where you can also earn money. You will be asked to answer 10 questions about best practices in running a business. Also here, for each question, you can choose between four different answers. Your job is to tick off the correct answer. Please remember only to tick off one alternative for each question. If you tick off more than one alternative, we will consider your answer as incorrect. For each correct answer, you are paid a fixed rate of 250 TSZ.

We will now hand out the sheet with business questions. Please do not turn over the sheet before you are told to do so.

I'll now start reading the questions that are on your sheet.

You have now answered all the questions on best business practices. My assistants will now collect the sheets.

[Best practices in business – competition]

We will now ask you to answer a second set of questions on best practices in business. This time, however, we will give you a choice between two different kinds of payment. One option for you is to work for the same fixed rate as you did with the first set, namely that you receive 250 TSZ for each correct answer. Alternatively, you may choose to enter into a competition. Your payment will then depend on how well you perform relative to a typical microcredit client. If you decide to compete, you will be paid 750 TSZ per correct answer if you provide at least as many correct answers as the typical microcredit client. However, if you provide fewer correct answers than the typical microcredit client, you earn nothing.

We will now hand out a sheet where you are asked to decide whether you want to work for a fixed rate or compete on this topic. As before, you are also asked to state whether you think you are better than, equally good as, or worse than a typical microcredit client in answering questions on best practices in business.

I'll now read the sheet.

We will now collect the sheet for business.

We are now ready to give you the second set of questions on business practices.

I'll now start reading the questions.

You have now answered all the questions on this topic. My assistants will collect the sheets.

You have now completed the last part of the session. My assistants will now prepare the payments you have earned throughout the workshop before you leave. This will be paid to you just after the session.

Additionally, you will be paid an amount as compensation for participating. Your participation compensation will be handed over to you by your PRIDE branch manager.

This is how we will proceed for the participation compensation. You can choose between three alternatives.

To repeat: First alternative: You can choose to receive your participation compensation one week from now, on Monday March 23. You will then receive a participation compensation of 15,000 TSZ.

Second alternative: You can choose to receive your participation compensation three weeks from now, on Monday April 6. You will then receive a participation compensation of 20,000 TSZ.

Third choice: You can choose to receive your participation compensation five weeks from now, on Monday April 20. You will then receive a participation compensation of 25,000 TSZ.

Based on your choice, we will give you a signed letter to certify your right to receive your participation compensation, and date of collecting the payment from your branch manager. For the branch manager, we will prepare an envelope with your name and a specification of your chosen payment date on the envelope, and your participation compensation inside of it. We will prepare the envelope so that it is impossible for anybody, including the branch manager, to identify its content.

Is this understood? Please raise your hand if you have any questions.

We will now hand out the sheet where you choose the date of payment for your participation compensation.

Now my assistants will collect your papers.

This ends the workshop. Our assistants will now prepare your payments.

In addition to the payment from this session and the participation compensation, we are happy to announce that we will also give each of you, as a gift, a business grant of 100,000 TSZ, which you can use to develop and expand your business. This grant will be handed over in a separate envelope after the session. We trust that you will spend this money wisely on developing your business, and wish you all the best in your future business activities.

The funders of this business grant require that we register how this money has been used. For this purpose, we ask you to specify how you spent the grant. In the envelope containing the business grant, there is a sheet for this purpose. We will collect this sheet when we visit your business in June/July 2009.

While we are waiting for the assistants to prepare the payments which you have earned, we would like to offer you some refreshments. After the refreshments we will give you an envelope with your payment and the signed sheet for your participation compensation, and an envelope with the business grant.

We would like to thank you all for participating in this session. Your input will be most valuable for our research project on microcredit and entrepreneurship. May we ask you not to discuss this session with others before the end of this week, since we will arrange further sessions with other microcredit clients the coming days. Please leave the pen on your desk when you leave the room. Again, thank you for your participation in this workshop.

NHH

Norges Handelshøyskole

Norwegian School of Economics
and Business Administration

NHH
Helleveien 30
NO-5045 Bergen
Norway

Tlf/Tel: +47 55 95 90 00
Faks/Fax: +47 55 95 91 00
nhh.postmottak@nhh.no
www.nhh.no