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MICRO-ENTREPRENEURSHIP TRAINING AND ASSET TRANSFERS: SHORT TERM IMPACTS ON THE POOR

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Micro-Entrepreneurship Training and Asset Transfers: Short Term Impacts on the Poor[1]

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Abstract

Using a randomized controlled trial of a large-scale publicly run micro-entrepreneurship program in Chile, we assess the effectiveness of business training and asset transfers on individuals' employment and income. About half of the participants had not yet started their businesses at intervention, allowing us to study the program effects by baseline economic activity. To analyze the shape of the production function, two levels of asset transfers are allocated. We find that the program does significantly increase individuals' employment and income by 18% and 32% respectively after one year and significantly improves the business practices of its beneficiaries. The program seems more effective for individuals who are unemployed at the beginning of the program, followed by the self-employed at the baseline. The effect on wage earners is positive only for low-income individuals. This is consistent with the presence of fixed costs. The additional transfer of assets has a positive and significant effect on employment and self-employment. However, the additional transfer does not have a statistically significant effect on labor and household income, consistent with rapidly decreasing returns in the production function.

JEL Codes: M53, O12, L26

Key Words: Business training, assets transfers, self-employment, randomized control trial

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1 Introduction

Micro-entrepreneurship could be a successful income generation strategy if there is a good business project idea, the abilities necessary to develop it, and capital to finance it. From this view, two types of strategies emerge to encourage micro-entrepreneurship as a way to overcome poverty: increasing abilities through training and providing access to capital. Following this idea, we examine whether a public program that promotes micro-entrepreneurship and provides training and capital can effectively increase the income of the very poor in Chile.

We implemented a randomized controlled trial (RCT) of the "Micro-entrepreneurship Support Program" (MESP)[5], which is administered and managed by the Chilean Ministry of Social Development. MESP has two components: an in-kind transfer of start-up capital of about US$600[6] (approximately 4.5 times the monthly poverty line) and 60 hours of training over one month in successful business practices, with follow-up mentoring visits within three months. The asset transfer is made in kind so that the entrepreneur can choose the required materials (or inputs) to buy according to a business plan developed during training. Our sample has 1,661 applicants in the Metropolitan Region of Santiago who are randomly assigned to different treatment groups. Importantly, individuals do not have to be micro-entrepreneurs to be beneficiaries: in our sample; about 50% of beneficiaries were not entrepreneurs before the program started. Overall, 66% were employed at the start, either self-employed or working for others.

In order to obtain evidence about the return to capital after receiving the first transfer, a second treatment group was included. This group received additional capital of US$240 seven to eight months after the first transfer and training were completed. We call this treatment "MESP+". The second transfer also provides information about the shape of the production function. It also can be considered a capital shock, as beneficiaries did not expect it until three weeks before it was delivered.

The comparison of the untreated group and the regular MESP program provides information about the joint impact of training and asset transfers. To the best of our

[5]In Spanish, the program is known as "Programa de Apoyo al Microemprendimiento" (PAME).

[6] The US$600 (Ch$300.000) has been decreased to US$460 (Ch$230.000) in 2012.

knowledge, this is the first randomized evaluation of training and different levels of asset transfers for micro-entrepreneurship that is not limited to those who were already micro-entrepreneurs. Furthermore, as far as we know, it is the first RCT of a public program of these characteristics.

Our Intent to Treat estimations show that the training and basic transfer have a positive and significant effect on beneficiaries' total employment, self-employment, and labor income a year after the intervention (18%, 34% and 32% respectively). The same estimations for additional capital under MESP+ show positive and significant effects on these outcomes. The additional transfer of assets has a positive and significant effect on beneficiaries' employment and self-employment over MESP alone. As for income, MESP and MESP+ increase household per capita labor income by 12% and 17%, respectively. However, this difference in income between MESP and MESP+ is not statistically significant.

For the first asset transfer (US$600), we calculate a lower bound of the return to capital of small entrepreneurs of 3.7 percent (55% annual return rate), which is in line with previous estimates. However, the second transfer (US$240) does not increase labor income, suggesting that the production function flattens rapidly, as proposed by Banerjee and Duflo (2011).

Analyzing heterogeneous treatment effects, we find that the MESP program has a larger impact on self-employment and income on individuals who were not working at baseline. The program increases the probability of self-employment only for initially low-income wage earners, whereas the effect is positive for all individuals who were self-employed at the baseline, regardless of their income level. This evidence is consistent with a fixed cost of becoming entrepreneurs: it seems to be a successful alternative for the unemployed, and the program capital transfer (and training) might help them to pay for it. Individuals who already are entrepreneurs take advantage of the program, but the effect is smaller than for initially unemployed individuals, suggesting that the fixed cost was already partially paid. For wage earners, if one thinks that the cost of becoming an entrepreneur includes not only a monetary cost but also a time cost, the alternative of becoming an entrepreneur seems most attractive for low-income wage earners because of their low opportunity costs.

The effect of additional capital also varies depending on the baseline occupation. Additional capital has a larger effect than the initial MESP alone on the probability of being

self-employed for those who were self-employed at the baseline, but this is not the case for dependent workers (those employed by others). However, additional capital does not have a statistically significant extra effect over MESP on labor income for either self-employment or wage work.

We also study the effect of having higher cognitive measures, measured as years of education and numerical ability, and find that numerical ability positively increases beneficiaries' employment. In addition, we find an improvement in business practices, both self-reported and as measured by an enumerator. In addition, we look for changes in labor behavior among household members. We find no substitution effect of labor within the household, leading to an increase in per capita labor income. There is no change in women's decision-making. Finally, there is no change in expenditure on children's education. Overall, our results suggest that providing business training and asset transfers are successful in increasing beneficiaries' employment and labor income, at least in the short run period that we have evaluated.

This study contributes to an existing literature of business training and asset transfer in developing countries. The evidence on the effects of training on business outcomes is mixed: Karlan and Valdivia (2011) find that business training has no effect on business revenue or profits on microcredit consumers in Peru. In the Dominican Republic, Drexler, Fischer and Schoar (2010) find that simple "rules of thumb" increase the likelihood of keeping accounting records, calculating monthly revenues, and separating household and business records; however, a more complex training does not affect business practices. Giné and Mansuri (2011) provide training and participation in a lottery for large business loans to microcredit clients in Pakistan, finding a positive effect of training, particularly for males. The literature has usually found effects on business practices, with only a few studies on profits: Berge et al. (2011) in Tanzania and De Mel, McKenzie and Woodruff (2012) in Sri Lanka.

There is also a body of literature that has investigated the effect of assets and cash transfers to small entrepreneurs. In the case of Sri Lanka, De Mel, McKenzie and Woodruff (2008) have shown that asset transfers, either in kind or cash, increase profits. Additionally, they find evidence that microenterprises have high yearly returns (55%-63%). Fafchamps, McKenzie, Quinn and Woodruff (2011) found a yearly return of 37-39% in Ghana. Following the same strategy of providing asset transfers in kind and cash, McKenzie and

Woodruff (2010) estimate a monthly return to capital of 20-33% for Mexico. Therefore, there is evidence that small entrepreneurs have high returns to capital. These papers have focused on existing micro-entrepreneurs. Our paper adds into this literature by investigating the returns to micro-entrepreneurship in Chile for a sample of unemployed, independent and dependent workers.

A program that supports the start-up of independent activities by combining training and cash transfers has recently been studied by De Mel et al. (2012). They find that the program's largest impact is on individuals who were considering starting a small business, not on current small entrepreneurs. Additionally, their results show that training, rather than training plus cash, has the largest effects. Our work complements De Mel et al. (2012) in several dimensions: the program we analyze focuses on developing a business plan that fully takes into account the asset transfer, which increases the likelihood that the transfer will have a positive effect. In the case of De Mel et al. (2012), the small entrepreneur does not consider the cash transfer during training, so the training is not closely tied to the transfer. Furthermore, our research considers two sizes of asset transfers, allowing us to explore the shape of the production function.

The rest of the paper is organized as follows. Section 2 describes the program and the intervention. Section 3 discusses the data collection process and the balance and attrition of the sample. Section 4 and 5 present the empirical strategy and results, respectively. Finally, section 6 summarizes the main results and their implications.

2 Description of the Intervention

This paper studies the effect of giving micro-entrepreneurial training and business training to poor people who applied either to start a business or to enlarge an existing one, considering two levels of asset transfers. The intervention aims to evaluate the impact of a large scale, publicly run, micro-entrepreneurship program as it is currently implemented and to assess the impact of additional asset transfers. Hence, the experiment design includes three treatment arms: a control group, a treatment group that received the regular MESP program, and a third group that received an asset transfer in addition to the regular transfer of the MESP program. A comparison between the first two groups provides an estimate of the impact of the program, whereas a comparison between the two treatment groups provides an estimate of the effect of additional capital conditional on having received the

regular MESP training and original asset transfer. This scheme allows us to explore the shape of the production function of poor micro-entrepreneurs.

2.1 The Micro-entrepreneurship Support Program (MESP)

The Ministry of Social Development of Chile started MESP in 2006.[7] It has about 24,000 beneficiaries each year. The program's purpose is to give previously unemployed or underemployed[8] individuals the skills and capital required to generate income as self-employed.

MESP's target population comprises extremely poor households, specifically those with individuals over 18 years old, who benefit from social security and are unemployed or have an unstable job. Interested individuals must apply to the program in government agency offices and self-report their employment status, among other characteristics. Applicants demonstrate that they qualify for the program by filing a Social Security Card (SSC) and obtaining a score below a certain income threshold.[9] Our sample consists only of Beneficiaries of "Chile Solidario", which is the main anti-poverty program of the Chilean government, so that we concentrate on the extremely poor.

The program has a training component as well as an asset transfer component. The training component of the program runs for four months. The first three weeks consist of intensive formal training in micro-entrepreneurial skills. The rest of the time is allocated exclusively to mentoring visits, as described below. The training sessions teach business planning tools and basic administrative skills, such as keeping records of sales, prices, and expenses. Training consists of sixty hours during the three weeks. All MESP graduates must have an attendance rate of 90%. This means that participants can miss up to 2 of the 12 sessions. The process of monitoring the entrepreneur lasts for another three months. During this

[7] The program is carried out by the "Solidarity and Social Investment Fund" (in Spanish: Fondo de Solidaridad e Inversión Social, FOSIS), which depends of the Ministry of Social Development (in Spanish: Ministerio de Desarrollo Social).

[8] Underemployment is loosely defined by the FOSIS. It generally involve occupations with low income and few working hours.

[9] The Social Security Card (SSC) is the "Ficha de Protección Social" (FPS). The SSC is aimed at measuring economic vulnerability. The government agency sets the threshold in the SSC scale, according to the applicant's economic resources, needs, and risk factors. The SSC score goes from 2072 to 16,316 points, with a lower number implying a higher degree of vulnerability. The threshold for the MESP was set at 8500 points, corresponding to the lower 20% of scores. People below this threshold could be eligible for the program.

period, beneficiaries are visited three times by the implementing institution to follow up on the performance of the businesses and to provide managerial advice.

After the formal training, there is financial support comprised of an in-kind transfer of about US$600 that the beneficiaries can spend on machinery, raw materials, or other inputs.[10] The trainer can go with the entrepreneur to buy the inputs, or the entrepreneurs can purchase the inputs and provide a receipt as proof that the expenditure was made. The distribution of the amount of funding is standard and does not differ by type of business, economic sector, or geographical location.

Institutions that provide the training are selected through a bidding process. These organizations include private institutions such as foundations or tertiary education institutions properly accredited by the government. The chosen institution provides all services as a package for the beneficiary, with standardized protocols for this provision. Protocols include the content of the classes, a maximum number of 20 individuals in a class, a transportation subsidy, and the provision of childcare.[11]

2.2 Access to finance in Chile

As in other countries with increasing financial deepening, middle and low-income individuals in Chile have wide access to credit through retail stores (50% of individuals in the first income quintile use this type of credit[12]). However, there is still limited access to loans intended to finance small-scale business, especially for individuals who have previously defaulted on loans. For example, there is a linear relationship between access to credit and firm size (Román, 2003), where the loan coverage rate for micro-entrepreneurship is around 45%, whereas the system overall has a rate of over 100% (ILO

[10] The amount they receive is Ch$300,000. A maximum amount of 10% could be received in cash or as working capital.

[11] In order to study the level of achievement of the training protocols, we set up a call center and randomly selected a small number of beneficiaries (89) for a short telephone survey. Out of those contacted (71), almost all had received the transport subsidy, reported that a day care center was available for beneficiaries, and thought that the content of the training was useful for their business. We also randomly supervised training sessions for participants in the evaluation, observing that the protocols were correctly implemented. These results confirm that the agencies providing the training met almost all the requirements of the program, reducing potential treatment heterogeneity.

[12] Survey of Consumer Finances, Central Bank of Chile, 2007.

and SERCOTEC, 2010). Thus, it is reasonable to conclude that many profitable micro-entrepreneurial ventures simply do not start because of limited access to starting capital.

In this context, asset transfer is an alternative to micro-lending. Micro-lending does not seem likely to reach very poor individuals who aim to start or develop a business in Chile. Furthermore, access to the financial sector through loans imposes a risk on the individuals and usually requires large short-term returns to make regular payments. At the same time, micro-entrepreneurs might need some starting capital, so that individuals can learn whether their idea for a business will be successful. For instance, Banerjee et al. (2010) show evidence that there is a fixed cost to starting a business and that micro-business can be an unreliable career choice. In Chile, around 12% of small formal firms close per year[13], and this percentage might be higher for informal and new micro-businesses. Thus, if there is the assumption that promoting micro-entrepreneurship can be a strategy to increase the income of vulnerable families, it is important to consider who would bear the risk of these initiatives. Microcredit puts the household at risk, whereas asset (or cash) transfers to the entrepreneur are a risk for the donor.

2.3 MESP with Additional Funding (MESP+)

The additional funding component was implemented specifically for this study, and corresponds to a lump sum of US$240,[14] to be given to beneficiaries in addition to the US$600 received under the *normal* MESP program. As with the initial transfer, recipients could use the extra grant for equipment and inventory, and were escorted by personnel of the implementing institution or were required to provide receipts. The additional resources were delivered seven months after the end of the MESP program, and there was a requirement to spend these resources according to the business plan developed during the training. Individuals who received the additional funding did not know about the additional funding during the MESP program, and therefore did not plan their first purchase considering this additional transfer.

[13] Benavente and Kulzer (2008).

[14] US$240 ≈ Ch$120,000.

Comparing beneficiaries assigned to MESP+ to the *normal* MESP program allows us to estimate capital return rates conditional on having previously received the MESP program. This comparison would be the response to a positive capital shock.[15] Additionally, this would shed light on the shape of the production function of poor micro-entrepreneurs.

2.4 Experimental design

Our study consists of the evaluation of the MESP program and the MESP with additional funding in the Metropolitan Region of Santiago in 2010 using a randomized controlled trial approach. Figure 1 shows the intervention calendar.

The evaluation was designed to evaluate MESP as it was currently implemented and to identify returns to capital for different asset transfers conditional on receiving the business training. It was politically impossible to create a diluted MESP, separating the training and capital components to assess the effectiveness of each individual intervention. Thus, the strategy pursued was extending one of the components. The program intervention was implemented in the Metropolitan Region of Santiago as this would allow better monitoring and supervision of the project.

The MESP program is offered at least once a year. We randomized among eligible individuals in three treatment arms: (i) control group, (ii) access to the MESP program, and (iii) access to the MESP program with additional funding. We stratified applicants using four quartiles of the SSC score and residence municipality.[16]

The treatment arms were implemented with a total of 1948 individuals who were randomly assigned to each group. Table 1 shows the 566 individuals who were assigned to the control group, the 689 to the "normal" MESP (T1) and the 693 to the "normal" MESP plus additional funding (T2). Limiting the sample to individuals for whom both the baseline and

[15] Alternatively, one could want to study the effect of different asset levels announced at the training, such that the business plan was implemented based on this capital level. The comparison would be interesting, but would not provide the return to capital.

[16] The four groups were built using three SSC score cuts: 2168, 2298.5, and 3445 points. Recall that the upper limit to enter the program was 8500 points; however, the applicants are concentrated in the lower part of the SSC score, revealing the high degree of vulnerability of the program participants.

follow-up surveys are available, the individuals in each treatment arm are 475, 574, and 612 respectively. The intervention was conducted from October 2010 to February 2011.

Comparing T1 to the Control group will provide the impact of the regular MESP program as it is implemented today; this is the overall effect of both the training and the in-kind transfer jointly. The effect of T2 versus the Control group allows us to estimate the impact of the regular MESP program with additional in-kind transfer. Comparing T1 to T2 will provide the effect of additional funding conditional on having received the regular MESP program, which will be informative about the shape of the production function of micro-entrepreneurs.

3 Data and Measurement

We collected data through household surveys.[17] The baseline survey took place between September and October 2010 and obtained a 94% response rate. The follow-up survey took place between October and November 2011 and obtained a response rate of 88%.[18] We address balance among treatment groups and attrition in the following subsections.

3.1 Balance among treatments and control groups

We use baseline survey data for variables of interest to test the randomness of assignment to treatment or control groups using a means test comparison for the subsample interviewed in both waves. In Table 2, we present the mean values for the Control Group, Treatment MESP (T1), and Treatment MESP plus additional funding (T2). In the last three columns, we present the p-values for the test of differences in the mean, comparing T1 against Control group, T1 against T2, and T2 against Control group.

Table 2 shows the characteristics of the individuals in each treatment group. It shows that around 94% of beneficiaries are females with an average age of 36. Approximately 32% individuals have only completed primary education, while 4 to 6% have some tertiary

[17] In order to avoid benefit-seeking answers and ensure instrument reliability, an impartial third party conducted the surveys. The implementation of the survey was clearly confidential, and it was emphasized that there was no link between what was declared in the survey and the individual's eligibility for social programs.
[18] These response rates are calculated over the randomized population.

education. The average SSC score is between 3,550 and 3,625 points, well below the entrance threshold requirement of 8,500 points. None of the observed differences in individual characteristics between treatments are statistically significant at the 5% level. The fact that beneficiaries have, on average, low levels of education and are highly vulnerable (according to the SSC score) indicates that the MESP program fulfills its goal of targeting poor individuals.

Regarding income variables, around 65% reported being employed and between 50 to 51% reported being self-employed.[19] Average monthly labor income lies between Ch$51,000 and Ch$58,000 (approximately between US$102 and US$116). Again, none of the differences observed for income related variables are statistically significant at the 5% level. The fact that a significant proportion of individuals already work indicates that unemployment may not be the most serious aspect of their condition; rather the problem seems to be their low incomes. Per capita monthly labor income is between Ch$33,394 and Ch$35,612 in different treatment groups. Per capita monthly total income is around Ch$48,000 (approximately US$98), well below the official monthly national poverty line of Ch$65,000 (approximately US$130). In fact, the poverty rate in our sample is 76-78%. According to the means difference tests, none of these differences is statistically significant among treatment arms.

The number of workers within households is on average between 1.38 and 1.46. The ratio of workers to the number of persons in the household (the inverse of the dependency ratio) is on average between 0.30 and 0.31. The number of individuals within the household is between 4.8 and 5.0 depending on the treatment group. Households hold assets worth between Ch$406,509 and Ch$437,862 (between US$816 and US$876) on average. Again, none of the observed differences are statistically significant, except for the number of individuals between the control group and the MESP group.

It is also worth noting that other variables of the data are also well balanced. For example, risk aversion and numeracy indexes do not exhibit significant differences between treatment groups.

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[19] Individuals can report more than one occupation and they might be both wage earners and independent workers. In these cases, we classified individuals as independents if they had any income from independent activities; the same was done for dependent workers.

In light of the evidence, we are confident the randomization process was successful in generating well-balanced treatment groups. Our analysis therefore uses the random assignment to estimate the effect of the treatments with respect to the control group. In addition, we use it to compare the regular MESP to the MESP with additional asset transfer.

These summary statistics also shed light on the special characteristics of the applicants with respect to the eligible population: applicants are overwhelmingly women, and a significant fraction of them work. Therefore, the external validity of the MESP impact results should be carefully considered and potential extensions of the program should consider these characteristics.

3.2 Attrition assessment in the follow-up

In order to test whether attrition in the follow-up could be heterogeneous among different treatment groups, we ran the following regression:

$$y_i = \alpha + \alpha_1 \times T1_i + \alpha_2 \times T2_i + \varepsilon_i \qquad (1)$$

where y_i is equal to 1 if the individual is present in the follow-up survey, and equal to 0 otherwise.[20] The variables $T1_i$ and $T2_i$ are dummy indicators of the treatment status. Variable $T1_i$ will be equal to 1 if the individual *i* was randomly assigned to the normal MESP program, otherwise it will equal 0. Variable $T2_i$ will be equal to 1 if the individual *i* was randomly assigned to the MESP program plus additional funding; otherwise, it equals 0.

We obtained that the coefficient associated with T1 is not statistically significant, indicating that attrition does not differ between individuals randomly assigned to the control group and those assigned to the normal MESP program (Table 1 shows the result of this regression). However, we found that attrition was lower in the MESP with additional funding group. In fact, the coefficient associated with T2 is significant. Also, the difference test between the coefficients associated with T1 and T2 supports that attrition was lower in the group with additional funding compared to the normal MESP program.[21] Hence, the results we obtain for T2 in the following section must be interpreted with care, as they might be influenced by the response rate, in their comparisons to both the treatment group and T1. In section 5, we show how the results could be affected when we consider bounds to assess this issue (as in Lee, 2005).

[20] The sample consists of the people in the baseline. Similar results are obtained for the sample of randomized individuals.

[21] Following Fairllie, Karlan and Zinman (2012), we regressed the follow-up dummy on the treatment variables, on a set of observed characteristics in the baseline, and on the same characteristics interacted with the treatment variables, and then performed an F test on the interaction coefficients. The p-values for the F tests are 0.92 for the MESP treatment and 0.87 for the additional funding treatment.

4 Empirical strategy

Our empirical strategy relies on the random allocation of each eligible individual to a treatment group, which guarantees that individuals in each treatment group have, on average, the same relevant characteristics. As shown in the previous section, this assumption is strongly supported by the data in the baseline. However, we note that there is no random attrition in T2, which we consider when presenting results. We thus compare outcomes of interest, y, for individuals in the control group and individuals who participated in the normal MESP (T1). We also compare individuals who were assigned to participate in the normal MESP (T1) and those who were offered additional funding (T2).

Our main estimation equation will be:

$$y_i = \beta_0 + \beta_1 \times T1_i + \beta_2 \times T2_i + \Sigma_j (\gamma_j \times x_{ij}) + \varepsilon_i \qquad (2)$$

where y_i is an outcome variable (such as employment, income or hours of work), $T1_i$ and $T2_i$ are dummy indicators of the treatment status as explained above, and x_{ij} is a set of baseline variables that we use as controls. Fixed effects for strata are included in each regression specification. Errors are clustered at the municipality level.[22]

Following equation (1), the coefficient β_1 will show the effect of being offered participation in the normal MESP program compared to the control group. This coefficient is a key parameter of interest, and it will be interpreted as the effect of the intention to be treated by the MESP program. If the coefficient is significantly different from zero in the estimated equation, this will be evidence that the effect of offering MESP on the corresponding outcome is statistically significant. Accordingly, the coefficient β_2 will show the effect of being offered the opportunity to participate in the MESP program plus the additional funding (hereafter MESP+) compared to the control group. In order to determine the effect of additional funding, we will examine whether the difference between β_1 and β_2 is statistically significant. If β_2 is statistically significantly different from β_1, that will be evidence of a significant effect of additional funding on top of the MESP program.

[22] It is not possible to cluster in the training courses, because the control group did not attend any training. The municipality where individuals live is a level of aggregation that should allow us to consider common shocks.

We study the existence of heterogeneous treatment effects with the following equation:

$$y_i = \alpha_0 + \Sigma_k (\alpha^{k1}_1 \text{ x } T_1 \text{ x } D^k_i) + \alpha'_2 \text{ x } T_1 + \Sigma_k (\alpha^{k2}_1 \text{ x } T_2 \text{ x } D^k_i) + \alpha^2_2 \text{ x } T_2 + \Sigma_k (\alpha^k_3 \text{ x } D^k_i) + \Sigma_j (\lambda_j \text{ x } x_i) + \varphi_i \quad (3)$$

where T_1 and T_2 are dummies indicating exposure to MESP and MESP+ respectively, D^k_i is the variable where the interaction effect is studied, and x_i is the set of controls. The variable of interest is α^k_1. It represents the treatment effect for the particular subgroup studied. If $\alpha^k_1 = 0$, then the MESP effect does not vary by D_i, and the average homogenous effect would be captured in α_2.

5 Results

Following a discussion of our empirical strategy, we now turn to the estimation results of equation (2) for different key outcomes. We first analyze the treatment impact on the beneficiary's labor market outcomes: employment, self-employment, labor income, and hours worked. We then consider employment behavior within the household. Given that the program aims to decrease poverty, we want to see whether there is a substitution effect within the household on members' labor market participation. Finally, we estimate the program effect on household per capita labor income.

In order to understand the mechanisms by which the program operates, we analyze the program effect on a set of business practices. Additionally, we analyze a different set of outcomes related to the empowerment of the female beneficiaries. We also include the analysis of the main results considering the different attrition rate observed in MESP+ with respect to MESP and the control group. Finally, we calculate the heterogeneous effects of the program.

The result Tables 3 and 4 follow a common structure. All estimation results included the controls of the stratification variables (SSC score and the municipality where individuals lived). In the first column, this is the only set of controls included. The second column also includes the following set of characteristics from the baseline survey: gender, age, education, number of persons in household, number of families in household, household assets, risk aversion, index of financial literacy, and an ability index. The third column considers the lagged dependent variable (its value in the baseline survey in 2010) as a

control. In the fourth column, we add the set of characteristics of the baseline survey to the lagged dependent variable. If the dependent variable is not available in the baseline, then only the first two specifications are presented.

Independent Work, Employment and Individual Labor Income

We first concentrate on self-employment as the main outcome of a micro-entrepreneurship program. The impact of the MESP program on self-employment (T1) is between 14.6 and 15.2 percentage points and is always statistically significant (first row of columns 1-4 of Table 3). Moreover, the impact of MESP+ is even larger, reaching between 24.4 and 24.7 percentage points (fourth row of Table 3). It is important to note that the coefficients are stable across the different specifications. At the bottom of Table 3, we show the p-value of the t-test of equality of the effect of T1 and T2. By comparing T1 with T2, it can be seen that the large difference in their coefficients is statistically significant at the 99% confidence level. Hence, the MESP program, both with and without additional funding, does produce an increase in the number of individuals who work as self-employed, and there is an additional increase in self-employment among those that received the additional asset transfer.

We then look at beneficiaries' employment (as self-employed or wage work), since the training program could also have an effect on wage work, since individuals acquire a set of abilities that could be value in the formal labor market. The first row of Table 3 corresponds to the coefficient of the normal MESP program (T1), indicating that there is an increase in the employment of the beneficiaries between 11.4 and 11.7 percentage points due to the program compared to the control group (columns 5 to 8). All regressions' specifications are highly significant. The MESP+ treatment (T2) produces a coefficient between 17.3 percentage points and 17.8 percentage points, depending on the specification (columns 5 to 8). Again, these impacts are highly significant. This is strong evidence that the MESP program, both with and without additional funding, generates a large and significant impact on employment of the beneficiaries. It can also be seen that the MESP+ produced larger and significant effects compared to the "normal" MESP, as the p-values for the test of equality of effect of T1 and T2 are below 5% for all specifications.

A critical assumption underlying the MESP program is that individuals who start microbusinesses have larger incomes than they would if they stayed in dependent labor or

remained unemployed/inactive. According to our estimation results, the MESP program produces significant increases in labor income (see columns 1-4 in Table 4). Depending on the specification of the regression, we estimate the impact at between Ch$22,195 to Ch$24,428 (between US$45 and US$50) a month, with highly significant coefficients. Considering that the labor income level in the control group is approximately Ch$71,000 (bottom of Table 4), this impact implies that MESP beneficiaries are obtaining, on average, a 32% higher labor income than those of the control group. In addition, MESP+ increases labor income by an average of between Ch$32,776 and Ch$35,183 (US$65 and US$69), significant at conventional levels. When compared to the control group, individuals enrolled in the MESP+ experienced an average increase of 50% of their labor income. Despite the large mean difference of estimated effects of the additional funding over the regular MESP program, we cannot reject the null hypothesis that both interventions have the same effect on labor income, as p-values in last row are rather large.

Therefore, the MESP, both with and without the additional funding, increases self-employment and labor income. The additional asset transfer significantly increases the probability that the beneficiary declares himself as being self-employed, and it has a smaller but positive effect on the probability of being employed overall, but we find no statistically significant effect on labor income.

Looking at self-employment income to assess the effectiveness of the MESP program in inducing successful micro-entrepreneurs, we observe an increase of 44% due to the program (columns 5-8 of Table 4). Also, the MESP+ program produces an increase of 78% in self-employment income. Again, despite the large mean difference of estimated effects of the MESP+ program over the regular MESP program, we cannot reject the null hypothesis that both interventions have the same effect on self-employment income, as p-values in last row are rather large.

The effect on labor income could be caused by differences in effort for each treatment arm. In order to address this possibility, we calculate the effect of the MESP on working hours and hourly labor income. Our estimation results in Table 5[23] indicate that there is a significant increase in the number of working hours due to the MESP program. The program induces an additional 4.2 hours of work per week over the control group, which

[23] We do not have baseline measures of hours worked; therefore, we cannot control by their baseline values.

works 19.9 hours per week. This represents a 21% increase in working hours per week. The MESP+ generates an increase of 7.4 hours per week over the control group, which is a 37% increase compared to the control group. The impact of the MESP+ over the normal MESP is highly significant, with p-values below 5%.

The joint increase of labor income and working hours could cast doubts regarding the productivity of labor activities. However, our results in Table 5 (columns 3 and 4) indicate that there is a significant increase in the hourly labor income. In fact, the MESP program produces a 48% increase in hourly labor income relative to the control group. This is particularly important as it reveals the profitability of participants' business ventures. The MESP+ produces an increase of 42% in hourly labor income compared to the control group. This result can be interpreted as evidence of decreasing returns to the hours worked or decreasing returns to capital. This is consistent with a production function that flattens rapidly. We present more evidence about this when analyzing heterogeneous effects below.

The lack of a statistically significant effect of MESP+ over the normal MESP on labor income, and the positive and significant effect on employment, could imply that MESP+ has longer-term effects that are not captured in the one-year scope of our study. At the same time, it could occur that there is a taste for being self-employed, beyond the income received.

Household outcomes

We study next whether the increase in employment has a substitution effect on the labor supply of other household members. To test these hypotheses, we estimated the impact of MESP and MESP+ on the number of household members employed without considering the beneficiary (Table 6, columns 1-4). The results indicate that there is no significant change in employment of the rest of the members of the household under either the MESP program or MESP+. Given that there is no labor substitution at the household level, we expect an increase in per capita income.[24] In fact, per capita household labor income does increase significantly for both treatment arms (with no statistical difference between them; see Table 6 columns 5-8). While normal MESP produces an increase of 12% in per capita

[24] Both T1 and T2 have no effect on the number of household members.

household labor income, MESP+ produces a rise of 14%. The difference between MESP and MESP+ is not statistically significant.

Business Practices

We have shown that the MESP program, with and without the additional asset transfer, is successful in increasing employment, hours worked, and per capita income of the beneficiaries. Considering that the MESP program is a combination of business training and asset transfer, in this section we present the program effect on a set of business practices collected from the follow-up survey, which should be mostly affected by the training part of the program.

We follow De Mel et al. (2012) in using several questions to create different scores for business practices.[25] We summarize those questions in different categories: marketing, inventory management, costing and record keeping, and financial planning. We create an index for each of them. For example, one question used to measure marketing practices is: "During the last 3 months, have you asked your clients if they would like your business to sell a new product or offer a new service?" For that question, 57% of the small entrepreneurs responded yes, with important differences by treatment arm: 44% for the control group, 58% for MESP, and 60% for MESP+. We then create a dummy variable equal to one if the practice is used, and later we add it up with other questions related to marketing, building a marketing index. In parallel, to measure pricing and record keeping, the following question was used, among others: "Have you calculated the cost of your main products?" Of the micro-entrepreneurs, 73% answered yes, and again we observe important differences by treatment: 62% in control group, 73% in MESP and 79% in MESP+. Finally, to measure planning practices, one of the questions asked was "Have you made a budget for next year's costs?" For this question, we observe lower affirmative answers; only 29% of micro-entrepreneurs had prepared a budget for next year. There are fewer differences by treatment arm for this question: 28% in the control group, 31% for the MESP treatment, and 28% for the MESP + treatment.

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[25] We thank Christopher Woodruff for facilitating the questions. The specific questions used in the construction of each variable are reported in Appendix 2.

We have also collected reports on the amount of cash available for business expenses, as well as a report filed by the surveyor on the existence of inventory and register books. The Intent to Treat estimates of T1 and T2 on these outcomes is reported in Table 7.

Panel I of Table 7 shows the results of self-reported outcomes. Outcomes A to D are the sum of dummy variables that take the value of 1 when business practices are performed. The marketing, inventory management, costing and record keeping, and financial planning variables are the sum of 9, 5, 7 and 4 dummy variables, respectively. Outcome E is the sum of all business practices included in outcomes A to D. Considering these variables, we can see that both T1 and T2 significantly improve business practices. For example, T1 increases the number of marketing practices by 1.5, whereas T2 does so by 1.8. Furthermore, T2 has a significantly larger effect than T1 on inventory management and on the overall index.

Columns (11) and (12) of Table 7 show the average individually reported amount of cash available for a beneficiary's business. The control group reports an average of approximately Ch$8,300 available. T1 and T2 report an increase of Ch$19,376 and Ch$19,850 respectively. These are statistically significant increments, but there is no difference between MESP and MESP+.

Finally, in order to avoid potential bias in self-reporting, in panel II of Table 7 we report the outcomes of two business practices as reported by an enumerator: a dummy with a value of 1 if the enumerator reports having seen the inventory and a dummy with a value of 1 if he reports having seen a written business record[26]. This could be a better measurement of the outcomes if individuals improve the quality of their reporting with their training. In an extreme case, what was found in the first panel could be simply an improvement in the quality of self-reporting, but not an increase in the behavior.[27] In the control group, the

[26] These questions are asked only if the interview was conducted at the business.

[27] This measurement report problem could bias our results in either direction: individuals with training might learn about the business practices (including how to compute profits) and then improve their reporting. In the case of profits, the knowledge might increase or decrease their estimated profits. For example, if they were not including their wages, then profits will appear lower when they include wages, but if they were not accurately computing their sales, profits might be larger when they make that change. We have different strategies for addressing these potential problems. In the case of business practices, we added an enumerator

enumerators report that only about 2% of the respondents show such registers.[28] MESP more than doubles this proportion, whereas MESP+ at least triples them. Again, we cannot identify a statistically significant differential effect of MESP+ compared to MESP.

These results show that the training seems to have affected the practices of small entrepreneurs. At the same time, it is possible that small entrepreneurs do not actually carry out these practices, but remember them as important from the training lessons. However, because the follow-up survey was conducted almost a year after the training lessons, and because we use information provided by the enumerator, it is likely that small entrepreneurs do actually engage in better business practices.[29]

Empowerment

We also test whether the program has an effect on the decision power of women, who are overwhelmingly the beneficiaries of the program. The increase in income and employment of the program beneficiaries might increase their decision power. We studied this in the sub-sample of women who have a spouse or cohabitating partner. We have two measurement types. First, we analyze who usually makes the expenditure, savings, and debt decisions in the household. Secondly, to measure actual behavior and its effect on children, we considered the per-child educational expenditure the household.

The results in Table 8 show no program effects on female decision-making or educational expenditures. This is consistent with the previous literature on microcredit and training (Banerjee et al. (2010) and Karlan and Valdivia (2012)).

Bounds

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report. However, we could not derive directly income numbers by observing the entrepreneurs because our sample size makes this too costly.

[28] The 2% of individuals in the control group who show the registry book increases to 40% when we consider the sample of micro-entrepreneurs who were interviewed at their businesses.

[29] There are differences in response rates about business practices by treatment group; these are 72% for the control group, and 94% for MESP and MESP+. We proceed to calculate a lower bound of the effects using Lee (2005) methodology. We find that the main results for marketing, inventory, costing, financial planning and total business practices hold, but the effects are not longer significant for cash in hand and showing register books (results available upon request). Then, since the majority of the lower bounds of the business practices are still significant our results are robust to differences in the response rate.

The response rate of the follow-up survey was 94%, conditional on being interviewed in the base line. However, there are differences by treatment type. The response rate of the control group was 92%, for the MESP treatment it was 91%, and for the additional funding treatment it was 96%. As we reported in section 3.2, attrition is correlated with T2, which affects the interpretation of the results presented in the previous sections. At the same time, there are no statistical differences between the follow-up response rates of the control group and the MESP group. We study the implications of these differences in response rate by constructing lower and upper bound of the treatment effects. Following Lee (2005), we need to make the monotonicity assumption that receiving additional funding affects sample selection in only one direction. In our case, this implies that some individuals would have not participated in the follow-up if they did not receive additional funding, but that additional funding did not cause certain individuals not to participate in the follow-up research. We find this assumption reasonable. Then, the bounds proposed by Lee (2005) consist of trimming the distribution of the dependent variable, and the percentage of the attrition is equal to the differences in the attrition rates between the additional funding group and the other two groups, divided by the response rate of the additional funding group. In our case, that number is 4.9%

We calculate the upper and lower bounds for the variables presented in Tables 3, 4, 5, and 6. The lower bound trims 4.9% of the upper distribution of the continuous variables. In the case of discrete dummy variables, we randomly trim 4.9% of the individuals with value equal to one for the corresponding variable. In the case of the upper bound, because all the variables, continuous and discrete, have a mass greater than 4.9% at zero, we randomly trim 4.9% of the individuals with value equal to zero for each variable.

We trim the variables for the MESP+ group and then estimate the same model for Tables 3, 4, 5, and 6. Table 9a shows the lower bound estimates. We can observe that the effect of additional funding over the control group is still significant for employment, self-employment, and hours worked, and marginally significant for labor income from self-employment. For the rest of the outcomes, the effect is not significant, except for the number of employed individuals in the household, which is negatively significant. In comparison with MESP, the additional funding group performs better on employment and self-employment. This exercise shows that the results for employment and self-employment are very robust. Moreover, even as a lower bound, additional funding has positive effect on

hourly labor income and a marginally positive effect on labor income from self-employment, compared with the control group.

The upper bound is shown in Table 9b; we observe that, in comparison with the control group, all coefficients are positive and significant, with the exception of number of household workers. In the comparison with the MESP group, additional funding has a larger effect on self-employment work, general employment, income from self-employment and hours worked. However, there are no differences in per capita labor income, labor income, or the number of household members who work.

Heterogeneous Treatment Effect

One of the most challenging questions in the context of micro-entrepreneurship is identifying who can become a successful entrepreneur. Hence, we now turn to the analysis of heterogeneous treatment effects by including interaction terms in our regressions. The first set of interactions considers that the program has a training component. Here, we are interested in whether the effect depends on the beneficiaries' previous human capital, which might allow them to acquire new/better entrepreneurial skills. On the one hand, it is possible that individuals with greater human capital could reap more rewards from the training (and the asset transfer) than other participants. This would result in the program having a larger effect on them. On the other hand, the program could level the playing field for individuals with lower human capital. In order to test these hypotheses, we measure human capital in two ways: formal education and numerical ability. The education variable is measured with a dummy that takes the value of one if the individual has completed high school and zero if she has a lower level of education. In our sample, around 40% have completed high school. Numerical ability is measured by having the participants subtract the number 7 starting from 100. They were given four trials. We construct an index that goes from 0 to 4 and is equal to the number of correct subtractions, whether or not the previous subtraction was correct.[30] The average number of correct answers is 2.6.

Panel A of Table 10 shows the interaction terms with education and numerical ability. We observe that individuals with more education benefit less from the program in terms of

[30] These questions are based on the Health and Retirement Study. See Ofstedal et al. (2005).

employment. Recall that, on average, an individual increases her probability of being self-employed by 15 percentage points after receiving MESP (first row of column 1 in Table 10). However, when we add interaction terms with a high school diploma or more, we find that MESP has no significant effect on self-employment or employment (columns 2 and 5), and MESP+ increases self-employment and employment only for individuals with less than a high school diploma (columns 2 and 5). We find no incremental effects for income outcomes. These results could be driven by the fact that individuals with more education are more likely to be employed, and, as we will show next, the program is more effective for unemployed individuals.

On the other hand, using our numeracy index, we find that individuals who perform the subtraction exercise correctly more times are more likely to increase their probability of being employed and self-employment. In fact, one more correct answer increases the probability of being self-employed by 3.7 percentage points. Thus, individuals with higher numerical ability benefit significantly more from the program. Figures are fairly similar for MESP+. Focusing on earnings (columns 8 and 9), we find that that higher numerical ability interacted with the program does not significantly affect income.

The second set of interactions allows us to shed light on the shape of entrepreneurs' production function. We focus on the existence of startup fixed costs, which the MESP program should be affecting, and the slope of the function with the additional capital provided by MESP+. For this purpose, we use the amount of earnings that comes from self-employment in the baseline and its interaction with the treatment variables. This specification allows us to test the effect of the program for different income levels. We also include the level of earnings from wage work and its interaction with the treatment variables. We presume there could be monetary costs and time costs to start a business. The monetary cost is the minimum initial capital needed to start the business, and the time costs consist mostly of learning the skills and information that are necessary to run a business. The program helps to overcome both fixed costs by providing an asset transfer and training on how to run a business (although attending training is time costly).

We define unemployed individuals as those having zero income from wage work and self-employment at the baseline. In the presence of a monetary fixed cost, unemployed individuals or people with a low income could benefit more from the asset transfer. At the same time, if the production function flattens rapidly after paying the fixed cost, the transfer

should have little effect on individuals with higher income at the time of the intervention; this type of production function has been proposed by Banerjee and Duflo (2011). In addition, those who are high-income wage earning individuals at the baseline may have a higher opportunity cost of time, and they might find that the fixed cost in time to start a business is relatively high.

In Panel B of Table 10, we present estimation results for our main outcomes with the interaction terms of the treatments with both types of income at the baseline. In all regressions, the only additional control is the strata, as in columns (1) of Table 3 (in addition to the respective interactive variable).

First, we observe that, when income interactions are included, the effect on self-employment is 16 percentage points for MESP, and 28 percentage points for MESP+ (first two rows of column 3 in Table 10). These results indicate that, if an individual had zero income from wage work and self-employment, there is an important increment in the probability of being employed or becoming a small entrepreneur. For MESP and MESP+, we obtain mostly negative, although non-significant, effects of income from self-employment on the probability of being self-employed, and negative and marginally significant effects of income from wage work (columns 3 and 5). The negative sign of the interaction terms indicates that the effect of the program on increasing the probability of being self-employed has the highest effect for unemployed individuals (they have zero income), and the effect decreases as income at baseline increases, particularly for wageworkers at the baseline. The same holds for the employment probability. These results reinforce the effectiveness of the MESP program in its main objective of increasing employment for unemployed or low income individuals, but casts doubts on the impact on independent work and of the overall effect of MESP+ for wageworkers.

Similar results are observed when we analyze the effects of MESP and MESP+ on self-employment and labor income. In fact, we find that individuals with no income at the baseline increase their current self-employment income by Ch$47,000 when receiving MESP, and Ch$53,000 when receiving MESP+. In the case of labor income, MESP has a positive effect of Ch$56,000, and MEPS+ has a positive effect of Ch$53,000 for individuals who were unemployed at the baseline. Notice that these values are much larger than the average effect of the program. Again we observe that the interaction effects have a

negative sign, indicating that the program has the biggest effects in terms of income for those who are unemployed at the time of the intervention.

In order to better understand the interaction between treatments and income, we compute the effects of the program at different percentiles of the respective baseline income distribution; the results are shown in Tables 11a and 11b. We calculate 8 different tests. Testing whether MESP is good for self-employed individuals at the baseline at different percentiles (Test 1), we observe that the probability of being a small entrepreneur and being employed significantly increases for workers who were self-employed at the baseline no matter their income level (first five rows of columns 1 to 4 in Table 11a). However, when testing whether MESP is good for wageworkers at the base line (Test 2), we observe that the positive effect on independent work and employment is only valid for low-income individuals (at or below the 25th percentile; see rows six to ten of columns 1 to 4). A similar picture emerges for MESP+ (Test 3 and 4), where all self-employed individuals at the baseline benefit from MESP+, but only low-income wageworkers benefit from MESP+

Focusing on income outcomes (self-employment income and labor income), both MESP and MESP+ have a positive impact for all but high-income individuals (Tests 1 to 4 in columns 5 to 8 of Table 11a). For instance, rows one to five in column 5 and 6 indicate that MESP increases independent income for individuals at or below the 25th percentile of the baseline self-employment income distribution. The same holds for labor income and the MESP+ treatment. Then, the program not only increases employment for unemployed and low-income individuals, but also increases their incomes.

The issue of identifying for whom the program could be more effective is assessed in Tests 5 and 6 in Table 11b. Test 5 assesses whether the MESP program was more effective for self-employed workers than for wageworkers, whereas Test 6 performs the same exercise for MESP+. The estimation results indicate that MESP is marginally better for achieving self-employment for those who were initially self-employed compared to those who were initially wage-earners (Test 5 in columns 1-2). Surprisingly, MESP is not better in overall employment or income measures for individuals who were self-employed at the baseline (columns 3-8). On the other hand, MESP+ exhibits results similar to MESP. There are significant differences in employment only in favor of workers who were self-employed at the baseline (Test 6 in columns 1-8), but MESP+ does not perform better on income or self-employment for independent workers than for dependent workers.

Attempting to assess whether a larger income transfer could be more effective for some types of individuals, two additional tests are performed. Test 7 calculates whether MESP+ has a larger effect than MESP for workers who were self-employed at the baseline. Test 8 performs a similar test, but for workers who were wageworkers at the baseline. We observe that MESP+ has a larger impact than MESP on self-employment and employment outcomes for those who were wage-earners at the baseline only at very low initial income levels (Test 7 in columns 1-4). No gain is observed in income for MESP+ over MESP for wage-earners at the baseline (columns 5-8), which again is consistent with a flat production function. In parallel, we observe that MESP+ has a larger impact than MESP on those who were self-employed at the baseline in terms of independent work and employment, for all but those with very high initial income (Test 8 in columns 1-4). The effect of the larger asset transfer in MESP+ translates into higher independent income and labor income only for median and above income at the baseline for those initially self-employed. Notice that this is the only case where we find that MESP+ has a larger significant effect than MESP on income outcomes.

All in all, the results of the interaction of the treatments with income are consistent with the presence of fixed costs to start a business, since only unemployed or low-income workers are benefited by MESP or MESP+. Additionally, the fact that we do not find big differences between MESP and MESP+ is also consistent with a flat production function. In the case of high-income dependent individuals at the baseline, we observe that the program does not increase employment or income of the beneficiaries, which is a result consistent with those individuals using the program as a temporary job or experiencing a high alternative cost of the use of their time (or only taking advantage of the asset transfer to sell it afterward).

Similar results, consistent with the presence of fixed costs, were found by De Mel et al. (2012), where a training program has effects only on potential business owners, but not on actual business owners. Similarly, Banerjee et al. (2010) observe that microcredit increases consumption of durables for individuals with a high propensity of starting a business, but not for individuals with a low propensity of starting a business. Lastly, de Mel et al. (2008) find that a first cash or in kind transfer of capital to small entrepreneurs in Sri Lanka increases profits; however, a second transfer on top of the first one has no effect on profits,

which is consistent with reaching the flat part of the production function, as Banerjee and Duflo (2011) discuss. We provide similar evidence among those lines.

6 Discussion and Conclusions

Micro-entrepreneurial programs targeted to the poor revolve around two objectives: providing entrepreneurial skills and granting access to capital. Armed with these resources, poor individuals should be able to establish more successful businesses, allowing them an opportunity to escape poverty. However, there is little evidence to suggest that interventions that include both training and asset transfers actually produce large expected benefits for enrollees, particularly for government-run programs. Furthermore, the evidence has focused on interventions for current entrepreneurs, and little is known of its effect on the broader population.

The rationale underlying an asset transfer, as an alternative to microcredit, is to change who bears the risk of the business. In the case of microcredit, small entrepreneurs need to take a risk, which risk-averse individuals might be reluctant to bear. Alternatively, asset (or cash) transfers to the entrepreneur impose a risk for the donor. Our results show that the strategy of putting the risk on the donor can create and increase micro-entrepreneurship among the extremely poor.

We study the effect of an intervention that provides training and two levels of asset transfers to vulnerable individuals in Chile, regardless of their baseline activity. To the best of our knowledge, this is the first evaluation of a large-scale public program with these characteristics. Using the additional asset transfer, we test the shape of the production function of poor small businesses.

Our results show that the MESP program significantly improves beneficiaries' labor income and employment. The program increases employment and particularly self-employment by 18% and 34% respectively. The program also increases the number of hours devoted to work by 22%. Moreover, the program increases labor income by 32% and per capita labor income by 13%. In addition, we find that the program significantly

improves business practices in marketing, cost and stock management, and planning. The program does not seem to have an effect on several measures of female empowerment, such as budget decision-making in the household or relating to children's educational expenses. Furthermore, the program's largest effects are on individuals without employment at the baseline. For wage-earning individuals at the baseline, the program only has effects if their labor income was small. This is consistent with the existence of fixed costs in starting up a business activity.

The second treatment, called MESP+, granted additional capital along with the full benefits of the MESP. MESP+ proved to be rather successful compared to the control group. The additional funding treatment increases employment and self-employment of the beneficiaries by 27% and 56% when compared to the control group. This treatment also increases the number of hours devoted to work by 37% compared to the control group. Moreover, the MESP+ increases labor income by 50%. However, the larger effects we find for MESP+ compared to MESP are not always statistically significant. This is consistent with a production function that flattens quickly.

This evidence of fixed costs and the flattening of the production function is important for public policy. First, it indicates that transfers can be a successful tool to start a small business, especially if microcredit has limited reach. Second, because of rapidly decreasing returns, simply increasing the amount of the transfer would not necessarily be an efficient policy, as discussed by Banerjee and Duflo (2011). Increasing the scale of a small business might require a more comprehensive intervention and a different set of public policies and entrepreneurial skills.

The effectiveness of the MESP program can be addressed by comparing the increased income to the cost of the program. We performed a simple back of the envelope calculation to estimate the profitability of the total direct cost of the MESP program. We estimate its cost, based on the implementing agency's figures, at Ch$600,000 (US$1,200), where half is the cost of training and the other half is the asset transfer. Considering the increase in labor income (between Ch$22,000 to Ch$24,000; US$45 to US$50), this cost is recovered in 24-27 months of increased labor income. This is a short period with respect to other successful

programs. For example, de Mel et al. (2012) calculate that a training program in Sri Lanka can recover its cost in 12 months, but a training plus cash program could take up to 48 months. The monthly return rate of the capital given to the individuals by the regular MESP program is computed at 3.8% (56% annual return rate), which is a lower bound measure (because it considers all of the costs of the program). This return is in line with an annual return rate of 55-63% found in Sri Lanka (De Mel et al., 2008), and 37-39% in Ghana (Fafchamps et al., 2011).

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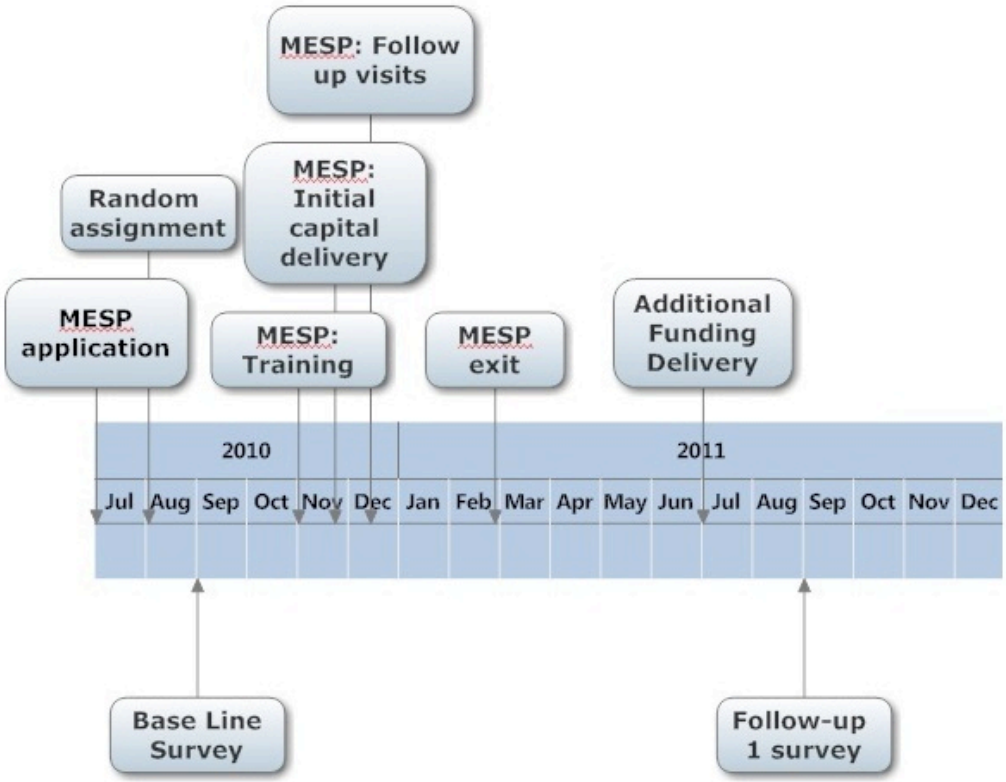
Figure 1: MESP timeline



Appendix 1: Business Practices

The **marketing** score ranges from 0 to 9. One point is added for each one of the following activities that the beneficiary completed within the last three months:

1.- Visited at least one of its competitor's businesses to note the prices competitors are charging

2.- Visited at least one of its competitor's businesses to note the products competitors have available for sale

3.- Asked existing customers whether there are any other products the customers would like the business to sell or produce

4.- Talked to at least one former customer to find out why former customers have stopped buying from this business

5.- Asked a supplier about which products are selling well in this business's industry

6.- Attracted customers with a special offer

7.- Advertised in any form (last 6 months)

In addition, we have added one additional point for each yes response to the following two questions:

8.- Have you used round prices such as $999 instead of $1,000?

9.- Have you suggested to your clients new products that they might be interested in?

The **stock management** score ranges from 0 to 5. One point is added for each of the following activities the beneficiary has completed within the last three months

1.- Attempted to negotiate with a supplier for a lower price on raw material

2.- Compared the prices or quality offered by alternate suppliers or sources of raw materials to the business's current suppliers or sources of raw material.

In addition, one point was awarded for each affirmative answer to the following two questions

3.- Do you maintain an inventory of your business?

4.- Do you have a record that allows you to know your inventory?

As to the following question:

5.- How often do you update the information about your inventory?

a.- One point for answering daily.

b.- Zero points for answering weekly, monthly, less than monthly, and never

The **costing and record keeping** score ranges from 0 to 7, and is calculated by adding one point for each of the following activities conducted by the beneficiary:

1.- Records every purchase and sale made by the business

2.- Able to use records to see how much cash the business has on hand at any point in time

3.- Uses records regularly to know whether sales of a particular product are increasing or decreasing

4.- Works out the cost to the business of each main product it sells

5.- Knows which goods you make the most profit per item selling

6.- Has a written budget, which states how much is owed each month for rent, electricity, equipment maintenance, transport, advertising, and other indirect costs to business

7.- Has records documenting that there exists enough money each month after paying business expenses to repay a loan in the hypothetical situation that this business wants a bank loan

The **financial planning** score ranges from 0-4, and it is calculated by awarding up to one point according to the following rules.

The first question awards points on the basis of the scale below:

1.- How frequently do you review the financial performance of your business and analyze where there are areas for improvement

a.- Zero points for “Never”, “Once a year or less” and “Two or three times a year”

b.- One point for “Monthly or more often”

For questions 2 and 4, add one point for affirmative answers to any of the following that the business has

2.- A target set for sales over the next year

3.- A budget of the likely costs your business will have to face over the next year

And adding one point for any of the following that the business has

- An annual profit and loss statement
- An annual statement of cash flow
- An annual balance sheet
- An annual income/expenditure sheet

Table 1: Treatment Groups

		Randomized	Base Line	Follow Up	Both Rounds
Control Group	Pure Control Group	566	532	490	475
T1	MESP	689	649	593	574
T2	MESP + Additional Funding	693	658	629	612
Total		1948	1839	1712	1661

Note: Author's own calculation.

Table 2: Variable means and difference-test between treatments group

Variables	N obs	Control	T1	T2	p-val T1=C	p-val T1=T2	p-val T2=C
Beneficiary Level							
Gender (1=Male)	1,661	0.06	0.06	0.07	0.79	0.38	0.57
Age	1,661	35.79	36.44	36.17	0.34	0.66	0.57
Primary Education	1,658	0.31	0.32	0.33	0.73	0.76	0.52
Secondary Education Incomplete	1,658	0.24	0.24	0.26	0.87	0.26	0.37
Secondary Education Complete	1,658	0.41	0.38	0.36	0.31	0.44	0.08
Tertiary Education	1,658	0.04	0.06	0.05	0.06	0.25	0.41
SSC score	1,661	3,384	3,374	3,439	0.94	0.62	0.68
Employed	1,652	0.66	0.66	0.65	0.98	0.72	0.72
Self-employed	1,652	0.51	0.51	0.50	0.98	0.83	0.86
Labor income	1,652	53.8	51.3	58.1	0.55	0.09	0.34
Wage work income	1,654	19.6	18.4	18.7	0.68	0.91	0.77
Self-employment income	1,659	34.0	32.7	39.3	0.72	0.05	0.16
Applied for a credit	1,661	0.07	0.06	0.09	0.57	0.12	0.37
Credit rejected	120	0.38	0.35	0.31	0.80	0.67	0.48
Debt Holding	1,661	0.65	0.62	0.63	0.30	0.71	0.49
Risk Aversion index	1,659	0.45	0.51	0.47	0.08	0.20	0.58
Numeracy index	1,661	2.64	2.53	2.70	0.27	0.06	0.47
Financial Literacy Index	1,661	1.33	1.33	1.35	1.00	0.81	0.82

Variables	N obs	Control	T1	T2	p-val T1=C	p-val T1=T2	p-val T2=C
Household Level							
# of workers in Hh	1,661	1.46	1.45	1.38	0.82	0.18	0.13
# of workers rest of Hh	1,661	0.81	0.79	0.73	0.81	0.20	0.13
# of workers over persons in Hh	1,661	0.31	0.31	0.30	0.58	0.31	0.68
Hh Labor Income	1,661	170.0	161.1	168.6	0.37	0.41	0.88
Hh self-generated income	1,661	210.0	198.6	205.6	0.26	0.46	0.68
Hh Total Income	1,661	237.9	226.1	231.6	0.25	0.57	0.55
Number of persons in Hh	1,661	5.01	4.76	4.80	0.04	0.71	0.08
Number of families in Hh	1,661	1.56	1.48	1.48	0.09	0.99	0.09
Per capita Hh labor income	1,661	33.4	33.4	35.6	0.98	0.22	0.24
Per capita Hh total income	1,661	48.3	48.5	49.6	0.93	0.52	0.49
Per capita workers in Hh	1,661	0.31	0.31	0.30	0.58	0.31	0.68

Note: Data from baseline survey conducted by the authors in September-October 2010. Only individuals in both baseline and follow-up are included in the sample. Sample size varies depending on the missing values of the respective variable. Income in thousand of Chilean pesos. Column [1] shows the number of observation. Columns [2], [3], and [4] show the mean value of the variable for the control, T1 and T2 respectively. Column [5] reports the p-value of the null hypothesis that T1=Control Group, column [6] reports the p-value of the null hypothesis that T1=T2. Column [3] shows the p-value of the null hypothesis that T2=C.

Table 3: Independent Work and Employment (Beneficiary Level)

	y = Self-Employment				y=Employment			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
T1	0.152	0.150	0.149	0.146	0.117	0.115	0.116	0.114
sd	0.031	0.030	0.030	0.030	0.023	0.023	0.023	0.023
p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
T2	0.247	0.246	0.245	0.244	0.176	0.173	0.178	0.176
sd	0.031	0.030	0.029	0.028	0.023	0.023	0.023	0.022
p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
y2010			0.285	0.280			0.247	0.241
sd			0.022	0.022			0.028	0.028
p-value			0.000	0.000			0.000	0.000
N	1634	1629	1625	1620	1634	1629	1625	1620
R2	0.120	0.131	0.196	0.203	0.099	0.113	0.166	0.175
Mean C	0.440	0.441	0.444	0.445	0.655	0.657	0.659	0.660
p-val T1=T2	0.003	0.002	0.001	0.001	0.023	0.023	0.016	0.015
Controls	strata	strata 2010vars	strata y2010	strata y2010 2010vars	strata	strata 2010vars	strata y2010	strata y2010 2010vars

Note: Data from baseline and follow up survey conducted by the authors in September-October 2010 and October-November 2011 respectively. All income variables are measured in real Chilean pesos of 2011. All regressions include dummies for strata (defined by a socioeconomic index computed by the government in the Social Security Card score and the municipality). Column [1] includes only strata controls. Column [2] includes baseline variables controls: gender, age, education, number of persons in household, number of families in household, assets, risk aversion, and numeracy index. Column [3] includes the baseline value of the dependent variable, and column [4] adds to [3] the full set of baseline controls. Only individuals in both baseline and follow-up are included in the sample. Standard errors are calculated allowing for clustering at the municipality level.

Table 4: Dependent, Independent and Total Labor Income (Beneficiary Level)

	y = Labor Income				y = Self-Employment Income			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
T1	22,195	23,019	24,007	24,428	16,430	17,044	16,828	17,229
sd	7,845	7,943	7,904	8,088	7,017	7,083	6,200	6,398
p-value	0.006	0.005	0.003	0.004	0.022	0.019	0.008	0.009
T2	34,408	35,183	32,776	33,454	30,081	30,637	26,715	27,232
sd	7,633	7,424	7,513	7,352	7,039	6,680	6,287	6,031
p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
y2010			0.620	0.582			0.644	0.610
sd			0.117	0.123			0.160	0.161
p-value			0.000	0.000			0.000	0.000
N	1,634	1,629	1,625	1,620	1,635	1,630	1,633	1,628
R2	0.082	0.109	0.152	0.166	0.101	0.128	0.202	0.213
Mean C	70,828	70,979	71,067	71,220	39,081	39,164	39,164	39,248
p-val T1=T2	0.1712453	0.1668456	0.2456661	0.2415515	0.113	0.108	0.160	0.151
Controls	strata	strata	strata	strata	strata	strata	strata	strata
		2010vars	y2010	y2010		2010vars	y2010	y2010
				2010vars				2010vars

Note: Data from baseline and follow up survey conducted by the authors in September-October 2010 and October-November 2011 respectively. All income variables are measured in real Chilean pesos of 2011. All regressions include dummies for strata (defined by a socioeconomic index computed by the government in the Social Security Card score and the municipality). Column [1] includes only strata controls. Column [2] includes baseline variables controls: gender, age, education, number of persons in household, number of families in household, assets, risk aversion, and numeracy index. Column [3] includes the baseline value of the dependent variable, and column [4] adds to [3] the full set of baseline controls. Only individuals in both baseline and follow-up are included in the sample. Standard errors are calculated allowing for clustering at the municipality level.

Table 5: Working Hours, Hourly Labor Income (Individual Level)

	y = Working Hours		y = Hourly Labor Income	
	[1]	[2]	[3]	[4]
T1	4.276	4.318	322.2	335.3
sd	1.209	1.182	96.1	98.6
p-value	0.001	0.000	0.0	0.0
T2	7.403	7.426	281.2	288.0
sd	1.204	1.158	79.065	78.231
p-value	0.000	0.000	0.001	0.000
y2010				
sd				
p-value				
N	1,628	1,623	1,605	1,600
R2	0.082	0.110	0.083	0.098
Mean C	19.946	19.989	666.6	668.1
p-val T1=T2	0.038	0.034	0.664	0.598
Controls	strata	strata 2010vars	strata	strata 2010vars

Note: Data from baseline and follow up survey conducted by the authors in September-October 2010 and October-November 2011 respectively. All income variables are measured in real Chilean pesos of 2011. All regressions include dummies for strata (defined by a socioeconomic index computed by the government in the Social Security Card score and the municipality). Column [1] includes only strata controls. Column [2] includes baseline variables controls: gender, age, education, number of persons in household, number of families in household, assets, risk aversion, and numeracy index. Column [3] includes the baseline value of the dependent variable, and column [4] adds to [3] the full set of baseline controls. Only individuals in both baseline and follow up are included in the sample. Standard errors are calculated allowing for clustering at the municipality level.

Table 6 : Rest of Hh Members Employed and Per Capita Labor Income (Hh Level)

	y = N Rest of Household Employed				y = Per Capita Hh Labor Income			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
T1	-0.011	0.022	-0.008	0.005	5,654	5,318	5,574	5,241
sd	0.047	0.046	0.044	0.045	2,359	2,396	2,510	2,566
p-value	0.817	0.628	0.863	0.918	0.019	0.030	0.030	0.045
T2	-0.034	0.001	-0.004	0.006	7,039	7,340	6,083	6,235
sd	0.044	0.045	0.044	0.045	2,508	2,425	2,550	2,510
p-value	0.437	0.980	0.930	0.892	0.006	0.003	0.020	0.015
y2010			0.375	0.319			0.455	0.430
sd			0.037	0.041			0.060	0.062
p-value			0.000	0.000			0.000	0.000
N	1,661	1,656	1,661	1,656	1,661	1,656	1,661	1,656
R2	0.100	0.189	0.237	0.256	0.095	0.120	0.165	0.179
Mean C	0.731	0.730	0.731	0.730	42,655	42,703	42,655	42,703
p-val T1=T2	0.685	0.703	0.942	0.976	0.637	0.481	0.860	0.728
Controls	strata	strata	strata	strata	strata	strata	strata	strata
		2010vars	y2010	y2010		2010vars	y2010	y2010
				2010vars				2010vars

Note: Data from baseline and follow up survey conducted by the authors in September-October 2010 and October-November 2011 respectively. All income variables are measured in real Chilean pesos of 2011. All regressions include dummies for strata (defined by a socioeconomic index computed by the government in the Social Security Card score and the municipality). Column [1] includes only strata controls. Column [2] includes baseline variables controls: gender, age, education, number of persons in household, number of families in household, assets, risk aversion, and numeracy index. Column [3] includes the baseline value of the dependent variable, and column [4] adds to [3] the full set of baseline controls. Only individuals in both baseline and follow-up are included in the sample. Standard errors are calculated allowing for clustering at the municipality level.

Table 7: Business Practices

Panel I: Self Report												
	A. y = Marketing		B. y = Inventory Management		C. y = Costing and Record Keeping		D. y = Financial Planning		E. y = Business Practices		F. y = Available Cash	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
T1	1.52	1.53	0.75	0.76	1.54	1.55	0.66	0.66	4.47	4.49	19376	19850
sd	0.15	0.14	0.09	0.09	0.16	0.15	0.09	0.08	0.45	0.42	4741	4671
p-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
T2	1.82	1.86	0.98	1.00	1.93	1.98	0.79	0.81	5.54	5.67	20258	20856
sd	0.16	0.15	0.10	0.09	0.17	0.16	0.09	0.09	0.49	0.46	4181	4094
p-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
N	1,655	1,650	1,658	1,653	1,652	1,647	1,649	1,644	1,659	1,654	1,558	1,553
R2	0.16	0.18	0.16	0.17	0.17	0.19	0.16	0.17	0.18	0.20	0.08	0.09
Mean C	1.16	1.16	0.55	0.55	1.00	1.01	0.49	0.49	3.19	3.19	8268.6	8286.7
p-val T1=T2	0.14	0.08	0.04	0.03	0.07	0.03	0.24	0.16	0.07	0.04	0.90	0.88
Controls	strata	strata 2010vars	strata	strata 2010vars	strata	strata 2010vars	strata	strata 2010vars	strata	strata 2010vars	strata	strata 2010vars

Continuation Table 7: Business Practices

Panel II: Enumerator Report

	G. y = Inventory Available		H. y = Registry Book Available	
	[1]	[2]	[3]	[4]
T1	0.03	0.03	0.03	0.03
sd	0.01	0.01	0.01	0.01
p-value	0.01	0.01	0.00	0.00
T2	0.05	0.05	0.05	0.05
sd	0.01	0.01	0.01	0.01
p-value	0.00	0.00	0.00	0.00
N	1,650	1,645	1,649	1,644
R2	0.09	0.09	0.09	0.10
Mean C	0.02	0.02	0.02	0.02
p-val T1=T2	0.23	0.19	0.17	0.13
Controls	strata	strata 2010vars	strata	strata 2010vars

Note: Data from baseline survey conducted by the authors in September-October 2010. Only individuals in both baseline and follow up are included in the sample. Sample size varies depending on the missing values of the respective variable. Column [1] shows the number of observation. Columns [2], [3], and [4] the mean value of the variable for the control, T1 and T2 respectively. Column [5] reports the p-value of the null hypothesis T1=Control Group, column [6] the p-value of the null hypothesis T1=T2 and column [3] the p-value of the null hypothesis T2=C.

Table 8: Empowerment

Panel A

	y = Woman makes decisions about expenditure				y = Woman makes decisions about savings				y = Woman makes decisions about debts			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
T1	0.00	0.00	-0.06	-0.07	0.03	0.04	-0.01	-0.03	0.03	0.03	-0.02	-0.04
sd	0.05	0.06	0.07	0.07	0.06	0.06	0.07	0.07	0.05	0.06	0.06	0.07
p-value	0.99	0.94	0.34	0.32	0.57	0.52	0.88	0.68	0.52	0.59	0.75	0.51
T2	0.03	0.03	-0.01	-0.02	0.06	0.07	0.02	0.01	0.08	0.08	0.06	0.04
sd	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.04	0.04	0.05	0.05
p-value	0.53	0.53	0.88	0.76	0.32	0.23	0.73	0.85	0.08	0.07	0.29	0.44
y2010			0.36	0.36			0.31	0.31			0.25	0.25
sd			0.06	0.06			0.05	0.05			0.07	0.07
p-value			0.00	0.00			0.00	0.00			0.00	0.00
N	576	575	417	417	565	564	410	410	568	567	406	406
R2	0.15	0.18	0.30	0.31	0.16	0.20	0.29	0.32	0.20	0.23	0.32	0.35
Mean C	0.47	0.48	0.47	0.47	0.45	0.45	0.43	0.43	0.34	0.34	0.34	0.34
p-val T1=T2	0.64	0.60	0.37	0.41	0.73	0.67	0.64	0.55	0.49	0.44	0.26	0.21
Controls	strata	strata 2010vars	strata y2010	strata y2010 2010vars	strata	strata 2010vars	strata y2010	strata y2010 2010vars	strata	strata 2010vars	strata y2010	strata y2010 2010vars

Panel B

	y =Annual Per Children Educational Expenditure (Ch$)			
	[1]	[2]	[3]	[4]
T1	15,379	13,405	10,772	8,981
sd	7,525	7,687	8,012	7,686
p-value	0.04	0.09	0.18	0.25
T2	5,794	5,941	9,379	9,090
sd	8,271	8,097	8,076	8,177
p-value	0.49	0.47	0.25	0.27
y2010			0.19	0.17
sd			0.07	0.06
p-value			0.01	0.01
N	1,304	1,300	1,181	1,178
R2	0.13	0.16	0.16	0.19
Mean C	85,248	85,248	83,018	83,018
p-val T1=T2	0.36	0.47	0.89	0.99
Controls	strata	strata 2010vars	strata y2010	strata y2010 2010vars

Note: Data from baseline and follow up survey conducted by the authors in September-October 2010 and October-November 2011 respectively. All income variables are measured in real Chilean pesos of 2011. All regressions include dummies for strata (defined by a socioeconomic index computed by the government in the Social Security Card score and the municipality). Column [1] includes only strata controls. Column [2] includes baseline variables controls: gender, age, education, number of persons in household, number of families in household, assets, risk aversion, and numeracy index. Column [3] includes the baseline value of the dependent variable, and column [4] adds to [3] the full set of baseline controls. Only individuals in both baseline and follow-up are included in the sample. Standard errors are calculated allowing for clustering at the municipality level. Sample includes only beneficiaries living with partners.

Table 9a: MESP with Additional Funding using Lee's Lower Bounds

	y = Self-Employment		y = Employment		y = Self-Employment Income		y = Labor Income	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
T1	0.15	0.15	0.12	0.11	15572	15485	21732	22053
sd	0.03	0.03	0.02	0.02	6468	6506	7459	7492
p-value	0.00	0.00	0.00	0.00	0.019	0.020	0.005	0.004
T2	0.23	0.23	0.17	0.16	11373	12402	10536	11567
sd	0.03	0.03	0.02	0.02	5574	5172	6317	6235
p-value	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
N	1603	1598	1603	1598	1602	1597	1602	1597
R2	0.12	0.13	0.10	0.11	0.08	0.11	0.09	0.12
Mean C	0.44	0.44	0.66	0.66	39081	39164	70828	70979
p-val T1=T2	0.01	0.01	0.05	0.05	0.50	0.62	0.22	0.25

	y = Working Hours		y = Hourly Labor Income		y = N Rest of Household Employed		y = Per Capita Hh Labor Income	
	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]
T1	4.27	4.32	312.09	312.81	-0.01	0.02	5482	5181
sd	1.14	1.12	89.81	91.71	0.04	0.04	2182	2237
p-value	0.00	0.00	0.00	0.00	0.86	0.67	0.014	0.023
T2	4.58	4.58	43.92	48.01	-0.28	-0.23	-1104	-692
sd	1.16	1.12	62.70	59.16	0.04	0.04	2008	1938
p-value	0.0	0.0	0.5	0.4	0.00	0.00	0.6	0.7
N	1596	1591	1575	1570	1580	1575	1630	1625
R2	0.08	0.11	0.07	0.08	0.12	0.18	0.11	0.13
Mean C	19.95	19.99	666.64	668.10	0.73	0.73	42655	42703
p-val T1=T2	0.83	0.85	0.02	0.02	0.00	0.00	0.02	0.03
Controls	strata y2010	strata y2010 2010vars	strata y2010	strata y2010 2010vars	strata y2010	strata y2010 2010vars	strata y2010	strata y2010 2010vars

Note: We trim the distribution of each independent variable of the MESP+ group by the difference in attrition rates between the MESP+, and MESP and control group as a proportion of the retention rate of the additional funding group. In this case of the lower bounds we trim the upper part of the distribution of the outcome variable (y). Standard errors are calculated allowing for clustering at the municipality level.

Table 9b: MESP with Additional Funding using Lee's Upper Bounds

	y = Self-Employment Work		y = Employment		y = Self-Employment Income		y = Labor Income	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
T1	0.15	0.15	0.12	0.12	16355	17091	22168	22941
sd	0.03	0.03	0.02	0.02	6971	7045	7761	7815
p-value	0.00	0.00	0.00	0.00	0.02	0.02	0.01	0.00
T2	0.28	0.28	0.22	0.22	33036	33569	39664	40727
sd	0.03	0.03	0.02	0.02	7198	6904	7720	7377
p-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
N	1605	1600	1605	1600	1606	1601	1605	1600
R2	0.13	0.14	0.12	0.13	0.10	0.13	0.09	0.11
Mean C	0.44	0.44	0.66	0.66	39081	39164	70828	70979
p-val T1=T2	0.00	0.00	0.00	0.00	0.06	0.06	0.05	0.04
	y = Working Hours		y = Hourly Labor Income		y = N Rest of Household Employed		y = Per Capita Hh Labor Income	
	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]
T1	4.29	4.36	322	334	-0.009	0.025	5749	5373
sd	1.17	1.14	97	100	0.047	0.045	2403	2438
p-value	0.000	0.000	0.001	0.001	0.851	0.584	0.019	0.031
T2	8.73	8.78	322	332	0.003	0.036	9574	9749
sd	1.17	1.11	82	80	0.045	0.046	2689	2584
p-value	0.000	0.000	0.000	0.000	0.954	0.437	0.001	0.000
N	1599	1594	1576	1571	1631	1626	1631	1626
R2	0.09	0.12	0.08	0.10	0.10	0.19	0.10	0.12
Mean C	19.9	20.0	667	668	0.731	0.730	42655	42703
p-val T1=T2	0.00	0.00	1.00	0.98	0.85	0.86	0.22	0.15
Controls	strata y2010	strata y2010 2010vars	strata y2010	strata y2010 2010vars	strata y2010	strata y2010 2010vars	strata y2010	strata y2010 2010vars

Note: We trim the distribution of each independent variable of the MESP+ group by the difference in attrition rates between the MESP+, and MESP and control group as a proportion of the retention rate of the additional funding group. For this case of the upper bound, we trim the lower part of the distribution, however, since there is a mass at zero for all independent variables, we randomly trim the y=0 variables in the additional MESP+ group. Standard errors are calculated allowing for clustering at the municipality level.

Table 10: Heterogeneous Treatment Effects

	Self-Employment			Employment		
	[1]	[2]	[3]	[4]	[5]	[6]
MESP	0.152***	0.0491	0.162***	0.117***	0.0356	0.146***
	(0.0308)	(0.0742)	(0.0436)	(0.0234)	(0.0653)	(0.0362)
MESP+	0.247***	0.184**	0.276***	0.176***	0.133*	0.217***
	(0.0307)	(0.0819)	(0.0409)	(0.0232)	(0.0690)	(0.0363)
Panel A, Interaction of Treatment with:						
High School or more and MESP		-0.0223			-0.0647	
		(0.0735)			(0.0509)	
High School or more and MESP+		-0.133**			-0.112**	
		(0.0662)			(0.0478)	
Numeracy Index and MESP		0.0442**			0.0432**	
		(0.0207)			(0.0176)	
Numeracy Index and MESP+		0.0445*			0.0340*	
		(0.0224)			(0.0188)	
Panel B						
Panel B, Interaction of treatment with:						
Income from Independent Activities and MESP			1.50e-07			-2.73e-07
			(5.43e-07)			(4.58e-07)
Income from Dependent Activities and MESP			-9.28e-07			-8.98e-07*
			(6.44e-07)			(4.88e-07)
Income from Independent Activities and MESP+			-4.89e-07			-5.49e-07
			(4.29e-07)			(3.90e-07)
Income from Dependent Activities and MESP+			-1.26e-06*			-1.42e-06***
			(6.45e-07)			(5.14e-07)
Number of observations	1,634	1,631	1,625	1,634	1,631	1,625
Controls	strata	strata	strata	strata	strata	strata
		High School Numeracy Index	Self-Employment Income Wage Income		High School Numeracy Index	Self-Employment Income Wage Income

Table 10: Heterogeneous Treatment Effects, Continuation

	Self-Employment Income			Labor Income		
	[7]	[8]	[9]	[10]	[11]	[12]
MESP	16,430**	-2,710	47,372***	22,195***	14,404	55,569***
	(7,017)	(10,142)	(15,259)	(7,845)	(17,392)	(15,146)
MESP+	30,081***	9,109	52,668***	34,408***	8,359	52,960***
	(7,039)	(10,184)	(14,254)	(7,633)	(12,241)	(16,282)
Panel A, Interaction of Treatment with:						
High School or more and MESP		22,475			1,250	
		(16,121)			(19,795)	
High School or more and MESP+		25,363			12,052	
		(20,604)			(23,562)	
Numeracy Index and MESP		3,822			3,089	
		(5,627)			(6,287)	
Numeracy Index and MESP+		3,584			7,815	
		(5,533)			(6,369)	
Panel B						
Panel B, Interaction of treatment with:						
Income from Independent Activities and MESP			-0.793*			-0.853**
			(0.439)			(0.420)
Income from Dependent Activities and MESP			-0.170			-0.137
			(0.114)			(0.121)
Income from Independent Activities and MESP+			-0.570			-0.441
			(0.431)			(0.450)
Income from Dependent Activities and MESP+			-0.301***			-0.294**
			(0.111)			(0.137)
Number of observations	1,635	1,632	1,626	1,634	1,631	1,625
Controls	strata	strata	strata	strata	strata	strata
		High School Numeracy Index	Self-Employment Income Wage Income		High School Numeracy Index	Self-Employment Income Wage Dependent

Note:*** p<0.01, ** p<0.05, * p<0.1. Data from baseline and follow up survey conducted by the authors in September-October 2010 and October-November 2011 respectively. All regressions include dummies for strata (defined by a socioeconomic index computed by the government in the Social Security Card score: SSC and municipalities). Columns [1] and [7] report the overall treatment effect. Columns [2],[5], [8] and [11] include the interactions with dependent and independent income. Columns [3], [6], [9] and [12] include interactions with education and numerical ability variables. Only individuals in both baseline and follow-up are included in the sample. Standard errors are cluster at municipality level.

Table 11a: Tests of Heterogeneous Impacts by Income Percentile - Absolute Treatment Impacts

	Self-Employment		Employment		Self-Employment Income		Labor Income	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Percentile	(p-value)	(estimate)	(p-value)	(estimate)	(p-value)	(estimate)	(p-value)	(estimate)
*Test 1: T1 is good for Self-Employed (T1+T1_yse*yse_percentile > 0)*								
p10	0.000	0.164	0.000	0.142	0.000	35,643	0.000	42,964
p25	0.000	0.166	0.000	0.138	0.000	24,008	0.000	30,460
p50	0.000	0.169	0.000	0.132	0.405	8,276	0.222	13,553
p75	0.000	0.175	0.000	0.122	0.378	-22,719	0.438	-19,757
p90	0.005	0.184	0.036	0.105	0.179	-69,446	0.161	-69,974
*Test 2: T1 is good for Wage-Earners (T1+T1_ywe*ywe_percentile > 0)*								
p10	0.000	0.135	0.000	0.119	0.005	42,341	0.001	51,516
p25	0.005	0.107	0.007	0.093	0.013	37,351	0.002	47,496
p50	0.178	0.071	0.198	0.057	0.057	30,602	0.014	42,059
p75	0.852	0.016	0.952	0.004	0.296	20,541	0.113	33,953
p90	0.978	-0.003	0.858	-0.014	0.417	17,187	0.178	31,251
*Test 3: T2 is good for Self-Employed (T2+T2_yse*yse_percentile > 0)*								
p10	0.000	0.269	0.000	0.209	0.000	44,241	0.000	46,434
p25	0.000	0.262	0.000	0.201	0.000	35,882	0.000	39,959
p50	0.000	0.252	0.000	0.190	0.015	24,579	0.005	31,205
p75	0.000	0.233	0.000	0.168	0.928	2,310	0.598	13,957
p90	0.000	0.204	0.001	0.136	0.539	-31,261	0.818	-12,045
*Test 4: T2 is good for Wage-Earners (T2+T2_ywe*ywe_percentile > 0)*								
p10	0.000	0.239	0.000	0.175	0.001	43,766	0.004	44,262
p25	0.000	0.202	0.000	0.133	0.008	34,936	0.014	35,633
p50	0.010	0.152	0.094	0.077	0.096	22,996	0.117	23,965
p75	0.394	0.077	0.925	-0.007	0.762	5,192	0.737	6,568
p90	0.608	0.052	0.665	-0.035	0.968	-742	0.971	769

Note: 'yse' and 'ywe' correspond to 2010 (baseline) values of Independent Income and Wage-Earner Income respectively.

Table 11b: Tests of Heterogeneous Impacts by Income Percentile - Relative Treatment Impacts

	Self-Employment		Employment		Self-Employment Income		Labor Income	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Percentile	(p-value)	(estimate)	(p-value)	(estimate)	(p-value)	(estimate)	(p-value)	(estimate)
*Test 5: T1 is better for Self-Employed than for Wage-Earners (T1_yse*yse_percentile > T1_ywe*ywe_percentile)*								
p10	0.088	0.030	0.117	0.023	0.306	-6,698	0.203	-8,552
p25	0.088	0.059	0.117	0.045	0.306	-13,342	0.203	-17,035
p50	0.088	0.099	0.117	0.075	0.306	-22,327	0.203	-28,506
p75	0.085	0.160	0.129	0.118	0.263	-43,259	0.172	-53,710
p90	0.085	0.187	0.210	0.119	0.171	-86,632	0.108	-101,225
*Test 6: T2 is better for Self-Employed than for Wage-Earners (T2_yse*yse_percentile > T2_ywe*ywe_percentile)*								
p10	0.109	0.030	0.027	0.034	0.937	475	0.733	2,172
p25	0.109	0.060	0.027	0.067	0.937	946	0.733	4,326
p50	0.109	0.100	0.027	0.113	0.937	1,583	0.733	7,240
p75	0.121	0.156	0.033	0.175	0.936	-2,882	0.844	7,389
p90	0.195	0.152	0.080	0.171	0.608	-30,519	0.835	-12,814
*Test 7: T2 is better than T1 for Wage-Earners (T2+T2_ywe*ywe_percentile > T1+T1_ywe*ywe_percentile)*								
p10	0.004	0.104	0.099	0.056	0.872	1,425	0.578	-7,254
p25	0.005	0.095	0.240	0.041	0.770	-2,414	0.354	-11,863
p50	0.079	0.081	0.641	0.020	0.379	-7,607	0.200	-18,094
p75	0.435	0.062	0.866	-0.011	0.173	-15,348	0.140	-27,385
p90	0.545	0.055	0.769	-0.021	0.151	-17,929	0.135	-30,482
*Test 8: T2 is better than T1 for Self-Employed (T2+T2_yse*yse_percentile > T1+T1_yse*yse_percentile)*								
p10	0.012	0.105	0.045	0.067	0.337	8,598	0.760	3,469
p25	0.010	0.095	0.032	0.063	0.146	11,874	0.294	9,499
p50	0.012	0.083	0.024	0.058	0.036	16,303	0.022	17,652
p75	0.089	0.058	0.072	0.047	0.008	25,029	0.006	33,714
p90	0.704	0.020	0.477	0.031	0.013	38,184	0.022	57,929

Note: 'yse' and 'ywe' correspond to 2010 (baseline) values of Independent Income and Wage-Earner Income respectively.