Jump-starting self-employment?
Evidence for welfare participants in Argentina[*]

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We evaluate the effects of a self-employment program offered to welfare beneficiaries of a large safety net program in Argentina. The program promotes self-employment by providing financial and technical assistance. Our findings show that only a small and selected subset of welfare beneficiaries is attracted to this type of exit strategy (female household heads and more educated). Exploring non-experimental methods, we also show that in the short run participation in the program affects the labor supply of participants, by reducing the probability of having an outside job and increasing the total number of hours worked. However, at least in the short run, the intervention fails to produce income gains to the average participant.

Keywords: Self-employment, Labor Markets, Impact evaluation, Latin America, Argentina.

JEL codes: J22, J30 and J48

1. Introduction

Large scale workfare programs can be effective in providing protection to the poor following a macro-economic (or agro-climatic) crisis (e.g., Besley and Coate, 1992, Ravallion, 1999).[1] However, when the economy starts recovering from the crisis, providing social insurance becomes less important. As new economic opportunities pick up and the opportunities in the labor market improve, the net gains from program participation decrease. As a consequence, maintaining large safety nets programs becomes increasingly costly.[2] One of the main pressing issues facing governments in middle income countries is how to gradually phase out these safety net programs. Several labor programs are usually available. They range from supply-side interventions (e.g., training programs), to demand side interventions (e.g., employment subsidies, support to self-employment) and programs to improve the match between supply and demand (e.g., employment agencies). In spite of the importance of the topic, substantial knowledge gaps remain on how to effectively transition welfare program beneficiaries' into the labor market (Blank 2002). The evidence on the effectiveness of these programs as means of achieving a sustained labor market integration of program participants is even scarcer for developing countries.[3] This paper studies the effect of a program that promotes self-employment among workfare beneficiaries in Argentina. We use a non-experimental approach to quantify the effect of the program on employment and income, one year after the program started.

Following the severe economic crisis in 2001, the Argentinean government introduced a large scale workfare program, *Jefes*.[4] This program rapidly scaled up to reach about two million beneficiaries by the end of 2002 (or about 10% of the adult population in the country). The economy subsequently recovered strongly, making it costly to sustain this large scale safety net.

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Among the different instruments to phase-out *Jefes*, the Argentinean government has introduced a program to promote self-employment called *Microemprendimientos Productivos* (henceforth MEP).[5] The program provides *Jefes* beneficiaries with two complementary inputs for their self-employment activities.[6] First, it provides financial support in the form of in-kind grants to finance inputs and equipment. Second, the program provides technical assistance through periodic visits of "tutors" to the beneficiaries to assist in achieving sustainability of the financed project.[7,8]).

The program represents a viable exit strategy from *Jefes* depending on whether: (i) a significant proportion of *Jefes* beneficiaries is willing to set up a self-employment activity; (ii) they refrain from doing so due to lack of credit (to finance the start-up capital) and of low business training. The first condition will be met if a large fraction of workfare beneficiaries, when exiting the program, prefers self-employment (rather than a wage job) as a sustainable source of income. We characterize the profile and the size of the potential pool of welfare beneficiaries who might be attracted to the program. To our knowledge there is very little evidence on the profile of the participants who would choose to select into this type of program and on their effectiveness in generating a sustainable source of income for beneficiaries (one exception is Betcherman, Olivas and Dar, 2004).

The second condition relates to a large theoretical literature linking low-growth poverty traps with non-convexities in the production technology and with imperfections in the capital market.[9] It has been shown that *Jefes* beneficiaries tend to be poor and have low endowments of assets and human capital (Galasso and Ravallion, 2004). If there are high start-up costs of setting up self-employment activities, and if individuals are credit constrained, the poor would be automatically prevented from taking up profitable investments. According to this 'poverty trap'

view, jumpstarting a productive project with financial and tutoring assistance will help constrained households to establish a business with a minimal level of operation. The latter could be sustained over time with the reinvested profits. Thus, the second assumption is that some *Jefes* beneficiaries would be willing to set up a self-employment activity but that they refrain to do so due to lack of financing and/or due to low business training. The empirical evidence has strongly supported the hypothesis that poor households are indeed credit constrained but has failed to empirically confirm the existence of non-convexities in the production technology (e.g., McKenzie and Woodruff, 2006, Mesnard and Ravallion, 2006).[10]

Our paper also relates to the literature which emphasized the voluntary and entrepreneurial aspect of an important share of the unregulated, small-scale and low-productivity informal sector. For example, Maloney (2004) argues that a substantial fraction of self-employed in Latin America is similar to small firms in industrialized countries in many respects[11]. According to this 'entrepreneurial' view, the scale of operation and the sustainability of this activity as a source of income would also depend on the individual's preferences, their motivation and entrepreneurial ability, rather than on credit constraints per se. The extent to which these individual characteristics (e.g. a need to combine self-employment activities with household activities to make self-employment an attractive activity for women) are complementary to other production inputs determines the success of the program. In this context, jumpstarting self-employment through start-up capital and basic business education would be expected to have a positive impact only for those individuals who are intrinsically more suited to be self-employed.

In practice, whether the injection of inputs and equipment together with business training is sufficient to jumpstart self-employment or whether the intervention is complementary to other individual characteristics is largely an empirical question. In this paper we are interested in

quantifying the effect of program participation on the labor market integration of the beneficiaries.

To precisely quantify the effect of the program, we would like to compare, for the *same* person, the outcomes of interest in a scenario with and without the program. However, this is, by definition, unobserved and has been well-known in the impact evaluation literature as the "missing counterfactual problem". As in most evaluation settings, participation in this program is voluntary. As a consequence, the group of *Jefes* beneficiaries which showed interest in the program is likely not to be a random sample among *Jefes* beneficiaries. In particular, we would expect that *Jefes* beneficiaries with a stronger preference for self-employment, a higher entrepreneurial ability or organizational capacity are more likely to gain from participation and, thus, self select into the program. Moreover, even if we could observe outcomes for *Jefes* beneficiaries *before* the program actually took place, the comparison of the same individual before and after the program took place could be misleading. In particular, it could be capturing confounding *trends* in the outcomes of interest that are contemporaneous to the program.

In order to rigorously disentangle causality, we would like to observe the trends in the labor market outcomes for a group of individuals as similar as possible to MEP participants (in their observable and unobservable characteristics). The evaluation and survey design of the productive grants were planned to mitigate this source of bias. In particular, we have selected *Jefes* beneficiaries who showed interest in the project by signing up to local promotional activities, but that ended up not participating either because they lived in a non-participating *municipios* or because there were delays in the project approval. This group of individuals is likely to be similar to the group of MEP beneficiaries in both observable and unobservable characteristics determining program participation. A baseline survey was conducted just after the beginning of

program (November 2004) and one year later (December 2005) to both participants and non-participants in the program. To quantify the short-term impact of the program on different labor market outcomes we will adopt a differences-in-differences approach that compares outcomes of participants and non-participants, at baseline and follow-up.[12]

Our results show that beneficiaries of the self-employment program are less likely to maintain or to find wage jobs outside the project, especially in the case of male beneficiaries. We also find evidence that the program significantly increases the total hours of work (either in the market or in the program). Finally, while the program on average did not generate income gains to the participants, there was a specific subgroup of beneficiaries who stand to benefit the most. namely the younger and more educated beneficiaries. We interpret this evidence as being suggestive of an 'entrepreneurial' view of the informal sector, where the jumpstarting self-employment through start-up capital and basic business training is more likely to generate a positive impact only for those individuals who were intrinsically more suited (possibly due to their motivation or initial human capital endowments).

The paper proceeds as follows. In section 2 we present the economic background and describe the main features of the program. Section 3 describes the evaluation design and the empirical methodology used in the evaluation. Section 4 describes the data. Section 5 describes the findings and briefly discusses the profitability of the projects. Finally, section 6 concludes.

2. Background

The workfare program, *Jefes*, was introduced in the aftermath of the severe economic crisis in 2001, which brought a contraction in real GDP of more than 10% in 2002 and a significant fall in real income of more than 20% for large sections of the population (McKenzie 2004). The

objective of the program was to provide a direct income support to heads of households with dependents who had lost their earnings as a result of the crisis. The income support was accompanied by a work requirement (minimum of 20 hours a week). Despite a lack of explicit focus on targeting based on poverty indicators, *Jefes* was successful in reaching poor segment of the income distribution.[13] Available evidence shows that that *Jefes* had a social protection role, partially protecting participants' income loss and lowering their likelihood of falling into extreme poverty (Galasso and Ravallion 2004). Subsequently, the economy strongly bounced back reaching an average annual growth rate of 9% between 2003 and 2005. A projection of the estimated impact of the program from 2002 onwards shows that early during the recovery (first half of 2003) the income gains from the program (program benefits net of the opportunity cost) had already halved (from around two thirds of the cash transfer of 150 pesos to about one third) (Galasso 2004).

When the labor market opportunities outside the workfare program improve relative to a fixed nominal transfer payment for the majority of beneficiaries, one would expect that the program naturally contracts. However, there are many reasons why program attrition might not be as high as one would expect. First, the program did not set a time limit for the end of the transfer payment. This might have induced participants to rely on this payment as a stable income source. Second, the program might have created a disincentive effect to search for a job caused by the fear of loosing the eligibility to the transfer (e.g., Gasparini et al., 2007). Finally, the counterpart work required by the program was not substantial, and could easily be combined with part-time work on other activities.[14] Moreover, some anecdotal evidence suggests that, given the large scale of the program, there was weak capacity to organize, supervise and enforce the work requirement at the local level.[15] Hence, only *Jefes* beneficiaries with a sufficiently

attractive full-time option in the labor market will voluntarily leave the program. *Jefes* beneficiaries who obtained formal employment (with recorded social security contributions) were automatically excluded from the program.[16] *Jefes* beneficiaries who obtained full-time informal employment would voluntarily leave the program only if the workfare counterpart work was strictly enforced by the municipality. Through the end of 2006, about 450,000 beneficiaries had been dropped from the Program for this reason.

The government of Argentina has planned to move away from costly emergency assistance and to promote the transition of *Jefes* beneficiaries to a set of programs which are designed to strengthen the individual's long term capacity to generate income.[17] MEP was launched with national scope in January 2004, with a seven months window to submit a proposal (The deadline for submitting a proposal was July 31st 2004). Yet, despite wide dissemination and promotion, the scale of the program remained very limited, attracting less than one percent of the total number of Jefes beneficiaries (see table 1).

The program provides support for self-employment activities of *Jefes* beneficiaries with grants for inputs and equipment combined with technical assistance. The eligible set of activities ranges from agro-industrial production to the production of small manufacturing goods and to selected service activities. All *Jefes* beneficiaries are eligible to participate.[18]

Proposals for the productive projects are submitted to the Ministry of Social Development through their local municipality. These are then transferred to the project implementation unit (jointly staffed by the Ministries of Social Development and Labor), where they are analyzed by professionals, who assess their economic, productive and financial viability.[19]

Approved projects receive grants to purchase inputs and equipment up to 15,000 Argentinean pesos for a maximum period of six months. The maximum transfer is substantial, amounting

nominally up to 30 times the monthly transfer by *Jefes*. However, the beneficiaries cannot use the nominal grant value to purchase inputs and equipment themselves. These purchases have to be made by the local municipalities, who then transfer them to the beneficiaries.[20]

Approved projects also receive technical assistance from local institutions -universities, technical institutes or NGOs. This assistance is given by agents (*tutores*) and covers general management practices and more specific technical assistance.[21] The objective of providing these services is to ensure the financed projects are sustainable. During the six month period, the agents are supposed to visit the project at least four times (for general purposes) and one time for a specific technical tutoring activity.[22]

3. Survey Design and Methodology

3.1 Survey Design

We use data from the survey implemented in the Greater Buenos Aires (hereafter GBA) area, which included *Capital Federal* and *Conurbano*. The survey restricted the attention to this geographical area for different reasons. First, within GBA there was geographical variation in the incidence of the program (some municipalities implemented the program while others did not). Second, GBA had a relatively homogenous labor market and, municipalities conducted similar MEP promotional activities. Third, there was a reliable list of beneficiaries interested in the program which could be used as a sampling frame for the survey. Finally, the GBA area accounted for almost 1/5 of the total financing as of 2004.

The sample of MEP participants was drawn in July 2004 from a list of approved projects just after the deadline for the submission of proposals. The evaluation design was built on one interesting feature of the program's promotion and implementation: it was possible to elicit the

willingness of *Jefes* beneficiaries to participate in the MEP program, using local promotional activities. In addition to the program being nationally advertised (e.g., through newspapers and radio), the local offices of the Ministry of Labor or the municipalities actively promoted the program through informational campaigns.[23] In this process, a written registry was collected with detailed information on the *Jefes* beneficiaries who had showed interest in the program.[24] These registries were used as a sampling frame to identify the comparison group for the evaluation. Restricting the comparison group to those beneficiaries who have shown interest in the program aims to minimize the problems of having those individuals with higher expected gains (for example due to their entrepreneurial ability or motivation) self-selecting into the program. Our assumption is that attending the promotional campaigns, and eventually providing details on planned productive activities, takes care of unobservable individual characteristics, which are possibly correlated with program participation and with the labor market outcomes of interest. As a robustness check, we will also use a smaller comparison group in the evaluation which restricts the attention to those individuals that were interested in participating in the project, have actually *applied* for a grant but have not yet received the approval. This is arguably a tighter comparison group because applicants have also supported a cost (e.g., in time, effort) of putting together and submitting the project proposal (Angrist 1998, Galasso and Ravallion 1994).[25]

3.2. Econometric Implementation

In the absence of truly experimental data, most evaluation methods rely on the use of natural experiments to evaluate treatment effects (Heckman et al., 1999). These methods propose

different solutions to the problem of generating a good comparison group, which is key feature of program evaluation. Given the quasi-experimental feature of this program, the quality of the evaluation will critically depend on our ability to build a sound counterfactual group from the data available on the program implementation. As discussed in Meyer (1995), we explore a difference-in-difference methodology to evaluate the impact of the project.[26] This approach compares the outcomes of interest for project participants, before and after the intervention, with those of non-participants.[27]

Let y_{it}^D be the outcome of interest for individual i, at time t for the program status D, where $D = 1$ if the individual is treated and 0 otherwise. Let treatment take place at time t. The fundamental identification problem then lies on the fact that, we do not observe at time t, individual i in both states simultaneously. Therefore, we cannot compute the effect of the treatment which would be given by $y_{it}^{D=1} - y_{it}^{D=0}$. However, if we can obtain an appropriate comparison group, it will be possible to estimate the average effect of the program on the treated individuals. The difference-in-differences method we exploit compares the average outcome before and after the program for the individuals participating in MEP with the before and after outcomes for a comparison group (Blundell and Costa Dias, 2000).

The main idea behind the difference-in-differences estimator is that we can rely on the non-participating comparison group to identify time variation in the outcome of interest that is not due to the effect of the program and that has occurred contemporaneously. The assumption in this method is that the average outcomes for MEP participants and non-participants would have followed parallel paths over time (known in the evaluation literature as the 'common trend assumption'). Under this assumption, the average treatment effect on the treated, can be obtained by the sample analogs of the following expression:

$$\alpha = \{E[y_{it=1}|D=1] - E[y_{it=1}|D=0]\} - \{E[y_{it=0}|D=1] - E[y_{it=0}|D=0]\}$$

where $t=0$ is the time period before program implementation, $t=1$ is the time period after the program implementation, and y_{it} is the observed outcome for individual i at time t. As discussed above stated above, α captures the impact of the program with the difference between MEP participants and non-participants, before and after the program takes place.

Under these assumptions, the conditional outcomes of interest in the absence of the program can be written as a sum of a time effect (common to the two groups) and a group effect (constant over time). Therefore, the effect of the program, α, can be estimated with the following regression formulation, which uses fixed effects for a pooled sample of participants, non-participants and time periods:

$$Y_{it} = D_{it}\alpha + \mu_i + \eta_t + \varepsilon_{it} \tag{1}$$

where Y_{it} is the outcome of interest for individual i at time t, D_{it} is a dummy variable assuming the value one if individual i participates in the program at time t, μ_i is an individual fixed effect, η_t is a time dummy (for 2005) and ε_{it} is the error term. The model above is estimated by ordinary least squares.

As stated above, the identification assumption behind differences-in-differences is that all the correlation between program participation, D_{it} and the error term, ε_{it}, is accounted for by the time-invariant (and additive) individual fixed effect, μ_i. In other words, program participants in the absence of the program, would have had trends in the outcome comparable to those in the comparison group.

This common trend assumption might be too stringent if the treated and comparison groups are not balanced in observed characteristics that are believed to have differential trends. We will

extend the estimator to accommodate (in a linear way) a set of individual characteristics (e.g., education, age, household size). Adding these additional covariates (arguably pre-determined with respect to the introduction of the program) should help account for observed heterogeneity in trends, and improve precision in the estimates[28].

4. Data and Descriptive Statistics

A baseline household survey, carried out under the supervision was administered to participants and non-participants in November 2004.[29] The survey was administered by SIEMPRO, the Argentinean public monitoring and evaluation agency for poverty programs. The same households were re-interviewed one year later, at the end of 2005. The questionnaire was based on a shorter version of the Argentinean labor force survey (the Permanent Household Survey). It collects information on basic individual and household characteristics including, their education, labor market history and income sources. For MEP beneficiaries it also collects detailed information on project characteristics, including information on the timing and quality of the inputs and of the technical assistance.[30] For individuals in the comparison group, the survey collects information on whether they have submitted a project proposal and its current approval status.

Table 2 shows the sample structure. The baseline survey covers 309 program participants (covering 301 households and a total of 1,340 individuals) and 244 non-participants (covering 244 households and a total of 1,116 individuals). During the one year period, some productive projects failed, beneficiaries left the project or they simply could not be found by the interviewers in the follow up survey. Hence, only 86% of the individuals in the baseline survey (or 85.3% of the households) were followed up in 2005 survey. One important issue for the

internal validity of the main findings is that the comparability of the groups, before and after the experiment. This comparability is higher whenever there is low sample attrition. We analyze this issue in Table A1 in the appendix where we test for selective attrition using Fitzgerald et al (1998) method. We estimate a probit model to assess whether attrition is based on observable characteristics and the value of the outcome variables of interest at baseline in 2004 (the lagged dependent variable). We find robust evidence that those individuals that exit from the sample do not differ significantly in their observable characteristics from those who do not attrite. However, attrition could still bias our results if driven by selection on unobserved characteristics also related to the outcomes of interest. Our assumption in the paper, is that the unobserved characteristics are time-invariant so that they are swept out in the difference-in-difference estimates of our main findings. Therefore, attrition will not affect our estimates if we restrict the analysis to a balanced sample. Our final sample covers 476 *Jefes* beneficiaries (covering 465 households and a total of 2,104 individuals) and a total of 113 projects.

Table 3 compares the demographic, employment and household characteristics in our final sample with a random sample of *Jefes* beneficiaries in the GBA area taken from the Permanent Household Survey (EPH) at the same survey time (the end of 2004 and 2005).[31] These descriptive statistics suggest that a selected subsample of *Jefes* beneficiaries is likely to be attracted by this program, relative to the average *Jefes* participant. Those individuals interested in starting a self-employment activity are predominantly females (as in the case of *Jefes*, more than 2/3 of the individuals), have more than 8 years of schooling and are on average 39 years old. A notable difference with respect to the average *Jefes* participant is due to the fact that more than 70% are heads of household. Their average household size tends to be smaller than for the average *Jefes* (4.5 persons versus 5.2 persons in 2004). As found for other countries, participants

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in programs promoting self-employment tend to be more educated (almost 1 more year of schooling) and older (Betcherman, Olivas and Dar, 2004). Even though household income is likely to be underestimated in our sample, we find that average household per capita income is slightly higher than average per capita income for a *Jefes* beneficiary.[32] Finally, the findings also show that in our sample the income of the beneficiary represents a more important source of income for the household (between 48% and 52% in our sample versus approximately 35% for the average *Jefe*). The same stylized facts on determinants on participation hold when we estimate the probability of participation at baseline as a function of a set of individual and household characteristics (see table A2 in the appendix). Participants are more likely to be females, heads of household, relatively more educated and aged between 30 and 40 and with a higher income per capita.

In the empirical work, we consider that an individual i has been affected by the program during period t if the he/she has received inputs and equipment for the project *and* if he has received technical assistance (measured by at least one visit from the tutors). Using this definition, we group the final sample of 476 individuals into different categories depending on the project status of the individuals in each period: *Never Beneficiaries* (298 individuals are never MEP beneficiaries in any of the two periods), *Entrants* (155 individuals are not MEP beneficiaries in 2004 but become beneficiaries in 2005), *Drop-outs* (3 individuals are MEP beneficiaries in 2004 but are no longer beneficiaries in 2005) and *Always Beneficiaries* (20 individuals are MEP beneficiaries during the two periods).

Table 4 reports some descriptive statistics for the different groups at the end of 2004 (baseline survey). Column (1) refers to all individuals who have never been program participants, column (2) refers to those who have never been program participants but that have

applied to the program, column (3) refers to the entrants and column (4) to those participants during the two periods. The comparison shows that the groups are relatively homogeneous in terms of most of the variables of interest. The most significant differences refer to MEP non-participants having smaller hours of work, a shorter tenure in their previous occupation and slightly worse off incomes than the other groups. These differences could raise some concerns about differences in individual (unobservable) characteristics between treatment and comparison group.

Table 2 in the appendix describes the 113 self-employment activities in our final sample with respect to sector of activity, location, growth constraints, quality of the inputs received and of the technical assistance, self-employment preferences of the participants and project sustainability. Most of the projects are in areas with predominantly female work (more than 50% in textiles and 20% in food processing). Most of the projects are located in the house of one of the beneficiaries and, in most cases, this location is either rented or borrowed. Approximately 1/3 of the projects reports having problems with sales. The main reasons relate to being a small scale, low value added projects, facing very competitive environment (high competition, high costs). When asked about the major constraints for project development (before the start of MEP), inputs and equipment are the most cited priorities, followed by commercialization and the need to have a physical site separate from the participants own house. Access to credit is reported as being a priority only for 6% of the projects.[33] A significant part of the beneficiaries report experiencing problems with the inputs received through the municipality, either due to errors in the purchases (56%) or due to delays in the delivery (35%). These supply side bottlenecks were substantial and, as a consequence, the duration of most of the projects in our sample is relatively short. In particular, approximately 1/3 of the projects were operating for about one year, 1/2 of the

projects were operating for more than 6 months, and about 1/5 of the sample for a shorter period of time.

The technical assistance is perceived to be useful by 75% of the participants.[34] Most of this assistance is focused on administrative work or in organization. Despite the implementation issues, it is notable that the overall majority of beneficiaries expect their activity to be continued in the future. Most beneficiaries (82%) have very positive expectations about the sustainability of their activity at the baseline, measured by their ability to self-sustain the project with (reinvested) profits. After one year of operations, these expectations were only slightly revised downwards (80%).[35] Moreover, the self-employment does not seem to be a temporary occupation to a more permanent wage employment position. Around 90% of MEP beneficiaries' in the two periods report that they would like to continue working as self-employed (either in MEP or in another self-employment activity) rather than having a wage employed position.

5. Estimates of the Effect of the Program

5.1 Main Findings

We are interested in quantifying the effect of the program on some labor market outcomes. In particular, we look at the individual's participation in the labor market (job outside MEP), total hours of work (either in the market or in MEP), total individual income as well as household income. We are also interested in capturing labor supply responses at the household level, by looking at the share of household members who are employed. [36]

Table 6 presents the least squares estimates of equation (1). Standard errors are clustered at the project level for program participants. This is meant to account for a possible correlation in the labor market outcomes for individuals participating in the same project (since they are all

exposed to the same shocks). For non-participants, we cluster the standard errors at the municipal level. This is also meant to account that the labor market outcomes of non-participants are likely to be serially correlated within each municipality. Panel A compares the outcomes of interest for all the individuals that were ever MEP participants relative to all non-participants, Panel B restricts the attention to MEP entrants versus all non-participants and Panel C considers only MEP entrants versus MEP applicants.[37]

The main findings are quite consistent across the different samples. Adding time varying worker characteristics (e.g., age, schooling, and household size) does not significantly change the estimated average effect of the program on the treated (see table A5 in the appendix). We find that program participants substitute away from other jobs (market) and significantly increase their total (weekly) hours worked by 14 to 18 hours. The findings do not show any labor supply responses for other household members: the impact of the program on the share of employed household members (excluding the beneficiary) is small and not statistically significant.[38] We also do not find robust evidence that, in the short run, the program significantly increases individual income or total household income. The labor supply effects together with the (lack) of income effects suggest that participants are hanging on the alternative source of income waiting for the income s stream from self-employment to stabilize. Possibly the income gains from the self-employment activity are reinvested to increase its chances of sustainability in the medium term.

5.2 Heterogeneity in the Effects of the Program

A weakness of the previous specification is that it relies on the assumption that the program as a constant impact across all the individuals. This assumption is likely to limit the

generalizability of the main findings for different reasons (external validity). As discussed in the introduction one might expect that this type of programs produces larger effects for those individuals with a previous labor market experience in the field.

In this section we allow the effect of the program on the treated to vary according to socio-economic characteristics of the beneficiaries (e.g., gender, education, age and previous experience in the main project activity) as well as of the self-employment activity (e.g., sector of activity).[39] This type of analysis will also allow us to identify (statistically) which variable plays the biggest role in determining the effect of the program.

Table 7 reports the difference-in-difference estimates for the effect of the program and for its interaction with initial characteristics. We use the sample of MEP entrants and all MEP non-participants and look at the probability of having an outside job and on total individual income.[40] We also report the p-value for the test that the effect of the program does not depend on the initial conditions. The findings show a significant heterogeneity in the returns of the project. Females are less likely to substitute away from other sources of employment, and are, therefore, more likely to combine the self-employment activity with other jobs. Beneficiaries engaged in textile activities have significantly lower income gains relative to those engaged in services or industrial activities.

Moreover, even though income gains are not significant for the average program participant they are concentrated in specific groups, possibly initially better positioned to take advantage of the program. In particular, individual income gains are larger (and significant) for those with more education, those beneficiaries 30-40 years old and those for whom MEP activities were related to an ongoing activity (thought not statistically significant).

The main policy question driving the evaluation is to estimate the impact of the program on the participants' labor supply and income. An equally important question relates to the sustainability of these projects and jobs over time. The self employment program will only represents a viable strategy for *Jefes* beneficiaries insofar as the jobs created are profitable and sustainable over time. Unfortunately, to minimize survey costs, the questionnaire did not collect any information on the total costs and revenues at the project level. A complementary dataset was collected for monitoring purposes on the same productive projects included in the survey sample (Kremenchutzky and Massad, 2006). This data contains monthly data on costs and sales information and can be used to compute profits and provide descriptive statistics to link the survey results on labor supply and income gains on the one hand, and profitability on the other. [41] Using this information we divide the sample of participants in those project with negative or low profitability, and those projects have a high profitability. Table A4 in the appendix reports the mean of some beneficiaries and project characteristics across these types of projects. Labor and income gains seem to be mapping into the descriptive statistics on profitability: beneficiaries in projects classified with high returns are also less likely to have an outside job and to work more hours (average of 32 hours) and receive higher labor incomes. Projects with higher returns tend to be female, younger beneficiaries (around 38 years old), and a slightly education level and a smaller household size.

6. Conclusions

Several governments in developing countries are concerned with phasing out large safety nets programs. One possible exit strategy for these programs is to promote self-employment activities among beneficiaries. This paper evaluates the short run effects of one of these

strategies for Argentina. The program provides grants and technical assistance to workfare participants that are interested in starting their own business.

Despite the nationwide dissemination campaign implemented by the government, the program had a relatively small take-up rate among participants. Moreover, a selected sample of workfare beneficiaries was attracted to this type of program (predominantly female household heads and more educated individuals). Our empirical findings on the effectiveness of this policy instrument are clear cut. First, jumpstarting self-employment through start-up capital and business is not necessarily attractive option for all workfare beneficiaries. Second, we find that the program increases the supply of total working hours, but fails to have significant effect on earned income (individual or household level), at least in the short run. Third, the intervention had a positive income and labor supply impact only among the younger and more educated beneficiaries. Even though our sample does not allow us make any inferences about the long run effects of the program, there is suggestive evidence that this group of beneficiaries is associated with the most profitable projects. This could imply that this exit strategy is most effective as a sustainable source of income in the long run to the younger and more educated beneficiaries.

In sum, our findings coupled with self-reporting information on the beneficiaries are informative for project design but also raise important questions. On the one hand, the bundle of access to inputs and machinery together with high quality tutoring was well received among beneficiaries, suggesting that this combination could be a promising venue for this type of programs. On the other hand, several dimensions remain unexplored for which it would be useful to have further program evaluations. These include identifying the balance between grants and credit, the provision of inputs in-kind versus cash, and the length and content of the business education and tutoring for program beneficiaries.

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Table 1: Total number of participants, by year and geographic area

Month year	Nationally			Greater Buenos Aires Area GBA			Municipalities in the Sample		
	(1)	(2)	(2)/(1)	(2)/(1)	(2)	(2)/(1)		(2)	(2)/(1)
	Jefes Beneficiaries	MEP Beneficiaries	Share MEP	Jefes Beneficiaries	MEP Beneficiaries	Share MEP	Jefes Beneficiaries	MEP Beneficiaries	Share MEP
Nov. 2004	1,603,266	7,024	0.44%	491,651	1,329	0.27%	412,693	1,306	0.32%
Dec. 2005	1,449,097	12,956	0.89%	437,946	2,633	0.60%	368,389	2,512	0.68%
Dec. 2006	1,128,942	9,555	0.85%	332,204	1,667	0.50%	273,834	1,583	0.58%

Table 2: Descriptive statistics by MEP participants (2004 -2005)

Year 2004

Total Beneficiaries 553

Individuals Interested in MEP (Control Group) 244

MEP Participants (Treatment Group) 309

86% Follow up

Year 2005

81%

476

90%

197

279

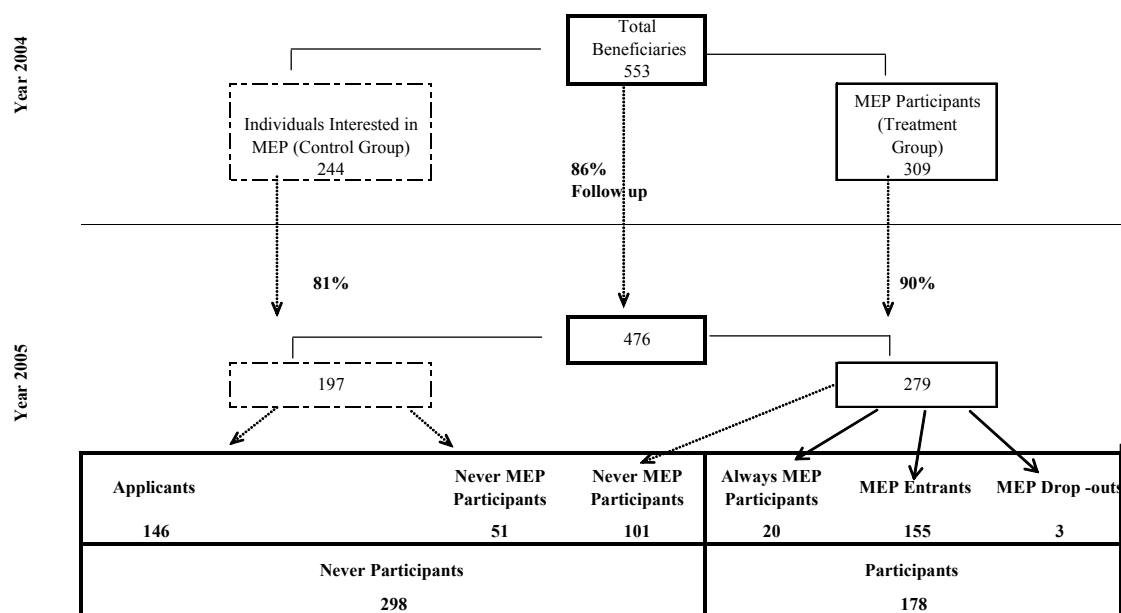| Applicants	Never MEP Participants	Never MEP Participants	Always MEP Participants	MEP Entrants	MEP Drop -outs
146	51	101	20	155	3

Never Participants	Participants
298	178

Table 3: Descriptive statistics: comparison with *Jefes* participants in the Greater Buenos Aires area

	Jefes participants in GBA[1]				Jefes participants – MEP sample[2]			
	Fourth Quarter 2004		Fourth Quarter 2005		2004		2005	
	Mean	st.dev.	Mean	st.dev.	Mean	st.dev.	Mean	st.dev.
Individual demographics:								
Male	0.27	0.44	0.23	0.42	0.30	0.46	0.30	0.46
Age	39.2	11.0	39.7	11.5	39.4	10.5	40.3	10.5
Marital status – single	0.16	0.37	0.20	0.40	0.12	0.33		
Marital status – married	0.63	0.48	0.58	0.50	0.57	0.50		
Head	0.41	0.49	0.49	0.50	0.72	0.45	0.74	0.44
Spouse of head	0.38	0.49	0.34	0.47	0.20	0.40	0.18	0.39
Son/daughter of head	0.15	0.35	0.12	0.33	0.07	0.26	0.07	0.25
Years of education	7.66	2.97	7.65	3.12	8.21	2.76	8.21	2.83
Employment status:								
Doing counterpart work (min 20 hrs)	0.39	0.49	0.18	0.38	0.34	0.47	-	-
Employed	0.84	0.37	0.74	0.44	0.55	0.50	0.45	0.50
Unemployed	0.04	0.19	0.06	0.24	0.14	0.34	0.06	0.24
Inactive	0.12	0.33	0.20	0.40	0.08	0.27	0.07	0.26
Total hours worked	20.72	18.84	19.76	20.05	18.40	21.96	32.77	25.13
Total hours worked in main activity	18.11	15.91	17.47	18.46	5.88*	15.37	16.11*	23.77
Total hours worked=0	0.20	0.40	0.28	0.45	0.32	0.47	0.23	0.42
Household characteristics:								
H'hold size	5.20	2.36	5.00	2.11	4.57	1.88	4.97	2.16
No. children<18	2.32	1.85	2.36	1.61	2.21	1.46	2.26	1.60
Total h'hold income	654	475	778	616	514	348	578	424
H'hold p.c. income	144	124	171	129	123	86	126	86
Individual total income	226	141	279	196	270	146	282	182
No. observations in the sample	226		229		476		476	

Notes: [1] own calculations from the Encuesta Permanente de Hogares Continua (EPHC). [2] Own calculations, MEP sample of both participants and non-participants in MEP. * Hours worked in main activity in the MEP sample refer to hours worked in MEP and are not strictly comparable to the EPHC.

Table 4: Descriptive statistics at baseline 2004, by participation status

| | Never-Participants | | | | Entrants | | Participants in both years | |
| | All | | Applicants | | | | | |
	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev	Mean	St.Dev
Demographics:								
Age	39.78	9.97	39.36	9.62	38.17	11.02	43.50	12.19
Female	0.73	0.44	0.77	0.42	0.67	0.47	0.50	0.51
Years of education	8.21	2.93	8.40	2.78	8.32	2.42	7.15	2.28
Head	0.73	0.44	0.73	0.44	0.72	0.45	0.75	0.44
Spouse of head	0.20	0.40	0.24	0.43	0.17	0.38	0.20	0.41
Son/daughter of head	0.06	0.23	0.03	0.16	0.10	0.31	0.05	0.22
H'hold size	2.25	1.50	2.21	1.47	2.11	1.40	2.30	1.45
No. children<18	4.61	1.92	4.51	1.88	4.45	1.86	4.70	1.30
Marital status – single	0.13	0.33	0.13	0.34	0.12	0.33	0.10	0.31
Marital status – married	0.56	0.50	0.58	0.50	0.57	0.50	0.65	0.49
Marital status - divorced/widowed	0.32	0.47	0.29	0.46	0.30	0.46	0.25	0.44
Doing counterpart work (min 20 hrs)	0.54	0.50	0.86	0.35	0.00	0.00	0.00	0.00
Labor supply (and labor force history)								
Inactive	0.16	0.37	0.18	0.39	0.11	0.31	0.00	0.00
Unemployed	0.19	0.39	0.23	0.42	0.14	0.34	0.00	0.00
Employed	0.68	0.47	0.64	0.48	0.75	0.43	1.00	0.00
Total hours worked=0	0.40	0.49	0.49	0.50	0.21	0.41	0.10	0.31
Total hours worked	13.4	17.1	10.4	15.6	23.2	24.5	48.4	26.6
Share hh'ld members in labor market	0.29	0.21	0.29	0.21	0.33	0.23	0.30	0.19
employment major duration =current	0.54	0.50	0.65	0.48	0.49	0.50	0.72	0.46
tenure employment major duration	78.0	81.5	71.1	73.0	92.3	84.5	131.9	102.2
employment major duration=self emplom	0.27	0.44	0.36	0.48	0.27	0.44	0.28	0.46
No. observations in the sample	298		146		155		20	

Note: Sample MEP, excluding those initial participants (3) who dropped out at follow up.

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Table 5: Trends in outcomes, by participation status

	Participants				Never-Participants			
	2004		2005		2004		2005	
	mean	std dev	mean	std dev	mean	std dev	mean	std dev
Any employment (excl. MEP)	0.55	0.49	0.37	0.48	0.55	0.49	0.49	0.50
Total hours worked	26.7	26.3	45.3	22.7	13.4	17.1	21.9	21.9
Share other hh'ld members employed (excl MEP)	0.32	0.22	0.28	0.21	0.29	0.21	0.29	0.21
Share other hh'ld members employed (all activities)	0.44	0.18	0.44	0.19	0.32	0.20	0.34	0.21
Individual total income	301.8	159.9	340.8	186.0	251.6	134.6	247.4	171.0
Indiv. total income (excl *Jefes*)	154.3	159.3	213.4	194.5	149.4	139.7	126.9	184.3
Total hh'ld income p.c.	142.4	99.0	153.7	92.5	111.5	74.2	109.1	77.4
No. obs.	178		175		298		301?	

Table 6: Differences-in-Differences Estimates

	Individual Employment (Market)	Individual Total Hours Work	Individual Total Income	HH Total Income per capita	Other HH Members Employed
	(1)	(2)	(3)	(4)	(5)
Panel A: Ever MEP Participants and All Non-Participants					
MEP participant	-0.171	14.74	14.04	5.95	-0.015
	[0.063]***	[3.061]***	[20.426]	[9.452]	[0.068]
Observations	952	858	946	952	952
R-squared	0.62	0.75	0.68	0.74	0.78
Panel B: MEP Entrants versus All Non-Participants					
MEP participant	-0.159	13.79	33.396	10.30	-0.006
	[0.066]**	[3.119]***	[19.140]*	[9.896]	[0.072]
Observations	906	812	900	906	906
R-squared	0.62	0.74	0.69	0.74	0.76
Panel C: MEP Entrants versus Applicants					
MEP participant	-0.144	17.93	30.306	8.64	0.053
	[0.077]*	[3.444]***	[20.859]	[10.649]	[0.096]
Observations	602	558	599	602	602
R-squared	0.60	0.75	0.73	0.78	0.77

Source: Author's calculations based on MEP sample (2004, 2005).
Note: * denotes significance at the 10% level, ** at the 5% level and *** at the 1% level. Table reports the least squares estimates of equation (1) in the text. Standard errors are clustered at the project level for beneficiaries and at the municipio level for other individuals. Panel A considers the sample of individuals who have ever been MEP participants versus all non-participants, Panel B considers the sample of MEP entrants versus all non-participants and Panel C considers the sample of MEP entrants versus non-participants who have applied for a MEP.

Table 7: Heterogeneity in Differences-in-Differences Estimates

	Individual Employment (Market)	Individual Total Income
	(1)	(3)
Panel A: Gender		
MEP participant	-0.320	34.2
	[0.093]***	[33.1]
Mep * Female	0.250	-6.1
	[0.11]**	[34.0]
Observations	601	598
P value:	0.021	0.85
Panel B: Education		
MEP participant	-0.240	7.3
	[0.08]***	[24.1]
Mep * 7 years Education	0.015	5.1
	[0.009]*	[2.7]*
Observations	905	899
P value:	0.090	0.06
Panel C: Age		
MEP participant	-0.240	29.7
	[0.09]**	[25.1]
Mep * Age <30	0.3	-17.8
	[0.13]**	[43.3]
Mep * Age 30-40	0.07	55.8
	[0.12]	[30.9]*
Mep * Age 40-50	-0.06	-32
	[0.13]	[37.9]
Observations	905	899
P value:	0.060	0.07
Panel D: Previous Experience		
MEP participant	-0.130	4.3
	[0.07]*	[30.1]
Mep * Previous Experience	-0.039	46.4
	[0.1]	[35.7]
Observations	905	899
P value:	0.700	0.19
Panel E: Sector of Activity		
MEP participant	-0.027	93.5
	[0.10]	[34.3]***
Mep * Food	-0.150	-126.1
	[0.18]	[58.0]**
Mep * Textiles	0.009	-53.7
	[0.12]	[35.3]
Observations	458	457
P value:	0.660	0.076

Source: Author's calculations based on MEP sample (2004, 2005).

Appendix

Table A1: Sample Attrition

	(1)	(2)	(3)	(4)	(5)	(6)
Female	-0.144	-0.169	-0.160	-0.182	-0.145	-0.167
	(0.158)	(0.160)	(0.165)	(0.165)	(0.159)	(0.160)
Dummy Years Schooling <7	0.362	0.354	0.313	0.337	0.361	0.352
	(0.304)	(0.304)	(0.307)	(0.305)	(0.304)	(0.305)
Dummy Years of Schooling = 7	0.122	0.125	0.132	0.106	0.122	0.116
	(0.273)	(0.273)	(0.274)	(0.273)	(0.273)	(0.274)
Dummy Years of schooling >8 and <11	0.235	0.234	0.243	0.230	0.235	0.239
	(0.267)	(0.267)	(0.268)	(0.266)	(0.267)	(0.268)
Head of Household	-0.055	-0.032	-0.055	-0.045	-0.057	-0.029
	(0.175)	(0.176)	(0.175)	(0.176)	(0.178)	(0.177)
Age (<30)	0.164	0.155	0.154	0.174	0.165	0.176
	(0.218)	(0.218)	(0.219)	(0.218)	(0.218)	(0.218)
Age (30-40)	0.067	0.087	0.059	0.073	0.067	0.074
	(0.214)	(0.216)	(0.215)	(0.215)	(0.215)	(0.215)
Age 40-50	0.121	0.133	0.102	0.130	0.121	0.120
	(0.203)	(0.204)	(0.206)	(0.203)	(0.203)	(0.203)
Number Children	0.065	0.063	0.064	0.068	0.064	0.104
	(0.084)	(0.084)	(0.084)	(0.084)	(0.086)	(0.094)
Household Size	-0.070	-0.073	-0.068	-0.072	-0.071	-0.114
	(0.067)	(0.067)	(0.067)	(0.067)	(0.067)	(0.082)
Outcome of interest at baseline (2004):						
Individual Employment (Market)		-0.153				
		(0.139)				
Individual Total Hours Work	-		-0.003			
			(0.003)			
Individual Total Income	-			-0.000		
				(0.000)		
HH Total Income per capita	-				-0.000	
					(0.001)	
Other HH Members Employed	-					0.098
						(0.103)
Observations		552	552	552	552	552

Note: Author's calculations based on MEP sample. The estimates are based on a probit regressions using Fitzgerald, Gottschalk and Moffitt (1998) method. Number in parentheses are t-statistics.: * denotes significance at the 10% level, ** at the 5% level and *** at the 1% level.

Table A2: Probability of participation (baseline 2004)

Female	0.382***
	(0.111)
Head of Household	1.165***
	(0.216)
Spouse of the Head	0.427*
	(0.237)
Marital status: Single	-0.679***
	(0.224)
Marital status: Divorced/widowed	-0.088
	(0.153)
Education: none	-0.461***
	(0.144)
Education: primary	0.109
	(0.109)
Age (<30)	0.217
	(0.154)
Age (30-40)	0.261*
	(0.138)
Number Children	-0.045
	(0.061)
Household Size	0.012
	(0.047)
household tot income per capita	0.001**
	(0.001)
No. observations	1998
Pseudo R2	0.284

Note: Estimated , robust standard errors are in
Parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table A3: Descriptive Statistics for the Self-Employment Activities

Panel A: Sector	
Agriculture	5%
Food Products	16%
Textiles	16%
Clothing	33%
Other Industrial Activities	28%
Services	3%

Panel B: Location	
Home	71%
Other	29%
Owned Beneficiary	32%
Rented	39%
Borrowed	29%

Panel C: Constraints to Sales Growth	
Problems with Sales?	37%
of which	
Low Quality Products	5%
Delays in Production	7%
High Cost	21%
High Competition	31%
Other	20%

Panel D: General Constraints to Growth	
Technical Assistance	14%
Sales	33%
Inputs	48%
Human Resources	15%
Location	20%
Credit	6%

Panel E: Quality of Inputs and Technical Assistance	
Problems with Inputs Received	56%
Delays Delivery	35%
Technical Assistance Useful	75%
Help in Inputs and Equipment	6%
Help Work Organization	36%
Help Administrative Work	39%
Help Sales	11%
Help Product Quality	3%

Source: Author's calculations based on MEP sample (2004, 2005). Table reports descriptive statistics in the baseline period for different project characteristics. For example, the first number in Panel A means that 5% of the projects are in Agriculture related Products.

Table A3: Descriptive Statistics for the Self-Employment Activities (Cont.)

	2004	2005
Panel F: Future Work Preferences		
Remain in MEP Project	71%	90%
Find wage employment	10%	8%
Start another self-employment activity	19%	2%
Panel G: Project Sustainability		
Definitely sustainable	82%	80%
Probably sustainable	16%	16%
Probably not sustainable	0%	2%
Definitely not sustainable	0%	2%
No Knowledge	2%	0%
Panel H: Income Sustainability		
Definitely sustainable	77%	66%
Probably sustainable	18%	25%
Probably not sustainable	1%	8%
Definitely not sustainable	1%	2%
No Knowledge	3%	0%

Source: Author's calculations based on MEP sample (2004, 2005). Table reports descriptive statistics in the baseline period for different project characteristics. For example, the first number in Panel F means that 71% of the MEP beneficiaries in 2004 report that if they could choose in the future they would remain in MEP.

Table A4: Descriptive Statistics for Project Profitability

	Negative/low Rentability	High Rentability
	(1)	(2)
Share Females	0.6	0.7
Av. Years Schooling	8.1	8.5
Age	39.8	38.4
Number of Children in the HH	2.0	1.8
Size of household	4.4	4.2
Share Employed (outside MEP)	0.56	0.53
Total Hours Work	26.5	32.0
Total income (individual)	283.8	337.0
Total labor income	132.8	183.8
Other income (exc. Social transfers)	0.0	13.1

Source: Author's calculations based on MEP sample (2004, 2005). Table reports means for some variables in the baseline period for projects with negative profitability, low or medium profitability or for high profitability. For example, the mean reported in the first row of column (1) means that 80% of the beneficiaries in projects with a negative profitability are females.

Table A5: Robustness to Additional Individual Characteristics

	Individual Employment (Market)	Individual Total Hours Work	Individual Total Income	HH Total Income per capita	Other HH Members Employed
	(1)	(2)	(3)	(4)	(5)
Panel A: Ever MEP Participants and All Non-Participants					
MEP participant	-0.171	14.442	13.571	5.472	-0.021
	[0.063]***	[3.101]***	[20.502]	[9.429]	[0.064]
Observations	951	857	945	951	951
R-squared	0.62	0.76	0.69	0.75	0.82
Panel B: MEP Entrants versus All Non-Participants					
MEP participant	-0.159	13.392	33.824	9.579	-0.02
	[0.066]**	[3.176]***	[19.267]*	[9.904]	[0.069]
Observations	905	811	899	905	905
R-squared	0.62	0.75	0.70	0.74	0.80
Panel C: MEP Entrants versus Applicants but All Non-Participants					
MEP participant	-0.151	18.198	30.104	9.147	0.052
	[0.078]*	[3.619]***	[21.430]	[10.855]	[0.090]
Observations	601	557	598	601	601
R-squared	0.61	0.77	0.74	0.78	0.80

Source: Author's calculations based on MEP sample (2004, 2005).
Note: * denotes significance at the 10% level, ** at the 5% level and *** at the 1% level. Table reports the least squares estimates of equation (2) in the text but also controlling for individual characteristics (gender, education, age and household size). Standard errors are clustered at the project level for beneficiaries and at the municipio level for non-participants. Panel A considers the sample of individuals who have ever been MEP participants versus all non-participants, Panel B considers the sample of MEP entrants versus all non-participants and Panel C considers the sample of MEP entrants versus non-participants who have applied for a MEP.

[1] With no rationing, a binding work requirement and a sufficiently low wage, these programs have a built in incentive for the poorest and more vulnerable segments of the population to self-target into the program (Besley, Coate, 1992, Ravallion 1999).

[2] The Employment Guarantee Scheme in Maharashtra (India) is an example of a workfare program with a counter-cyclical budget, contracting automatically as the economy is in a 'good state' (Ravallion 1999).

[3] Some exceptions include Galasso, Ravallion, Lazo and Philipp (2005) and Galasso, Ravallion and Salvia (2004) for Argentina. See also Navarro-Lozano (2003) and Calderón-Madrid (2006) for training programs in Mexico, and Medina and Nunez (2005) for evidence of training programs in Colombia.

[4] Prior to *Jefes, the Argentine Government* implemented the smaller scale *Trabajar* workfare program. For evidence on the effectiveness of *Trabajar* in reaching the poorest see Ravallion (2000) and Jalan and Ravallion (2003). *Jefes* was intended to reach a broader segment of the population. For evidence on the effectiveness of *Jefes* in reducing poverty and unemployment see Galasso and Ravallion (2004).

[5] This program is also known as *Componente Materiales – Tipologia 6* or *Herramientas y Trabajo*.

[6] Participation in the program does not imply that the beneficiaries loose the transfers from other programs. In particular, they still receive the *Jefes* monthly payment (150 Argentinean Pesos). We evaluate the effect on labor market outcomes of being a MEP beneficiary, on top of other transfers.

[7] The technical assistance is given by qualified specialists in the areas of general management and business education as well as on more technical issues which are specific to each project.

[8] Even though there is some research on the effects of micro finance programs on labor and profitability outcomes, much less is known about the effects of technical assistance in addition to the financial assistance. One exception is Karlan and Valdivia (2006). They analyze the impact of entrepreneurship training in a micro finance program in Peru. They find that these non-financial services have an impact on sales and profits but no effect on income of the program beneficiaries. The question of whether entrepreneurship can indeed be taught has indeed received very little attention from the empirical literature.

[9] The seminal paper by Banerjee and Newman (1993) develops a theoretical model where low wealth entrepreneurs cannot finance profitable ventures due to indivisible start up costs. Aghion and Bolton (1997) and Lloyd-Ellis and Bernhardt (2000) also develop models where entrepreneurial activity requires a minimum wealth level.

[10] McKenzie and Woodruff (2006) provide evidence that access to start-up capital does not determine the size of microenterprises in Mexico .Mesnard and Ravallion (2006) look at business startups from return migrants in Tunisia and also find weak evidence of non-convexities at low levels of wealth.

[11] First, conditional on a given skill level, the reason for these firms to be small could be more related to family tradition or to their own knowledge of the market rather than due to the lack of credit. Second, these firms are characterized by high rates of failure and by having workers with low education, assets and skills "*trying their luck at entrepreneurship (risk-taking), often failing and not engaging in formal institutions until they grow. (Maloney, 2004, pp. 1167)*". The self-employed might not know how good entrepreneurs they are or how productive the activity is until they actually engage in it.

[12] This program was implemented at a small scale. For this reason, we have abstracted from any indirect effects of the program on the local labor markets, through possible effects on non-participants (general equilibrium effects).

[13] There are also some evaluations of a previous Argentinean workfare program, *Trabajar*. Galasso, Ravallion and Salvia (2004) find evidence that *Trabajar* beneficiaries that received wage subsidies are more likely to find a job than those that did not receive this support. This effect is stronger for young, more educated women in the informal sector. Moreover, consistent with evidence for other countries, they find no evidence that skill training helps the transition of welfare beneficiaries to a wage job. Galasso, Ravallion, Lazo and Philipp (2005), study the income effects of the transition to wage employment following the participation in *Trabajar*. They estimate that the transition from the program to employment is associated with a short run income loss, which is sizable though it decreases over time.

[14] In Argentina many poor households have multiple occupations. The same happens in many other developing countries (Banerjee and Duflo 2007).

[15] The work requirement could be basic community work, training activities or school attendance. Municipalities and local NGOs where in charge of organizing the work activities. Provincial offices of the Ministry of Labor together with municipal councils were responsible for monitoring the work activities.

[16] These workers can be identified with the (monthly) comparisons between registrations of *Jefes* beneficiaries and the social security contributors.

[17] The policy mix that is being considered reflects the need to transform a uniform workfare transfer to interventions tailored to the heterogeneous universe of participants. The labor market policies currently under implementation range from those aiming to promote wage employment (creation of employment offices, and completion of adult education) to those promoting self-employment activities (MEP). An alternative exit strategy is to transfer *Jefes* households requiring longer term assistance - namely female headed households with a large number of dependents - into a conditional cash transfer program.

[18] The program required that beneficiaries paired up in groups of three in order to submit a project proposal. This requirement has been perceived as a major constraint for the number of submissions and for the success of the proposals (e.g., generating internal disputes within the group, Etchegaray, 2005). In some cases not all of the three participants sustained their participation in the enterprise, although all three were participating at the beginning.

[19] The approval of the proposal involves a technical evaluation covering a cost-benefit analysis, an evaluation of its sustainability and environmental impact, as well as an evaluation of the prior experience of the beneficiaries in the main activity and its commercialization. *Evaluators* planed field visits to projects to assess physically the project viability**.**

[20] Etchegaray (2005) presents an in-depth review of specific projects. She highlights the main shortfalls in the design and implementation of the municipal intermediation as well as of the technical assistance provided. First, the procurement by the municipalities experienced substantial delays. Bureaucratic intermediation and initial lack of experience at the municipality level for this type of transactions often resulted in delays in the receipt of the inputs and in an imperfect match between what was requested and what was received. Second, the municipalities aimed to promote local business development by purchasing the inputs locally, instead of looking for the best (quality-price) inputs and equipment. Finally, the intermediation of the municipalities created some confusion on the ownership of these inputs and equipment, and some beneficiaries were afraid of a possible expropriation in the event of a project failure.

[21] The technical assistance is wide ranging, from management to administration and commercialization techniques. The *tutores* are experts from local universities, technical institutes or NGOs who had been previously selected by the Ministry of Social Development based on their experience and academic background..

[22] Some of these shortfalls highlighted in the qualitative work (sample collected in November 2004) might have been typical of the early stages of program implementation and presumably should have improved over time, some might be more structurally inherent to the program design. .

[23] The promotion of the program activities was implemented in two ways. First, the local offices of the Ministry of Labor distributed program leaflets at the payment locations for *Jefes* (*boca de pago*) and encourage beneficiaries to come to the local Ministry of Labor office to learn more about the program characteristics. A registry was kept at the local offices of the Ministry of Labor with the information on the identity of the interested beneficiaries. Second, the program was promoted with public meetings/workshops for *Jefes* beneficiaries in given municipalities. The workshop was held by the local offices of the Ministry of Labor together with the municipality. During these sessions, the workshop organizers collected a registry with a list of all potentially interested beneficiaries.

[24] In this process participants identify themselves, provide a description of the project and list the number of participants involved in the project.

[25] As a second robustness check, we also explored a second robustness check exploits on the geographic variation across municipalities in their willingness to participate in the program. The municipality was responsible for the procurement and for the delivery of the purchases to the beneficiaries. During the initial phase of the program implementation, some municipalities were concerned with the administrative burden associated with the program and decided not to participate immediately. Nevertheless *Jefes* beneficiaries in these areas were exposed to the promotional activities. This implies that *Jefes* beneficiaries with similar characteristics (observable or unobservable) will have a different probability of participating in the program simply because they live in different municipalities. In our sample, about 1/5 of the individuals not participating in the program live in non-participating municipalities. The results (not reported, but available from the authors) are qualitatively similar to the ones reported in the paper.

[26] Several empirical papers have by now explored a similar methodology (e.g., Card and Krueger, 1994)

[27] Alternative possible methodologies include matching methods (as proposed by Rubin, 1977, 2006 or Rosenbaum and Rubin, 1983) or the differences-in-differences matching methods (as been proposed by Heckman et al. (1997, 1998) or Smith and Todd, 2005).

[28] The second reason why the common trend assumption might not hold is when if participants and non-participants differ in (time-varying) unobserved characteristics. While differencing over time can eliminate bias due to latent (time-invariant) factors (such as ability), there remains a concern due to any selective participation from the program

based on temporary shocks (known as Ashenfelter's pre-program dip). The evaluation design minimizes this source of bias by sampling non-participants among those individuals who participated in the promotional activities of the program,, and among them, those who applied. It is hard to argue why such non-participants would experience systematically different shocks from the participants group.

[29] SIEMPRO is an Argentinean public agency which carries out analyses in the area of poverty and monitoring of social programs.

[30] As explained in Section 2, the associability requirement of the project required 3 *Jefes* beneficiaries to submit a proposal for a self-employment project. However, only one beneficiary reported information on project characteristics in the survey.

[31] A random sample of 226 *Jefes* beneficiaries in the GBA area was extracted from the Permanent Household Survey (EPH) at the end of the fourth quarter of 2004 and 2005.

[32] There are two major reasons why individual income in our sample is underestimated when compared to the EPH. First, time and cost constraints in the implementation of the survey implied that only the beneficiary was interviewed (as opposed to all household members in EPH). The income of other members could only be inferred by the household aggregate income. Second, the survey collects information on fewer income sources than the EPH.

[33] About 1/5 of the MEP beneficiaries subsequently apply to obtain a credit.

[34] The assistance focused on general administration and accounting techniques, having less emphasis on product commercialization or on direct technical assistance on the inputs/equipment.

[35] For a more detailed description of some of the projects Kremenchutzky and Massad (2006).

[36] We define the following variables as follows: *Individual Employment* has a dummy variable that equals one if the individual has a job outside MEP; *Individual Total Hours Work* as the total number of weekly hours of work (either in MEP or in another job); *Individual Total Income* is the sum of work-related earnings (MEP or other job), financial transfers from government programs (e.g., *Jefes*, *Familias nacional*, *Plan Mayores 70*, pensions or scholarship grants) and financial transfers from other sources (e.g., severance payments, unemployment insurance, remittances); HH Total Income per capita is the aggregate income in the household divided by household size; *Other Household Members Employed* is the share of the other household members that has a job (either in MEP or outside).

[37] Panel A and B should yield similar findings for the effect of the program, since the source of identification is the same. Nevertheless, the two samples could yield different estimates for the other variables included in the model.

[38] We also do not find any evidence that the program changes the total hours of work of other household members (not reported).

[39] Interactions between the treatment and individual characteristics have been examined by several papers (see e.g. Angrist, 1990, Angrist and Krueger, 1991)

[40] We do not report the interactions with initial conditions for the other variables previously analyzed because, in most of the cases, we cannot reject the null hypothesis that the effect of the program does not vary with the initial conditions. The only exceptions relate to a smaller increase in total hours worked for the Textiles projects.

[41] Kremenchutzky and Massad (2006) obtain these estimates for a total of 72 projects. 40 projects could not be retrieved given that they had not started their activities or they did not have enough information recorded. The authors compute the project's profitability subtracting from total sales: (i) the cost of inputs used (ii) running costs (wage salaries, rent, utilities, taxes) (iii) the estimated "minimum return" per each beneficiary involved (equivalent to 150 pesos, which is the *Jefes* transfer). A project has a negative return if it does not raise enough revenues to cover these costs.