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UNEMPLOYMENT ASSISTANCE AND TRANSITION TO EMPLOYMENT IN ARGENTINA

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TABLE OF CONTENTS

ABSTRACT

In 2001-02, Argentina experienced a wrenching economic crisis. Plan Jefes, implemented in May 2002, was Argentina's institutional response to the increases in unemployment and poverty triggered by the crisis. The program provided a social safety net and appears to have successfully protected families against indigence. Despite this success, the continued existence of the program, which provides benefits to eligible unemployed individuals for an unlimited duration, may have unappealing long-term consequences. Reliance on the plan may reduce the incentive to search for work and in the long-run may damage individual employability and perpetuate poverty. Motivated by these concerns, this paper examines the effect of participating in Plan Jefes on the probability of exiting from unemployment. Regardless of the data set, the specification, the empirical approach and the control group, the evidence assembled in this paper shows that for the period under analysis individuals enrolled in the Plan are at least 20 percentage points less likely to transit to employment as compared to individuals who are not on the Plan. The negative effect of the program tends to be larger for females and as a consequence, over time, the program becomes increasingly feminized. Prima facie, the estimates suggest that programs such as Plan Jefes need to re-consider the balance between providing a social safety net and dulling work incentives.

JEL Codes:

J64, J65

Keywords

Unemployment assistance programs, unemployment transitions, Argentina

Unemployment Assistance and Transition to Employment in Argentina

1   Introduction

Since 1994, Argentina has experienced double-digit unemployment rates. Between 1993 and 2003 the number of unemployed workers doubled from about 1.1 million to 2.2 million workers translating into an increase in the unemployment rate from 9.6 to 15.6 percent, with a peak of 19.7 percent in 2002 (see Table 1).

Successive administrations in Argentina have used a variety of passive and active labor market interventions to protect workers against the consequences of unemployment. While there are several initiatives, at the moment the Argentinean system of unemployment compensation is dominated by a passive unemployment insurance (UI) program and an active unemployment assistance (UA) program called *Plan Jefas y Jefes de Hogar Desocupados (Program for Unemployed Heads of Households)*, hereafter Plan Jefes.

The unemployment insurance (UI) program was created in 1991 and provides monthly income support to unemployed workers previously engaged in the formal sector and able to show contributions to the social security system. The amount of the benefit and the length of entitlement depends on individual labor histories and differs across individuals. The number of workers receiving benefits through this scheme peaked in 2002, surpassing 200,000 (see Table 2).

The gamut of active labor market programs includes job placement services, fiscal incentives for hiring firms and training programs for the unemployed. The largest program, Plan Jefes, has been in place since 2002. This program was the institutional response to the explosive increase in poverty and unemployment that Argentina experienced at the end of 2001. In theory, it consists of a monthly allowance for eligible unemployed household heads. The benefit is granted on a flat-rate basis for an unlimited duration. To ensure that the program is self-targeted and reaches those who are most in need, a key aspect of the Plan is the requirement that participants provide a labour contribution (a counterpart of work) which typically assumes the form of a communitarian task.

A number of studies have analysed various aspects of the Plan Jefes program. For example, Roca et al. (2003), Galasso and Ravallion (2004), Franceschelli (2005) examine the targeting aspects of the program as well as its impact on poverty alleviation. Despite some leakage these papers confirm that the program did target the least skilled and the poor and that it protected individuals against poverty and indigence. While the program does seem to have had positive effects, the availability of benefits for an unlimited duration may have unintended and unappealing longer-term consequences. Reliance on the Plan may reduce the incentive to search for a job in the wider labour market and may damage individual employability, among other reasons, due to productivity deterioration (Pissarides, 1992) or statistical discrimination (Blanchard and Diamond, 1994). Accordingly, the availability of reliable

estimates on the effect of Plan Jefes and more generally on the effect of unemployment assistance programs on the probability of exiting unemployment are essential for the formulation of social policies that attempt to achieve an appropriate balance between social security and the provision of adequate job search incentives.

There is, of course, a large body of empirical literature on the effect of the benefit replacement rate (benefit elasticity) and duration of unemployment insurance/assistance programs (duration elasticity) on spells of unemployment. However, for obvious reasons, this body of work is largely restricted to the United States and European countries. Whether unemployment benefits finance longer unemployment periods and reduce the probability of exiting unemployment in the case of developing countries and Argentina in particular, is not clear. The large scale of Argentina's unemployment assistance program combined with scarce knowledge on the effects of such programs on job-search incentives (moral hazard) provides the motivation for our paper.

While the spirit of this paper is similar to the existing literature on the effect of unemployment insurance programs on unemployment duration, there are noteworthy differences. First, while we do study the effect of unemployment insurance, the main focus of the paper is on the effect of Plan Jefes. Second, the institutional arrangement of the program under scrutiny is different from the system prevailing in a number of developed countries. In Argentina, large fiscal deficits have limited the generosity of the unemployment assistance program. Faced by a tradeoff between coverage and replacement rate, the Jefes program favors the former and provides a monthly benefit of Pesos 150 (a rate below the minimum wage) to all beneficiaries for an unlimited duration. This is unlike the unemployment insurance/assistance programs examined in the bulk of the empirical literature which tend to provide a relatively higher level of benefits for a limited duration. Third, consistent with the design of the Jefes program, we do not estimate duration and benefit elasticities but examine the effect of participating in Plan Jefes on the probability of exiting to employment.

To preview our results, we find that, regardless of the data set, the specification or the empirical approach, individuals enrolled in the Plan are far less likely to transit to employment as compared to individuals who are not on the plan. This result holds regardless of whether Plan participants are compared to all non-Plan participants or whether the comparison is restricted to those who applied for the Plan but do not receive benefits. The effects of the program are gender sensitive. Program participation exerts a much stronger negative effect on the probability of transiting to employment for females, and as a consequence, over time, the program becomes increasingly feminized. Prima facie, the estimates support the idea that by reducing unemployment costs and thereby increasing reservation wages and reducing job-search intensity the Plan reduces the probability of transiting to employment. Alternative explanations for the reduced probability of transiting to employment are also discussed.

The paper is organized in the following manner. Section II provides additional information on the unemployment insurance and assistance systems. Section III describes the data and presents descriptive statistics. Section IV

presents an empirical framework tailored to the problem and data at hand. Section V presents the empirical findings while the final section summarizes and concludes the paper.

2 UNEMPLOYMENT AND UNEMPLOYMENT BENEFITS

Argentina has experienced sharp increases in unemployment and underemployment rates in the 1990s. As displayed in Table 1, unemployment rose from a low of 6.5 percent in 1991 to a high of almost 20 percent during the economic crisis. While the recent recovery of the economy has been accompanied by a decline in unemployment, the rate still hovers between 10 to 12 percent, considerably higher than the rate at the beginning of the 1990s. The quality of jobs, as measured by the underemployment rate and the degree of informal sector work has also declined. While 9.4 percent of the employed were classified as underemployed in the early 1990s, the figure was about 22 percent in 2003. During the same period, the percentage of workers employed outside the regulated market rose from 30 to 45 percent. The decline in the quantity and quality of employment is reflected in the sharp increase in the incidence of poverty.

2.1 Unemployment Insurance

The increase in unemployment since the 1990s has usually been interpreted in the context of economic reforms initiated at the beginning of the 1990s. These reforms included privatization, deregulatory and trade-openness policies. In the labor arena, reforms were aimed at creating a more flexible labor market (Lanari, 2003) and included measures to reduce the costs of layoffs and encourage short term contracts (Campos, 2000). In anticipation of the increase in unemployment, the government introduced limited duration unemployment insurance at the end of 1991. According to the Employment Law of 1991, the UI scheme was introduced as the legal mechanism to "regulate the impact of the processes of productive conversion and structural reforms on employment". Thus, UI was introduced in a labor market characterized by the absence of protection for unemployment and at a time when increases in unemployment were seen as inevitable.

In terms of eligibility, unemployment insurance may be accessed by unemployed workers who have contributed to the scheme for at least six months during the three years preceding unemployment. The level of benefits is determined by a Council of Productivity, Employment and Minimum Wage and is based on the highest net wage earned in the six months preceding unemployment. The duration of entitlement depends on the time period and level of contributions and ranges from 2 to 12 months. In addition to searching for jobs while receiving benefits, recipients are obliged to accept jobs offered by the labor authority.

The UI system offers limited protection to workers. Since its introduction, the share of unemployed receiving insurance has remained between 5 and 7.5 percent (Social Security Secretariat, www.seguridadsocial.gov.ar). While exclusion has been observed in countries with a longer history of

7

unemployment insurance, Argentina also displays a high level of exclusion. The system excludes informal workers and regardless of their legal status, several categories of workers such as domestic workers and self employed are also excluded from participation (Roca et al., 2003). Thus, similar to the situation in other Latin American countries, UI is an instrument of limited scope that does not provide benefits to the poorest (Samaniego, 2002). In general, the scheme benefits middle-income salaried workers (Mazza, 2000).

2.2 Unemployment Assistance

Ten years after the introduction of the UI scheme, in the context of a severe economic crisis, the government introduced an unemployment assistance scheme, called Plan Jefes. The plan was the institutional response to the increase in poverty and unemployment triggered by the crisis. The decree accompanying the creation of the scheme declared that the Plan aims to "guarantee the right to social inclusion to all Argentinean families" (Decree No. 565/2002). The program was signed into law in April 2002 and between April 4 and May 17, 2002, individuals could apply and register for the program. Individuals who met the eligibility conditions were issued social security cards and registered in a national data base (for more details see Tcherneva and Wray, 2005). For the most part, individuals who did not register by May 17 were unable to join the program.

The scheme is targeted at less-skilled unemployed workers and the objectives of the program are to provide a short-term safety net while at the same time increasing employability through training activities. In terms of statutory requirements, the scheme is restricted to unemployed household heads (implicitly, one person per household) with children aged 18 or less or those with handicapped children irrespective of age.

To ensure self-targeting, Plan benefits were set below the minimum wage and all participants receive the same benefit of Pesos 150 a month for an unlimited duration. In addition, individuals enrolled in the scheme are expected to search for jobs while at the same time they are expected to carry out one or more of the following activities (i) complete formal education or engage in training activities (ii) provide a labor (counterpart work) contribution of up to 20 hours a week for communitarian activities such as maintenance and construction of social infrastructure, cleaning of public spaces, sanitary and health supporting activities, childcare (Roca et al., 2003) (iii) perform administrative tasks in local agencies or work in enterprises associated with the Plan.

In contrast to the UI program, the UA scheme is inclusive. Since 2002, the scheme has provided benefits to about 1.5-1.9 million individuals per year or about 13 to 15 percent of the labor force. Total expenditure on the Plan amounts to about 1 percent of GDP (Tcherneva and Wray, 2005). Most of the Plan participants (about 84 percent) are engaged in communitarian activities and contributing 20 hours of labor under the aegis of Plan is their primary labor market activity (Ministry of Labor, Employment and Social Security (MTESS), 2004).

While the Plan was intended for unemployed heads of household, in practice, these requirements were not fulfilled. Administrators did not ensure that applicants were really heads of households and nor is it clear that only the unemployed were admitted into the Plan. Anecdotal evidence as well as formal analysis in Galasso and Ravallion (2004) shows that many Jefes participants, almost exclusively women, were inactive before joining the program. The implications of this, for our analysis, are discussed later on in the text.

2.3 Measuring Unemployment

Conventionally, official statistics in Argentina treat beneficiaries of social plans who contribute any type of labor as employed. In the case of Plan Jefes, the inadequacy of applying this definition was noted at the outset. The labor or counterpart work requirement of the Plan was introduced to ensure self-targeting and should not be viewed as employment. In fact, the requirement that most Plan participants should be providing a labor contribution was a condition for World Bank financing (Galasso and Ravallion, 2004). An application of the conventional definition, given the scale of Plan Jefes and the condition that a large proportion of beneficiaries should and indeed do provide 20 hours of labor, would lead to an extremely misleading picture of the country's level of unemployment. Furthermore, the Plan is intended to provide a short-term social safety net for the unemployed and Plan beneficiaries are expected to search for alternative jobs. In such circumstances treating those who provide a labor contribution as employed is clearly not suitable.

Official statistics have been adapted to distinguish between employment derived from the Plan (assisted employment) and other employment (unassisted employment). As a result, the Argentinian Bureau of Statistics (INDEC) periodically presents different sets of labor market indicators, based on alternative classifications of beneficiaries. In this paper, we treat individuals that report the Plan as their main activity as unemployed. Those who are in training are considered inactive while those who work in local agencies or in enterprises associated with the Plan and for whom the Plan is a secondary activity, are considered as employed.

3   DATA

The analysis conducted in this paper is based on three rounds of data collected under the auspices of the Permanent Household Survey (EPH) by INDEC. The EPH is an urban household survey, which till 2003 was conducted twice a year, usually in May and October. The survey is conducted in provincial capitals and areas with a population of more 100,000. It covers 28 urban agglomerates and represents about 61 percent of the country's population (INDEC, 2001).

The survey has a rotating panel structure with 25 percent of households replaced in each round. The May and October 2002 covered about 50,000 individuals in the working age population (16-64) while the May 2003 sample was smaller and covered around 37,000 individuals. In principle, based on the sample design and in the absence of sample attrition, of the households

9

sampled in May 2002, 75 percent should still appear in the October 2002 survey, while 50 percent should appear in the May 2003 survey.

The survey contains detailed information on a variety of household and individual characteristics, including information on employment, incomes, household demographics, housing, and education. From the point of view of this paper, the key data contained in these surveys is the availability of information on the employment experience of individuals. The surveys collect information on the labor market status of individuals (employed, unemployed, inactive), whether they receive unemployment benefits (insurance or assistance) whether they have applied for unemployment assistance and the date at which they started receiving unemployment benefits.

Plan Jefes was implemented in April-May 2002 and the October 2002 survey contains information on Plan participation. The survey also elicits information on the date that individuals who receive unemployment benefits started receiving such benefits. This allows us to determine whether an individual has been receiving benefits since May 2002. We are, thus, able to observe the labor market status as well as unemployment benefits status of individuals in May 2002, October 2002 and May 2003. We cannot go beyond this survey as several aspects of the EPH changed after May 2003, making it impossible to merge information across additional surveys. Accordingly, the analysis presented in the paper is based on merging information contained in the May 2002, October 2002 and May 2003 rounds of the EPH.

Information contained in the three individual data sets are used to create two panels. The first of these covers a 12 month period and combines information contained in the May 2002, October 2002 and May 2003 surveys. The second combines information from the October 2002 and May 2003 data sets. The one-year panel allows us to observe the labor market status of individuals at three points in time but it has fewer observations, while for the shorter six month panel we have a larger number of observations but can observe transitions only between October 2002 and May 2003. Restricting ourselves to individuals in the working age population (aged 16 to 64) yielded 12,576 common observations for the period covering May 2002 to May 2003 and 22,947 common observations for the period October 2002 to May 2003.

Based on the sample design and adjusting for the smallest sample (May 2003), we expected about 18,000 observations in the longer panel and about 27,750 in the shorter panel. While the actual numbers fall short of these expected figures by about 5,250-5,500, there does not seem to be a systematic difference between the individual data sets and the merged panels. For example, for all three surveys and for the two merged panels the gender and educational compositions of the data sets do not show much variation (see Table A1). Overall, these comparisons suggest that despite the smaller than expected sample size the merged data sets are not unduly influenced by sample attrition.

The focus of our analysis is on unemployed individuals and in the 12 month panel there are 1,455 individuals who were unemployed at the beginning of the period. These individuals may be divided into four categories. The first category consists of those who do not receive any unemployment benefits (69 percent). The second catego ry includes those who were enrolled

10

in the Plan in May 2002 (about 23 percent). The third category comprises individuals who have applied for the Plan but do not receive benefits (about 6.5 percent). The Plan limited entry to those who had qualified and enrolled by May 17, 2002, thus, there is a set of individuals who have applied for the Plan and who may meet the program's requirements but at the time of the survey were still awaiting the decision of the labor authorities. The availability of individuals who fulfill the requirements of the Plan and have applied for it, provides a control group that is potentially similar in terms of observed and unobserved characteristics to those who do join the plan. The fourth category consists of individual who have access to unemployment insurance (1.8 percent). In the 6 month panel there are 3,161 individuals and of these about 60 percent do not receive any benefits, 31 percent are on the Plan, 6.5 percent have applied for the Plan but do not receive any benefits and the remaining 2 percent receive UI benefits.

4 AN ANALYTICAL FRAMEWORK

4.1 Theoretical Responses to Plan Jefes (Unemployment Benefit Schemes)

While unemployment compensation schemes are expected to exert several influences on the labor market behavior of individuals (see Meyer, 2002 and Vodopevic, 2004), the bulk of the literature focuses on the effect of unemployment compensation schemes on the probability of re-employment and the time spent out of work. Static labor supply models (for example, Moffitt and Nicholson, 1982) as well as job-search models (such as Mortensen, 1986) have been used to examine the effect of unemployment insurance/ assistance schemes on the probability of re-employment and duration of unemployment. Both approaches predict that individuals enrolled in unemployment schemes are less likely to exit to employment and that enrollment in schemes with a higher replacement ratio and a longer duration of benefits prolongs unemployment spells.

Invoking a job-search model and based on our knowledge of the organization of Plan Jefes, consider an unemployed worker searching for jobs in a decentralized labor market. In the spirit of Mortensen (1977, 1986) and Meyer (2002) assume that this worker chooses a job-search intensity (s) and a minimally acceptable (reservation) job-quality (q), which for simplicity may be thought of as a function of the minimum wages and minimum job tenure sought by the unemployed worker. For a given job-search intensity the workers face a known job-quality offer distribution and a constant probability of receiving job offers, ($\lambda(s)$). The probability of exiting unemployment may be defined as $\lambda(s)[1-F(q)]$, where F is the cumulative distribution function of job-quality offers. If an unemployed worker is offered a job at a quality that exceeds the reservation job-quality, it is accepted, and she transits to employment.

Given this set up let us consider the effect of Plan Jefes. Individuals enrolled in Plan Jefes receive monthly monetary payments which are set at a level below the minimum wage for an unlimited duration of time. Although

Plan benefits may be low, given the unlimited duration of benefits (security of tenure as long as the program lasts), and the expectation of additional benefits, Plan participants clearly face a lower cost of being unemployed (higher cost of exiting to employment) as compared to non-participants. Accordingly, Plan participation may be associated with reduced search intensity, increases in reservation job-quality and a lower probability of exiting to employment. More explicitly, this discussion yields two clear predictions. First, Plan participants should have a lower probability of exiting to employment as compared to non-participants and second, the quality of jobs accepted by Plan participants should be higher than the quality of jobs accepted by non-participants.

Plan Jefes participants receive the same benefits for an unlimited duration of time. The benefits were fixed at the commencement of the program and are not indexed to inflation. Thus, the real value of benefits declines over time. Over time, the erosion of Plan benefits should lead to an increase in the cost of being unemployed which in turn should enhance search intensity, reduce reservation job-quality and lead to an increase in the probability of transiting to employment. Even without inflation, an increase in the transition rate over time is consistent with the argument that the availability of unemployment benefits allows recipients to search for a better job match. Since recipients may not be forced to accept the first job they are offered, after an initial period of low transition their probability of exiting to employment may increase. Thus, the third prediction yielded by this framework is that, over time, Plan participants should display a greater probability of exiting to employment.

The empirical work presented in the paper examines two of these three predictions, namely, whether Plan participation reduces the probability of exiting to employment and whether the probability of exiting to employment increases over time. Apart from information on the monthly wages of the jobs to which individuals transit we do not have much information on job quality and accordingly, the expectation that individuals on the plan transit to higher quality jobs is not examined in detail.

4.2 Empirical Strategy and Specification

The main empirical challenge in the paper is to isolate the effect of Plan Jefes on the probability of exiting unemployment, after controlling for various other factors that may influence job-search intensity and reservation job-quality. Accordingly, the probability of exiting to employment, $P(Y_i = 1) = (\lambda(s)[1 - F(q)])$, is treated as a function of observed characteristics that influence job-search intensity (s) and reservation job quality (q), that is,

$$P(Y_i = 1) =$$
$$G(\beta_0 + \beta_{UI}UI + \beta_{PJ} Plan\ Jefes + \beta_A A + \beta_I I + \beta_H HH + \beta_{LM} LM) \qquad (1)$$

Several variants of (1) are estimated as a logit model. UI and Plan Jefes indicate whether an individual receives unemployment insurance benefits or benefits through Plan Jefes, respectively. Individuals who have applied to Plan Jefes but do not receive any benefits are categorized as applicants (A). The reference category consists of those who do not receive any type of

unemployment benefits and have never applied for benefits. *I* and *HH* are individual characteristics (gender, age, marital status, education), household demographic (family size, number of children younger than 14, number of earning household members) and wealth characteristics (access to water and electricity, type of dwelling, household density), respectively. *LM* is a set of labor market characteristics. These characteristics include regional fixed effects, a variable that indicates whether an individual had any job experience prior to being unemployed, information on whether the contract for the job held just prior to being unemployed was temporary, ad-hoc or permanent, whether the individual was a wage employee or self-employed, and indicators for the size of firm of an individual's last job.

In (1), the effect of Plan Jefes on transiting to employment is compared with the transition rate of non-participants. Despite controlling for a number of characteristics, it is possible that comparisons between Plan participants and non-participants are not appropriate. The available data contains information on individuals who have applied for the Plan but do not receive benefits. Since applicants may have been eligible to join the Plan, on avera ge, they are likely to have observed characteristics that are similar to those on the Plan. Furthermore, since these individuals have applied for the plan and have indicated a preference for program participation, it is possible that, on average, their unobserved c haracteristics are similar to the unobserved characteristics of Plan participants. Thus, we estimate a second set of logit models where applicants are treated as the appropriate control group and the estimation is restricted to Plan participants and applicants, that is,

$$P(Y_i = 1) = G(\beta_0 + \beta_{PJ} Plan\ Jefes + \beta_I I + \beta_H HH + \beta_{LM} LM) \tag{2}$$

These logit models control for observables, however, they impose a specific functional form on the relationship between Plan participation and the probability of transiting to employment. An alternative approach relies on propensity score matching to control for observable heterogeneity between Plan participants and non-participants/applicants. Plan participants are matched to observationally similar non-participants/applicants and thereafter the average treatment effect (on the treated) of Plan participation on employment transitions is computed.

Let *PJ*$_i$ indicate participation in Plan Jefes. Following Rosenbaum and Rubin (1983), propensity scores, that is, $\text{Pr}ob(PJ_i = 1 \mid X_i)$, are obtained from a logit regression of Plan participation on observed characteristics (*X*$_i$). The average treatment effect on the treated (*ATT*) when *N* Plan Jefes participants are matched to *C* non-participants (*NP*) may be written as,

$$ATT = \frac{1}{N} \sum_{i=1}^{N} (Y_i^{PJ} - \sum_{j=1}^{C} W_{ij} Y_j^{NP}) \tag{3}$$

Similarly, the *ATT* when Plan participants are matched to applicants (*A*) may be written as,

$$ATT = \frac{1}{N} \sum_{i=1}^{N} (Y_i^{PJ} - \sum_{j=1}^{C} W_{ij} Y_j^A)$$

(4)

Y_i indicates the outcome for each of the different groups and W_{ij} are the weights that are used to calculate the counterfactual outcome for each Plan participant. Provided that unobserved characteristics of Plan participants and applicants are similar, the ATT provides an unbiased estimate of the effect of Plan Jefes on employment transitions. The ATT is estimated using five nearest-neighbor and kernel matching and the estimates are restricted to the region of common support.

Both the approaches outlined here control for differences in observed characteristics and rely on the assumption that using a control group that has applied for the Plan is likely to deliver unbiased estimates of the effect of the Plan on transiting to employment. In their work on evaluating the effect of Plan Jefes on various outcomes, Galasso and Ravallion (2004) also use matching methods to create a control group from a sample of applicants. Thereafter, they compute the ATT of Plan Jefes on various outcomes using a single-difference estimator and a double-difference estimator. In our case, since we follow individuals with the same outcome at the start of the period (they are all unemployed), the single- and double-difference estimators do not differ. While the double-difference estimator controls for differences in time-invariant unobservables, Galasso and Ravallion (2004) treat the single-difference estimates as their preferred results. Additionally, for most of the outcomes their single- and double-difference estimators yield similar results, suggesting that the use of applicants as a control group mitigates concerns about the effect of unobserved characteristics. Nevertheless, in the spirit of a sensitivity analysis we do attempt to control for the effect of unobservables using selection models.

The two-state models discussed so far ignore the probability that individuals may also transit to inactivity. While focusing on the two-states is similar to the approach adopted in the bulk of the empirical literature, a more complete picture of unemployment transitions should be concerned not just with transitions to employment but also transitions to inactivity. Given the aim of this paper it is crucial to examine the effect of the Plan on transitions to employment after controlling for its effect on inactivity. As may be anticipated, the Plan attracted individuals who were previously inactive and declared themselves as active and unemployed in order to access Plan benefits. Ignoring this possibility is likely to inflate the (negative) effect of Plan Jefes on transition to employment. To deal with this key concern we use three different approaches.

First, we estimate equations (1)–(4) separately for males and females. As shown by Galasso and Ravallion (2004), as compared to applicants, Plan Jefes reduced the labor force inactivity of women by 21–27 percentage points but did not have any effect on the labor force inactivity of men. Accordingly, for men, the effect of Plan Jefes on the probability of transiting to employment is unaffected by inactivity concerns and the effect of the Plan on men's transition probability may be thought of as the appropriate magnitude of the Plan's impact.

14

Second, although there is no information on whether Plan Jefes participants were unemployed or in reality inactive before joining the program it is possible to combine information from the May 2002 and October 2002 surveys and draw a distinction between these two states at least for the 12 month panel. The October 2002 round allows us to identify, (previously unemployed or inactive) individuals who are on the Plan and who started receiving benefits in May. The May 2002 survey asks all unemployed individuals to provide information on the characteristics of the job they held prior to becoming unemployed. This information is not available for those who were inactive in May 2002 and comparing the number of people who provide this information with those on the Plan allows us to identify individuals who were certainly unemployed before joining the program. Thus, we also present estimates of equation (1) and (2) for the 12 month panel after removing individu als for whom we do not have information on the job held prior to becoming unemployed.

As a final step to account for inactivity, we go beyond a two-state model and explicitly estimate the probability of Plan Jefes on transiting to employment and to inactivity. To do so, we estimate the specifications outlined in equation (1) and (2) using a three-state multinomial logit model.

4 DESCRIPTIVE STATISTICS

Table 3 and Table A2 contain descriptive statistics for the longer and shorter panel, respectively. The information is presented for the samples as a whole and conditional on Plan participation or applicant status. As shown in Table 3, for the sample as a whole, about 40 percent of the unemployed are household heads and 60 percent are male. The average age of an unemployed individual is 34 years and about 18 percent have had some form of tertiary education. A comparison of the means across Plan status shows that except for a few of the observed characteristics there are sharp differences between Plan and non-Plan individuals. While 35 percent of non-Plan individuals are household heads, the figure for Plan participants is 47 percent. This is surprising, as in principle, only unemployed household heads are eligible for the program. However, as is clear, the condition that Plan Jefes participants must be household heads was not closely followed by program administrators.

A majority (65 percent) of non-Plan individuals are male, in contrast, Plan participation is dominated by women (66 percent). There are sharp differences in educational attainment. About 22 percent of the non-Plan individuals have some tertiary education while the corresponding figure for Plan participants is 8.7 percent. Consistent with the group targeted by the UA program, Plan participants tend to have larger household sizes and more children below the age of 14. Despite the educational differences, it is notable that at least for the smaller subset of individuals on whom there is information on the quality of the job they held prior to becoming unemployed, differences across groups are not pronounced. Both Plan and non-Plan participants have a high incidence of prior job experience (92 versus 85 percent). A similar proportion were wage employees (as opposed to being self-employed) and a similar proportion held temporary or ad-hoc jobs. Nevertheless, the overall impression emerging from

15

a comparison of the means is that Plan participants and non-Plan individuals have very different observed characteristics.

In contrast, a comparison of Plan participants and Plan applicants shows that except for gender and the number of children below age 14 the two groups have very similar observed characteristics. The proportion of household heads, marital status, quality of job prior to becoming unemployed, educational and regional distribution across the two groups is not statistically different. Thus, while comparisons between Plan and non-Plan participants may not be particularly apt, at least on the basis of the similarities in the observed characteristics of Plan participants and applicants, it does seem that Plan applicants are an appropriate control group for Plan participants.

The descriptive statistics for the 6 month panel reveals a similar picture. While the observed characteristics of Plan participants and non-Plan individuals differ sharply, except for a few variables, the observed characteristics of Plan participants and Plan applicants are not statistically different.

5   EFFECT OF PLAN JEFES ON TRANSITION TO EMPLOYMENT

5.1   Labor Market Transitions

Table 4 relies on the one-year panel and displays labor market transitions for the various categories between May 2002 and May 2003 while Table 5 provides information on the transitions observed in the 6 month panel. Overall, by May 2003, of the 1,455 unemployed individuals in May 2002, about 38 percent find employment, a similar percentage remains unemployed while 23 percent drop out of the labor market. There are sharp differences in the distribution of labor market status conditional on receiving unemployment assistance. By May 2003, 44 percent of those without benefits have found work, while the corresponding figure for those receiving unemployment assistance is 19 percent. As shown in Table 4, due to differences in the characteristics of individuals on the Plan as compared to those without, comparisons may not be appropriate. A better comparison group may be individuals who have applied for UA benefits. However, even as compared with this group, Plan participants are substantially less likely to transit to employment. In fact, the group of applicants has a transition probability which is quite similar to those who do not receive any benefits (41 percent of applicants transit to employment).

The figures for the 6 month panel follow a similar pattern. By May 2003, 31 percent of the 3,161 individuals unemployed in October 2002 transit to employment. The transition rate for those without benefits (38.4 percent) and those on unemployment insurance is quite similar (39.1 percent). Applicants have a slightly lower transition rate of 33 percent, but with a 15 percent transition rate, Plan Jefes beneficiaries are far less likely to transit to employment.

While the patterns of transition are similar for both panels, the additional information provided by the 12 month panel is the interesting temporal pattern of transition. For unemployed individuals as a whole, the bulk of the transition occurs between May 2002 and October 2002. 28 percent of the unemployed

16

transit to employment in the first time period while a further 10 percent of the original sample transits between October 2002 and May 2003. This pattern holds for the group not receiving any benefits as well as for applicants. As shown in Table 4, 36 percent of those without benefits move to employment in 6 months while another 8 percent transits in the following 6 months. A similar story holds for those who do not receive benefits but have applied for UA. The transition rates are 35 percent and 6 percent in the first and second period, respectively. The transition pattern for those who receive benefits is the opposite. In the first 6 months only about 4 percent of those who were unemployed and on the Plan move to employment. In the next 6 months the probability of transitioning triples from 4 percent to 14.6 percent. The increase in the transition rate is consistent with the idea that over time, due to the erosion of the real value of the benefits the cost of remaining unemployed increases thereby promoting transition to employment.

5.2 Logit Estimates

Table 6 provides estimates of equation (1) and (2). Non-participants are the comparison group in columns 1 and 2, while Plan applicants serve as the comparison group in columns 3 and 4. Column (2) and (4) are estimated over a smaller set of individuals on whom we have information on characteristics of the job they held prior to becoming unemployed. As explained in the previous section, these estimates should not be influenced by inactivity as they are restricted to those individuals who were certainly unemployed before joining Plan Jefes.

Regardless of the column that we consider, participation in Plan Jefes is clearly associated with a reduction in the probability of transiting to employment. As compared to non-participants, Plan Jefes participants are 33 to 36 percentage point less likely to transit to employment. The appropriate comparison in terms of identifying the causal effect of the Plan is to compare Plan participants with applicants and even versus this group the negative effect of Plan Jefes is quite large and ranges from 21.6 (column 2) to 32.4 (column 4) percentage points. The inclusion of the labor market characteristics does not alter the negative effect of the Plan. Unemployment insurance also exerts a negative effect but it is quite small and statistically insignificant.

Other than the effect of the Plan, the estimates in Table 6 show that males and household heads are far more likely to exit to employment. The effects in column (3) and (4) display that males are 19 to 23 percentage points more likely to exit to employment as compared to females while the effect for household heads ranges from 11 to 18 percent. Age has a non-linear impact. None of the other variables in columns (3) or (4) exert an impact on transiting to employment. Given the strong similarities between Plan participants and applicants this is not particularly surprising.

Table 7 and 8 present gender-specific estimates of equation (1) and (2) based on the 12 month and the 6 month panel, respectively. As Table 7 shows, the marginal effect of Plan Jefes is much smaller for males. As compared to applicants, for male Plan Jefes participants, the negative effect of the program lies between 13.5 (column 1) and 22.9 (column 3) percentage points while for

17

females the effect is about 40 percentage points. Based on the shorter panel, the negative effect for males lies between 18.6 (column 5) and 22.6 (column 2) while for females the effect is about 31 percentage points. As mentioned earlier, Plan Jefes attracted women who were inactive into the labor market, and treating these women as unemployed is likely to exaggerate the negative effect of the Plan. The substantially larger estimates for women support this idea. Given that the Plan has no effect on inactivity rates for men, it may be appropriate to view the results based on the male sample as a lower bound of the negative effect of the Plan on transiting to employment.

5.3 Propensity Score Matching Estimates

Logit specifications were used to estimate the propensity of participating in Plan Jefes. The specifications included the individual (I), household (HH) and regional controls discussed above. For the one-year panel, for both sets of control groups, post-matching tests supported the null hypothesis of equality of means of each variable between the treatment and the control groups. The similarities between the Plan Jefes participants and the applicant group are reflected in the large regions of common support displayed in Figures 1 and 2.

Table 9 presents ATT estimates of the program on the probability of transiting to employment. Following (3) and (4) these estimates are based on matching Plan participants to non-participants (excluding those on UI and applicants) and on matching Plan participants only to the pool of applicants. Estimates are presented for the longer and shorter panel as well as separately for males and females. According to the PSM estimates, Plan participants are about 32 to 38 percentage points less likely to transit to employment, which is somewhat larger than the estimates based on the logit model. The effect differs across gender and lies between 17 to 26 percentage points for men and is about 40 percentage points for women. Notwithstanding the larger effect for the total sample, the overall flavor that emerges from Table 9 is that PSM estimates are not substantially different from the logit estimates.

5.4 Multinomial Logit Estimates

Multinomial logit estimates of the effect of Plan Jefes on transiting to employment and inactivity are displayed in Tables 10–12. The MNL estimates of Plan Jefes, based on Plan participants and non-applicants (Table 10, column 5), are about 5 percentage points smaller than the effects based on the logit model (Table 6, column 3). Apart from this change, the differences between the logit and the MNL estimates are not pronoun ced, supporting the idea that unemployment and inactivity are two distinct states. Gender-specific estimates for the longer and shorter panel are presented in Tables 11 and 12, respectively. These estimates display that participation in Plan Jefes reduces the probability of transiting to employment by 12 (Table 11, column 2) to 19 (Table 12, column 2) percentage points for males and 16 (Table 12, column 5) to 19 (Table 11, column 5) percentage points for females. The estimates confirm the effect of the Plan on reducing inactivity and highlight the importance of controlling for this, especially for women. While the Plan has no influence on the labor force activity of men it tends to reduce inactivity for

women by 25 to 27 percentage points. Overall, based on the MNL estimates the effect of the Plan on males is in the same range as reported earlier, while for females the estimates are smaller and are now in about the same range as that for men.

6   DISCUSSION AND CONCLUDING REMARKS

This paper examined the effect of Plan Jefes, an unemployment assistance program on the probability of transiting to employment between the period May 2002 and May 2003. Regardless of the data set, the specification, the empirical approach and the control group, the evidence assembled in this paper shows that individuals enrolled in the Plan are less likely to transit to employment as compared to individuals who are not on the Plan. For males, the lower bound of the effect of Plan Jefes is about 12 percentage points (Table 11, column 2) while for females it is about 16 percentage points (Table 12, column 5). Since the negative effect of the program tends to be larger for females, over time, the composition of program participants and indeed of the unemployed becomes increasingly feminized. The results presented in the paper also showed that Plan participants who do exit to employment tend to delay their exit. Most of their exits were in the period October 2002 to May 2003. For non-participants and applicants the pattern was the opposite and exits were concentrated in the period May 2002 to October 2002. These results may be interpreted in the context of job-search models which suggest that by reducing the costs of being unemployed, programs like Plan Jefes raise reservation wages and reduce search intensity, thereby reducing the probability of transiting to employment.

While the results are consistent with the supply-side effects predicted by job-search models, it is possible that there are demand-side factors that are responsible for the lower exit rate of Plan participants to employment. For example, Plan participants may be seeking jobs with the same intensity as non-participants/applicants but due to statistical discrimination/stigmatization they are unable to graduate from the program. Some evidence on this possibility is available. In 2002, the Argentinean Ministry of Labor conducted a survey among 1,290 firms which enquired whether employers w ould be willing to hire Plan participants if they met the qualifications required for a job. 78 percent of the firms responded positively. Employers who were unwilling to hire Plan Jefes participants cited lack of skills, experience, references and trust. In the case of 10 percent of the firms lack of trust or stigmatization was the main reason for not hiring Plan Jefes participants. While we can't quantify the effect of the reluctance to hire Plan Jefes participants on our estimates, given the empirical evidence assembled in the paper it is hard to dismiss the supply-side effects and the idea that the unlimited duration of Plan benefits provides strong incentives to remain unemployed.

At its inception about 60 percent of the Plan participants were women and about 47 percent were household heads. Currently about 72 percent of the beneficiaries are females and in 2003 only about 41 percent were household heads. Clearly, the objective of providing a short-term safety net for unemployed heads of households is only partially met. At the moment,

individuals who are genuinely unemployed and cannot access UI are unlikely to receive support. On the other hand the program appears to have been successful in drawing women into the labor market. Notwithstanding the protection that the Plan provided for some households during the economic crisis and its role in promoting women's labor force participation, it does appear that Plan participants are less likely to transit to employment and may have become dependent on the Plan.

At the moment, various plans to relocate the approximately 1 million Jefes participants are under consideration. These include the relocation of participants to either a social safety program which does not focus on employment or a program that provides training and limited duration support to the genuinely unemployed. The results presented in this paper suggest that the Plan does indeed need to be re-visited in accordance with the objectives for which it was created. Reorganizing and restructuring the Plan so that it meets its stated goal of providing unemployment benefits and training for the short-term unemployed while at the same time providing an alternative social program for the longer-term unemployed and the inactive may be an appropriate approach.

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TABLE 1
Labor market indicators, selected years [a]

	Year					
	1991	1993	2000	2001	2002	2003
Population (in thousands)						
Total Population – TP	28,447	29,426	32,842	33,484	34,124	34,393
Inactive population	17,408	17,671	19,197	19,575	19,989	20,000
Active population – A	11,039	11,755	13,644	13,909	14,135	14,393
Unemployed – U	748	1,096	2,031	2,375	2,737	2,202
Employed – E	10,291	10,660	11,613	11,534	11,397	12,191
Underemployed – S [b]	963	1,092	1,972	2,178	2,696	2,647
Rates (in percentage) [c]						
Activity rate – AR	39.5	41.3	42.6	42.5	42.4	42.8
Employment rate – ER	37.0	37.3	36.2	35.2	34.1	36.2
Unemployment rate – UR	**6.5**	**9.6**	**15.1**	**17.4**	**19.7**	**15.6**
Underemployment rate – SR	9.4	10.2	17.0	18.9	23.7	21.7
Informal workers [d]	29.7	31.3	37.7	38.3	40.9	44.8

Notes:
[a] Year averages, except for 2003 which is based on data collected in May of that year. [b] Employed individuals working less than 35 hours per week who want to work longer hours. [c] Rates calculated on the basis of standard definitions: AR = A/TP, ER = E/TP, UR = U/A, SR = S/E. [d] Percentage of salaried workers that work outside the regulated labor market.
Source:
Statistics are from Ministry of Labor, Employment and Social Security (MTESS) and are based on survey data.

TABLE 2
Recipients of unemployment insurance and unemployment assistance

Year	Unemployment Insurance (Recipients)	Unemployment Assistance (Recipients)
1996	128,672	.
1997	95,379	.
1998	90,711	.
1999	114,716	.
2000	124,535	.
2001	144,738	.
2002	200,398	1,126,387
2003	105,371	2,128,408
2004	62,407	1,919,919
2005	61,674	1,747,455
2006	80,689	1,527,691

Source: Based on Betranou and Bonari (20005) and administrative data from the Ministry of Labor, Employment and Social Security (MTESS).

TABLE 3
Selected descriptive statistics, sample covering the period May 2002 to May 2003

Variable	Full Sample N = 1455 Unemployed in May 2002		Non-Plan N =1030	Plan N = 330	H$_0$: $\overline{X}_{NP} = \overline{X}_P$	Applicants N = 95	H$_0$: $\overline{X}_P = \overline{X}_A$	Employed in May 2003 N= 559	
	Mean	Std. Dev	Mean	Mean	p-value	Mean	p-value	Mean	Std.Dev.
Household Head	0.39	0.487	0.35	0.47	0.001	0.52	0.461	0.474	0.499
Male	0.58	0.493	0.65	0.34	0.000	0.61	0.000	0.729	0.444
Age	34.11	12.23	33.9	34.3	0.700	35.6	0.274	35.0	11.90
Married	0.33	0.47	0.33	0.34	0.574	0.35	0.972	0.36	0.480
Primary Incomplete	0.098	0.298	0.074	0.154	0.001	0.168	0.744	0.094	0.293
Primary Complete	0.274	0.446	0.246	0.348	0.001	0.326	0.689	0.305	0.461
Secondary Incomplete	0.246	0.431	0.238	0.269	0.257	0.252	0.741	0.228	0.420
Secondary Complete	0.198	0.399	0.222	0.139	0.002	0.147	0.844	0.202	0.401
Tertiary Incomplete	0.133	0.340	0.157	0.069	0.0001	0.094	0.416	0.103	0.305
Tertiary Complete	0.048	0.214	0.061	0.018	0.004	0.010	0.604	0.064	0.245
Household Size	5.06	2.37	4.89	5.57	0.000	5.17	0.179	4.874	2.342
Nr. of children below 14	1.43	1.59	1.14	2.28	0.000	1.75	0.009	1.316	1.557
Nr. Earning hh. members	1.44	1.01	1.45	1.44	0.923	1.36	0.457	1.406	1.002
Buenos Aires	0.145	0.352	0.163	0.115	0.079	0.052	0.075	0.162	0.369
North west	0.264	0.441	0.252	0.287	0.261	0.305	0.743	0.228	0.420
North east	0.149	0.357	0.115	0.230	0.000	0.242	0.811	0.137	0.344
Cuyo	0.076	0.265	0.077	0.063	0.325	0.105	0.170	0.087	0.283
Pampa	0.268	0.443	0.277	0.248	0.345	0.242	0.899	0.254	0.435
Patagonia	0.096	0.295	0.113	0.054	0.004	0.052	0.942	0.128	0.335
Prior job experience [a]	0.863	0.343	0.852	0.924	0.031	0.884	0.284	0.867	0.339
Last job-wage employee [a]	0.620	0.485	0.612	0.671	0.220	0.621	0.429	0.576	0.494
Last job-temporary [a]	0.241	0.427	0.234	0.291	0.168	0.221	0.223	0.236	0.425
Last job-ad hoc work [a]	0.171	0.377	0.168	0.196	0.434	0.157	0.438	0.186	0.389
Apartment	0.976	0.151	0.981	0.963	0.076	0.968	0.824	0.974	0.156
Access to water and electricity	0.942	0.232	0.963	0.884	0.000	0.926	0.248	0.937	0.242
Household size/rooms	1.937	1.336	1.737	2.470	0.000	2.256	0.249	1.885	1.272

Notes: [a] For these variables the information is limited to a smaller set of 1283 observations.

TABLE 4
Transitions in labor market status between May 2002 and May 2003 (%)

Full Sample			
Unemployed in May 2002, N = 1,455	Situation in October 2002	Between October 2002 & May 2003	Situation in May 2003
To Employment	413 (28.4)	+146 (10)	559 (38.4)
To Unemployment	718 (49.3)	-159 (10.9)	559 (38.4)
To inactivity	323 (22.2)	+13 (0.8)	336 (23)
Without benefits and non-applicants			
Unemployed in May 2002, N = 1,003	Situation in October 2002	Between October 2002 & May 2003	Situation in May 2003
To Employment	363 (36.2)	+82 (8.2)	445 (44.3)
To Unemployment	383 (38.2)	-78 (7.8)	305 (30.4)
To inactivity	256 (25.5)	-4 (0.4)	252 (25.1)
With UA			
Unemployed in May 2002, N = 330	Situation in October 2002	Between October 2002 & May 2003	Situation in May 2003
To Employment	14 (4.2)	+48 (14.6)	62 (18.8)
To Unemployment	263 (79.7)	-59 (17.9)	204 (61.8)
To inactivity	53 (16.1)	11 (3.3)	64 (19.4)
Applicants			
Unemployed in May 2002, N = 95	Situation in October 2002	Between October 2002 & May 2003	Situation in May 2003
To Employment	33 (34.7)	+6 (6.3)	39 (41)
To Unemployment	48 (50.5)	-8 (8.4)	40 (42.1)
To inactivity	14 (14.7)	+2 (2.1)	16 (16.8)

TABLE 5
Transitions in Labor Market Status between October 2002 and May 2003 (%)

	All	Without benefits & non-applicants	With UA	Applicants	With UI
Unemployed in October 2002	**3,161**	**1,904**	**982**	**207**	**69**
Labor market status in May 2003, absolute numbers (per cent)					
To Employment	974 (30.8)	732 (38.4)	147 (15)	68 (32.9)	27 (39.1)
To Unemployment	1,444 (45.7)	645 (33.9)	692 (70.5)	77 (37.2)	31 (44.9)
To Inactivity	742 (23.5)	526 (27.6)	143 (14.6)	62 (30)	11 (15.9)

TABLE 6
Logit marginal effects estimates
Transition to employment between May 2002 and May 2003
(standard errors)

Variable	(1) Full Sample	(2) Full Sample	(3) Restricted to UA and Applicants	(4) Restricted to UA and Applicants
Unemployment Assistance	-0.357***	-0.334***	-0.261***	-0.324***
	(0.037)	(0.046)	(0.070)	(0.083)
Applicant	-0.108*	-0.118*	.	.
	(0.060)	(0.063)		
Unemployment Insurance	-0.032	-0.042	.	.
	(0.084)	(0.087)		
Household Head	0.095**	0.081*	0.107*	0.181*
	(0.046)	(0.050)	(0.074)	(0.111)
Male	0.106***	0.071*	0.192***	0.228***
	(0.039)	(0.043)	(0.068)	(0.097)
Age	0.016*	0.012	0.045**	0.046**
	(0.009)	(0.010)	(0.018)	(0.026)
Age squared*100	-0.024**	-0.022*	-0.064*	-0.068***
	(0.012)	(0.013)	(0.025)	(0.034)
Married	-0.023	-0.017	-0.027	-0.011
	(0.041)	(0.043)	(0.058)	(0.088)
Primary Complete	0.055	0.029	0.044	-0.002
	(0.059)	(0.063)	(0.080)	(0.105)
Secondary Incomplete	-0.015	-0.037	-0.018	-0.058
	(0.063)	(0.067)	(0.086)	(0.112)
Secondary Complete	0.010	-0.004	0.052	0.127
	(0.065)	(0.07)	(0.105)	(0.162)
Tertiary Incomplete	-0.039	-0.083	-0.134	-0.216
	(0.073)	(0.077)	(0.091)	(0.099)
Tertiary Complete	0.131	0.105	0.239	0.498
	(0.088)	(0.090)	(0.294)	(0.262)
Household Size	-0.009	-0.015	0.022	0.033
	(0.012)	(0.013)	(0.018)	(0.027)
Number of children below 14	-0.0013	-0.000	-0.022	-0.044
	(0.018)	(0.019)	(0.027)	(0.039)
Number of earning household members	0.016	0.018	0.012	0.011
	(0.018)	(0.018)	(0.031)	(0.046)
Prior job experience	.	0.202**	.	-0.308
		(0.088)		(0.273)
Last job-wage employee	.	-0.109**	.	0.127
		(0.050)		(0.109)
Last job-temporary		-0.024	.	-0.135
		(0.045)		(0.091)
Last job-ad hoc work		-0.052	.	-0.055
		(0.056)		(0.110)
N	1118	982	345	209
Log likelihood	-697.34	-627.14	-175.90	-105.43
Pseudo R^2	0.10	0.074	0.156	0.223

Notes: Other regressors include a set of 5 regional indicators, controls for household wealth-type of housing, access to electricity and water, household members per room and indicators for size of firm of last job (only columns 2 and 4). *, **, *** indicate significance at the 10 per cent, 5 per cent, and 1 per cent levels, respectively.

TABLE 7
Gender specific logit marginal effects estimates
Transition to employment between May 2002 and May 2003
(standard errors)

Variable	(1) Full Sample Male	(2) Full Sample Female	(3) UA and Applicants Male	(4) UA and Applicants Female
Unemployment Assistance	-0.278***	-0.407***	-0.229*	-0.396***
	(0.066)	(0.054)	(0.125)	(0.151)
Applicant	-0.143*	-0.047	.	.
	(0.080)	(0.091)		
Unemployment Insurance	-0.007	-0.137	.	.
	(0.095)	(0.117)		
N	674	409	112	197
Log likelihood	-429.86	-219.27	-61.09	-68.99
Pseudo R^2	0.06	0.186	0.208	0.251

Notes: Other regressors include head of household, age and age squared, indicators for educational level, married, household size, number of children below 14, number of earning household members, a set of 5 regional indicators, controls for household wealth and characteristics of previous job (only for males). *, **, *** indicate significance at the 10 per cent, 5 per cent, and 1 per cent levels, respectively.

TABLE 8
Logit marginal effects estimates
Transition to employment between October 2002 and May 2003
(standard errors)

Variable	(1) Full Sample Total	(2) Full Sample Male	(3) Full Sample Female	(4) UA and Applicants Total	(5) UA and Applicants Male	(6) UA and Applicants Female
Unemployment Assistance	-0.339***	-0.295***	-0.333***	-0.243***	-0.186***	-0.313***
	(0.022)	(0.035)	(0.033)	(0.048)	(0.068)	(0.109)
Applicant	-0.047	-0.069	-0.015	.	.	.
	(0.040)	(0.058)	(0.087)			
Unemployment Insurance	-0.126**	-0.147*	-0.077	.	.	.
	(0.053)	(0.077)	(0.071)			
N	2418	1303	1115	984	336	648
Log likelihood	-1433.02	-858.93	-557.33	-457.97	-206.87	-241.28
Pseudo R^2	0.121	0.05	0.163	0.113	0.06	0.101

Notes: Other regressors include head of household, age and age squared, indicators for educational level, married, household size, number of children below 14, number of earning household members, a set of 5 regional indicators and controls for household wealth. *, **, *** indicate significance at the 10 per cent, 5 per cent, and 1 per cent levels, respectively.

TABLE 9
Transition to employment
5 Nearest neighbors matching estimates-restricted to common support
(standard errors)

Transition between May 2002 & May 2003	(1) Full Sample	(2) Full Sample Male	(3) Full Sample Female
Effect of Unemployment Assistance	-0.323***	-0.234***	-0.370***
	(0.048)	(0.063)	(0.071)
N	1116	693	402
Transition between May 2002 & May 2003	**Restricted to UA & Applicants**	**Restricted to UA & Applicants**	**Restricted to UA and Applicants**
Effect of Unemployment Assistance	-0.349***	-0.168*	-0.431***
	(0.078)	(0.100)	(0.071)
N	340	131	176
Transition between October 2002 & May 2003	**Full Sample**	**Full Sample Male**	**Full Sample Female**
Effect of Unemployment Assistance	-0.382***	-0.305***	-0.369***
	(0.035)	(0.039)	(0.055)
N	2415	1299	1115
Transition between October 2002 & May 2003	**Restricted to UA & Applicants**	**Restricted to UA & Applicants**	**Restricted to UA & Applicants**
Effect of Unemployment Assistance	-0.369***	-0.262***	-0.411***
	(0.065)	(0.085)	(0.094)
N	947	336	604

Notes: Propensity scores were obtained from a logit regression of Plan Jefes on head of household, age and age squared, indicators for educational level, married, household size, number of children below 14, number of earning household members, a set of 5 regional indicators, and controls for household wealth. *, **, *** indicate significance at the 10 per cent, 5 per cent, and 1 per cent levels, respectively. Estimates based on kernel matching displayed a similar pattern.

TABLE 10
Select multinomial logit marginal effects estimates –Transitions between May 2002 and May 2003

	Full Sample			Restricted to UA and applicants		
	Remain Unemployed (1)	Transition to Employment (2)	Transition to Inactivity (3)	Remain Unemployed (4)	Transition to Employment (5)	Transition to Inactivity (6)
Unemployment Assistance	0.333***	-0.262***	-0.071**	0.196***	-0.211***	0.014
	(0.034)	(0.030)	(0.036)	(0.064)	(0.061)	(0.048)
Applicant	0.142***	-0.055	-0.087***	.	.	.
	(0.056)	(0.052)	(0.027)			
Unemployment Insurance	0.063	0.014	-0.077*	.	.	.
	(0.080)	(0.074)	(0.057)			
Household Head	-0.044	0.117***	-0.073**	-0.045	0.110**	-0.065
	(0.039)	(0.040)	(0.031)	(0.072)	(0.060)	(0.054)
Male	0.006	0.169***	-0.176***	-0.109*	0.156***	-0.047
	(0.032)	(0.031)	(0.028)	(0.066)	(0.056)	(0.049)
Age	0.004	0.029***	-0.034***	-0.016	0.033**	-0.017
	(0.008)	(0.008)	(0.006)	(0.017)	(0.014)	(0.012)
Married	0.002	-0.037	0.035	0.022	-0.004	-0.021
	(0.034)	(0.034)	(0.030)	(0.058)	(0.047)	(0.017)
Tertiary Incomplete	0.009	-0.069	0.059	0.126	-0.126	0.000
	(0.061)	(0.059)	(0.055)	(0.097)	(0.063)	(0.08)
Tertiary Complete	-0.073	0.171**	-0.096**	-0.294	0.121	0.174
	(0.077)	(0.082)	(0.044)	(0.201)	(0.214)	(0.202)
Household Size	0.017*	0.001	-0.018**	0.000	0.023	-0.023
	(0.010)	(0.011)	(0.009)	(0.018)	(0.015)	(0.015)
Number of earning household members	-0.025*	0.002	0.023**	-0.029	0.002	0.027
	(0.015)	(0.016)	(0.012)	(0.030)	(0.025)	(0.023)
N	1454			425		
Log-Likelihood	-1408.03			-367.83		
Pseudo R^2	0.098			0.11		

Notes: Other regressors include number of children younger than 14, a set of 5 regional indicators, controls for household wealth-type of housing, access to electricity and water, household members per room. *, **, *** indicate significance at the 10 per cent, 5 per cent, and 1 per cent levels, respectively.

TABLE 11
Select multinomial logit marginal effects estimates – Transitions between May 2002 and May 2003

	Full Sample – Male			Full Sample – Female		
	Remain Unemployed (1)	Transition to Employment (2)	Transition to Inactivity (3)	Remain Unemployed (4)	Transition to Employment (5)	Transition to Inactivity (6)
Unemployment Assistance	0.221***	-0.248***	0.027	0.421***	-0.196***	-0.249***
	(0.055)	(0.049)	(0.044)	(0.048)	(0.039)	(0.050)
Applicant	0.114	-0.125*	0.010	0.188**	0.061	-0.225***
	(0.072)	(0.069)	(0.049)	(0.091)	(0.081)	(0.045)
Unemployment Insurance	-0.007	0.019	-0.027	0.232	-0.040	-0.192*
	(0.085)	(0.087)	(0.043)	(0.16)	(0.109)	(0.112)
N	846			608		
Log-Likelihood	-793.17			-575.45		
Pseudo R^2	0.076			0.12		

TABLE 12
Select multinomial logit marginal effects estimates – Transitions between October 2002 and May 2003

	Full Sample – Male			Full Sample – Female		
	Remain unemployed (1)	Transition to employment (2)	Transition to inactivity (3)	Remain unemployed (4)	Transition to employment (5)	Transition to inactivity (6)
Unemployment Assistance	0.281***	-0.245***	-0.036	0.431***	-0.158***	-0.272***
	(0.034)	(0.031)	(0.024)	(0.029)	(0.023)	(0.027)
Applicant	0.070	-0.053	-0.017	0.023	-0.009	-0.014
	(0.053)	(0.052)	(0.031)	(0.057)	(0.038)	(0.047)
Unemployment Insurance	0.118	-0.128	0.011	0.099	-0.043	-0.057
	(0.078)	(0.068)*	(0.062)	(0.11)	(0.058)	(0.093)
N	1574			1586		
Log-Likelihood	-1484.29			-1428.53		
Pseudo R^2	0.087			0.12		

Notes to Table 12: Other regressors include head of household, age and age squared, indicators for educational level, married, household size, number of children below 14, number of earning household members, a set of 5 regional indicators, controls for previous job characteristics (only Table 10a) and household wealth. *, **, *** indicate significance at the 10 per cent, 5 per cent, and 1 per cent levels, respectively.

TABLE A1
Comparison of the individual and merged data sets

	May 2002	Oct. 2002	May 2003	3 Rounds	2 Rounds
N	50,712	50,782	37,510	11,147	21,292
Male (%)	47.8	47.5	47.5	47.8	47.5
Primary (%)	30.8	30.6	29.9	30.3	30.8
Secondary (%)	43.3	44.6	44.1	44.7	45.0
Tertiary (%)	25.9	24.8	26.0	24.9	24.2

TABLE A2
Selected descriptive statistics – Sample covering the period October 2002 to May 2003

Variable	Full Sample N = 3161 Unemployed in October 2002		Non-Plan N =1904	Plan N = 982	H_o: $\overline{X}_{NP} = \overline{X}_P$	Applicants N = 207	H_o: $\overline{X}_P = \overline{X}_A$	Employed in May 2003 N= 974	
	Mean	Std. Dev	Mean	Mean	p-value	Mean	p-value	Mean	Std.Dev.
Household Head	0.34	0.475	0.30	0.41	0.000	0.39	0.709	0.446	0.497
Male	0.49	0.500	0.60	0.28	0.000	0.49	0.000	0.674	0.468
Age	33.37	11.96	32.5	34.6	0.000	33.5	0.186	34.0	11.55
Married	0.30	0.46	0.29	0.34	0.237	0.36	0.279	0.33	0.471
Primary Incomplete	0.108	0.311	0.085	0.155	0.000	0.121	0.211	0.102	0.304
Primary Complete	0.269	0.443	0.234	0.341	0.000	0.261	0.025	0.280	0.449
Secondary Incomplete	0.270	0.444	0.267	0.271	0.952	0.314	0.208	0.249	0.433
Secondary Complete	0.180	0.385	0.200	0.143	0.000	0.154	0.683	0.174	0.379
Tertiary Incomplete	0.123	0.329	0.150	0.071	0.000	0.125	0.009	0.121	0.326
Tertiary Complete	0.047	0.212	0.063	0.018	0.000	0.024	0.581	0.072	0.258
Household Size	5.13	2.46	4.87	5.65	0.000	5.40	0.201	4.904	2.554
Nr. of children below 14	1.54	1.64	1.15	2.30	0.000	1.73	0.000	1.373	1.566
Nr. earning hh. members	1.75	1.15	1.58	2.08	0.000	1.61	0.055	1.645	1.170
Buenos Aires	0.122	0.328	0.149	0.078	0.000	0.043	0.078	0.140	0.347
North west	0.262	0.440	0.231	0.300	0.001	0.411	0.002	0.224	0.418
North east	0.144	0.351	0.096	0.228	0.000	0.198	0.346	0.113	0.317
Cuyo	0.069	0.254	0.070	0.064	0.446	0.077	0.491	0.065	0.248
Pampa	0.272	0.445	0.296	0.248	0.048	0.174	0.022	0.283	0.451
Patagonia	0.129	0.336	0.157	0.080	0.000	0.096	0.444	0.172	0.377
Apartment	0.968	0.175	0.977	0.950	0.000	0.971	0.193	0.974	0.158
Access to water and electricity	0.929	0.257	0.948	0.891	0.000	0.927	0.116	0.951	0.216
Household size/room	2.056	1.308	1.793	2.568	0.000	2.225	0.002	1.906	1.202

TABLE A3
Select multinomial logit marginal effects estimates – Transitions between October 2002 and May 2003

	Full Sample – Male			Full Sample – Female		
	Remain unemployed (1)	Transition to employment (2)	Transition to inactivity (3)	Remain unemployed (4)	Transition to employment (5)	Transition to inactivity (6)
Unemployment Assistance	0.372*** (0.021)	0.223*** (0.019)	-0.149 (0.016)	0.319*** (0.041)	-0.141*** (0.036)	-0.179*** (0.039)
Applicant	0.041 (0.039)	-0.036 (0.032)	-0.005 (0.029)	.	.	.
Unemployment Insurance	0.124 (0.062)	-0.088 (0.044)*	-0.035 (0.052))	.	.	.
N	3160			1189		
Log-Likelihood	-2967.30			-948.28		
Pseudo R^2	0.115			0.11		

Notes: Other regressors include head of household, age and age squared, indicators for educational level, married, household size, number of children below 14, number of earning household members, a set of 5 regional indicators, controls and household wealth. *, **, *** indicate significance at the 10 per cent, 5 per cent, and 1 per cent levels, respectively.

TABLE A4
Selection corrected probit marginal effects estimates
Transition to employment between October 2002 and May 2003
(standard errors)

Variable	(1) Full Sample Total	(2) Full Sample Male	(3) Full Sample Female
Unemployment Assistance	-0.410*** (0.052)	-0.389*** (0.105)	-0.307*** (0.073)
Applicant	-0.047 (0.041)	-0.067 (0.058)	-0.019 (0.056)
Unemployment Insurance	-0.118* (0.058)	-0.135* (0.078)	-0.067 (0.085)
Generalised Residual	0.062 (0.043)	0.075 (0.081)	-0.025 (0.050)
N	2418	1303	1115
Log likelihood	-1437.15	-861.47	-561.77
Pseudo R^2	0.118	0.05	0.156

Notes: Other regressors include head of household, age and age squared, indicators for educational level, married, and a set of 5 regional indicators. The generalised residual is obtained from a first-step probit regression of program participation on observed characteristics. Identification is achieved by including variables that capture household wealth (type of housing, access to electricity and water, household members per room) and number of children below the age of 14, family size and number of earning household members only in the first-step equation. *, **, *** indicate significance at the 10 per cent, 5 per cent, and 1 per cent levels, respectively.

32

FIGURE 1
Distribution of propensity scores for Jefes participants (treated) and applicants (untreated) – Panel data covering the period May 2002 to May 2003
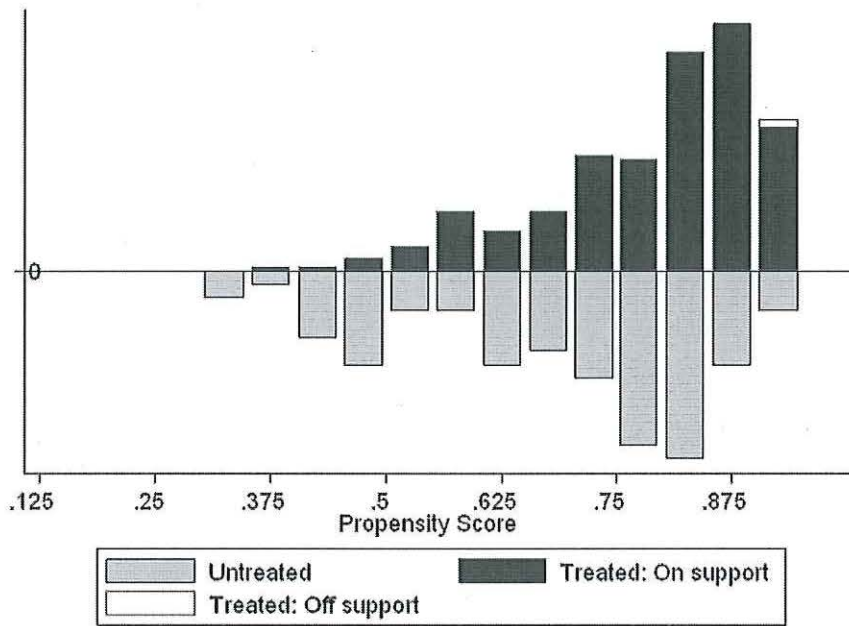

FIGURE 2
Distribution of propensity scores for Jefes participants (treated) and applicants (untreated) – Panel data covering the period October 2002 to May 2003

33