

Effectiveness of active labour market tools in Conditional Cash Transfers programmes: Evidence for Argentina¹

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Abstract

This paper examines the impact of a programme implemented in Argentina to provide support in skills upgrading, vocational training, job seeking and job placement to those eligible beneficiaries of the large conditional cash transfer programme *Plan Jefes*. Using data from the Permanent Household Survey, this article assesses the short-term effects of the programme on a number of labour market indicators. Through non-experimental methods, this paper finds that the intervention, at least in the short-run (i.e. one year), is associated with a decrease in the probability of having an informal job and with higher hourly wages. The findings also suggest that the programme is associated with a lower probability of working an excessive number of hours and being underemployed.

Keywords: active labour market policies, job quality, impact evaluation, Argentina, Latin America, conditional cash transfer programmes

JEL codes: J21, J68, I38, H53

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1. Introduction

By late 2004, the economic recovery from the crisis that affected Argentina at the end of 2001 had become manifest. Indeed, in 2004, GDP grew at an annual rate of 8.9 per cent, more than 413,000 people found a job and the poverty rate was 18.6 percentage points lower than in 2002. The country faced a new reality, which required different policy responses more adapted to the changing circumstances. The Unemployed Heads of Household Programme (*Plan Jefes y Jefas de Hogar Desocupados* or *Plan Jefes*), launched in May 2002 as the main measure to provide income support during the 2001/02 crisis, thus gave way to new programmes that aimed to respond better to the new realities of the country. In this context, the Training and Employment Insurance, *Seguro de Capacitación y Empleo* (SCE) was implemented in April 2006 to provide support in skills upgrading, vocational training, job seeking and job placement to those eligible Jefes' participants.

SCE is an example of a growing trend observed in Latin America and the Caribbean, where labour market activation components² are increasingly included in the conditional cash transfers programmes (CCTs) operating in the region. In general, employment-related services have been progressively provided either by the CCT programmes themselves or indirectly by facilitating the access to other programmes that include a labour market activation component, as it is in the case of SCE (OAS/ECLAC/ILO, 2010; Cecchini and Madariaga, 2011; ECLAC/ILO, 2014). These interventions are based on the premise that monetary transfers alone are not enough to reduce poverty in a sustainable manner. Moreover, proponents of this approach sustain that activation measures provide the tools necessary to generate more autonomous – and sustainable – income generation opportunities (Britto, 2006; OAS/ECLAC/ILO, 2010). However, a key question that remains unanswered is how successful these programmes have been in increasing the probability of participants of finding a decent job.

Indeed, despite this growing trend towards a greater emphasis given to activation, the empirical evidence on the effectiveness of active labour market interventions as tools to increase the employability of CCTs beneficiaries is rather scarce. Some exceptions include Galasso et al. (2004) that analysed whether providing a wage subsidy and specialized training to beneficiaries of the Argentinean workfare programme “Trabajar”³ was effective; and Almeida and Galasso (2010) that evaluated the effects of a self-employment programme offered to Argentina’s *Plan Jefes* beneficiaries. Our paper aims to contribute to closing this gap in the literature. We focus on the effects of SCE in increasing employability and work quality of former *Jefes*’ participants, therefore assessing the effectiveness of this programme as an exit strategy to more universal CCTs. SCE is particularly interesting in this regard since it is a comprehensive programme that includes a panoply of different activation instruments such as: (i) assistance to the completion of

² Labour market activation component refers to all interventions that the State undertakes with the aim to increase the employability of participants. Employability describes the individual’s potential likelihood to find/ be placed in a job.

³ Trabajar was a small-scale workfare programme, active between 1996 and 2002, and replaced by the *Plan Jefes* when the crisis started. Trabajar was aimed at unemployed workers below the poverty line. The objective of the programme was to sustain the most vulnerable through income support but also work opportunities that contributed to projects that were of value to poor communities. The programme provided recipients 200 pesos per month, access to health care and coverage of risks in exchange of a tightly enforced work requirement of 30 to 40 hours per week (Ronconi, 2002).

primary and secondary education; ii) vocational training and apprenticeships; iii) job-search assistance; iv) employment subsidies; and v) promotion of self-employment and microbusiness.

However, the empirical evidence on the effectiveness of these active labour market interventions in emerging and developing economies, and more specifically in Latin America, has been contentious. On the one side of the spectrum, there seems to be consensus in the literature on the role of vocational training and other skill development measures in fostering more successful labour market trajectories and higher wages. For example, evaluations of training programmes in Brazil and Colombia have identified a positive effect on formal employment and income earned (Atanasio et al., 2011; Petterini, 2010). Measures to promote the completion of studies have had positive indirect effects, by raising the effectiveness of other activation instruments, as they enable beneficiaries to make the most of available opportunities (Weller, 2009).⁴ Importantly, a large body of evidence relates employment subsidies⁵ with the presence of distortionary impacts, such as displacement effects – i.e. jobs created by the programme are at the expense of other jobs–, and deadweight loss effects – i.e. jobs created could have occurred even in the absence of a programme (Calmfors and Skedinger, 1995; Kluve, 2015). More specifically, empirical findings show that these employment subsidies are more effective when they are targeted to vulnerable groups such as the low-skilled, youth and long-term unemployed; and implemented as part of a more comprehensive package including training and job search assistance (Nekby, 2008; Farné, 2009; ECLAC/ILO, 2014). Conversely, studies have been more critical on the role of job-search assistance in achieving their goal, especially in Latin America where a high share of the hiring is done using informal mechanisms, such as recommendations and personal contacts (ECLAC/ILO, 2014). In fact, empirical studies carried out in countries in the region such as Chile have pointed to the ineffectiveness of job-search assistance (Brandt, 2012).

In this context, our study is an important contribution to the debate on the effectiveness of labour market activation components embedded in CCT programmes for two main reasons: first, it assesses whether these type of programmes are effective as an exit strategy to more universal CCTs; second, it provides additional light on the effectiveness of these components in increasing employability and work quality of participants. Moreover, our paper adds to the literature in two additional ways: first, although a body of research exists that has analysed the effects of other Argentinian programmes such as *Plan Jefes* (Galasso and Ravallion, 2004), *Microemprendimientos Productivos* (Almeida and Galasso, 2010), and *Asignación Universal por Hijo* (Gasparini and Gruces, 2010; Agis et al., 2010), to our knowledge, this is the first attempt to analyse the impact of SCE at the country level.⁶ Secondly, while the literature has often focused on the effect of ALMPs on employment creation, this paper focuses on the job quality effects of the programme. Importantly, the indicators used in this paper to measure the quality of job are based on ILO definitions and not on self-defined economic concepts.

⁴ See Chapter 5 of OAS/ECLAC/ILO (2010) for a more detailed discussion on the CCTs instruments to promote employment among vulnerable groups and their impact on labour outcomes.

⁵ Employment subsidies provide firms with incentives for hiring by reducing social security contribution or covering part of the earnings (ECLAC/ILO, 2014).

⁶ Previous studies exist that have focused on the impact of the programme in some specific geographic areas, such as in Mar de Plata (Actis Di Pasquale, 2011).

In a nutshell, this paper finds that the intervention, at least in the short-run, positively affects job quality of participants by decreasing the probability of having an informal job, and raising hourly wages. The estimates also suggest that the programme is associated with a lower probability of working an excessive number of hours and being underemployed. Finally, the paper also finds that programme participation is associated with an increase in the probability of being inactive. The evaluation has been carried out by means of a difference-in-difference approach using data from the Permanent Household Survey, which allows comparing outcomes between beneficiaries and eligible individuals at two different moments in time (i.e. baseline and follow-up). Moreover, this approach has been combined with a PSM (propensity score matching) to reduce the existing bias due to the presence of observable differences between participants and non-participants.

The paper is organised as follows. Section 2 describes the main characteristics of the programme and the economic context in which it was implemented. Section 3 presents the data and how the sample was selected and summarizes a descriptive analysis. Section 4 introduces the empirical strategy used in the evaluation. Section 5 describes the main findings regarding the impact of the programme on the labour market performance of participants. Finally, Section 6 concludes.

2. Background

In 2001–2002, Argentina suffered one of the most severe economic crises in its history. In addition to macroeconomic effects, the crisis had detrimental consequences on social conditions. Indeed, the unemployment rate increased by more than 6 percentage points in two years to reach 21.5 per cent in May 2002 and the employment rate decreased by more than 3 percentage points during the same period. Moreover, the share of people living below the poverty line increased from 37 per cent just prior to the crisis to 57 per cent in May 2002 (Escudero, 2011; World Bank, 2003). This was accompanied by widespread political instability and social unrest.⁷

In this context, the Unemployed Heads of Household Plan (*Plan Jefes y Jefas de Hogar Desocupados*) or *Plan Jefes* was launched in May 2002 as the main measure to provide income support during the 2001/02 crisis. The Plan provided a monthly allowance of 150 pesos to unemployed heads of households with children under the age of 18 or disabled. To participate, eligible individuals had to register and request participation at their local municipality or any local office of the Ministry of Labour.

The *Plan Jefes* aimed to provide income support to more than two million people in a critical condition, as most of them were not entitled to unemployment insurance because they had been excluded from the contributory system. Indeed, at its inception the plan was only conditional on basic health care and school attendance of children. Yet, soon after, a work requirement was included to ensure that the benefits reached those individuals that were in most need (Galasso and Ravallion, 2004). In exchange, participants had to provide 20 hours of work in sectors benefitting society, such as healthcare.

⁷ See Escudero (2011) for a detailed analysis of the drivers and consequences of the 2001-02 Argentinian crisis.

It is estimated that the *Plan Jefes* provided income to about 2 million beneficiaries at its peak in May 2003 (Neffa and Brown, 2011). Moreover, the empirical evidence stresses the effectiveness of *Plan Jefes* in protecting beneficiaries' income and reducing their probability of falling into extreme poverty (Galasso and Ravallion, 2004). Subsequently, in 2004, the economic recovery started to take root by an annual growth rate of 8.9 per cent, and hence households' income started to raise. Thus, by 2010 the number of beneficiaries was considerably reduced owing mainly to an increase in the employment rate among participants, but also due to the transfer to other programmes (Madoery, 2011). Indeed, since 2006, the *Plan Jefes* gave way to new programmes that responded better to the economic recovery of the country and were better targeted to the diverse number of *Jefes*' participants. The reform involved the implementation of two main programmes: *Plan Familias* and the SCE. *Plan Familias* focused on families whose heads faced serious difficulties of employability and was administered by the Ministry of Social Development. *Plan Familias* conferred a benefit indefinitely, which was proportional to the number of children at home and conditional on basic health care and school attendance of these children. SCE, on the other hand, was aimed at *Jefes*' participants who had better opportunities to enter the labour market.

SCE was created in October 2004 but implemented only at the beginning of 2006 (Decree 336/2006). It is a non-contributory workfare programme that aims to support unemployed individuals through activation measures such as skills upgrading, vocational training, and job-search assistance. The programme was put in place as part of the reform framework to the *Plan Jefes* and was originally conceived as a programme to encourage activation among the beneficiaries of this Plan. However, it was later in 2009 opened to beneficiaries of other labour and social programmes (Neffa and Brown, 2011).

To be eligible, unemployed individuals must be older than 18 years-old, live permanently in the country, have completed their secondary education if they are aged 19 to 25 years and should not be receiving any other subsidy or aid from the State. Unemployed individuals participating in the *Plan Jefes* are directly eligible but they will have to forgo their allowance to be part of the SCE. Moreover, to participate, eligible individuals need to register with the public employment service (PES) office. The programme is open to interested eligible candidates for a maximum period of two years. Participants receive a monthly stipend of 225 pesos⁸ (75 pesos more than the allowance provided by *Plan Jefes*) during the first 18 months and 200 pesos during the last 6 months (all these transfers are taken into account for old-age pension). Allowances may be interrupted before this time if the participant finds a job or if he/she fails to comply with the commitments undertaken under the accession agreement.

In exchange, they have to commit to attending regularly the PES office to develop a career plan, participating in training, apprenticeship or vocational orientation activities and accepting job offers that correspond to their profile and experience. In order to strengthen the institutional capacities of SCE, the Ministry of Labour put into service a network of public employment service (PES) offices at the municipal level. PES offices were in charge of providing job search assistance and vocational counselling and improving the coverage and quality of training services. An IT system was also created to facilitate job search support (Neffa and Brown, 2011).

⁸ This amount accounted for 29.6 per cent of Argentinean minimum wage in April 2006.

Unlike *Plan Jefes*, beneficiaries of SCE that get a job may continue to receive the benefit for a specific period of time (up to twelve months in case of a job in the public sector and up to six months in the private sector). Thus, the potential disincentive to labour market participation is reduced, since the beneficiaries can accept a job offer without losing the benefit (Cruces and Gasparini, 2008).

The amount disbursed by the Ministry of Labour increased fast – from 14.8 million pesos in 2006 when the programme was created, to 237.8 million pesos (close to 2 per cent of GDP) in 2009. Moreover, in terms of coverage, the SCE has grown strongly, increasing from 20,803 beneficiaries in 2006 to 226,744 beneficiaries in 2012, the latest year with available information.⁹

3. Data and descriptive statistics

This section introduces the data used in the analysis and summarises the main descriptive statistics. The analysis draws on the Permanent Household Survey (Encuesta Permanente de Hogares – EPH – in Spanish), conducted quarterly by the Argentinian National Institute of Statistics (INDEC) since the third quarter of 2003. The EPH covers 31 large urban areas and contains a sample of approximately 24,000 dwellings, which account for around 96,000 dwellings per year.

EPH is a household survey targeting questions to households and household members. EPH provides information on personal characteristics of each individual in the sample – such as gender, age, marital status and place of residence – as well as information about the composition of the individual's household and housing conditions. Moreover, EPH contains information on the individual's education, such as literacy level, highest grade successfully completed and school attendance. Finally, EPH provides information on the individual's labour characteristics, such as employment status, occupation, industry, hours worked and monthly earnings in the case of employed individuals, or cause and duration of unemployment, among others, in the case of unemployed individuals.

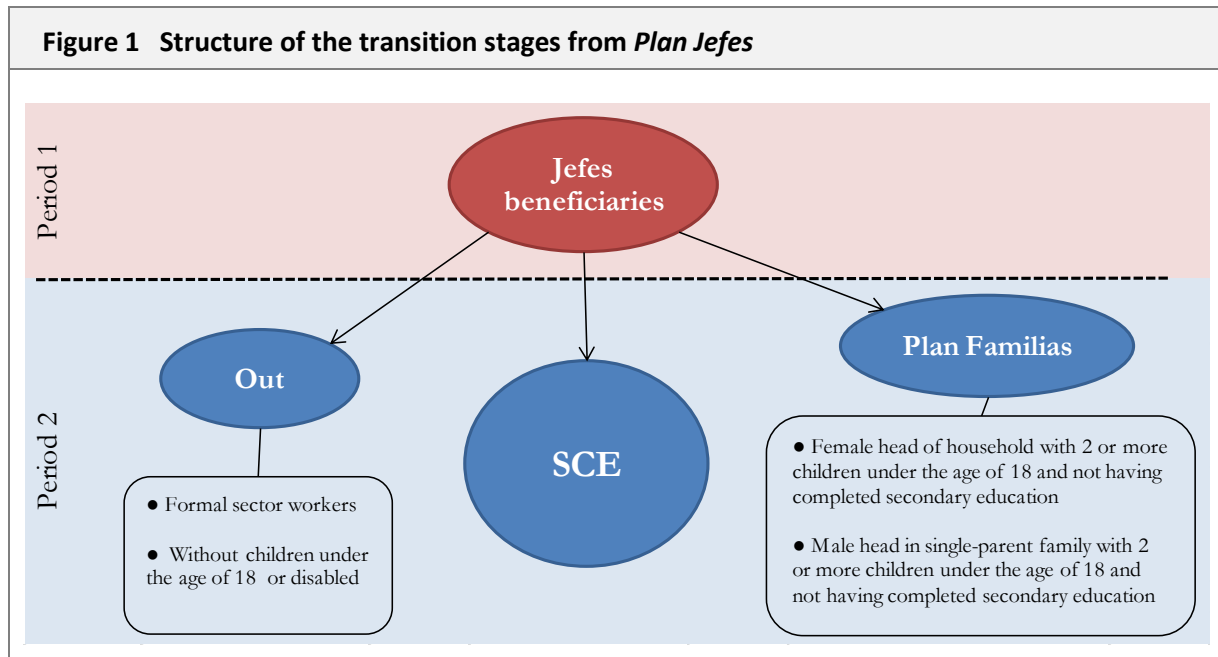
Regarding its methodology, EPH follows a 2-2-2 system. This implies that a household is interviewed two quarters in a row, then it is moved away from the sample for another two quarters, and, finally, it comes back to the sample for being interviewed for two quarters more. According to this method, a subset of the sample is linked as a panel and, therefore, a household and/or individual may be followed during one year and a half.¹⁰

Regarding the sample selection, it is important to note that EPH does not contain specific information on SCE participants. However, we argue in the paper that they can be potentially identified by following EPH respondents over time. Indeed, the panel structure of the survey combined to the fact that beneficiaries of *Plan Jefes* were transferred gradually to two different programmes (SCE and Plan Familias, as described in section 2) according to their characteristics, has been used to approximate the identification of SCE's participants. In more detail, individuals that have identified themselves in EPH as beneficiaries of *Plan Jefes* in period 1, but that sustain

⁹ Ministry of Labour, Employment and Social Security: <http://www.trabajo.gov.ar/secretaria/>

¹⁰ See INDEC (2003) for a more detailed description of EPH methodology.

not to be benefitting from it in period 2 could be classified in three groups: a) individuals that no longer meet *Plan Jefes* requirements (i.e. being unemployed head of household with children under the age of 18 or disabled)¹¹; b) individuals that were transferred to Plan Familias; and c) individuals that were transferred to SCE. Thus, a former *Jefes* participant who continues to meet *Jefes* eligibility criteria and whose characteristics do not correspond to those required by *Plan Familias* (i.e. being a female unemployed head of household with two or more children under the age of 18 and not having completed secondary education; or a male head of household in the same situation in the case of a single-parent family) would be considered in this paper as a SCE participant (Figure 1).



The analysis focuses on individuals under the age of 65 who were identified as SCE participants, according to the above-described criteria in the week of reference between the second quarter of 2006 (first quarter of SCE implementation) and the third quarter of 2010 (last quarter for which there is available information on participation in *Jefes* programme, which is an essential step to identify SCE’s beneficiaries). In addition, only those individuals who were re-interviewed one year later have been selected. Overall, the sample consists of 582 programme participants.

It is important to note that our sample only represents the share of SCE participants that were transferred from *Plan Jefes*. As such, it is not representative of all programme beneficiaries, especially since 2009 when participation was opened to beneficiaries of other labour and social programmes (see Section 2). According to Bertranou and Mazorra (2009), as of July 2009 127,266 *Jefes* beneficiaries were transferred to SCE. In our sample, the grossed-up estimation of SCE participants as observed from EPH totals 107,302 participants between the second quarter of 2006 and the second quarter of 2009. Therefore, our sample accounts for 84.3 per cent of the

¹¹ To be a *Plan Jefes* beneficiary, individuals had to be in unemployment. Nevertheless, the employment status that could be reliably checked by programme administrators was whether the individual was participating in the formal labour market (Galasso and Ravallion, 2004). Thus, for the purpose of this study, an individual doesn’t meet *Plan Jefes* requirements if he/she is employed in the formal sector.

administrative data on transfers from *Plan Jefes* to SCE. Differences might be explained by the fact that SCE is a programme of national coverage and EPH only covers 31 urban areas.

Table 1 shows the distribution of SCE participants in our sample by gender, age and educational attainment and compares this breakdown with administrative data provided by Madoery (2011). In general, there are not significant discrepancies between the EPH sample and the administrative data with regard to the main characteristics of SCE participants. Indeed, women account for 70 per cent of SCE participants in both the EPH sample and the administrative data. Differences are slightly more significant in terms of the distribution by age. In particular, while 69 per cent of the SCE participants in the EPH sample are under the age of 46, this percentage is 66 per cent in the case of administrative data. Likewise, there is a small difference regarding the distribution of participants by educational attainment. While 71 per cent of the sample of SCE participants have either uncompleted secondary or lower educational attainment, this percentage equals 75 per cent according to administrative data (Table 1). This suggests that the EPH sample we are using for the analysis approximates well the main features of registered SCE participants.

Table 1 Distribution of SCE participants by gender, age and educational attainment: comparison between the EPH sample and administrative data

	EPH sample ^a	Administrative data ^b
<i>Gender</i>		
Men	30%	30%
Women	70%	70%
<i>Age</i>		
Aged 26-35	33%	33%
Aged younger than 46 years	69%	66%
Aged 46 and older	31%	34%
<i>Educational attainment</i>		
Secondary non completed or lower	71%	75%
Secondary completed or higher	29%	25%

Sources: ^a Own calculations based on EPH.

^b Madoery (2011).

The objective of this paper is to evaluate the effectiveness of the active labour market measures provided by the SCE programme, above and beyond the cash assistance of *Plan Jefes*. In order to isolate the effect of these active labour market tools, it is crucial to identify a comparison group which has comparable features to SCE participants but that was not benefiting from the activation measures provided by the programme. As detailed in Section 2, the transfer from *Plan Jefes* to SCE was gradual and therefore, between the second quarter of 2006 and the fourth quarter of 2010, there were participants in *Plan Jefes* that met the requirements to be beneficiaries of SCE but had not been transferred to SCE yet. Hence, the comparison group for this evaluation consist of *Plan Jefes* participants who have not been transferred yet to the SCE

programme during the period both programmes were operating at the same time. Thus, our sample consists of 1,120 eligible individuals.

It is important to note that participation in the programme implies that the beneficiaries were former *Plan Jefes* participants and, therefore, we evaluate the effect on labour market outcomes of being SCE beneficiary, on top of *Plan Jefes* benefits. This means that effectively, the difference between participants and the control group lies in the difference in the benefits provided by both programmes – i.e. the active labour market measures which participants in SCE were entitled to.

Table 2 depicts the means and standard deviations of selected variables for programme participants and non-participants at the baseline. Data shows that participants are more likely to be men than the sample of non-participants – 30 per cent of participants compared to 19 per cent among non-participants. However, participants and non-participants are very similar in terms of age, as both on average are around 38 years old. Differences are slightly more significant regarding the marital status and the role of the individual in the household. Married or cohabiting people account for 64 and 60 per cent of participants and non-participants, respectively. Likewise, 42 per cent of participants are heads of household, while this percentage is 46 per cent for non-participants.

On average, participants tend to be more educated than non-participants. In fact, while 12 per cent of participants have not completed primary education, this is true for 16 per cent of non-participants. Moreover, the percentage of participants who have only completed primary education is lower than that observed in the group of non-participants – 57 per cent among participants compared to 61 per cent among non-participants. However, participants are more likely to have completed secondary education (29 per cent versus 22 per cent for non-participants). Differences with respect to the incidence of tertiary education are insignificant (around 2 per cent of the sample in both groups), so are they regarding the percentage of individuals attending school (around 8 per cent also in both cases). In addition, participants and non-participants tend to have similar characteristics in terms of the region where the individual lives and their immigrant status.

Regarding household characteristics, participants tend to come from smaller households – 5 members per participating household compared to 5.3 for a non-participant household. Likewise, participants' households have, on average, a lower number of children – 2.2 children per participating household versus approximately 2.6 children per non-participant household. Moreover, the average household income per capita is slightly higher among participants than the average income per capita for a non-participant household. Finally, while there are no significant differences between participants and non-participants regarding the presence of family members in unemployment (14 per cent in both cases), participants' households are more likely to have a member in employment – 75 per cent of participants have at least one employed household member compared to 72 per cent among non-participants.

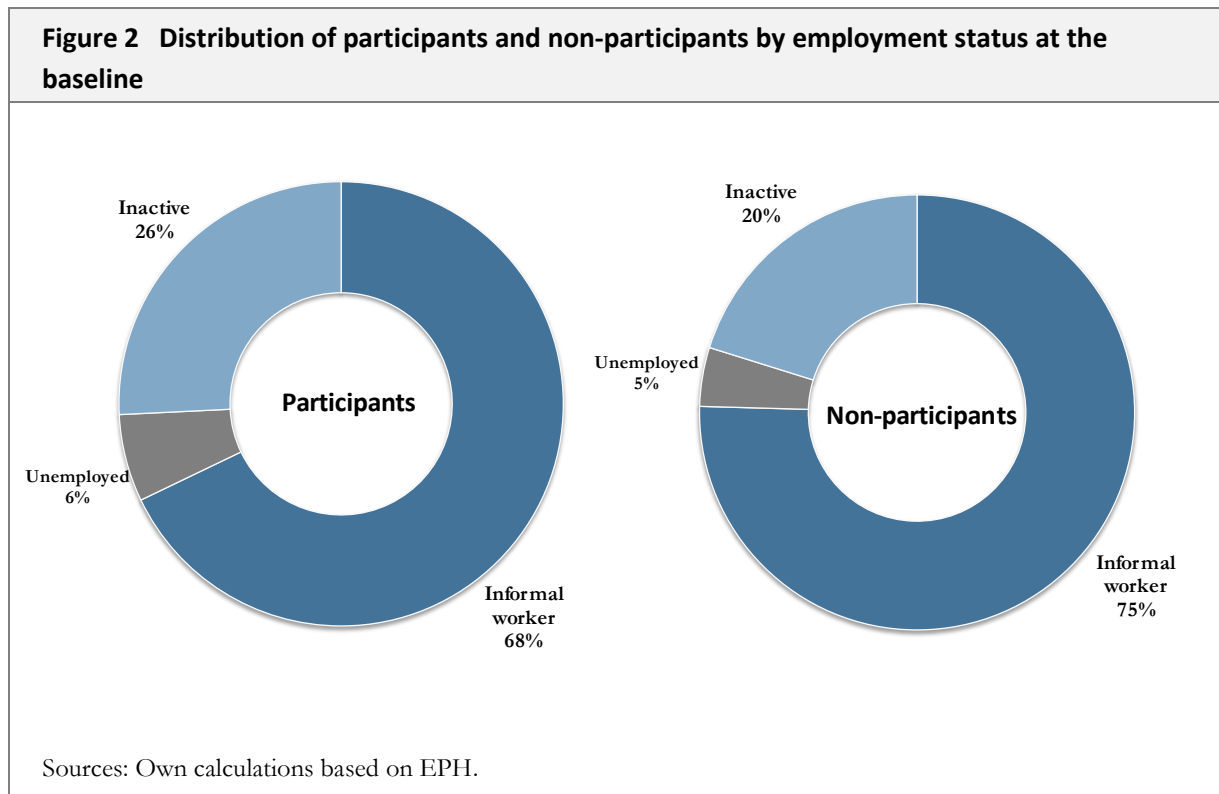
Table 2 Descriptive statistics

	Participants		Non-participants	
	Mean	Std. Dev	Mean	Std. Dev
<i>Personal characteristics</i>				
Gender				
Male	0.30	0.46	0.19	0.39
Age	38.6	11.0	38.4	9.5
Marital status				
Married or cohabiting	0.64	0.48	0.60	0.49
Separated, divorced or widowed	0.14	0.35	0.18	0.38
Single	0.22	0.41	0.23	0.42
Role in the household				
Head	0.42	0.49	0.46	0.50
Spouse of head	0.33	0.47	0.35	0.48
Son/daughter of head	0.19	0.39	0.15	0.36
Other	0.06	0.23	0.03	0.17
Literacy	0.97	0.16	0.98	0.14
School attendance	0.08	0.27	0.07	0.25
Educational attainment				
No education	0.12	0.33	0.16	0.36
Primary	0.57	0.50	0.61	0.49
Secondary	0.29	0.45	0.22	0.41
Tertiary	0.02	0.14	0.01	0.11
Region				
Buenos Aires	0.15	0.36	0.12	0.32
Northwest region	0.29	0.45	0.39	0.49
Northeast region	0.16	0.37	0.15	0.36
Cuyo	0.06	0.23	0.06	0.23
Pampeana	0.25	0.43	0.23	0.42
Patagónica	0.09	0.28	0.05	0.23
Immigrant status	0.04	0.19	0.02	0.13
<i>Household characteristics</i>				
Household size	5.0	2.40	5.3	2.32
Number of children in the household	2.2	1.72	2.6	1.75
Household income	1481.9	1217.4	1174.8	956.5
Household income per capita	321.9	236.8	237.5	185.6
Other household members in employment	0.75	0.44	0.72	0.45
Other household members in unemployment	0.14	0.35	0.14	0.34
Number of observations	582		1,120	

Sources: Own calculations based on EPH

Regarding labour characteristics, the overwhelming majority of non-participants were informal workers during the baseline. Indeed, while 75 per cent of non-participants were informal workers, 20 per cent were inactive and 5 per cent were unemployed. Although informal workers

also accounted for the highest percentage of participants (68 per cent), they are less likely to be in informal employment than their non-participant counterparts. By contrast, participants are more likely to be inactive (26 per cent), and unemployed (6 per cent) (Figure 2). According to these results, there seems to be observable characteristics affecting participation in the programme.



4. Empirical strategy

The objective of this paper is to estimate the average effect of SCE on different employment outcomes or in other words the average impact of the treatment on the treated (ATT).¹² In particular, the aim is to compare the labour market performance of participants to the counterfactual, that is, the labour market performance of these same individuals in the absence of the programme. However, given that the perfect counterfactual can never be observed, it will need to be estimated using quasi-experimental methods.

As discussed in Section 2 and 3, transfer from *Plan Jefes* to SCE was voluntary and available information on participation used in this analysis has been gathered from non-experimental survey data on participants that have not been selected randomly. Therefore, the average impact of the programme on the participants cannot simply be calculated as the average difference

¹² A common concern about policies targeted at a subgroup of job seekers is the potential effect that the policy might have on non-recipients (known as general equilibrium effect). However, the magnitude of this spillover depends on the relative size of the treated and the programme evaluated in this paper was implemented at a small scale. Indeed, during the period of analysis (i.e. between 2006 and 2010), an average of 74,000 people participated in SCE (11 per cent of average annual *Plan Jefes* participants over the same period and 7.5 per cent of the average number of unemployed in each year).

between participants and non-participants. There could be important differences between both groups that may be driving participation (selection bias) and that ultimately could be correlated with labour market performance. In addressing selection bias, it is important to consider that it may come from two different sources, i.e. from observable and non-observable factors. Provided the available data and knowledge about the programme allow to capture the main determinants of placement (i.e. those that are correlated with outcomes), then the effect of the programme could be captured conditional on those covariates. However, even if these observable heterogeneity is accounted for, there could still be (and usually are) a number of factors not observed by the evaluator driving participation and outcomes. For instance, participation in the programme could be due to a higher motivation to find a job, which in turn could increase the chances of success in the labour market. Thus, the correlation between participation in the programme and labour market performance would be confounded with this “motivation” effect. Selection bias has been found to be a serious issue in practice (La Londe, 1986), but also one that can be reduced with enough information and careful scrutiny of the assumptions made by the different estimators (Heckman and Smith, 1995; Glazerman, Levy and Myers, 2003).

In order to get the pure effect of the programme on the treated all while addressing selection bias, a difference-in-difference (DD) model is estimated to control for time-invariant individual characteristics that might be correlated with both participation and labour market outcomes. A DD has the advantage over other methods of relaxing the strong conditional exogeneity assumption (which assumes away selection bias based on unobserved characteristics) by exploiting the availability of information during a baseline and follow-up periods.

The panel structure of our dataset allows us to have baseline information on participants and non-participants before programme participation and also follow-up information on the same individuals after programme participation. Given this longitudinal feature, the DD estimator compares the outcome changes in participants before and after the programme to the outcome changes in the group of non-participants. The average treatment effect on the treated following the DD method would be then expressed as follows:

$$DD = E(Y_1^T - Y_0^T | P(X), T = 1) - E(Y_1^C - Y_0^C | P(X), T = 0) \quad (1)$$

where Y_0^T and Y_1^T are the outcome of interest for a treated unit during baseline and the follow-up period, respectively; and Y_0^C and Y_1^C are the same outcome for a non-participant during the same two periods of time.

In a DD framework, the change in outcomes among participants accounts for the variation due to intertemporal characteristics of participants; meanwhile the change in outcomes among non-participants accounts for time variation that is not due to the effect of the programme (as it is common to both participants and non-participants). Therefore, the counterfactual can be expressed as a sum of a time effect (common to both participants and non-participants) and a group effect (constant over time).

The impact of the programme (α) can be calculated following a reduced-form equation for a pooled sample of participants, non-participants and time periods:

$$y_{it} = \alpha T_i t + \beta x_{it} + \rho T_i + \gamma t + \varepsilon_{it} \quad (2)$$

where y_{it} is the outcome of interest for an individual i in period t ; x_{it} is a vector of explanatory variables that vary across individuals i and time; T_i is a dummy variable taking value one for an individual who participates in SCE; t is a dummy variable taking value one for the follow-up period; and ε_{it} is the error term. The coefficient α of the interaction term between T_i and t corresponds to the DD estimator, which provides the average DD effect of the programme. The model is estimated by Ordinary Least Squares (OLS).

From the above, it can be deduced that the DD estimator lies in the assumption that selection bias is time invariant and therefore that the difference in average outcomes between participants and non-participants can be eliminated with the double difference. Therefore, the identification assumption of this method is that in the absence of treatment the outcomes of participants and non-participants would have changed in the same manner over time (the so-called “common trend assumption”). Although this is a clearly weaker assumption than conditional exogeneity, its validity should not be taken lightly. A number of studies have found that there can be large bias associated to DD estimators in situations where changes over time are a function of initial conditions, which could in turn influence participation and outcomes (Jalan and Ravallion, 1998; Pitt and Khandker, 1998). Importantly, this problem has been particularly acute in developing countries. An unbalanced distribution of participants and non-participants according to observable characteristics that could have differential trends might make the common trend assumption very stringent. In order to account for observable heterogeneity in trends, a set of pre-determined covariates have been included in Equation 2.

The objective of this paper is to evaluate the impact of SCE on two types of outcomes: firstly, on labour market status and, secondly, on the job quality for participants who have found a job. Therefore, two different estimations have been carried out to measure the impact of programme participation in these two different types of outcomes. Firstly, in order to estimate the impact of SCE on labour market status of participants, three dependent variables have been selected: i) a variable that takes value one if the individual is in informal employment; ii) another that takes value one if the individual is in unemployment; and iii) a third variable that takes value one if the individual is in inactivity.

Secondly, to evaluate the effect of the programme on job quality, the following indicators have been selected as dependent variables: i) the logarithm of real hourly wages; ii) a variable that takes the value of one if the individual is in a low-paid job¹³; iii) actual number of hours worked in the week of reference; iv) a variable that takes the value of one if the individual worked an excessive number of hours in the week of reference¹⁴; and v) a variable that takes value one if the individual is on time-related underemployment¹⁵.

Moreover, the following time variant covariates have been included in all estimations:

¹³ Individuals in low-paid jobs are those whose hourly wages are below two-thirds of the median hourly wages of the sector where they operate.

¹⁴ Excessive working time refers to more than 48 actual hours worked per week.

¹⁵ Individuals on time-related underemployment are those who during the week of reference were willing to work additional hours, were available to do so, and had worked less than 30 hours.

- *Personal characteristics*: age grouped in six levels (18-24, 25-34, 35-39, 40-49, 50-59 and 60-65), three dummy variables on marital status (cohabitating or married; separated, divorced or widowed; and single), five binary variables depicting the role of the individual in the household (head, spouse, son or daughter, other family relationship and non-family member) school attendance, immigrant status and three dummies for the level of educational attainment (primary, secondary and tertiary education).
- *Household characteristics*: Type of family (single-parent versus nuclear family); number of children, share of members aged 0-5 years, a dummy for the presence of employed individuals in the household, and a dummy for the presence of unemployed individuals in the household.
- Finally, fixed effects have been included in the model to measure time-invariant effects; and quarterly and yearly dummies have been added to control for time effects common to all individuals.

Another source of bias may arise from the presence of an unbalance distribution of observables between participant and eligible individuals affecting labour market outcomes. Matching methods eliminate this selection bias on observables by balancing the groups being compared in terms of observed features (Khandker et al., 2010), and therefore cleaning initial heterogeneity.

As Table 2 showed, there is some latent heterogeneity between participants and eligible individuals. To control for this observable heterogeneity, a matching method was used to identify a sample of eligible nonparticipants the closest possible to SCE participants based on observed features. Since finding a comparison group where participants and nonparticipants are matched on every single characteristic is cumbersome (especially when there is a large number of available variables to perform the matching), a common way of matching individuals is by using propensity score matching (PSM).

According to Rosembaum and Rubin (1983), PSM builds a counterfactual where participants and non-participants are matched on the basis of the probability of participating in the programme ($T=1$) conditional on observed covariates (X), i.e. the propensity score:

$$P(X_i) = Prob(T_i = 1|X_i) \quad (3)$$

Provided observed characteristics are the sole factor determining programme participation and that there is a substantial region of common support, matching on the propensity score is as effective as matching on every single characteristic (Rosembaum and Rubin, 1983).

To calculate the propensity score, a probit model is estimated to assess the probability of participation as a function of all the observed variables that are likely to affect participation. The estimation of the model includes the following explanatory variables organized by categories:

- Personal characteristics of individuals include information on sex, age (divided in six groups: 18-24, 25-34, 35-39, 40-49, 50-59, and 60-65), school attendance, immigrant status and three dummies for the level of educational attainment (primary education, secondary education and tertiary education).

- Variables linked to individuals' family background are introduced to control for the fact that family responsibilities can affect the decision to participate in the programme. This category includes marital status, role in the household, type of family (single-parent versus nuclear family), number of children in the household, the composition of the household, and three dummy variables depicting the size of the household (1 household member, 2-5 household members and more than 5 household members).
- A set of covariates capturing specific characteristics of the dwelling is also included: number of rooms, three dummies relative to the type of house (villa, apartment, and other); and the form of house ownership (renting versus personal ownership).
- Variables related to employment status of the individual, as well as of other members in the household include: three dummies on individuals' employment status (informal worker, inactive and unemployed); a dummy on the presence of employed individuals in the household; and a dummy on the presence of unemployed individuals in the household.
- Finally, regional and year dummies are introduced to control for geographic and time specific drivers influencing participation in the programme.

The results of the estimation of the probit model on the probability of participation are presented in Table 3. The first column shows coefficients for the different categories and the second the standard errors. A positive coefficient indicates that the corresponding category increases the probability of participation, while a negative coefficient indicates the opposite. Estimates that reach a significant probability level are denoted by asterisks.

A number of interesting results arise from the analysis. Particularly, the analysis shows that high-skilled men aged 18-24 have a higher probability of participating. By contrast, individuals living in households with a higher share of members below the age of 18 are less likely to participate. Moreover, individuals who were in inactivity during the baseline period have higher probabilities to participate. Furthermore, regarding regional effects, the Northwest region is the geographical area with the lowest probability of participation (see Table 3).

Table 3 Estimation results of probit model on the probability of being participant			
		Coefficient	Standard errors
Gender (ref. Women)			
	Men	0.423***	0.100
Age (ref. 25-34)			
	18-24	0.356**	0.150
	35-39	0.090	0.108
	40-49	-0.149	0.105
	50-59	-0.028	0.129
	60-65	0.348	0.264
Marital status (ref. Separated, divorced or widowed)			
	Single	0.089	0.125
	Married or cohabiting	0.209	0.133
Role in the household (ref. Non-family member)			

	Head	5.245***	0.820
	Spouse of head	5.214***	0.815
	Son or daughter	5.396***	0.788
	Other family relationship	5.622***	0.807
School attendance (ref. No)			
	Yes	0.099	0.132
Immigrant status (ref. No)			
	Yes	0.326	0.214
Educational attainment (ref. Tertiary)			
	None	-0.456***	0.123
	Primary	-0.222***	0.083
	Secondary	0.284	0.273
Type of family (ref. Nuclear family)			
	Single-parent family	-0.001	0.123
Number of children in the household			
		0.049	0.041
Household composition			
	Share of members aged 0-5	-1.177**	0.589
	Share of members aged 6-17	-1.178**	0.551
	Share of members aged 18-64	-0.115	0.474
Household size (ref. More than 5 household members)			
	1 household member	-0.032	0.353
	2-5 household members	0.097	0.105
Number of rooms in the house			
		0.004	0.022
Type of house (ref. Room or others)			
	Villa	-0.551	0.354
	Apartment	-0.604	0.369
House ownership (ref. Renting house or others)			
	Personal ownership	-0.009	0.085
Employment status (ref. Informal worker)			
	Inactive	0.212**	0.084
	Unemployed	0.113	0.152
Other employed in the household (ref. No)			
	Yes	-0.030	0.096
Other unemployed in the household (ref. No)			
	Yes	-0.037	0.103
Region (ref. Gran Buenos Aires)			
	Northwest region	-0.432***	0.111
	Northeast region	-0.137	0.126
	Cuyo region	-0.040	0.164
	Pampeana region	-0.082	0.113
	Patagonica region	0.192	0.161
Year (ref. 2008)			

	2006	-2.392***	0.521
	2007	-2.022***	0.521
	2009	-1.731***	0.524
	2010	-1.519***	0.526
Number of observations			1,702
Pseudo R2			0.123
Log likelihood			-958.61
Significance levels: *significant at 10 per cent; **significant at 5 per cent; ***significant at 1 per cent.			
Source: Own calculations based on EPH			

After the probit model is estimated, propensity scores are calculated as the predicted values of participation. Figure 3 in the Appendix shows the histogram for the treatment and the control group, where a large region of common support is observed proving that the overlap condition is fulfilled. In addition, balancing tests were carried out to check if the distribution of treated and control groups are similar. The balancing property was satisfied revealing that the means of each characteristic do not differ significantly between treated and comparison observations.

Once the propensity scores have been estimated, there are numerous matching techniques to match participants to non-participants on the basis of the propensity scores. This paper uses Nearest Neighbour Matching¹⁶, which matches each treatment observation to the comparison unit with the closest propensity scores (Khandker et al., 2010).¹⁷

Finally, our second set of estimates is obtained carrying out a difference-in-difference approach on matched observations. Several studies sustain that combining matching with difference-in-difference estimators produce a fully efficient estimator that eliminates selection bias due to both observable and time-invariant omitted effects that might affect participation (Galasso and Ravallion, 2004; Khandker et al., 2010).

5. Estimates of the impact of the programme

This section presents the estimation results on the impact of programme participation on labour market performance in the short term. First, the section focuses on individuals' status in the labour market (informal worker, unemployed or inactive). Second, for participants who have found a job, the section also summarises the impact of the programme on job quality, namely the the average hourly real wages, the probability of having a low-paid job, the number of hours worked, the probability of working an excessive number of hours and, finally, the probability of being in time-related underemployment.

As indicated in the previous section, the estimated parameter is the average treatment effect on the treated (ATT), which should be interpreted as the change in a given outcome due to

¹⁶ In particular, Nearest Neighbour Matching without replacement is used and one nearest neighbour is selected to do matching.

¹⁷ As the selection of a specific matching method may affect the estimated programme effects, different matching techniques have been used to test the robustness of our estimations. In this regard, using different matching methods delivers similar results.

programme participation. For each labour market indicator analysed, we report the estimated effect of the programme using the difference-in-difference estimator on the full sample and the effect of the programme once the sample has been restricted to matched observations.

a) Impact on labour market status

Table 4 displays the estimation results for the ATT of the programme on individuals' labour market status.

The main findings are consistent across the different methodologies. The average impact estimates for the full sample show that, in the short run, the programme decreases the probability of having an informal employment by 2 per cent at the 1 per cent level of significance. This negative estimated impact of the programme on informality is higher when the analysis is limited to matched observations (-6 per cent), but its statistical significance drops to the 5 per cent level.

Using the full sample, programme participation is associated with a 3 per cent increase in the probability of being inactive. This result is even higher when the sample is restricted to matched observations. Thus, in this case, participation in the programme is associated with a 7.5 per cent increase in the probability of being in inactivity.

Finally, the effect of the programme on unemployment is small and non-statistically significant. These estimates are similar across methods, in both magnitude and statistical significance.

Table 4 Impact of the programme on labour market status using a DD estimator

	Full sample	PSM matching
Informal worker		
ATT	-0.021 (0.003)***	-0.059 (0.013)**
Observations	3,404	1,872
Unemployed		
ATT	0.002 (0.001)	0.012 (0.000)
Observations	3,404	1,872
Inactive		
ATT	0.028 (0.009)*	0.075 (0.019)**
Observations	3,404	1,872

Notes: Table reports the least square estimates of Equation 2. Standard errors (in parentheses) are clustered at the household level. Significance levels: *significant at 10 per cent; **significant at 5 per cent; ***significant at 1 per cent.

The full estimation including results on all variables are presented in Table A1 of the Appendix.

Source: Own calculations based on EPH

b) Impact on job quality

Table 5 presents the estimates of the average impact of the programme on several indicators of job quality.

The programme has a sizeable and significant impact on wages in the short term. More specifically, programme participation raises real hourly wages by 3.7 per cent. This result remains practically unchanged when the sample is limited to matched observations – in this case, participation in the programme is associated with a 3.1 per cent increase in real hourly wages. Estimates are statistically significant in both cases.

The impact of the programme on the number of hours worked is more ambiguous. Results for the full sample indicate that participants in the programme seem to work on average 0.6 hours per week more than non-participants, and the estimates are significant at 10 per cent level. However, the impact of the programme on the number of hours worked is negative and statistically significant at 1 per cent when the estimations are restricted to the matched sample.

Results show that participation in the programme is related to a 2 per cent decrease in the probability of working an excessive number of hours. The impact is even higher when the sample is limited to matched observations – in this case, participation in the programme is associated with a 5 per cent decrease in the probability of excessive working time. Estimates are significant in both cases at the 5 per cent level.

Likewise, the programme has a statistically significant reducing impact on the probability of being in time-related underemployment. In particular, programme participation reduces the probability of being in underemployment by 3.3 per cent. Moreover, restricting the estimation to matched observations does not change the results significantly. With this method, participants are 2 per cent less likely to be in underemployment.

Finally, regardless of the method used, there is not statistically significant evidence on the impact of the programme on the probability of having a low-paid job in the short term.

	Full sample	PSM matching
Logarithm of real hourly wages		
ATT	0.037*** (0.005)	0.031** (0.009)
Observations	2,127	1,139
Low-paid job		
ATT	-0.021 (0.013)	-0.03 (0.033)
Observations	2,151	1,153
Hours worked		

ATT	0.640*	-1.553***
	(0.226)	(0.079)
Observations	2,299	1,245
Excessive working time		
ATT	-0.015**	-0.049**
	(0.004)	(0.009)
Observations	2,300	1,246
Underemployment		
ATT	-0.033***	-0.020***
	(0.001)	(0.001)
Observations	2,300	1,246

Notes: Hourly wages have been calculated as total earnings per hour worked in the main occupation during the month of reference. In addition, hourly wages have been deflated using the CPI published by INDEC (base 2008=100) (http://www.carpetas.com.ar/indec/indec_consumidor.pdf).

Table reports the least square estimates of Equation 2. Standard errors (in parentheses) are clustered at the household level. Significance levels: *significant at 10 per cent; **significant at 5 per cent; ***significant at 1 per cent.

The full estimation including results on all variables are presented in Table A1 of the Appendix.

Source: Own calculations based on EPH

6. Conclusions

This paper examines the short-term effects of the Argentinian Training and Employment Insurance programme for unemployed workers, *Seguro de Capacitación y Empleo* (SCE). SCE is a non-contributory transfer programme aimed to support unemployed individuals through activation measures such as vocational training, remedial education, job search assistance and employment subsidies. As such, SCE is an example of a growing trend observed in Latin America and the Caribbean, where labour activation components have been increasingly included into conditional cash transfers programmes (CCTs) operating in the region. Despite this growing trend, not enough is known regarding the effectiveness of these components – or their right mix – especially on job quality. In this context, the evaluation of SCE is an important contribution to the debate on the effectiveness of labour activation components embedded in CCT programmes since it sheds light – for the first time – on the impact of a programme that includes all these different labour market interventions. It therefore sheds light of the effectiveness of activation policies as a way out more universal CCTs. Moreover the paper pays attention to the effects in terms of, both, employment creation and job quality, which is another novelty of the analysis.

Using data from the Permanent Household Survey (EPH) and exploiting the panel structure of the survey, this paper uses a difference-in-difference (DD) model to estimate the average impact effect (ATT) of SCE. Moreover, the paper is able to relax the underlying DD assumption that selection bias is time invariant and therefore that the observed difference in mean counterfactual outcomes between participants and non-participants can be eliminated with the double difference. Indeed, exploiting the richness of EPH in terms of availability of sufficiently detailed

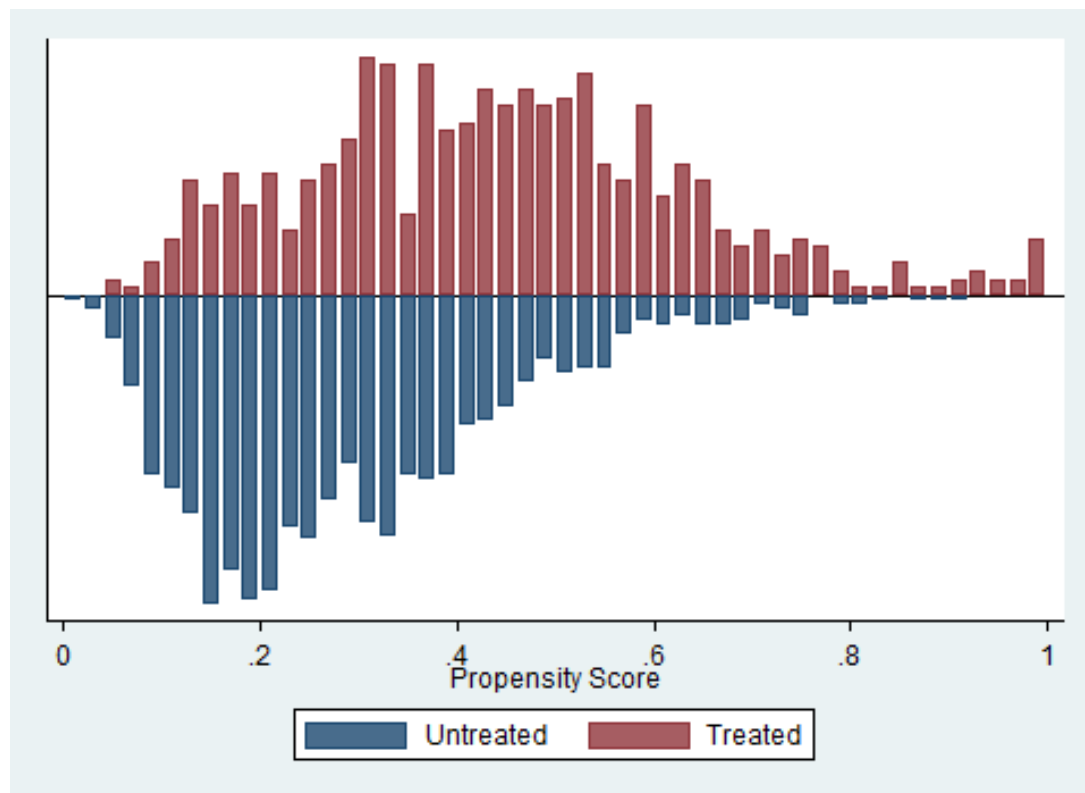
information on participants and eligible individuals, a PSM method is carried out at the baseline period to remove pre-programme latent heterogeneity. Thus, a second set of estimates is obtained by calculating a DD estimator on a sample of matched observations to correct for possible selection bias on observable characteristics. Importantly, main findings are consistent across the two different approaches used (i.e. DD on the full sample and DD on a sample of matched individuals).

The analysis finds that SCE, at least in the short-run, matters in terms of improving the job quality of the observed participants. Estimates suggest that SCE is associated with a decrease in the probability of having an informal job in the short-term and with an increase in hourly wages. The findings also suggest that the programme is associated with a lower probability of working an excessive number of hours and being in underemployment. Given that observed participants in this study are those transiting from *Plan Jefes*, these positive effects on employment and job quality suggest that reducing dependency of more universal CCTs through programmes such as SCE that are rich in activation components is feasible and positive for participants in terms of their labour market trajectories.

Despite these positive effects, the analysis also finds that the programme is associated with an increase in the probability of being inactive. This might be related to the fact that as participants transit from the informal to the formal labour market, they might fall sometimes in inactivity. This finding brings about two relevant questions from the policy perspective: first, whether transitions from inactivity to formal employment are easier and faster than transitions from informal to formal employment; and second, whether follow up policies aimed at activating inactive individuals are less costly and easier to implement than policies aimed to formalizing informal jobs. If that were the case, then this negative spill over effect of the SCE would be easily justifiable.

Appendix

Figure 3 Distribution of propensity scores by treatment status



Note: Histogram of propensity score distribution for SCE eligible (untreated) and participants (treated); 114 participants (19.5%) are off the common support.

Source: Own calculations based on EPH

Table A1 Impact of the programme on labour market status

	Informal employed		Unemployed		Inactive	
	Full sample	PSM matching	Full sample	PSM matching	Full sample	PSM matching
Follow-up period (=1)	0.013 (0.085)	-0.249** (0.047)	0.072 (0.045)	0.172* (0.060)	-0.057 (0.070)	0.109 (0.085)
DD estimator	-0.021*** (0.003)	-0.059** (0.013)	0.002 (0.001)	0.012 (0.000)	0.028* (0.009)	0.075** (0.019)
Age (ref.25-34)						
18-24	-0.067 (0.038)	-0.087 (0.052)	0.056*** (0.003)	0.088*** (0.008)	0.083 (0.038)	0.039 (0.055)
35-39	0.025 (0.061)	0.082 (0.070)	-0.048* (0.020)	-0.023 (0.037)	0.012 (0.040)	-0.060* (0.025)
40-49	-0.024 (0.069)	0.052 (0.081)	-0.061* (0.021)	-0.056 (0.034)	0.094 (0.041)	-0.001 (0.029)
50-59	-0.187* (0.073)	-0.172 (0.087)	-0.051 (0.024)	-0.028 (0.036)	0.190** (0.039)	0.141** (0.028)
60-65	-0.225 (0.107)	-0.513* (0.177)	0.037 (0.027)	0.229** (0.063)	0.098 (0.061)	0.159* (0.063)
Marital status (ref. Married or cohabiting)						
Separated, divorced or widowed	0.118*** (0.003)	0.007 (0.024)	0.020*** (0.001)	-0.002 (0.006)	-0.105*** (0.002)	0.029 (0.016)
Single	0.102*** (0.004)	-0.013** (0.004)	0.019*** (0.001)	0.005 (0.004)	-0.080*** (0.007)	0.055** (0.010)
Role in the household (ref. Non-family member)						
Head	0.641*** (0.013)	0.375*** (0.015)	-0.025** (0.005)	0.027* (0.009)	-0.736*** (0.021)	-0.560*** (0.015)
Spouse of head	0.528*** (0.081)	0.213*** (0.025)	-0.005 (0.010)	0.094*** (0.006)	-0.668*** (0.040)	-0.463*** (0.016)
Son or daughter	0.487*** (0.021)	0.227*** (0.014)	-0.021* (0.009)	0.107*** (0.005)	-0.544*** (0.012)	-0.409*** (0.011)
Other family relationship	0.361*** (0.035)		-0.028 (0.012)		-0.387*** (0.029)	
School attendance (ref. No)						
Yes	-0.064*** (0.003)	-0.089*** (0.001)	0.029*** (0.000)	0.028*** (0.001)	0.056*** (0.004)	0.056*** (0.004)
Educational attainment (ref. Secondary)						
None	-0.006 (0.011)	-0.034 (0.016)	-0.057*** (0.001)	-0.073*** (0.001)	0.090*** (0.003)	0.173*** (0.002)
Primary	-0.042** (0.012)	-0.024 (0.017)	-0.001* (0.000)	0.008*** (0.001)	0.074*** (0.001)	0.077*** (0.002)
Tertiary	0.015 (0.017)	0.020 (0.013)	-0.005*** (0.001)	0.046*** (0.003)	0.082** (0.020)	0.060* (0.022)

Inmigrant status (ref. No)							
	Yes	0.152*** (0.009)	-0.162*** (0.010)	-0.148*** (0.001)	0.019*** (0.002)	0.133*** (0.005)	0.063*** (0.010)
Type of family (ref. Nuclear family)							
	Single-parent family	-0.012 (0.015)	0.069** (0.017)	0.027*** (0.000)	0.086*** (0.003)	-0.034** (0.010)	-0.138*** (0.005)
Number of children in the household							
		0.000 (0.002)	-0.020* (0.007)	-0.005 (0.003)	-0.009 (0.006)	0.013*** (0.000)	0.043*** (0.003)
Household composition							
	Share of members aged 0-5	0.026 (0.042)	0.066 (0.123)	0.064** (0.015)	0.133*** (0.019)	-0.046*** (0.004)	-0.148*** (0.018)
Other employed in the household (ref. No)							
	Yes	0.106*** (0.005)	0.055*** (0.008)	0.005** (0.001)	0.076*** (0.001)	-0.086*** (0.004)	-0.115*** (0.005)
Other unemployed in the household (ref. No)							
	Yes	-0.002 (0.006)	-0.054*** (0.003)	0.002** (0.001)	0.031*** (0.001)	-0.008 (0.006)	0.008** (0.002)
Quarter (ref. Fourth quarter)							
	First	0.053 (0.056)	-0.137** (0.036)	0.045 (0.029)	0.122* (0.043)	-0.084 (0.049)	0.033 (0.065)
	Second	0.011 (0.044)	-0.129** (0.036)	0.051** (0.015)	0.101** (0.022)	-0.049 (0.035)	0.058 (0.044)
	Third	-0.011 (0.024)	-0.101** (0.023)	-0.002 (0.006)	0.037* (0.012)	0.032 (0.022)	0.090** (0.027)
Year (ref. 2011)							
	2006	0.537 (0.333)	-0.609 (0.261)	0.313 (0.201)	0.830* (0.289)	-0.513 (0.314)	0.194 (0.442)
	2007	0.345 (0.258)	-0.600* (0.208)	0.259 (0.157)	0.672* (0.233)	-0.315 (0.253)	0.271 (0.352)
	2008	0.242 (0.200)	-0.442* (0.170)	0.215 (0.115)	0.539* (0.179)	-0.215 (0.194)	0.183 (0.275)
	2009	0.169 (0.126)	-0.285* (0.121)	0.136 (0.076)	0.366* (0.124)	-0.144 (0.129)	0.100 (0.188)
	2010	0.046 (0.060)	-0.191 (0.084)	0.097 (0.045)	0.253* (0.085)	-0.041 (0.063)	0.052 (0.108)
Constant							
		-0.295 (0.286)	1.079** (0.199)	-0.194 (0.167)	-0.798* (0.253)	1.228** (0.255)	0.390 (0.366)
Number of observations		3,404	1,872	3,404	1,872	3,404	1,872
R-squares		0.086	0.103	0.013	0.035	0.064	0.092

Notes: Table reports the least square estimates of Equation 2. Standard errors (in parentheses) are clustered at the household level. Significance levels: *significant at 10 per cent; **significant at 5 per cent; ***significant at 1 per cent;

Source: Own calculations based on EPH

Table A2 Impact of the programme on job quality

		Real wages		Low-paid worker		Hours worked		Excessive working time		Underemployment	
		Full sample	PSM matching	Full sample	PSM matching	Full sample	PSM matching	Full sample	PSM matching	Full sample	PSM matching
Follow-up period (=1)		-0.014 (0.107)	0.142 (0.216)	0.258*** (0.020)	0.037 (0.056)	-9.685*** (1.356)	-1.753 (3.473)	-0.191** (0.045)	-0.101 (0.070)	-0.081*** (0.007)	-0.089*** (0.005)
DD estimator		0.037*** (0.005)	0.031** (0.009)	-0.021 (0.013)	-0.030 (0.033)	0.640* (0.226)	-1.553*** (0.079)	-0.015** (0.004)	-0.049** (0.009)	-0.033*** (0.001)	-0.020*** (0.001)
Age (ref.25-34)											
	18-24	-0.203* (0.071)	-0.201 (0.094)	-0.187 (0.080)	-0.219* (0.087)	0.016 (0.403)	-0.226 (0.713)	-0.054*** (0.008)	-0.073*** (0.011)	-0.019** (0.004)	-0.031*** (0.004)
	35-39	0.124*** (0.020)	0.114** (0.025)	-0.006 (0.009)	0.039** (0.009)	-0.059 (0.167)	-0.704* (0.280)	0.014 (0.007)	-0.043*** (0.005)	0.021*** (0.001)	0.031*** (0.000)
	40-49	0.111** (0.031)	0.239*** (0.019)	0.059*** (0.009)	0.120*** (0.003)	8.059*** (0.092)	8.362*** (0.165)	0.090*** (0.009)	0.055** (0.013)	-0.001 (0.001)	-0.026* (0.010)
	50-59	-0.136* (0.043)	-0.018*** (0.002)	0.280*** (0.012)	0.327*** (0.004)	6.917*** (0.149)	11.608*** (0.266)	0.178*** (0.014)	0.194*** (0.026)	0.027*** (0.001)	-0.089*** (0.012)
	60-65	0.923*** (0.038)	1.164*** (0.015)	-0.096*** (0.005)	-0.117** (0.031)	2.223*** (0.361)	5.237*** (0.129)	0.174*** (0.013)	0.124*** (0.011)	0.072*** (0.000)	-0.088*** (0.011)
Marital status (ref. Married or cohabiting)											
	Separated, divorced or widowed	-0.141** (0.033)	0.033 (0.015)	0.033*** (0.004)	-0.075*** (0.002)	3.340*** (0.062)	-0.125 (0.321)	0.054*** (0.007)	0.041** (0.008)	-0.005** (0.001)	0.029*** (0.001)
	Single	0.072 (0.041)	0.158*** (0.013)	0.018 (0.034)	-0.099*** (0.011)	-2.542** (0.626)	-5.898*** (0.188)	0.016 (0.019)	-0.055*** (0.009)	-0.057*** (0.003)	-0.042*** (0.001)

Role in the household (ref. Non-family member)											
	Head	0.359**	0.610**	-0.301***	-0.028	14.165***	8.165**	0.395***	0.103***	-0.061***	-0.268***
		(0.103)	(0.153)	(0.012)	(0.018)	(2.320)	(1.825)	(0.031)	(0.000)	(0.004)	(0.006)
	Spouse of head	0.026	0.578**	-0.283*	-0.053**	17.108***	6.043**	0.361***	-0.030**	-0.145***	-0.425***
		(0.115)	(0.151)	(0.117)	(0.011)	(0.684)	(1.841)	(0.032)	(0.009)	(0.006)	(0.007)
	Son or daughter	0.537***	0.627***	-0.328***	0.073***	10.432***	0.442	0.266***	-0.172***	-0.043***	-0.217***
		(0.040)	(0.085)	(0.025)	(0.010)	(0.890)	(1.276)	(0.020)	(0.005)	(0.002)	(0.002)
	Other family relationship	0.202		-0.329**		12.944***		0.465***		0.067**	
		(0.292)		(0.078)		(1.486)		(0.055)		(0.021)	
School attendance (ref. No)											
	Yes	-0.066	0.033	0.078***	0.014*	1.826**	-0.467	-0.004	0.003	-0.040***	-0.093***
		(0.070)	(0.103)	(0.008)	(0.006)	(0.400)	(0.767)	(0.031)	(0.045)	(0.000)	(0.008)
Educational attainment (ref. Tertiary)											
	None	-0.009	-0.174	-0.205**	-0.060	2.027***	4.237**	0.100***	0.177**	0.004***	0.100***
		(0.071)	(0.086)	(0.035)	(0.054)	(0.077)	(1.327)	(0.015)	(0.039)	(0.000)	(0.000)
	Primary	-0.083*	-0.133	-0.019	0.057	-1.019*	2.122	0.027	0.132**	0.027***	0.041***
		(0.033)	(0.074)	(0.026)	(0.059)	(0.401)	(1.026)	(0.022)	(0.041)	(0.000)	(0.000)
	Tertiary	-0.168	0.017	0.204***	0.163*	6.173	-1.727	-0.141**	-0.207**	0.009	0.013*
		(0.271)	(0.392)	(0.035)	(0.052)	(4.337)	(6.246)	(0.031)	(0.057)	(0.007)	(0.005)
Inmigrant status (ref. No)											
	Yes	0.893***	1.219***	-0.756***	-0.742***	-4.300***	-2.685**	-0.204***	-0.281***	0.260***	0.301***
		(0.019)	(0.055)	(0.026)	(0.011)	(0.062)	(0.555)	(0.004)	(0.004)	(0.001)	(0.004)
Type of family (ref. Nuclear family)											
	Single-parent family	-0.073*	0.300***	0.022***	0.001**	-1.866**	-8.003***	-0.031***	-0.158***	-0.003	-0.076***

		(0.027)	(0.023)	(0.003)	(0.000)	(0.484)	(0.502)	(0.003)	(0.011)	(0.003)	(0.001)
Number of children in the household		0.023**	0.013***	0.014	-0.003	-0.346**	-1.017***	-0.013**	-0.028***	0.025***	0.007***
		(0.005)	(0.001)	(0.007)	(0.015)	(0.075)	(0.147)	(0.003)	(0.002)	(0.001)	(0.000)
Household composition											
Share of members aged 0-5		0.180	0.286	-0.271	-0.378	7.471***	4.960	0.181***	0.015	-0.109***	0.023**
		(0.131)	(0.130)	(0.176)	(0.358)	(0.982)	(2.427)	(0.012)	(0.059)	(0.010)	(0.007)
Other employed in the household (ref. No)											
Yes		0.026	0.150**	0.015**	-0.013**	-0.812*	-1.234	0.018**	0.024*	0.014***	0.004**
		(0.017)	(0.043)	(0.004)	(0.004)	(0.313)	(0.875)	(0.004)	(0.010)	(0.001)	(0.001)
Other unemployed in the household (ref. No)											
Yes		0.003	0.028	0.106***	0.096***	-0.911*	-1.370	-0.034***	-0.060***	0.013***	0.013***
		(0.021)	(0.032)	(0.010)	(0.003)	(0.344)	(0.595)	(0.001)	(0.004)	(0.000)	(0.001)
Quarter (ref. Fourth quarter)											
First		-0.154	-0.015	0.144***	-0.018	-8.760***	-5.683*	-0.166***	-0.128**	-0.037***	-0.015**
		(0.099)	(0.151)	(0.013)	(0.036)	(0.846)	(2.183)	(0.023)	(0.039)	(0.004)	(0.005)
Second		0.010	0.092	0.029*	-0.090*	-4.260***	-1.925	-0.038**	0.020	-0.028***	0.016***
		(0.086)	(0.116)	(0.009)	(0.032)	(0.535)	(1.691)	(0.011)	(0.025)	(0.003)	(0.002)
Third		0.014**	0.056	-0.033**	-0.102**	-3.092***	-0.072	-0.035***	0.027**	-0.009***	-0.015***
		(0.003)	(0.025)	(0.010)	(0.024)	(0.155)	(0.116)	(0.002)	(0.005)	(0.001)	(0.000)
Year (ref. 2011)											
2006		-1.673**	-0.816	1.293***	0.176	-50.849***	-23.704	-0.746**	-0.364	-0.268***	-0.171***
		(0.393)	(0.828)	(0.062)	(0.118)	(5.310)	(13.534)	(0.201)	(0.303)	(0.026)	(0.012)
2007		-1.432**	-0.638	1.021***	0.113	-41.273***	-19.579	-0.596**	-0.284	-0.229***	-0.147***
		(0.282)	(0.629)	(0.042)	(0.075)	(3.921)	(10.259)	(0.157)	(0.238)	(0.020)	(0.016)

	2008	-1.226*** (0.191)	-0.556 (0.469)	0.736*** (0.022)	0.036 (0.022)	-28.237*** (3.075)	-11.605 (7.807)	-0.370* (0.131)	-0.102 (0.194)	-0.166*** (0.015)	-0.071** (0.021)
	2009	-0.981*** (0.130)	-0.452 (0.314)	0.456*** (0.016)	-0.055** (0.010)	-19.312*** (1.817)	-9.079 (4.668)	-0.240* (0.092)	-0.060 (0.135)	-0.097*** (0.008)	-0.013 (0.025)
	2010	-0.559*** (0.090)	-0.082 (0.145)	0.120** (0.033)	-0.233*** (0.009)	-10.805*** (0.630)	-7.217*** (1.030)	-0.069 (0.053)	0.008 (0.076)	-0.027*** (0.002)	0.064 (0.030)
Constant		2.016** (0.392)	0.645 (0.774)	-0.183** (0.039)	0.569*** (0.050)	54.436*** (5.483)	42.208** (12.336)	0.383 (0.178)	0.449 (0.217)	0.306*** (0.025)	0.466*** (0.005)
Number of observations		2,127	1,139	2,151	1,153	2,299	1,245	2,300	1,246	2,300	1,246
R-squared		0.169	0.196	0.056	0.061	0.064	0.084	0.031	0.069	0.028	0.054

Notes: Table reports the least square estimates of Equation 2. Standard errors (in parentheses) are clustered at the household level. Significance levels: *significant at 10 per cent; **significant at 5 per cent; ***significant at 1 per cent;

Source: Own calculations based on EPH

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