Estimates of the Benefit Incidence of Workfare Comments
Lucas Ronconi

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Estimates of the Benefit Incidence of Workfare

In 1996 the Argentine government, with financial and technical assistance from the World Bank, implemented a temporary public works program known as Programa Trabajar. The program was targeted toward poor and unemployed people, and a main objective was to increase the current income of recipients. Program participants received a maximum benefit of 200 pesos per month (equal to the legal minimum wage) in exchange for working in community projects. Approximately 80,000 people a year participated in the program between 1996 and 2002, representing less than one percent of total employment.

In 2001 Argentina suffered a severe political and economic crisis. The poverty rate increased from 30 percent to more than 50 percent in a year. A new government took office in 2002, and one of its principal policies was to make the public works program universal. The number of beneficiaries expanded exponentially, reaching two million people in a country of thirty-nine million. The name of the program was also changed from Trabajar to Jefes de Hogar. Figure 1 shows the monthly average number of beneficiaries of workfare programs between 1996 and 2006. The change in program coverage is clearly evident where the figure spikes in 2003.

A fundamental belief underlying this policy is the effectiveness of self-targeting. The idea is that, even if the government has a poor capacity to enforce the eligibility criteria, only those who are in real need will participate.

Lucas Ronconi is with the University of California at Berkeley.

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in a program that imposes work requirements and provides low compensation.\(^1\) People who are not in need will choose not to participate since their opportunity cost is higher than the program benefit. Furthermore, the effect of the program on the current income of participants is expected to be positive and large (that is, close to the program benefit), since forgone income is low among those who decide to enter the program. This argument, however, assumes that the work requirement is effectively enforced. If this is not the case, the opportunity cost of participation is lower, and self-targeting weakens. Moreover, the effect of treatment on current income can be negative for some participants. If the hourly earnings during treatment are sufficiently high, people with a strong preference for leisure will prefer participation instead of employment even at the cost of a reduction in total income.\(^2\)

2. For participants with a low preference for leisure, conversely, ignoring the program’s work obligations would generate larger income effects, since they have the time to perform other income-generating activities.

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**Figure 1.** Beneficiaries of Workfare Programs in Argentina, 1996–2006

[Graph showing the number of beneficiaries of workfare programs in Argentina from 1996 to 2006, with a peak in 2001 and a decline after 2004.]


Analyzing the allocation of funds is not trivial, given that enforcement is usually low in Argentina and political institutions are far from transparent.\(^3\) The benefit incidence of the program is thus an empirical question. In an earlier paper, I report anecdotal evidence, mainly from newspapers, documenting cases in which political connections determined selection into the program, participants did not meet the eligibility requirements or did not comply with the work requirement, and political leaders used the resources to buy votes.\(^4\) Evidence on the magnitude of the phenomenon, however, is lacking.

The Argentine Ministry of Labor, Employment, and Social Protection (MOL) collected a sample of Trabajar participants in 1997 (hereafter, the MOL sample). Jalan and Ravallion combine this sample of participants with a national household survey (namely, Encuesta de Desarrollo Social), and find that the program was very well targeted toward people in need: 80 percent of participants were in the poorest quintile of the household per capita income distribution.\(^5\) They also estimate an average income gain during treatment between 92 and 157 pesos per month, representing between half and three-quarters of the program benefit. Good targeting and a large income gain led to an important reduction in poverty in the short run.

The international evidence on the effectiveness of public works programs is mixed. Dar and Tzannatos review about a hundred evaluations—mainly in developed countries—and find that program design and the context in which the program operates matter a great deal.\(^6\) Betcherman, Olivas, and Dar expand the previous study by adding eighty-seven evaluations—many from developing countries—and arrive at the same conclusion.\(^7\) Subbarao suggests that the observed variation in the effectiveness of public works programs across countries is partially explained by differences in institutional capacity.\(^8\)

In this paper, I use alternative samples of workfare participants in Argentina to reassess targeting and income effects between 1997 and 2002. The next section explores poverty targeting using four samples of workfare

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5. Jalan and Ravallion (2003). Beyond estimating the benefit incidence of the Trabajar program, this paper makes a number of important methodological contributions to the evaluation literature. It is one of the first applications of propensity score matching, and it underscores the importance of using the same questionnaire for both participants and nonparticipants.
participants collected by the National Institute of Statistics and Censuses (INDEC). I find that while workfare beneficiaries are poorer, on average, than nonparticipants, targeting in all these samples is worse than in the MOL sample. I also find that 11 percent of beneficiaries participate in political parties, compared to only 3 percent in MOL. The paper then computes average income effects during treatment using longitudinal data between October 2000 and May 2002, controlling for pretreatment income and unobserved time-invariant heterogeneity. I also allow treatment effects to be negative. I find an average treatment effect on current income of 60 pesos per month, approximately one-third of the benefit.

A reevaluation is merited for three reasons. First, the MOL sample is likely to exclude participants who do not meet the eligibility criteria. Second, income effects have been estimated assuming that treatment has a nonnegative impact on current income, which ignores the possibility that participants might choose a lower total income in exchange for leisure. Third, the cross-sectional nature of the MOL sample prevents controlling for pretreatment income dynamics and time-invariant heterogeneity, two factors that, when ignored, usually lead to biased estimates.

**Targeting**

Temporary public works programs have been increasingly used in Argentina since the mid-1990s. Between 1996 and early 2002, a number of programs were in operation, among which *Trabajar* was the largest one. These programs were replaced in 2002 by *Programa Jefes de Hogar*. While the programs had different names, they all shared the same basic features: they were targeted toward poor and unemployed workers, participants were required to work between thirty and forty hours per week, treatment lasted between three and six months, and participants received a maximum compensation of 200 pesos per month. The minimum wage during that period was also 200 pesos, although about three-fourths of the economy was covered by collective agreements establishing a minimum wage that varied between 300 and 350 pesos per month depending on the industry.

Were the benefits allocated among poor and unemployed workers as intended? Given that the wage rate was set low in the public works programs

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9. The other programs were *Servicios Comunitarios, Programas Especiales de Empleo*, and *Programa de Emergencia Laboral*.

10. The *Programa de Emergencia Laboral* provided a benefit of 160 pesos.
and that work requirements were legislated, only low-income people are expected to have entered the program. This argument, however, is based on the assumption that the work requirement is effectively enforced. If the government does not enforce the work requirement, people who are not in need would find it profitable to enter the program, even if the program benefit is set low. Evaluating targeting is an empirical question. It appears to be a simple task, since it only requires a representative sample of participants and non-participants. Nevertheless, collecting a representative sample of participants can be an important challenge, particularly when benefits are not allocated as established in the normative. Participants who are aware that they do not fulfill the eligibility criteria have incentives to misreport their true status or refuse to answer a questionnaire.

I analyze four household surveys conducted by the National Institute of Statistics and Censuses (INDEC): the October 2000 and October 2001 surveys of the Permanent Household Survey (Encuesta Permanente de Hogares, EPH), the 2001 Quality of Life Survey (Encuesta de Calidad de Vida, ECV), and the 1997 Social Development Survey (Encuesta de Desarrollo Social, EDS). The EPH covers thirty major urban agglomerates, the ECV covers fifty-two localities, and the EDS covers 114 localities. The number of individuals fifteen to sixty-four years old who report that they are participating in a workfare program (with earnings between 150 and 200 pesos a month) is 297 in the October 2000 EPH, 295 in the October 2001 EPH, 187 in the 2001 ECV, and 159 in the 1997 EDS. Regrettably, these surveys do not identify the program in which people participate. All temporary public works program, however, were targeted toward poor and unemployed workers, the wage was set at a maximum of 200 pesos per month, and work requirements were legislated. According to the self-targeting hypothesis, only people in need would enter into any of these programs.

Columns 1 through 4 in table 1 compare the location of these four samples of workfare participants in the national distribution of per capita household income. Column 5 reports Jalan and Ravallion’s findings based on a sample of Trabajar participants collected by the Argentine Ministry of Labor, Employment, and Social Protection (MOL) in 1997.\textsuperscript{11} While the samples collected by INDEC cover different jurisdictions and years, and targeting can vary across regions and over time, columns 1 through 4 indicate that a similar proportion of beneficiaries in each sample is in the bottom quintile (between 53 and 58 percent) and in the top half of the distribution (between

\textsuperscript{11} Jalan and Ravallion (2003).
15 and 19 percent). These results contrast with column 5 (the MOL sample), where 80 percent of participants are in the poorest quintile and less than 5 percent are in the top half. Workfare beneficiaries in the samples collected by INDEC are poorer, on average, than nonparticipants, but workfare programs appear to be less well targeted toward the poor than the MOL sample suggests.

Table 2 compares the socioeconomic characteristics of participants in the MOL sample with workfare participants and nonparticipants in the EDS. Both surveys were conducted in 1997. The average monthly per capita household income is only 73 pesos in the MOL sample, but it is 127 pesos among workfare participants in the EDS, and the difference is significant at the 1 percent level. The figure among nonparticipants is 336 pesos, which supports the argument that workfare benefits have usually been allocated to poorer people, but targeting does not appear to be as good as the MOL sample suggests. The same conclusion emerges after comparing other socioeconomic characteristics: workfare participants in the EDS are more likely to own various consumer durables than participants in the MOL sample, but less likely to do so than the population of nonparticipants. Interesting, only 3 percent of workfare beneficiaries participate in some form of political organization in the MOL sample, versus 11 percent among beneficiaries in the EDS. One possible explanation is that the MOL sample may be biased toward excluding participants who entered the program as a result of political favoritism. Workfare beneficiaries who participate in a political party

TABLE 1. Location of Different Samples of Workfare Participants in the National Distribution of Household Income per Capita

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>First (poorest)</td>
<td>36.7</td>
<td>37.2</td>
<td>40.1</td>
<td>42.1</td>
<td>60.1</td>
</tr>
<tr>
<td>Second</td>
<td>16.5</td>
<td>21.1</td>
<td>15.0</td>
<td>10.7</td>
<td>18.5</td>
</tr>
<tr>
<td>Third</td>
<td>11.5</td>
<td>12.9</td>
<td>11.2</td>
<td>15.7</td>
<td>9.5</td>
</tr>
<tr>
<td>Fourth</td>
<td>8.1</td>
<td>6.2</td>
<td>7.5</td>
<td>8.2</td>
<td>5.8</td>
</tr>
<tr>
<td>Fifth</td>
<td>10.8</td>
<td>7.8</td>
<td>7.5</td>
<td>4.4</td>
<td>1.9</td>
</tr>
<tr>
<td>Sixth</td>
<td>8.1</td>
<td>5.9</td>
<td>7.5</td>
<td>6.9</td>
<td>1.6</td>
</tr>
<tr>
<td>Seventh</td>
<td>4.4</td>
<td>4.3</td>
<td>7.0</td>
<td>4.4</td>
<td>1.6</td>
</tr>
<tr>
<td>Eighth</td>
<td>2.7</td>
<td>0.6</td>
<td>2.7</td>
<td>4.4</td>
<td>0.5</td>
</tr>
<tr>
<td>Ninth</td>
<td>1.0</td>
<td>3.4</td>
<td>1.1</td>
<td>1.9</td>
<td>0.3</td>
</tr>
<tr>
<td>Tenth (richest)</td>
<td>0.3</td>
<td>0.7</td>
<td>0.5</td>
<td>1.3</td>
<td>0.1</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

a. Income from participation is excluded.
b. Column 5 is from table 2 in Jalan and Ravallion (2003).
earn almost twice as much as program beneficiaries who do not participate in a political party.\textsuperscript{12}

There are reasons to suspect the MOL sample is not representative of Trabajar participants. The sample includes 2,802 participants obtained from 350 randomly selected projects, but there is no information on how many people were participating in those 350 randomly selected projects. According to the program guidelines, each project should have between five and a hundred participants.\textsuperscript{13} When I interviewed Osvaldo Giordano, who was Secretary of Employment and Labor Training in 1997, he mentioned that most projects had between twenty-five and a hundred participants, implying that 350 projects would usually include between 8,750 and 35,000 individuals. Furthermore, in the samples of workfare participants collected by INDEC, the

\begin{table}[h]
\centering
\caption{Descriptive Statistics of Two Samples of Workfare Participants and a National Sample of Nonparticipants\textsuperscript{a}}
\begin{tabular}{lccc}
\hline
\textbf{Variable} & \textbf{Trabajar participants in MOL sample (1)} & \textbf{Workfare participants in EDS sample (2)} & \textbf{Nonparticipants in EDS sample (3)} \\
\hline
Per capita income (pesos/person/month) & 73.21 (101.84) & 126.59 (123.51) & 335.72 (479.50) \\
Share of households that need to borrow to meet basic needs (%) & 32.78 (0.89) & 21.55 (0.41) & 17.12 (0.38) \\
Share of households own telephone (%) & 22.66 (0.79) & 26.26 (0.37) & 60.34 (0.49) \\
Share of households own color TV (%) & 75.60 (0.81) & 90.92 (0.29) & 91.58 (0.28) \\
Share of households owning a refrigerator with built-in freezer (%) & 26.45 (0.83) & 31.27 (0.47) & 48.44 (0.50) \\
Share of households owning an automatic washing machine (%) & 11.66 (0.61) & 14.81 (0.36) & 37.80 (0.48) \\
Share of population participating in some form of political organization (%) & 2.91 (0.32) & 10.98 (0.31) & 3.13 (0.17) \\
\hline
\end{tabular}
\end{table}

\textsuperscript{a.} Population weighted averages. Column 1 is from table 1 in Jalan and Ravallion (2003). As in that paper, the sample of participants is restricted to people between 15 and 64 years old who report earnings from the program between 150 and 200 pesos per month; this implies a sample of 2,802 participants in the MOL sample and 159 in the EDS sample. Differences in means between column 1 and 2 are statistically different from zero at the 1 percent level for all variables except the share owning a telephone, refrigerator, or washing machine. Standard deviations are in parentheses.

12. The average monthly per capita household income is 200 pesos for the first group and 117 pesos for the second group.

participants report that, on average, sixty-eight individuals worked in the same place they did. Based on a conservative assumption that the average Trabajan project included thirty individuals, then a sample of 2,800 participants obtained from 350 randomly selected projects only represents a quarter of the truly random sample.

Those 2,800 participants would still be representative of the population of Trabajo participants if the missing observations were randomly selected. The authors report, however, that the lost observations involve participants who provided an incomplete or nonexistent address or refused to respond. Given that participants who do not meet the eligibility criteria are presumably less likely to provide their addresses to the Ministry of Labor, Employment, and Social Protection or to respond to interviews, the sample is probably biased towards excluding ineligible participants.

The randomness of the samples of participants in the EDS, EPH, and ECV surveys can also be questioned, since ineligible participants may be more likely to misreport their true status to INDEC. If this is the case, then targeting would be even worse than the figures reported in tables 1 and 2. Considering that INDEC has no control over workfare funds and that it ensures the confidentiality of the data, misreporting is probably less severe than in the MOL sample. While these arguments are speculative, I believe that all the evidence presented above supports the claim that targeting was less pro-poor than previous estimates suggest. Setting the program benefit low and legislating work requirements does not necessarily imply self-targeting if the work requirements are not enforced.

**Income Effects during Treatment**

Let \( D \) be a binary workfare treatment indicator, where \( D = 1 \) denotes treatment and \( D = 0 \) otherwise, and \( Y^1 \) and \( Y^0 \) are the outcome with and without treatment. The difference in outcomes with and without treatment, \( Y^1 - Y^0 \), measures the effect of treatment. The fundamental difficulty in estimating the effect of treatment is that the two potential outcomes are never both observed for any one person.

14. The figure is obtained from the 1997 EDS, the 2001 ECV, and the October 2000, May 2001, October 2001, and May 2002 EPH surveys. In all cases, I restrict the sample to workfare participants aged fifteen to sixty-four, who report earnings between 150 and 200 pesos a month from the program.
Estimating program effects would be simple if $D$ were statistically independent of $(Y^1, Y^0)$, as would occur when treatment is randomly assigned. However, participation in workfare programs was not randomly assigned in Argentina. People chose to apply, and the government allocated benefits among a share of applicants. Under these circumstances, it is necessary to rely on nonexperimental methods to measure treatment effects.

A convenient and conceptually appealing nonexperimental method is to use propensity score matching to select a comparison group from a sample of nonparticipants, and then compare outcomes between participants and nonparticipants with similar observable characteristics.\textsuperscript{15} Let $p(X)$ denote the propensity score, and let $p(X) = \text{Prob}(D = 1 \mid X)$, the probability of participating conditional on the observed set of covariates $X$. Based on the estimated propensity score, nonparticipants are matched to participants, and the average effect of treatment on the treated ($\text{ATT}$) is then computed as follows:

\begin{equation}
\text{ATT} = \frac{1}{N} \sum_{j=1}^{N} \left( Y^1_j - \frac{1}{NP_j} \sum_{i=1}^{NP_j} Y^0_i \right),
\end{equation}

where $Y^1_j$ is the income of participant $j$ during treatment, $Y^0_i$ is the income of the $i$th nonparticipant matched to the $j$th participant, $N$ is the total number of participants, and $NP_j$ is the total number of nonparticipants matched to the $j$th participant.

The credibility of propensity score matching, as well as other nonexperimental methods, hinges on the assumption that treatment depends on a set of covariates the econometrician observes ($X$) and not on the unobservables determining $(Y^1, Y^0)$. Whether nonexperimental methods can replicate experimental results is open to debate.\textsuperscript{16} Researchers generally agree, however, that nonexperimental methods are more credible when the econometrician controls for pretreatment income histories, since participants usually experience a decline in earnings before entering the program.\textsuperscript{17}

Jalan and Ravallion use propensity score matching to estimate the income effect of workfare in Argentina.\textsuperscript{18} They use the MOL sample of participants.
described in the previous section and obtain the comparison group from the EDS. The authors find large average income gains of 92 to 157 pesos a month during treatment, which represents between half and three-quarters of the program benefit. These estimates raise three issues. First, if the MOL sample of participants is biased toward excluding people who do not meet the eligibility criteria as argued above, and if treatment effects differ between eligible and ineligible participants, then the estimated average treatment effect is biased. Jalan and Ravallion find larger treatment effects among participants with lower estimated pretreatment income per capita, suggesting that excluding ineligible participants leads to an overestimation of the true average treatment effect.

Second, Jalan and Ravallion compute the income gains from the program as follows: “If the income of the participant is less than the income of the matched nonparticipant, we treat the impact to be zero rather than the observed negative number.”19 The rationale for imposing this restriction derives from the self-targeting hypothesis, according to which people choose to enter into the program if the expected income during participation is higher than the income from not participating. This restriction is realistic when working conditions are equal between the two choices. Participants earning 200 pesos per month, however, report working an average of only 26.5 hours per week, which means they earn 1.7 pesos an hour. Employed nonparticipants earning the minimum wage (also 200 pesos per month), in contrast, report working an average of 35.2 hours per week, with hourly earnings of 1.3 pesos.20 This evidence suggests that some individuals might have preferred to participate in a Trabajar project so as to work fewer hours, despite earning a lower total income than they would receive in the labor market. Under these circumstances, assuming a nonnegative income effect for each participant is too restrictive and overestimates the true effect.

Finally, the lack of longitudinal data prevented the authors from controlling for pretreatment income histories and unobserved time-invariant heterogeneity. Presumably, individuals who had suffered a large reduction in income were more likely to join the program than individuals who maintained a steady income. Ignoring pretreatment income thus underestimates income gains during participation.

Data

The Permanent Household Survey (EPH) has been conducted twice a year (in May and October) since 1974, and it has identified whether the individual is participating in a workfare program since October 2000. An important feature for this paper is the survey's rolling panel structure, which allows researchers to follow individuals over time and thus to control for pretreatment income and time-invariant heterogeneity.

I analyze four surveys, from October 2000 to May 2002. By October 2002, workfare became almost universal among the poor population, suggesting that attempts to obtain a reliable comparison group after that date would be ineffective. The EPH, regrettably, does not specify the workfare program in which participants are enrolled.

I match three consecutive surveys and construct two panels of participants and nonparticipants. The first panel (panel A) includes all individuals who were participating in the program in May 2002 and were also surveyed in October 2001 and May 2001 (200 people), together with individuals who were surveyed during the same period and did not participate in the program (18,795 people). The second panel (panel B) includes all participants enrolled in the program in October 2001 who were also surveyed in May 2001 and October 2000 (97 people), and nonparticipants interviewed during the same period (17,929 people). Both samples are restricted to individuals between fifteen and sixty-four years old who report earnings between 150 and 200 pesos from the program. Hereafter, I refer to the survey in which participants were receiving treatment as the baseline and denominate it $t$. The surveys conducted six months and one year before the baseline are termed $t - 1$ and $t - 2$, respectively.

Table 3 presents some characteristics of participants and nonparticipants in these two panels at the baseline. On average, workfare participants are poorer and less educated than nonparticipants, have larger families, have more kids out of school, are more likely to have migrated from other provinces (but less

21. While the total number of program participants in the sample is small (297), it does not introduce any bias to the estimates as long as it is representative of the population of program participants. The sample size affects the power of the test. Influential papers in the evaluation literature use a sample that includes between 200 and 300 participants (LaLonde, 1986; Dehejia and Wahba, 1999).

22. Matching four consecutive surveys is also possible, but it leads to very few observations. Only 86 individuals who were workfare participants in May 2002 have been surveyed since October 2000.
likely to have only recently arrived at the current location), and are more likely to reside in a shantytown.

Table 4 compares the income and employment histories of both groups in $t - 1$ and $t - 2$. For the group of participants in panel A, income decreased by 29 percent and unemployment increased 2.5 percentage points between May 2001 and October 2001. Nonparticipants also suffered a negative shock in the same period, but it was considerably smaller: their income decreased by 9 percent and unemployment increased 1.4 percentage points. The results are

\begin{table}
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\begin{tabular}{lccccc}
\hline
\textbf{Variable} & \textbf{Panel A (May 2002)} & \textbf{Panel B (October 2001)} \\
\hline
\text{Age} & 36.76 & 36.57 & 39.08 & 36.21 \\
\text{Gender (male = 1)} & 0.49 & 0.47 & 0.47 & 0.47 \\
\text{Married} & 0.69 & 0.54 & 0.60 & 0.55 \\
\text{Head of household} & 0.37 & 0.34 & 0.48 & 0.34 \\
\text{Foreign-born} & 0.10 & 0.05 & 0.02 & 0.05 \\
\text{Born in a different province} & 0.29 & 0.18 & 0.12 & 0.18 \\
\text{Newly arrived} & 0.02 & 0.04 & 0.02 & 0.03 \\
\text{Attending educational institution} & 0.03 & 0.21 & 0.03 & 0.21 \\
\text{High school dropout} & 0.83 & 0.45 & 0.83 & 0.46 \\
\text{No. members in the household} & 6.37 & 4.59 & 4.94 & 4.56 \\
\text{Rooms per member} & 0.50 & 0.84 & 0.71 & 0.85 \\
\text{Share of dependents (6 to 16 years old) not attending school} & 0.040 & 0.015 & 0.033 & 0.014 \\
\text{Residence in shantytown} & 0.024 & 0.011 & 0.062 & 0.022 \\
\text{Lack of access to basic services} & 0.10 & 0.03 & 0.03 & 0.02 \\
\text{Property ownership} & 0.59 & 0.78 & 0.69 & 0.78 \\
\text{No. observations} & 200 & 18,795 & 97 & 17,929 \\
\hline
\end{tabular}
\caption{Descriptive Statistics of Two Panels of Participants and Nonparticipants\textsuperscript{a}}
\end{table}

\textsuperscript{a} Population weighted averages. Standard deviations are in parentheses.
similar when participants and nonparticipants are compared in panel B. Between October 2000 and May 2001, the income of participants decreased by 14 percent and unemployment increased by 3.2 percentage points, compared with a 5 percent reduction in income and a 2.1 percentage point increase in unemployment among nonparticipants. The evidence that participants suffered a larger negative shock than nonparticipants underscores the importance of controlling for pretreatment histories in constructing the comparison group.

I estimate a probit model to predict participation in the program using all the covariates presented in tables 3 and 4 and obtain the propensity score. 23 I run separate regressions for both panels (see table 5). The mean propensity score for participants is 0.293 in panel A and 0.354 in panel B (with a standard deviation of 0.323 and 0.312, respectively), and the mean propensity score for nonparticipants is 0.008 (with a standard deviation of 0.025) in panel A and 0.004 (0.021) in panel B. There is some overlap in support, with 13 percent of nonparticipants in panel A having a score below the lowest value for participants (21 percent in panel B) and 10 percent of participants having a score above the highest value for nonparticipants in panel A (11 percent in panel B).

I then construct the comparison group (one for each panel) by selecting from the sample of nonparticipants the nearest neighbor for each participant based on the estimated propensity scores. 24 To limit the bias from location differences, I match within geographic regions only. 25 Participants and their

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**TABLE 4. Pretreatment Income and Employment Histories of Participants and Nonparticipants**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Panel A</th>
<th>Panel B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monthly income in $t-1$ (pesos)</td>
<td>93.2 308.9</td>
<td>158.9 345.1</td>
</tr>
<tr>
<td>Monthly income in $t-2$ (pesos)</td>
<td>132.5 339.0</td>
<td>184.1 363.7</td>
</tr>
<tr>
<td>Percentage unemployed in $t-1$</td>
<td>14.5 10.9</td>
<td>10.2 10.6</td>
</tr>
<tr>
<td>Percentage unemployed in $t-2$</td>
<td>12.0 9.5</td>
<td>7.0 8.5</td>
</tr>
</tbody>
</table>

23. Except for the share of dependents attending school, since this factor is likely to be affected by participation in workfare. I also include geographic region dummies, educational attainment indicators, and pretreatment information in $t-1$ and $t-2$ about employment status and job characteristics (namely, hours worked, willingness to work more hours, whether the individual is self-employed, has access to social security benefits, or is employed in the public sector, and whether employment is temporary).


25. The regions are Greater Buenos Aires, Northwest, Northeast, Cuyo, Pampeana, and Patagonia.
nearest neighbors have very similar observable characteristics, as expected by construction: the propensity score among the selected nonparticipants in panel A is 0.288 and in panel B 0.345 (with a standard deviation of 0.318 and 0.299, respectively). Given that the program was not well targeted to a particular group and few eligible individuals received treatment, it is likely that the comparison group serves as a reliable counterfactual. Differences in unobservables, of course, cannot be ruled out.

Finally, I pool the two panels and compute the average effect of treatment on current income using the formula in equation 1. For illustrative purposes, I first compute the difference in current income \((t)\) between participants and their nearest neighbors assuming the impact was nonnegative for each individual. Second, I allow the effects to be negative. Third, I compute two difference-in-differences estimators (that is, the difference in the change in income between participants and their nearest neighbors between \(t\) and \(t - 1\) and between \(t\) and \(t - 2\)) and eliminate time-invariant heterogeneity. I

26. Estimates do not differ significantly between panels. Results are available on request. Standard errors are estimated by bootstrapping, but they should be interpreted with caution. Recent work by Abadie and Imbens (2006) shows that bootstrapping generally provides an inconsistent estimate of the true error.
then follow the same steps using the average income of the five nearest neigh-
bors. Table 6 presents the results. The point estimates range between 36 and
94 pesos per month, and they are slightly below 60 pesos per month in the
preferred specification. Relaxing the assumption that individual effects are
nonnegative produces smaller coefficients, while controlling for time-
invariant heterogeneity produces larger effects.27

To explore program effects by level of pretreatment income, I first cate-
gorize participants in five groups according to their pretreatment per capita
household income and then compute the difference-in-differences estimator
between \( t \) and \( t - 1 \) for each quintile. Column 1 in table 7 presents the results
using the nearest neighbor, and column 2 uses the nearest five neighbors. The
mean effect is large and significant for the poorest participants, falls (although
not continuously) with pretreatment income, and is basically zero for partici-
pants in the richest quintile.

How should these estimates be interpreted considering that Argentina
suffered a severe crisis during the period under analysis? Are the expected
income effects during treatment larger or smaller in periods of economic
growth? When labor demand is low, wages and employment opportunities
are dim, suggesting that participants would have performed poorly in the
absence of workfare. In contrast, when labor demand is high, participants are
likely to perform better in the absence of the program. In other words, income
effects during treatment are likely to be higher in periods of crisis than in
periods of economic prosperity.

27. The finding that the two difference-in-differences estimates are very similar suggests
that the selected comparison group serves as a reliable counterfactual, since their members
experienced pretreatment income dynamics similar to program participants.
Conclusion

In this paper, I reevaluate targeting and income effects of Argentina’s workfare program using samples of participants collected by the National Institute of Statistics and Censuses (INDEC), including two cross-sectional samples (EDS and ECV) and a longitudinal sample (EPH). I find that while participants are poorer, on average, than nonparticipants, targeting is less pro-poor than in the MOL sample. Furthermore, nonpoor workfare beneficiaries report larger rates of participation in political parties, suggesting that political favoritism distorts the allocation of benefits. When I control for pretreatment employment histories and time-invariant heterogeneity, the estimated average income effect during participation is 60 pesos per month, or one-third of the benefit. This estimate refers to a period of severe economic crisis. Income effects during participation in the program are likely to be smaller in times of economic prosperity.

I do not claim that the estimates reported in this paper are the true effects. Ineligible participants might have misreported their status to INDEC, and estimates of treatment effects based on nonexperimental data are subject to biases stemming from unobservables. I have, however, shown substantial evidence suggesting that public works programs in Argentina are not as effective in reducing short-run poverty as found in previous studies.

This evidence does not necessarily suggest that the program should be eliminated. While targeting is far from perfect and income effects are not that large, the program does help reduce poverty in the short run. Other social pro-

**TABLE 7. Average Treatment Effect by Quintile of Pretreatment Family Income per Capita**

<table>
<thead>
<tr>
<th>Quintile</th>
<th>Nearest neighbor</th>
<th>Five nearest neighbors</th>
</tr>
</thead>
<tbody>
<tr>
<td>First (poorest)</td>
<td>90.20</td>
<td>100.48</td>
</tr>
<tr>
<td></td>
<td>(18.52)</td>
<td>(14.83)</td>
</tr>
<tr>
<td>Second</td>
<td>70.10</td>
<td>72.48</td>
</tr>
<tr>
<td></td>
<td>(24.93)</td>
<td>(21.25)</td>
</tr>
<tr>
<td>Third</td>
<td>43.32</td>
<td>35.82</td>
</tr>
<tr>
<td></td>
<td>(28.71)</td>
<td>(25.82)</td>
</tr>
<tr>
<td>Fourth</td>
<td>78.63</td>
<td>71.27</td>
</tr>
<tr>
<td></td>
<td>(22.90)</td>
<td>(22.21)</td>
</tr>
<tr>
<td>Fifth (richest)</td>
<td>3.36</td>
<td>−2.57</td>
</tr>
<tr>
<td></td>
<td>(31.49)</td>
<td>(25.88)</td>
</tr>
</tbody>
</table>

a. Difference-in-differences estimator. Standard errors are reported in parentheses.
grams arguably perform worse. Furthermore, how workfare affects poverty in the short run is by no means the only measure for appraising the adequacy of this policy. Other micro- and macroeconomic outcomes should be considered, such as the program’s effect on income inequality, its role in the 2001 crisis and later recovery, the indirect benefits flowing from the assets created, and long-term effects on participants and their dependents.

Beyond assessing the effects of workfare in Argentina, this paper contributes to the design of workfare programs by emphasizing the importance of enforcement. Setting the program benefit low and legislating work requirements does not necessarily imply self-targeting if the normative is ignored. This is particularly relevant for countries with poor political institutions where political favoritism is likely to distort the allocation of public funds.

29. Ravallion and others (2005) examine what happens to participants’ incomes when they leave the program in Chaco, Mendoza, and Tucumán. They find large income losses equal to about three-quarters of the program benefit in the first six months, falling to half in twelve months. Ronconi and Franceschelli (2007) analyze the relation between workfare policy and the emergence of a social movement (namely, Piqueteros); they claim that workfare fueled the development of insurgency in the 1990s, while the universalization of the program in 2002 had the opposite effect.
Maria Laura Alzúa: Lucas Ronconi evaluates the income effect of a workfare program in Argentina, known as Trabajar, focusing mainly on income effects. Given the lack of experimental data with which to conduct the evaluation, the author relies on nonexperimental methods. The topic of the paper is highly relevant, since workfare has become one of the most important policies not only in Argentina, but in other Latin American countries as well. Despite the high cost of such workfare programs, most impact evaluation is conducted with poor-quality data, if they are conducted at all. Moreover, the author suggests that both the lack of good targeting and low enforcement causes the program to be ineffective. One of the main policy implications of the paper, besides the self-targeting and enforcement implications, is that serious impact evaluations need to be conducted and should be mandated in the project design.

However, a number of issues need to be addressed in further extensions of the paper. Data availability allows the author to use outcomes like hours worked to measure whether the working conditionality serves its purpose, and the findings support the paper’s premise of low enforcement. At the same time, a few points on the methodology used to assess the impact deserve some attention. One is the credibility of the identification assumptions needed when one uses propensity score matching and nonexperimental data, in particular the assumption that unobserved heterogeneity does not affect the participation decision. This assumption can be very strong in programs like Trabajar. A useful discussion about why the paper makes this assumption would help the reader trust the chosen methodology.

With regard to pursuing the difference-in-differences approach to study workfare programs, Ashenfelter’s dip may be a concern, since program beneficiaries may be experiencing a temporary drop in income.1 If this is the

case, the difference-in-differences methodology may be overestimating program effects. Another issue is that the methodology is not well specified. Matching estimators are not invariant to the window specified in the matching. Consequently, robustness could be improved by adding estimations with different windows. Finally, there is an important debate about the validity of bootstrapping standard errors when one uses propensity score matching estimators. The paper would greatly benefit from an explanation of the assumptions under which such calculations are valid.

G. David Rosas Shady: Lucas Ronconi’s paper presents evidence on the targeting and the impact on revenues of Argentina’s workfare program Trabajar. Workfare or public works programs, which can be considered safety nets or active labor market interventions, have been implemented in many countries around the world to counter natural disasters and economic crisis. These programs usually provide short-term employment opportunities to unskilled workers through different national or regional projects, such as road construction. One of their main goals is to provide income transfers to the poor and to smooth their consumption during the crisis.

In Latin America, workfare programs were first implemented in the 1980s as a short-term response to the economic crisis and the increase in unemployment rates that affected many countries, and in many cases they were associated with the structural reforms and stabilization measures that were common to the region in that period. The persistence of high poverty rates and the inability of governments to improve labor market conditions and efficiently protect poor people drove some countries to better focalize their efforts and to convert these programs into permanent interventions. These changes were consistent with the experience of the countries in the Organization for Economic Cooperation and Development (OECD), where similar programs were reoriented toward the long-term unemployed and vulnerable people.

1. My comments are based on a previous version of Ronconi’s paper, and the author has incorporated many of these comments in the current version.
2. For example, in response to the economic crisis of 2001, the Argentine government replaced Trabajar with Jefes the Hogar, which expanded the number of beneficiaries. Almost at the same time, Colombia introduced Empleo en Acción, a program oriented to the poorest unemployed workers. The Peruvian government designed a program similar to Trabajar, called A Trabajar Urbano, to help the poorest urban workers during the economic recession of 1999–2001. The implementation of this program began in 2002 when the economic recession was over, and it continues today under the name of Construyendo Peru.
Unfortunately, few well-designed impact evaluations of the Latin American workfare programs have been undertaken. The available evidence shows that while these programs can be successful in targeting poor workers, there is room for improvement. These evaluations also show that workfare programs can be effective in protecting the income of poor people during an economic crisis. Evidence from a large sample of developing countries confirms these results, but also emphasizes that the success of each program depends on its design features—for example, on the levels of the benefit (wage rate) that is offered to the beneficiaries and of the labor intensity on the specific projects that are financed. The evidence is less conclusive in the case of the European countries. The workfare programs seem to have positive benefits in the short term, but their medium-term results are less clear.

The Argentine government initiated Trabajar in 1996 in response to growing unemployment, with financial and technical support from the World Bank. The program was designed to be a social safety net: the main objective was to reduce poverty through a temporary income support (namely, a low wage subsidy conditioned on participation in community work programs) to unemployed poor people. The targeting mechanism was based on the assumption that only poor people, with few prospects for employment, would participate in the program because the wage rate offered was relatively low. Following the strong economic and political crisis that affected Argentina at the end of the 1990s, in 2002 the number of program beneficiaries was expanded and the name changed to Jefes de Hogar.

The first impact evaluation of Trabajar was carried out by Jalan and Ravallion in 1999 in the context of the World Bank support. This evaluation was based on a quasi-experimental design and used the 1997 national household survey (Encuesta de Desarrollo Social, EDS) to construct the control group. The survey of beneficiaries was conducted almost at the same time as the EDS, and it used the same questionnaire and interview team. The authors found that the beneficiaries were more likely to be poor than were nonparticipants, and they found positive impacts on incomes. These results have been used to present Trabajar as an example of a successful public works program.

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9. See, for example, Subbarao (2003).
Ronconi uses different data than Jalan and Ravallion and finds less positive results. He stresses the problems of targeting and enforcement that characterized *Trabajar*. In that sense, this paper represents an interesting contribution to the literature on the evaluation of public works programs. Nevertheless, the author could have placed more emphasis on the new evidence obtained using different data; included a discussion about the dynamics of the program; considered a more comprehensive literature review; and developed an analysis of the policy implications of its main conclusions. I address each of these issues in turn.

First, with regard to the new evidence, the author argues that the program was less pro-poor than the previous estimates suggested, and he considers that Jalan and Ravallion overestimate the impacts of *Trabajar*. Ronconi advances three main reasons, which are well supported by evidence: the self-targeting of the beneficiaries was unlikely; a negative incidence could exist, especially if the enforcement of the program was weak; and the unobserved heterogeneity probably biases the results.¹⁰ The author allows for negative net incidence of the program and controls for unobserved time-invariant heterogeneity. His paper thus seems to use a more representative sample of beneficiaries than Jalan and Ravallion, and the results are probably more credible. Nevertheless, the author could have better examined whether the level of the benefit that was offered to the recipients in 1997 and in subsequent years was low enough to support the self-targeting hypothesis. Also, he evaluates the impact of *Trabajar* in a different period than Jalan and Ravallion (he uses the EPH longitudinal data from 2000–02). If his purpose was to reassess the impacts found by Jalan and Ravallion, he could have used data from 1997 to replicate the analysis and then control for some of the potential bias mentioned before.¹¹ This would clarify the differences under the same circumstances.

It is not clear in the paper why a small sample size is more representative than in previous studies. The EPH survey was not designed to measure workfare recipients in a way that is statistically representative. Moreover, it is impossible to distinguish workfare recipients from other recipients of social aid, which in this case could be as high as 20 percent of the observed sample. Also, the author could have developed a more detailed discussion about the propensity score limitations, especially with a small sample of beneficiaries. Ronconi could also have recognized the importance of Jalan and Ravallion’s

¹⁰. Ronconi recognizes this last point as a limitation of the results and presents a test for selection bias in the matching estimator (namely, the Sargan-Wu-Hausman test).

¹¹. One possibility would be to use the 1997 EDS to build the control and treatment groups.
paper in the literature (it is only mentioned in a footnote). This paper was innovative in providing one of the first applications of the propensity-score matching technique for welfare analysis. It became a reference point for the use of national surveys (or censuses) to draw a comparison group when a proper evaluation design is not available.

Second, Ronconi could have considered a detailed discussion about the dynamics of the program during the 1997–2008 period. The author only mentions that Argentina had different public works programs at that time, with Trabajar being the largest, and that these programs share some basic features. He does not explain the main modifications that Trabajar underwent during the period and does not analyze whether those changes could affect the functioning and potential impacts of the program. More importantly, the operation of Trabajar could have changed over time. For example, it would be interesting to identify whether the enforcement mechanism was improved in Jefes de Hogar. Also, he does not consider the implications of the macro-economic performance of the country in those quite different periods.

Third, the paper could have included a detailed discussion of the policy implications of its main results. This discussion would be facilitated by the development of a more detailed literature review. For example, it would be interesting to know whether Ronconi’s results are consistent with the literature, especially in terms of the magnitude of workfare program impacts. Also, further analysis on the magnitude of the impact on incomes would help determine whether the program accomplished its expected objectives. In other words, were 60 pesos enough to alleviate short-term poverty? In that sense, a cost-benefit analysis would also be relevant. Moreover, the author should discuss the results in the framework of the implications of safety net programs and the implications for the subsequent Jefes de Hogar program. All this could allow Ronconi to support his conclusions and recommendations on the importance of enforcement and the ineffectiveness of Trabajar as an instrument for reducing short-term poverty.

Finally, Ronconi could have also emphasized the problems that arise from using ex post evaluation data and the importance of considering a proper impact evaluation design for this type of program, even during a crisis situation.
References


