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RANDOMNESS IN THE EXPERIMENTAL SAMPLES OF PROGRESA (EDUCATION, HEALTH, AND NUTRITION PROGRAM)

by

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1. Introduction

PROGRESA is a new large-scale social program being implemented in Mexico to provide various kinds of assistance to families living in conditions of extreme poverty. The program is targeted mainly at rural communities. It aims to improve living standards of poor families by improving family health and nutrition and by increasing educational opportunities for children. PROGRESA is a multifaceted program made up of three closely linked components related to education, health and nutrition. The program provides educational grants to families, designed to promote school enrollment and attendance, provides resources for improving the quality of schools, provides resources for increasing the quality and availability of health care, and gives direct monetary transfers and nutritional supplements to families.

Because the PROGRESA program is still in its early stages, little is yet known about how it impacts the families receiving program services. A major goal of PROGRESA is to evaluate its effectiveness in achieving its stated goals. For purposes of evaluation, the program is initially being implemented as a randomized social experiment, whereby some households are assigned to a treatment group that receives program services and others to a randomized-out control group. Treatment impacts can then be assessed by comparing the performance of the treated households under a variety of criteria to that of the control group at various times after the administration of the program.

In this report, we compare the characteristics of treatment and control group households, measured at a point in time prior to having received any program services, to determine whether the control and treatment groups truly appear to have been randomly assigned. This evaluation of randomization is being carried out so that any deviations from randomization can be detected early on and taken into account later in the course of the evaluation.

II. How PROGRESA Is Being Implemented As A Randomized Social Experiment

Because of the broader geographic nature of some of PROGRESA benefits, such as improvements in local schools and health facilities, and because it would be difficult to have both treatment and control groups in the same small locality, randomization is being implemented at the locality rather than at the household level. The process by which the treatment and control samples were collected is as follows. First, a subset of localities in Mexico was chosen to participate in the experiment.[1] Since PROGRESA is targeted primarily at poor families, criteria for selection into the experiment are based on empirical measures of poverty within the locality. After selecting a subset of localities to participate in the evaluation, it was determined using poverty-related criteria, which households within each locality would be eligible to receive PROGRESA services.[2] Finally, each locality is randomly assigned to be a member of either the treatment or control group. In localities assigned to treatment, all eligible households within the locality are offered and usually

[1] In selecting localities, the probability of being chosen is population weighted. This means that the PROGRESA household data subsamples are self-weighting.

[2] See Behrman, Davis, Levy and Skoufias (1998) for information on targeting. The eligibility criteria were allowed to vary by broad geographic regions.

take advantage of PROGRESA benefits/services. In localities assigned to the control group, none of the households receive PROGRESA benefits/services.[3] In sum, there are 505 localities. There was a 60% probability of being assigned to treatment and a 40% probability of being assigned to the control group. 320 localities ended up being assigned to the treatment group and 185 to the control group.

An advantage to random assignment at the locality level rather than the household level is that it makes sense in view of the nature of some of PROGRESA services, which were best provided at the locality level. However, a cost of randomization at the locality level is that there is a greater chance of observing some nonrandomness, in terms of differences between the control and treatment samples prior to receiving treatment, due to the smaller size of the sample subject to random assignment. Assignment by a randomization device guarantees that control and treatment samples are the same *on average*, but we can only reliably estimate average quantities as the sample size gets large – which in this case corresponds to the number of localities getting large. This point is further discussed below. Another disadvantage of random assignment at the locality level is that we lose our ability to estimate locality specific treatment impacts, as within each locality all eligible persons do or do not receive the treatment.[4]

III. Potential Benefits and Drawbacks of Randomization

The main advantage of adopting an experimental approach to evaluation is that it ensures that the group that receives treatment is similar both in terms of observable and unobservable characteristics to the group that does not receive treatment. Differences between the treatment and control groups observed after the administration of the program can then reliably be attributed to the program. Randomization avoids the problem of selection bias that arises in nonexperimental evaluations. There are, however, some other types of biases than can occur in randomized evaluations.

Randomization bias occurs when the introduction of randomization changes the way the social program operates, so that results obtained from the experimental evaluations may not be generalizable to a nonexperimental context. For example, a common problem with implementing randomized trials for social program evaluations is that the need to recruit a greater number of applicants induces program administrators to change program admissions standards. A similar problem occurs if individuals are aware of the randomized evaluation and choose not to apply to the program given the lower chance of receiving benefits. In both of these cases, results obtained from the randomized evaluation may not be generalizable to a context where the program is not being implemented as a randomized trial.

With PROGRESA, we expect a high correspondence between the persons eligible for the program and the persons who receive the program because individuals are unlikely to turn down the opportunity to receive the generous benefits of the program. However, there are still some other ways that randomization bias could occur within the context of PROGRESA. During the experiment, program services will only be available in a limited number of localities. This might induce families in the treatment group to choose to not move to a different locality, so as to retain the benefits of the program. If in the absence of the experiment the program were available in all

[3] There is some discussion of phasing in part of the control group at a future date.
[4] We could, however, use a nonexperimental evaluation method to try to get locality-specific impacts.

localities, we would expect a distorting effect on migration patterns. In this sense, results obtained under the experiment might not be generalizable to a nonexperimental setting.

Contamination bias occurs if members of the randomized-out control group seek out and receive alternative forms of treatment. This is usually a problem only when there are close substitutes to the program. If contamination occurs, then the impact of the program that is estimated actually corresponds to the effect of the social program relative to other alternatives. In some cases, this is precisely the desired impact, so contamination does not pose a problem. It just alters the interpretation of the estimated program effects.[5] In the context of the PROGRESA program, there are no close alternatives, so this sort of contamination bias is unlikely to be a problem. However, a different sort of contamination could occur if families or individuals from control localities or other localities immigrate to treatment group localities in order to receive program services. This would undermine the initial randomness of the samples, so it will be important to keep track of individuals leaving or entering the localities.[6]

Attrition bias occurs if some members of the treatment group drop out of the program. If the purpose of the evaluation is to estimate the effect of receiving some treatment (for example, the effect of taking some drug over a length of time), then attrition bias can pose a major problem. It is usually nonrandom and can compromise the benefits of randomization. However, sometimes the purpose of the evaluation is to measure the impact of having had access to program services (not necessarily having taken advantage of them over the entire duration of the program), in which case attrition bias is not a big problem because attrition is just a natural part of how the program operates.[7] However, in the presence of program attrition the interpretation of the estimated treatment impact changes.

If attrition occurs, it is desirable that data on treatment members who have dropped out be gathered so that there is no data loss problem. However, if this is not possible (for example, if treatment group members cannot be located), then it is still possible to control for attrition using statistical methods such as matching. The problem of attrition will be examined in detail in a future report.

IV. Testable Implications of Randomization

The use of a randomization device to assign localities to treatment and control groups has many implications for the data, some of which are testable. We first describe the implications that randomization has and then describe ways that we will test these implications as a way of checking whether the control and treatment samples appear to have been randomly assigned.

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[5] There can, however, be a time lag between when individuals are randomized-out and when they seek/find and alternative source of treatment, which may induce temporal patterns in estimated treatment impacts.

[6] It would be most useful if individuals could be followed if they leave the locality, so that migration patterns could be understood and taken into account in the evaluation.

[7] For example, in evaluating the effects of a job search program, some individuals who find a job quickly will naturally drop-out of the program. Other individuals who do not find the program services to be helpful will also drop-out.

First we need to define some notation. Let i index the household and j the locality. Let Y_{0ij} represent the outcome for the household in the absence of treatment and Y_{1ij} the outcome with treatment. Let $E_{ij}=1$ if the household is eligible to receive program services, and $E_{ij}=0$ if not. Let $R_{ij}=1$ if the household is a member of the randomized-in treatment group and let $R_{ij}=0$ if a member of the randomized-out control group. We also write $R_{ij}=0$ for the ineligible group. Let X_{ij} be conditioning variables (corresponding to observed characteristics of the household or locality). Let F denote a cumulative distribution function.

The treatment group from the randomized experiment provides information on

$$F(Y_{1ij}, X_{ij} \mid R_{ij}=1, E_{ij}=1).$$

The control group provides information on

$$F(Y_{0ij}, X_{ij} \mid R_{ij}=0, E_{ij}=1).$$

Ineligible persons (for whom data are also being collected) provide information on

$$F(Y_{0ij}, X_{ij} \mid R_{ij}=0, E_{ij}=0).$$

Randomization implies that

$$F(Y_{0ij}, X_{ij} \mid R_{ij}=1, E_{ij}=1)= F(Y_{0ij}, X_{ij} \mid R_{ij}=0, E_{ij}=1).$$

Using data on the treatments and controls, we can estimate mean program impacts, with or without conditioning on X characteristics, by using the sample analogues to:

$$\Delta(X) = E(Y_{1ij} \mid X_{ij}, R_{ij}=1, E_{ij}=1)- E(Y_{0ij} \mid X_{ij}, R_{ij}=0, E_{ij}=1).$$

The main benefit of randomization is that it allows us to get consistent estimates of conditional mean program impacts.[8] Randomization does not, however, allow us to obtain the full distribution of program impacts, as there is not enough information to determine the joint distribution:

$$F(Y_{1ij}, Y_{0ij} \mid X_{ij}, R_{ij}=1, E_{ij}=1).$$

To learn about the joint distribution requires making assumptions about the covariance between Y_{1ij} and Y_{0ij}.[9]

At the time period prior to the beginning of the program, we observe the no-treatment outcomes (Y_{0ij}) for both members of the treatment and control groups. Randomization implies that the joint distributions of treatments and controls are equal:

$$F(Y_{0ij}, X_{ij} \mid R_{ij}=1, E_{ij}=1)= F(Y_{0ij}, X_{ij} \mid R_{ij}=0, E_{ij}=1)$$

[8] However, because randomization in the PROGRESA program is implemented at the locality level, we are not able to obtain locality-specific estimates of treatment impacts.

[9] For example, one could assume that the correct comparison for the highest rank treatment outcome is the highest ranked outcome in the control group.

in time periods prior to start of program. It also implies

(1) $F(Y_{0ij} \mid R_{ij}=1, E_{ij}=1) = F(Y_{0ij} \mid R_{ij}=0, E_{ij}=1)$

and

(2) $F(X_{ij} \mid R_{ij}=1, E_{ij}=1) = F(X_{ij} \mid R_{ij}=0, E_{ij}=1)$ for all possible X_{ij} conditioning variables.

Equality of the marginal distributions naturally also implies equality of the means of the Y_{0ij} and X_{ij} variables.

One way of checking whether randomization has been successfully implemented is simply to check conditions (1) and (2) for a variety of outcome variables or conditioning variables of interest. Tests of these conditions have to be based on data collected prior to the start of the program because after the start of the program no-treatment outcomes are no longer observed for the treatment group. Our tests are based on baseline data that were collected prior to the administration of program services/benefits.

There are typically three types of variables of interest:

(a) continuous variables
(b) discrete variables that take on three or more values
(c) binary discrete variables.

Each of these types of variables requires a different type of test. For continuous variables, one way of testing directly for equality of the conditional distributions is through a Kolmogorov-Smirnov test. For discrete variables with three or more values, we can apply a Pearson chi-squared test of the equality of the cell proportions. For binary variables, we test for equality of the probably that the variables takes on a value 1 or 0 by a simple t-test. Each of these tests is described in Appendix A.

V. Empirical Results

Comparison of Treatments and Controls along the following dimensions: Geographic location, age, education, access to health care and income

As a first step in evaluation whether the treatment and control groups appear to be similar, we simply compare the two groups in terms of (1) geographic location patterns, (2) age distributions, (3) education distributions, (4) access to health care patterns and (5) income distributions. Then, we perform statistical testing to determine whether any of the observed differences between the groups are statistically significant.

Geographic Location Patterns

Under randomization, we expect the control and treatment geographic distributions to be similar. For all the localities, there was a 60% chance of being assigned to treatment and a 40% chance of being assigned to the control group. Table 1 shows the geographic location of control

and treatment group localities across broad geographic regions. The first line gives the column percentage and the second line the row percentage. A Pearson chi-squared test of equality of cell proportions by treatment/control status yields a p-value of 0.913, so we cannot reject that they are equal. Table 1b shows analogous geographic distributions, except for households instead of localities. Because different localities have different numbers of households, the distributions do not have to be the same at the household level as at the locality level. However, randomization implies that as the number of localities gets large the distributions should approach equality. A test of equality between cell-proportions, performed on the household level data, yields a p-value of 0.000, so we reject the hypothesis. Since the sample size is much larger with the household level data, we are likely to reject the hypothesis even for small differences between the groups.

Table 1c shows the distribution of localities by state, which again is similar across the control and treatment groups. There is some indication of differences for Gerrero, Hidalgo and Veracruz. In Gerrero and Hidalgo the percentage of treatments is closer to 70% while in Veracruz it is around 50%. But the difference could be due to random variation, and a Pearson chi-squared test does not reject the hypothesis that distributions are equal. (p-value reported in table footnote). Table 1d provides similar information, except at the household level, where we find the same general patterns. With the larger sample sizes, we reject the hypothesis that distributions are equal at the household level.

Table 2 provides information about the population size distribution across the localities within the treatment and control groups, where we only include persons eligible for the program in the population. There does not appear to be any systematic difference between the treatment and control groups in the population size distributions.

Age Distributions for Children

Table 3 compares the age distributions of children age 16 or less in the treatment and control samples. Again the patterns appear similar, with no evidence of any systematic deviation within the two groups. A test of equality of the age distributions yields a p-value of 0.896.

Educational Attainment Distributions

Table 4 shows the educational attainment distributions for treatments and controls. Most of the observations fall into the completed primary or incomplete secondary categories. Although the educational attainment distributions appear to be quite similar, a formal test of equality yields a p-value of 0.064, which would reject at a conventional significance level.

Access to Health Care Distributions

One component of Progresa focuses on improving the quality and availability of health services. Table 5 compares the responses of treatment and controls household heads to the question of whether they have access to health care through their main job. 87.74% of treatments and 85.43% of controls report that they do not have health care. While there are some differences between the groups, they do not appear to be large. Still, a formal test rejects the hypothesis of equality (with a p-value of 0.008).

Income Distributions

Figure 1 compares the empirical cdf's of two income measures for treatments and controls. The first income measure corresponds to wage income only, which has been annualized. (based on variable p29 in encaseh97 file). The second income measure corresponds to wage income plus other income. (based on p29 and p31 variables). The figures show that the empirical cdf's are similar, but there is some suggestion that controls have slightly higher incomes. A Kolmogorov-Smirnov test of equality between the empirical cdf's rejects the hypothesis with a p-value of less than 0.000 for both income measures. (See Table 6(f))

Results from Tests for Differences between Treatment and Controls

As discussed above, the treatments and controls appear to be similar along several different dimensions and there is no clear evidence of nonrandomness simply from looking at the patterns. However, formal tests often reject the hypothesis of equality at conventional significance levels. The PROGRESA sample sizes are large. For example, there are 41,197 children under the age of 17 in PROGRESA. With large samples, even small deviations from the null are likely to be rejected. This suggests that we should not use conventional significance level (0.10 or 0.05) in performing the test and should instead adopt a more stringent level such as 0.01 or less.

As described above, we use a Kolmogorov-Smirnov test to test equality of the distributions of continuous variables and a Pearson chi-squared test to test equality of cell proportions for discrete-values variables (which we defined as variables with 20 or fewer cells).

Tables 6(a)-6(f) provide p-values from testing the null hypothesis of equality of cell proportions or distributions for nearly all the variables in the baseline survey.[10] The column labeled 'p-value' reports results from tests based on the household level data while the columns labeled 'p-value from test based on means' reports results from tests based on data that was first collapsed to locality means. (k-s) indicates that the p-value is based on a Kolmogorov-Smirnov test.

As seen in the table, there are many variables for which the household level p-values reject the null hypothesis of equality between the treatment and control groups at conventional levels, which runs counter to what we would expect from data that was randomly generated. Figure 2 summarizes the p-values for the variables from each module in a histogram. Under each plot, we give the percentage of cases where the p-value was under 0.01. For the schooling module, it was 14% of the cases, for the consumption and expenditure module, 9%, for the child health module 30%, fort the health services module 12%, for the women's health module 0% and for the women's status module 23%. Under the null, we would only expect to observe rejections for 1% of the cases (at a 0.01 significance level). Therefore, the fact that we find many rejections at the 0.01 significance level is some cause for concern. It may be indicative of some nonrandomness in the samples that we will need to better understand and take into account in the evaluation.

To further examine the conjecture that the rejections we observe are in large part due to having rather large sample sizes, we performed the same tests on the data at the locality level for

[10] The variables not included where character-valued.

the modules for which we had observed a substantial number of rejections at the household level. That is, we first take locality means of all the variables before performing the tests. Note that in taking means, some variables that had fewer then 20 cell categories now are classified as continuous variables. Also, the tests are now based on the much more modest sample size of around 500. The p-values from these tests and the sample sizes on which they are based are shown in the 3rd column.

Tests at the locality level generally do not reject the hypothesis that the groups are the same. Therefore, we find support for the hypothesis that treatment and control samples are random when compared at the locality level. This is perhaps not that surprising because randomization was conducted at the locality level. However, randomization at the locality level still implies that there should be no systematic differences between treatment and control samples at the household level – at least asymptotically as the number of localities grows large. But at the household level, we find some statistically significant differences between the groups.

The evidence presented earlier on the age, education, income, and access to health care distributions suggested that the groups look similar along several dimensions. For this reason, we believe that many of the rejections we find are largely a result of having large samples that reject equality on the basis of small differences between the groups.

Table 7 presents similar test results for variables in the encaseh97 Census survey. For 32% of the variables, the p-value is less then 0.01. Figure 3 provides the histogram of the p-values. Again, when we perform the test at the locality level, we cannot reject the null that the distributions are equal.

VI. Summary of Findings

Randomized assignment to treatment implies that the distribution of all the variables for treatments and controls should be equal prior to the administration of the program. We can therefore check for whether randomization has been successfully implemented simply by comparing the treatment and control samples along a variety of dimensions.

An examination of the characteristics of the groups in terms of age, education, access to health care and income suggests that the treatments and control groups are very similar and do not indicate any systematic differences. Formal tests of equality between the distributions of various characteristics generally do not reject the hypothesis when the test is performed on locality means. However, when the test is performed on household level data, we find many more rejections of the null than would be expected by chance given standard significance levels. This is some cause for concern because we would like to use household level rather than locality level data in the evaluation due to the much larger sample sizes at the household level.

We believe that many rejections are due to the fact that the samples are large and tend to reject even for minor differences. However, it would be useful to further investigate the sources of the apparent nonrandomness to see if we could find a set of conditioning variables that we could condition on and have fewer rejections. Part of it may have to do with the differences in geographic distribution observed in Table 1. If so, then we can simply condition on region or state in drawing comparisons between treatment and control outcomes. However our efforts to explore such

possibilities have not eliminated the nonrandomness on a number of household characteristics in the household sample.

Appendix A: Description of Test Statistics

(a) The *Kolmogorov-Smirnov* test statistic is useful for testing equality between two distribution functions. The test statistic is

$$D = \max (|D^+|, D^-|)$$

where $D^+ = \max_x (F(x)-G(x))$ and $D^+ = \min_x (F(x)-G(x))$ and F(x) and G(x) are the empirical c.d.f.'s. The p-value of the test statistic can be evaluated using the limiting distribution provided by Smirnov (1939). To implement this test, we use the **ksmirnov** command available in Stata, which calculates p-values based on an approximation to the limiting distribution.

(b) The *Pearson Chi-squared Test* is a measure of association in a two-way table. Suppose a two-way table gives cross-tabulations for variables X and R, where R=0,1 are the columns of the table (corresponding to treatment verses control) and X_j, j=1..J are the rows of the table (corresponding to different outcome or conditioning variables of interest). Let the cell frequency in the ith row and jth column be given by n_{ij}. Define $n_{\bullet j}$ as the column totals and $n_{i\bullet}$ as the row totals. Let n denote the overall total of all the cells in the table.

The Pearson chi-squared statistic compares the observed frequencies with the expected frequencies under the null of no association. The alternative hypothesis being considered by the test is that of a general association between the variables. It is given by

$$Q_p=\Sigma_i\Sigma_j (n_{ij}-m_{ij})^2 / m_{ij}$$

where $mij = n_{i\bullet} n_{\bullet j} / n$. The test statistic is distributed chi-squared with (#rows-1)(#columns-1) degrees of freedom. See Kendall and Stuart (1979).

We implement the Pearson chi-squared test using the option available in the **tabulate** command in STATA.

(c) The *Likelihood-Ratio Chi-Square* statistic involves ratios between the observed and expected cell frequencies. The null is no association and the alternative is general association. The statistic has (#rows-1)(#columns-1) degrees of freedom. It is given by

$$QLR = \Sigma_i\Sigma_j n_{ij}\ln(n_{ij}/ m_{ij}).$$

This test statistic can also be computed using an option in the **tabulate** command in STATA.

(d) *T-test*

To test the equivalence between the distributions of two binary variables we can simply test the equivalence between the probabilities that each of the variables takes on the value 1. Let p_1 be the probability that X_1 takes on a value 1 and p_0 the probability that X_0 does. The test statistic

$$z = \sqrt{n_1}\,\frac{\hat{p}_1 - \hat{p}_0}{\sqrt{\hat{p}_1(1-\hat{p}_1) + \frac{\hat{p}_0(1-\hat{p}_0)}{n_0 / n_1}}}$$

follows a standard normal distribution.

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Table 1a
Distribution of Localities Participating in the Experiment over Geographic Regions
Total Number of Localities: 505
Tabulations based on Census data (encaseh97)

	Treatment	Control	Total
3	12.5	13.51	12.87
	61.54	38.46	100.00
4	20.00	20.54	20.20
	62.75	37.25	100.00
5	43.44	43.24	43.37
	63.47	36.53	100.00
6	6.56	5.41	6.14
	67.74	32.26	100.00
12	0.94	2.16	1.39
	42.86	57.14	100.00
27	14.06	13.51	13.86
	64.29	35.71	100.00
28	2.50	1.62	2.18
	72.73	27.27	100.00
Total	63.37	36.63	100.00
	100.00	100.00	100.00

Pearson's chi-squared test of equality between cell proportions yields p-value of 0.913.

Table 1b
Distribution of Household Members over Geographic Regions
Total Number of Household Members (with pobre==1): 20311
Tabulations based on Census data (encaseh97.dat file)

Region	Treatment	Control	Total
3	11.84	14.77	12.94
	57.13	42.98	100.00
4	17.76	19.68	18.48
	60.01	39.99	100.00
5	40.96	41.87	41.30
	61.92	38.08	100.00
6	13.31	8.19	11.39
	72.98	27.02	100.00
12	1.00	1.67	1.25
	49.78	50.22	100.00
27	12.22	12.35	12.27
	62.20	37.80	100.00
28	2.92	1.47	2.38
	76.72	23.28	100.00
Total	62.44	37.56	100.00
	100.00	100.00	100.00

Pearson chi-squared test of equality between cell proportions yields p-value of 0.000.

Table 1c
Distribution of Localities Participating in the Experiment over States
Total Number of Localities: 505
Tabulations based on Census data (encaseh97)

Entidad Federativa	Treatment	Control	Total
Guerrero	6.56	5.41	6.14
	67.74	32.26	100.00
Hidalgo	20.94	15.68	19.01
	69.79	30.21	100.00
MichoacA	14.06	13.51	13.86
	64.29	35.71	100.00
Puebla	15.31	14.05	14.85
	65.33	34.67	100.00
Queretar	4.38	4.86	4.55
	62.07	37.93	100.00
San Luis	16.88	17.84	17.23
	56.91	43.09	100.00
Veracruz	21.88	28.65	24.36
	56.91	43.09	100.00
Total	100.00	100.00	100.00

Pearson's chi-squared test of equality between cell proportions yields p-value of 0.616.

Table 1d
Distribution of Household Members over States
Total Number of Household Members (with pobre==1): 20311
Tabulations based on Census data (encaseh97.dat file)

Entidad Federativa	Treatment	Control	Total
Guerrero	13.31	8.19	11.39
	72.98	27.02	100.00
Hidalgo	17.62	11.33	15.26
	72.10	27.90	100.00
MichoacA	12.22	12.35	12.27
	62.20	37.80	100.00
Puebla	15.91	15.39	15.72
	63.21	36.79	100.00
Queretar	4.37	4.24	4.32
	63.15	36.85	100.00
San Luis	13.95	12.99	13.59
	64.10	35.90	100.00
Veracruz	22.62	35.51	27.46
	51.44	48.56	100.00
Total	100.00	100.00	100.00

Pearson chi-squared test of equality between cell proportions yields p-value of 0.000.

Table 2
Locality Population Distribution
Tabulations based on Census data (encaseh97 file)
(pobre=1 individuals)

locality population size category	Treatment	Control
<20	1.88	2.19
20-<50	13.17	10.38
50-<100	26.33	24.04
100-<200	36.68	43.72
200-<300	13.17	12.02
300-<400	4.39	3.86
400-<500	2.82	1.64
500-<600	0.31	1.64
600 or more	1.25	0.55

p-value from Pearson chi-squared test on locality size distributions is 0.587.

Table 3
Age Distribution of Children <17 years old by Treatment/Control Status (variable p08)
Total Number of Respondents (with pobre==1): 41197
Tabulations based on Census data (encaseh97)

Age in years	Treatment	Control	Total
< 1 year old	5.22	5.23	5.22
1	5.71	5.42	5.60
2	6.25	6.23	6.24
3	6.48	6.54	6.50
4	6.91	6.80	6.87
5	6.48	6.66	6.55
6	6.74	6.57	6.67
7	6.46	6.73	6.56
8	6.65	6.44	6.57
9	6.04	5.67	5.90
10	6.28	6.48	6.36
11	5.89	6.16	5.99
12	5.88	5.88	5.88
13	5.24	5.45	5.32
14	5.22	5.21	5.22
15	4.79	4.81	4.80
16	3.77	3.73	3.76
Total	100.00	100.00	100.00

Pearson chi-squared test of equality between cell proportions yields p-value of 0.896.

Table 4
Educational Attainment Levels of Household Heads by Treatment/Control Status (variable p20)
(with pobre==1): 8432 observations
Tabulations based on Census data (encaseh97)

Level (based on p20)	Treatment	Control	Total
incomplete primary	0.30	0.64	0.43
complete primary	67.35	69.13	68.01
incomplete secondary	24.72	22.96	24.06
complete secondary	1.78	2.10	1.90
incomplete normal basica, preparatory or professional	4.81	4.26	4.60
complete normal, basica, preparatory or professional	0.57	0.41	0.51
post-graduate	0.47	0.51	0.49
Total	100.00	100.00	100.00

A Pearson chi-squared test of equality of cell-proportions across treatment and control groups yields a p-value of 0.064

Table 5
Access to Health Care through main job
of Household Heads by Treatment/Control Status (variable p27)
Total Number of Respondents (with pobre==1): 12519
Tabulations based on Census data (encaseh97)

Type of Health Care	Treatment	Control	Total
Not applicable	9.62	11.47	10.31
IMSS/Social Insurance	1.70	2.24	1.90
ISSSTE	0.36	0.23	0.31
Public Institution or Related (Marine, Army)	0.11	0.06	0.10
Private Enterprises	0.08	0.11	0.09
Others	0.08	0.11	0.09
Does not have health care	87.74	85.43	86.88
Doesn’t know/Non-response	0.32	0.34	0.33
Total	100.00	100.00	100.00

A Pearson chi-squared test yields a p-value of 0.008.

Table 6(a)
P-values from Tests of Randomization
Schooling Module of Baseline Survey

Variable	p-value	p-value from test based on means (501 obs)
P003: Child is female or male?	0.035	0.151 (k-s)
P004: How old is name?	0.203	0.193 (k-s)
P00501: (name) is blind?	0.023	0.989 (k-s)
P00502: dumb?	0.693	1.000 (k-s)
P00503: deaf?	0.673	1.000 (k-s)
p00504: mental problems, brain paralysis	0.670	1.000 (k-s)
p00505: missing limbs?	0.145	1.000 (k-s)
p00506: handicapped	0.217	0.971 (k-s)
p00507: no problem	0.296	1.000 (k-s)
p00508: other problem	0.574	1.000 (k-s)
p006: Is (name) going to school?	0.014	0.568 (k-s)
p007: Why is (name) not going to school?	0.036	0.938 (k-s)
p008: When did (name) quit school?	0.035	0.122 (k-s)
p009: How is (name) doing at school?	0.000	0.629 (k-s)
p010: Do you think that (name) is (options) at school?	0.000	0.738 (k-s)
p011: Which level do you think (name) is going to reach according to effort made at school?	0.000	0.689 (k-s)
p012: Did (name) quit school for one or more years?	0.469	0.728 (k-s)
p013: What is the principal reason why (name) did not go to school?	0.366	0.005 (k-s)
p014: How many days did (name) not go to school? (for enrolled children)	0.185 (k-s)	0.005 (k-s)
p015: What is the principal reason why (name) did not go to school in the last 4 weeks?	0.000	0.751 (k-s)
p016: How are your children going to school?	0.363	1.000 (k-s)
P017: Do they have breakfast before?	0.738	0.166 (k-s)
P018: What do they usually eat?		
Café?	0.576	0.090 (k-s)
Milk?	0.003	0.244 (k-s)
Juice or fruit?	0.099	0.956 (k-s)
Bread or Tortillas?	0.440	0.545 (k-s)
Eggs?	0.016	0.099 (k-s)
Cereal?	0.207	0.991 (k-s)
Other?	0.746	0.933 (k-s)
non response?	0.074	1.000 (k-s)
p019: Why don't they eat breakfast before?	0.300	0.950 (k-s)
p020: Did you talk with your children's teacher?	0.589	0.285 (k-s)
ep021: Why did you talk to the teacher?	0.011	0.406 (k-s)
ep022: What level would you like your daughters to attain?	0.023	0.995 (k-s)
p023: Which level would you like your sons to attain?	0.071	0.895 (k-s)
p024: Are you or your husband in the school parents association?	0.050	0.474 (k-s)
p025: Are you or your spouse participating in school?	0.195	0.974 (k-s)
p02601: Is there any problem in school of lack of discipline?	0.557	0.512 (k-s)
p02602: lack of teacher interest?	0.004	0.050 (k-s)

Variable	p-value	p-value from test based on means (501 obs)
p02603: lack of communication between parents and teachers?	0.639	0.119 (k-s)
p02604: frequent absence of teachers?	0.001	0.124 (k-s)
p02701: Do you think that your children's teachers are well prepared?	0.137	0.761 (k-s)
p02702: reliable?	0.058	0.718 (k-s)
p02703: punctual	0.237	0.709 (k-s)
p02704: patient with children?	0.325	0.903 (k-s)
p028: At what age do you think your daughters can start caring for brothers and sisters?	0.880 (k-s)	0.150 (k-s)
p029: At what age do you think your sons can start caring for brothers and sisters?	0.742 (k-s)	0.259 (k-s)
p030: At what age do you think your daughters can do some work?	0.079 (k-s)	0.078 (k-s)
ep031 At what age do you think your sons can do some work?	0.226 (k-s)	0.350 (k-s)
ep032 At what age do you think your daughters can earn some money?	0.995 (k-s)	0.501 (k-s)
p033 At what age do you think your sons can earn some money?	0.893 (k-s)	0.907 (k-s)

(k-s) Based on Kolmogorov-Smirnov test of equality of distributions

Table 6(b)
P-values from Tests of Randomization
Consumption and Household Expenditure Module of Baseline Survey

Variable	P-Value
p034a01: How many days did you eat chili or tomato last week?	0.000
p034a02: Onion?	0.229
p034a03: Potato?	0.097
p034a04: Carrot?	0.024
p034a05: Green vegetables (lettuce, spinach, etc.)	0.875
p034a06: Orange?	0.000
p034a07: Banana?	0.003
p034a08: Apple?	0.787
p034a09: Lemon?	0.215
p034a10: Other vegetables?	0.005
P034b01: corn tortilla?	0.252
p034b02: Nixtamalque bread?	0.445
p034b03: Corn?	0.458
p034b04: White bread?	0.937
p034b05: Sweet bread?	0.466
p034b06: sliced bread?	0.205
p034b07: Wheat flour?	0.025
p034b08: Soup?	0.116
p034b09: Rice?	0.201
p034b10: Crackers?	0.011
p034b11: Beans?	0.000
p034b12: Cereal?	0.754
p034c01: chicken?	0.011
p034c02: beef/pork?	0.360
p034c03: lamb/goat?	0.386
p034c04: fish?	0.000
p034c05: tuna?	0.628
p034c06: egg?	0.181
p034c07: milk?	0.074
p034c08: butter pork?	0.010
p034d01: pastelillos?	0.707
p034d02: soda?	0.029
p034d03: alcohol drinks?	0.491
p034d04: coffee or tea?	0.002
p034d05: sugar?	0.018
p034d06: vegetable oil?	0.000
p035a01: How did you get the chili that you ate?	0.370
p035a02: Onion?	0.466
p035a03: Potato?	0.031
p035a04: Carrot?	0.707
p035a05: Green vegetables (lettuce, spinach, etc.)	0.397
p035a06: Orange?	0.429
p035a07: Banana?	0.037
p035a08: Apple?	0.763
p035a09: Lemon?	0.000
p035a10: Other vegetables?	0.203
p035b01: corn tortilla?	0.413
p035b02: Nixtamalque bread?	0.166

Variable	P-Value
p035b03: Corn?	0.618
p035b04: White bread?	0.486
p035b05: Sweet bread?	0.378
p035b06: sliced bread?	0.973
p035b07: Wheat flour?	0.710
p035b08: Soup?	0.811
p035b09: Rice?	0.967
p035b10: Crackers?	0.059
p035b11: Beans?	0.221
p035b12: Cereal?	0.379
p035c01: chicken?	0.225
p035c02: beef/pork?	0.981
p035c03: lamb/goat?	0.228
p035c04: fish?	0.502
p035c05: tuna?	0.399
p035c06: egg?	0.778
p035c07: milk?	0.219
p035c08: butter pork?	0.110
p035d01: pastelillos?	0.856
p035d02: soda?	0.290
p035d03: alcohol drinks?	0.505
p035d04: coffee or tea?	0.330
p035d05: sugar?	0.226
p035d06: vegetable oil?	0.411
p036a01: Who ate the chili?	0.960
p036a02: Onion?	0.344
p036a03: Potato?	0.560
p036a04: Carrot?	0.123
p036a05: Green vegetables (lettuce, spinach, etc.)?	0.109
p036a06: Orange?	0.113
p036a07: Banana?	0.199
p036a08: Apple?	0.878
p036a09: Lemon?	0.850
p036a10: Other vegetables?	0.031
p036b01: corn tortilla?	0.311
p036b02: Nixtamalque bread?	0.525
p036b03: Corn?	0.554
p036b04: White bread?	0.023
p036b05: Sweet bread?	0.074
p036b06: sliced bread?	0.505
p036b07: Wheat flour?	0.608
p036b08: Soup?	0.463
p036b09: Rice?	0.220
p036b10: Crackers?	0.347
p036b11: Beans?	0.104
p036b12: Cereal?	0.643
p036c01: chicken?	0.039
p036c02: beef/pork?	0.266
p036c03: lamb/goat?	0.646
p036c04: fish?	0.291
p036c05: tuna?	0.093
p036c06: egg?	0.235

Variable	P-Value
p036c07: milk?	0.114
p036c08: butter pork?	0.361
p037a05: Why didn't you green vegetables (lettuce, spinach, etc.) last week?	0.000
p037a07: Banana?	0.271
p037b09: Rice?	0.349
p037c01: chicken?	0.008
p037c06: egg?	0.062
p037c07: milk?	0.000
p037d02: soda?	0.097
p038c: How much did you spend?	0.027 (k-s)
p038d: How much did you spend?	0.693 (k-s)
p039c: How much do you owe of this?	1.000 (k-s)
p039d: How much do you owe of this?	1.000 (k-s)
p040: How many meals do you eat at home?	0.056
ep041: Do all members of the family usually eat at home?	0.473
ep042: How many people usually eat outside?	0.211
p04301: Those who eat outside, do they take food?	0.201
p04302: eat at relatives house?	0.367
p04303: receive food as part of the salary?	0.425
p04304: eat at school?	0.022
p04305: someone gives them food?	0.234
p04306: buy it?	0.193
p044: In total, how much do they spend on this food?	0.532 (k-s)
p045: How much money can you spend in a week?	0.047 (k-s)
p046: How much money do you spend in food in a week?	0.568 (k-s)
p04701: If you had more money, on what would you spend it? In food?	0.969
p04702: fixing the house?	0.390
p04703: clothes or shoes?	0.139
p04704: pay debts?	0.294
p04705: alcoholic drinks?	0.128
p04706: outings and entertainment?	0.246
p04707: medicine?	0.012
p04708: school supplies?	0.657
p04709: toys?	0.171
p047010: would not spend it, save it?	0.712
p04801: How much did you spend last week in bus/school bus/ taxis to go to school?	1.000 (k-s)
p04802: bus/ taxi/ shuttles to other places?	0.056 (k-s)
p04803: cigarettes or tobacco?	1.000 (k-s)
p04804: alcoholic beverages?	0.999 (k-s)
p04805: non alcoholic beverages?	0.476 (k-s)
p04901: How much did you spend personal and home hygiene last month?	0.001 (k-s)
p04902: medicine?	0.438 (k-s)
p04903: medical appointments?	0.846 (k-s)
p05001: How much did you spend in things like pots and pans in the last six months?	0.123 (k-s)
p05002: toys for boys and girls?	0.986 (k-s)
p05003: clothes (or fabric) for girls?	0.027 (k-s)
p05004: clothes (or fabric) for boys?	0.007 (k-s)
p05005: clothes (or fabric) for women including uniforms?	0.304 (k-s)
p05006: clothes (or fabric) for men, including uniforms?	0.699 (k-s)
p05007: shoes for girls?	0.712 (k-s)

Variable	P-Value
p05008: shoes for boys?	0.060 (k-s)
p05009: shoes for women?	0.004 (k-s)
p05010: shoes for men?	0.000 (k-s)
p05011: things for school?	0.631 (k-s)
p05012: cooperation to the school?	0.076 (k-s)
p05101: If you had more money per month, do you want to spend more in food?	0.163
p05102: fixing house?	0.749
p05103: clothes and shoes?	0.131
p05104: debts payment?	0.094
p05105: buy animals?	0.614
p05106: buy seeds or plants?	0.003
p05107: tools?	0.519
p05108: electrical appliances?	0.909
p05109: alcoholic beverages?	0.235
p05110: outings and entertainment?	0.327
p05111: medicines?	0.053
p05112: things for school?	0.458
p05113: toys?	0.906
p05114: would not spend it, save it?	0.025

(k-s) Based on Kolmogorov-Smirnov test of equality of distributions

Table 6(b)
P-values from Tests of Randomization
Child Health Module of the Baseline Survey

Variable	p-value	p-value based on test of means (633 Obs)
p06201_1: Was (name) sick with diarrhea?	0.039	0.301 (k-s)
p06202_1: Was (name) sick with cough or cold?	0.899	0.929 (k-s)
p06203_1: Was (name) sick with other illness?	0.427	0.594 (k-s)
p06204_1: Non response	0.973	1.000 (k-s)
p063_1: How many times did (name) go to the bathroom the day (name) was the worst	0.025	0.307 (k-s)
p06501_1: While (name) had diarrhea, did you give oral serum?	0.082	0.873 (k-s)
p06502_1: food?	0.753	1.000 (k-s)
p06503_1: medicine?	0.576	0.997 (k-s)
P06504_1: breast feed	0.086	0.990 (k-s)
P06505_1: non-response	0.133	0.998 (k-s)
p066_1: Did you breast-feed (name)	0.048	0.600 (k-s)
p067: Why did you not breast feed (name)	0.206	0.880 (k-s)
p068: How long did you breast feed (name)?	(k-s)	0.433 (k-s)
p069_1: Did you take child to the clinic in the last year?	0.009	0.371 (k-s)
p070_1: Why not?	0.001	0.639 (k-s)
P071_1: How many times did you take name to get measured and weighed?	0.001	0.900 (k-s)
p072_1: Does (name) have a record of vaccination?	0.002	0.644 (k-s)
p073_1: Is (name) vaccinated against tuberculosis?	0.264	0.469 (k-s)
p074_1: Does (name) have triple vaccine?	0.001	0.535 (k-s)
p075_1: Is (name) vaccinated against polio?	0.001	0.370 (k-s)
p076_1: Is (name) vaccinated against measles?	0.012	0.513 (k-s)

Table 6(c)
P-values from Tests of Randomization
Use of Health Services Module of the Baseline Survey

Variable	p-value	p-value from test based on means (501 Obs)
p077: Do you know how to prepare oral serum?	0.200	0.648 (k-s)
p078:At home, do you boil or put bleach in the water?	0.421	0.965 (k-s)
p079: In the last year, did a member of your household have to have parasites removed?	0.305	0.234 (k-s)
p080: In the last year, did you or someone in your household get a sugar test?	0.039	0.954 (k-s)
p081: a pressure test?	0.016	0.726 (k-s)
p080: Did you or someone in your family go to a medical center to see a doctor in the last year?	0.000	0.099 (k-s)
p083: To which institution does the medical center belong?	0.001	0.186 (k-s)
p084: How many days in a week is that center open?	0.000	0.016 (k-s)
p085: How many hours per day?	0.132 (k-s)	0.549 (k-s)
p086: How long do you wait before seeing a doctor?	0.001 (k-s)	0.926 (k-s)
p087:Howlong is the appointment?	0.047 (k-s)	0.306 (k-s)
p088: When you needed to see a doctor, could you see one?	0.200	0.495 (k-s)
p089: How much do you need to pay for an appointment?	0.066 (k-s)	0.177 (k-s)
p090: Do they give you the medicines when you pay the appointment?	0.584	0.714 (k-s)
p091: Does the doctor explain to you what is wrong with your health?	0.086	0.115 (k-s)
p092: Do you think that the doctor's explanation is clear and understandable?	0.006	0.995 (k-s)
p093: Do you follow what the doctor tells you?	0.292	0.569 (k-s)
p09401: Do you think the health center/ clinic has enough doctors?	0.460	0.772 (k-s)
p09402: nurses?	0.367	0.081 (k-s)
p09403: medicines?	0.004	0.150 (k-s)
p09404: tools/materials/equipment?	0.136	0.567 (k-s)
p09501: Do you think that the doctor of the health center is well prepared?	0.381	0.988 (k-s)
p09502: respectable?	0.550	1.000 (k-s)
p09503: responsible?	0.649	0.960 (k-s)
p09504: confident?	0.373	0.862 (k-s)
p09601: Do you think that the nurses of the health center are well prepared?	0.316	0.367 (k-s)
p09602: respectable?	0.347	0.160 (k-s)
p09603:responsible?	0.623	0.346 (k-s)
p09604: confident?	0.434	0.224 (k-s)
p097: Why do you not go to the health center?	0.124	0.359 (k-s)
p09801 How many live daughters do you have?	0.037	0.728 (k-s)
p09802: How many live sons do you have?	0.711	0.022 (k-s)
p099: Are you pregnant?	0.308	0.707 (k-s)
p100: How many times have you been pregnant?	0.063	0.570 (k-s)
p10101: When is the month of the delivery?	0.663	0.224 (k-s)
p10102: When is the year of the delivery?	0.966	1.000 (k-s)
p10201: During the pregnancy, did you see a mid-wife?	0.106	1.000 (k-s)
p10202: a doctor or a nurse?	0.886	0.435 (k-s)
p103: When did you go to see someone (in months of pregnancy)?	0.384	0.749 (k-s)
p104:How many times did you see someone during your pregnancy?	0.595	0.921 (k-s)
p105:Did you receive tetanus vaccine during this pregnancy?	0.263	0.628 (k-s)
p106: Did the doctor prescribe iron pills?	0.293	0.991 (k-s)

Table 6(d)
P-values from Tests of Randomization
Women's Health Module of the Baseline Survey

Variable	p-value
p107: Is there any other woman pregnant in this home?	0.248
p108: how many times have you been pregnant?	0.646 (k-s)
p109: how did your last pregnancy finish?	0.352
p11001: When is the month of the delivery?	0.454
p11002: When is the year of the delivery?	0.692 (k-s)
p11101: During the pregnancy, did you see a mid-wife?	0.083
p11102: a doctor or a nurse?	0.835
p112: When did you go to see someone (in months of pregnancy)?	0.159
p113:How many times did you see someone during your pregnancy?	0.502 (k-s)
p114:Did you receive tetanus vaccine during this pregnancy?	0.221
p115: Did the doctor prescribe iron pills?	0.468
p116: Who helped you in the delivery?	0.030
p117: Have you had the pap smear test? (to detect uterus cancer)	0.034
p118: When was the last year that you had the test?	0.928 (k-s)
p119: Would you like to have another child?	0.509
p120: Are you or your partner using something to prevent another pregnancy?	0.055
p121: Have you or your partner used something to prevent pregnancy?	0.166
p122: Did you or your partner have surgery in order to avoid pregnancy?	0.037
p123: who had surgery?	0.209
p124: which method are you using?	0.093
p125: What is the principal reason why you are not using something to avoid pregnancy?	0.072
p125a: What is the principal reason why you are not using something to avoid pregnancy?	0.251

(k-s) Based on Kolmogorov-Smirnov test of equality of distributions

Table 6(e)
P-values from Tests of Randomization
Women's Status Module of the Baseline Survey

Variable	p-value	p-value for tests based on means (501 Obs)
p12601: Who do you think, should do the laundry?	0.316	0.236 (k-s)
p12602: should bring water?	0.004	0.529 (k-s)
p12603: take care of the animals?	0.000	0.193 (k-s)
p12604: fix the house?	0.008	0.632 (k-s)
p12605: take care of the children?	0.687	0.068 (k-s)
p12606: seed?	0.000	0.079 (k-s)
p127: If a child is sick, who decides when is time to go to the doctor?	0.023	0.210 (k-s)
p128: If a child doesn't want to go to school, who decides if he/she can stay home?	0.005	0.815 (k-s)
p129: If the mother has an extra income, who decides the use of that money?	0.436	0.352 (k-s)
p130: Who decides when it is necessary to fix the house?	0.572	0.342 (k-s)
p131: Who decides when it is time to by clothes and shoes for the children?	0.303	0.201 (k-s)
p132: Who is the owner of the animals?	0.011	1.000 (k-s)
p133: Who is the owner of the orchard?	0.010	1.000 (k-s)
p135: who goes with you when you visit someone?	0.468	0.105 (k-s)
p136: Do you need to ask your husband for permission when you are going to visit someone?	0.274	0.098 (k-s)
p13701: The women must be only at home. Do you agree with this?	0.040	0.113 (k-s)
p13702: Women must obey men	0.098	0.710 (k-s)
p13703: Women can say their opinion on community concern	0.747	0.966 (k-s)
p13704: Women can work outside home	0.499	0.697 (k-s)
p13705: Women and men have the same rights	0.501	0.965 (k-s)
p13706: Women can have their own opinion	0.102	0.127 (k-s)

(k-s) Based on Kolmogorov-Smirnov test of equality of distributions

Table 6(f)
P-values from Tests of Randomization
Census Survey

Variable	P-value	P-values from tests based on Means (505 Obs)
p021: Decision taking	0.093	0.272 (k-s)
p022: Decision taking	0.352	0.306 (k-s)
p031: Who provides more money in this house?	0.293	0.049 (k-s)
p032: Who provides more money in this house?	0.371	0.468 (k-s)
p041: Who administers (or controls) the household expenses?	0.506	0.969 (k-s)
p042: Who administers (or controls) the household expenses?	0.007	0.041 (k-s)
p051: Who takes the children to the doctor when they are sick?	0.025	0.299 (k-s)
p052: Who takes the children to the doctor when they are sick?	0.003	0.294 (k-s)
inf: Names of the all people living in the house	0.000	0.565 (k-s)
p07: Verification of the number of people living in the house	0.860 (k-s)	0.353 (k-s)
p08: How old are (name)?	0.400 (k-s)	0.149 (k-s)
p09d: Day of birth	0.908	0.168 (k-s)
p09m: Month of birth	0.077	0.332 (k-s)
p09a: Year of birth	0.232	0.279 (k-s)
p10: Place of birth	0.000	0.982 (k-s)
p11: Gender	0.516	1.000 (k-s)
p13: Does the father of (name) live in this house?	0.164	0.389 (k-s)
p14: Does the mother of (name) live in this house?	0.435	0.943 (k-s)
p15: Why is (name) living in another place?	0.728	0.896 (k-s)
p16: Does (name) speak any dialect or an Indian language?	0.250	0.986 (k-s)
p17: Does (name) also speak Spanish?	0.085	0.748 (k-s)
p18: Is (name) literate?	0.807	0.783 (k-s)
p19: Did (name) go to school?	0.935	0.848 (k-s)
p20: Level of schooling	0.405	0.206 (k-s)
p21: Is (name) going to school right now?	0.731	0.743 (k-s)
p22: Did (name) work last week?	0.000	0.106 (k-s)
p23: What did (name) do during the last week?	0.015	0.070 (k-s)
p24: Why (name) didn't work/study anything during last week?	0.003	0.061 (k-s)
p25: What is (name) doing in his/her work?	0.000	0.694 (k-s)
p261: How many hours did (name) work during the last week?	0.000	0.999 (k-s)
p262: How many hours did (name) work during the last week?	0.038 (k-s)	0.047 (k-s)
p27: Does (name) have health care?	0.008	0.092 (k-s)
p281: Time table of the work	0.000	0.450 (k-s)
p282: Why (name) works that time?	0.000	0.781 (k-s)
p291p: Income		0.869 (k-s)
P291m: Income		0.327 (k-s)
p292: Way of payment	0.000	0.092 (k-s)
p301: Other remunerated activities	0.000	0.243 (k-s)
p302: Other remunerated activities	0.000	0.896 (k-s)
p32: Age at first work	0.024	0.257 (k-s)
p331: Did (name) migrate?	0.146	0.477 (k-s)
p332: Where (name) migrate?	0.000	0.971 (k-s)
p34: How long (name) was away?	1.000 (k-s)	0.993 (k-s)
p35: Did (name) send money?	0.424	0.292 (k-s)
p36: Marital Status	0.000	0.770 (k-s)

Variable	P-value	P-values from tests based on Means (505 Obs)
p37: Is the husband/wife/partner living in this house?	1.000 (k-s)	0.938 (k-s)
p38: Verification if someone in the household earn income	0.963	0.942 (k-s)
p39: Income of the household	0.402	1.000 (k-s)
p40a1: Does someone in this household receive money from DIF?	0.144	0.800 (k-s)
p40a2: Does someone in this household receive money from DIF?	0.315	0.989 (k-s)
p40a3: Does someone in this household receive money from DIF?	0.824	0.996 (k-s)
p40b1: money from the Children Solidarity Program	0.112	0.862 (k-s)
p40b2: money from the Children Solidarity Prog.	0.190	0.800 (k-s)
p40b3: money from the Children Solidarity Prog.	0.487	1.000 (k-s)
p40c1: help from INI (Indian National Institute)	0.255	1.000 (k-s)
p40c2: Help from INI (Indian National Institute)	0.378	1.000 (k-s)
p40c3: help from INI (Indian National Institute)	0.053	1.000 (k-s)
p40d1: grant from PROBECA or Cimo	0.547	1.000 (k-s)
p40d2: grant from PROBECA or Cimo	0.256	1.000 (k-s)
p40d3: grant from PROBECA or Cimo	0.181	1.000 (k-s)
p40e1: Temporal Employment Program	0.008	1.000 (k-s)
p40e2: Temporal Employment Program	0.181	1.000 (k-s)
p40e3: Temporal Employment Program	0.374	1.000 (k-s)
p40f1: Breakfast School DIF	0.000	0.622 (k-s)
p40f2: Breakfast School DIF	0.001	0.399 (k-s)
p40f3: Breakfast School DIF	0.057	1.000 (k-s)
p41a1: Does someone in this household receive free tortilla or Tortilla Solidarity?	0.906	1.000 (k-s)
p41a2: Does someone in this household receive help from Tortilla Solidarity or free tortilla?	0.240	1.000 (k-s)
p41b1: Does someone in this household receive help from Liconsa or Conasupo Milk?	0.826	0.991 (k-s)
p41b2: Does someone in this household receive help from Liconsa or Conasupo Milk?	0.040	1.000 (k-s)
p42a: Is someone in this household blind?	0.171	0.808 (k-s)
p42b: mute?	0.488	0.904 (k-s)
p42c: deaf?	0.419	0.991 (k-s)
p42d: has mentally problems?	0.426	0.789 (k-s)
p42e: missing limbs?	0.292	0.999 (k-s)
p42f: handicapped?	0.376	1.000 (k-s)
p43: Does someone, who lived here, live in another state/county/country, in the last 5 years?	0.027	0.905 (k-s)
p45a_01: How many years ago did (name) migrate?	0.021	0.884 (k-s)
p45a_02: How many years ago did (name) migrate?	0.410	1.000 (k-s)
p45a_03: How many years ago did (name) migrate?	0.070	1.000 (k-s)
p45a_04: How many years ago did (name) migrate?	0.146	1.000 (k-s)
p45a_05: How many years ago did (name) migrate?	0.196	1.000 (k-s)
p45m_01: How many months ago did (name) migrate?	0.751	1.000 (k-s)
P45m_02: How many months ago did (name) migrate?	0.246	1.000 (k-s)
p45m_03: How many months ago did (name) migrate?	0.137	1.000 (k-s)
p45m_04: How many months ago did (name) migrate?	0.338	1.000 (k-s)
p45m_05: How many months ago did (name) migrate?	0.196	0.843 (k-s)
p46_01: gender of (name)	0.112	1.000 (k-s)
p46_02: gender of (name)	0.619	1.000 (k-s)

Variable	P-value	P-values from tests based on Means (505 Obs)
p46_03: gender of (name)	0.157	1.000 (k-s)
p46_04: gender of (name)	0.762	1.000 (k-s)
p46_05: gender of (name)	0.196	1.000 (k-s)
p47_01: age of (name)	0.999 (k-s)	0.853 (k-s)
p47_02: age of (name)	1.000 (k-s)	1.000 (k-s)
p47_03: age of (name)	0.526	1.000 (k-s)
p47_04: age of (name)	0.434	1.000 (k-s)
p47_05: age of (name)	0.196	1.000 (k-s)
p48_01: What is the relation between (name) and the head of the household?	0.229	0.817 (k-s)
p48_02: What is the relation between (name) and the head of the household?	0.431	1.000 (k-s)
p48_03: What is the relation between (name) and the head of the household?	0.563	1.000 (k-s)
p48_04: What is the relation between (name) and the head of the household?	0.414	1.000 (k-s)
p48_05: What is the relation between (name) and the head of the household?	0.196	1.000 (k-s)
p49_01: Where is (name) living?	0.026	0.805 (k-s)
p49_02: Where is (name) living?	0.346	1.000 (k-s)
p49_03: Where is (name) living?	0.390	1.000 (k-s)
p49_04: Where is (name) living?	0.106	1.000 (k-s)
p49_05: Where is (name) living?	0.196	1.000 (k-s)
p50_01: Did (name) send money in the last 12 months?	0.030	0.808 (k-s)
p50_02: Did (name) send money in the last 12 months?	0.704	1.000 (k-s)
p50_03: Did (name) send money in the last 12 months?	0.785	1.000 (k-s)
p50_04: Did (name) send money in the last 12 months?	0.762	1.000 (k-s)
p50_05: Did (name) send money in the last 12 months?	0.196	1.000 (k-s)
p51_01: How much did (name) send?	1.000 (k-s)	0.913 (k-s)
p51_02: How much did (name) send?	1.000 (k-s)	0.996 (k-s)
p51_03: How much did (name) send?	0.771	1.000 (k-s)
p51_04: How much did (name) send?	0.338	1.000 (k-s)
p51_05: How much did (name) send?	0.196	1.000 (k-s)
otro2_01: Other	0.066	0.825 (k-s)
otro2_02: Other	0.445	1.000 (k-s)
otro2_03: Other	0.735	1.000 (k-s)
otro2_04: Other	0.414	1.000 (k-s)
otro2_05: Other	0.196	1.000 (k-s)
p521: Where do the person of this household receive health care?	0.000	0.900 (k-s)
p522: Where do the person of this household receive health care?	0.000	0.602 (k-s)
p523: Where do the person of this household receive health care?	0.000	1.000 (k-s)
p54: Tenancy of the house	0.000	0.497 (k-s)
p55: Material of the floor	0.000	0.736 (k-s)
p56: Material of the roof	0.000	0.870 (k-s)
p57: Material of the walls	0.000	0.023 (k-s)
p58: Rooms in the house	0.976 (k-s)	0.933 (k-s)
p59: Water by tube	0.000	0.100 (k-s)
p60: Water by tube inside the house	0.000	0.148 (k-s)
p61: Toilet for the family	0.216	0.934 (k-s)

Variable	P-value	P-values from tests based on Means (505 Obs)
p62: Toilet has water?	0.430	0.896 (k-s)
p63: Electric light	0.001	0.325 (k-s)
p64: Artifact that measures the electric light	0.002	0.371 (k-s)
p65a: Blender	0.000	0.023 (k-s)
p65b: Refrigerator	0.472	0.478 (k-s)
p65c: Gas heater	0.079	0.194 (k-s)
p65d: Gas Water heater	0.882	0.806 (k-s)
p65e: Radio	0.021	0.407 (k-s)
p65f: CD and cassette player	0.083	0.865 (k-s)
p65g: TV	0.000	0.049 (k-s)
p65h: Video	0.112	0.958 (k-s)
p65i: Cloth Washer	0.280	1.000 (k-s)
p65j: Fan	0.000	0.628 (k-s)
p65k: Car	0.200	1.000 (k-s)
p65l: Truck	0.153	1.000 (k-s)
p66: Land of their own property	0.000	0.837 (k-s)
p67: How many pieces of land do you use?	0.000	0.901 (k-s)
p681: How many acres?	0.004 (k-s)	0.925 (k-s)
p682: How many acres?	0.336 (k-s)	0.687 (k-s)
p683: How many acres?	0.969 (k-s)	0.989 (k-s)
p684: How many acres?	0.000	1.000 (k-s)
p685: How many acres?	0.003	1.000 (k-s)
p691: Do you give water to the land?	0.006	0.967 (k-s)
p692: Do you give water to the land?	0.155	0.971 (k-s)
p693: Do you give water to the land?	0.081	0.943 (k-s)
p694: Do you give water to the land?	0.001	1.000 (k-s)
p695: Do you give water to the land?	0.001	0.998 (k-s)
p701: Use of the land (during the last 12 months)	0.000	0.922 (k-s)
p702: Use of the land (during the last 12 months)	0.010	0.936 (k-s)
p703: Use of the land (during the last 12 months)	0.035	0.836 (k-s)
p704: Use of the land (during the last 12 months)	0.002	0.998 (k-s)
p705: Use of the land (during the last 12 months)	0.007	1.000 (k-s)
p71: Animals property	0.005	0.613 (k-s)
p72a: How many horses do you have?	0.771	0.807 (k-s)
p72b: Donkeys	0.043	0.509 (k-s)
p72c: Buffaloes (?)	0.015	0.136 (k-s)
p73a: How many goats, lambs do you have?	0.003 (k-s)	0.078 (k-s)
p73b: Cows, cattle	0.141 (k-s)	0.493 (k-s)
p73c: Hens, roosters and chickens	0.002 (k-s)	0.181 (k-s)
p73d: Pigs	0.023 (k-s)	0.582 (k-s)
P73e: Rabbits?	1.000 (k-s)	0.858 (k-s)
annualized income variables		
p291: wage income for household head	0.000 (k-s)	0.266
p31a: other income for household head-a	0.000 (k-s)	0.493
p31b: other income for household head-b	0.267 (k-s)	0.998
inctot1: total income for household head	0.000 (k-s)	0.233

(k-s) Based on Kolmogorov-Smirnov test of equality of distributions

Figure 1: Power and Significance Level of Test

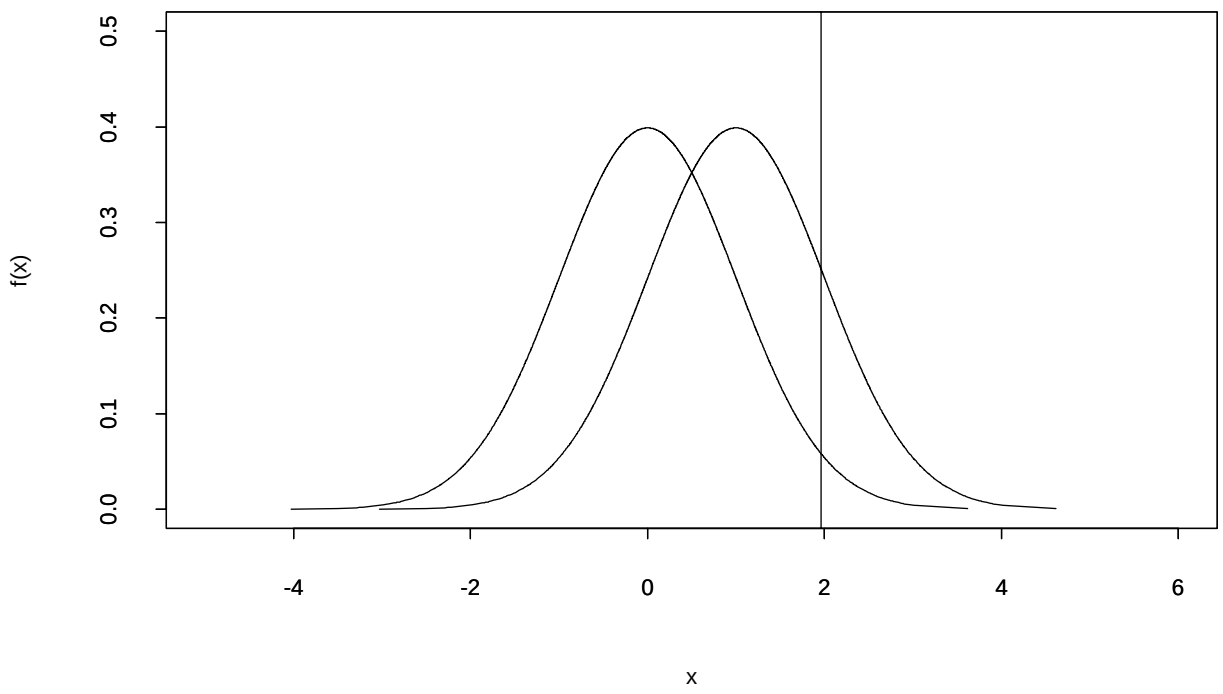


Figure 2: Histogram of P-values for Baseline Survey

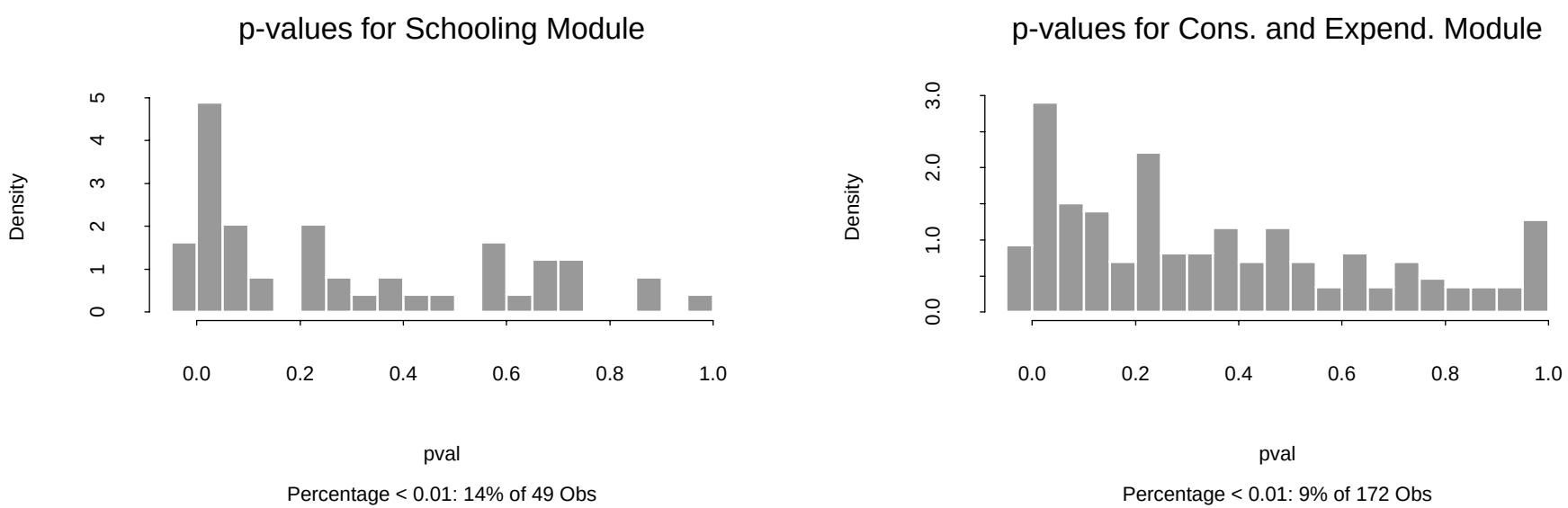
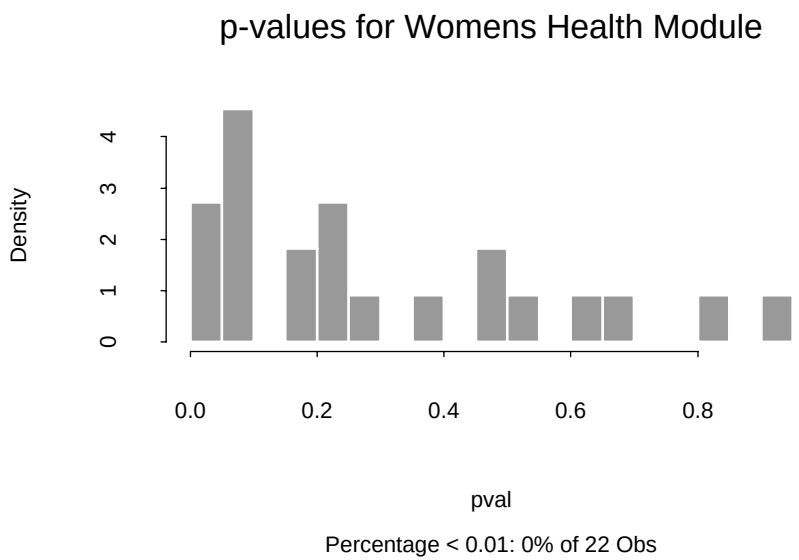


Figure 2 continued: Histogram of P-values for Baseline Survey



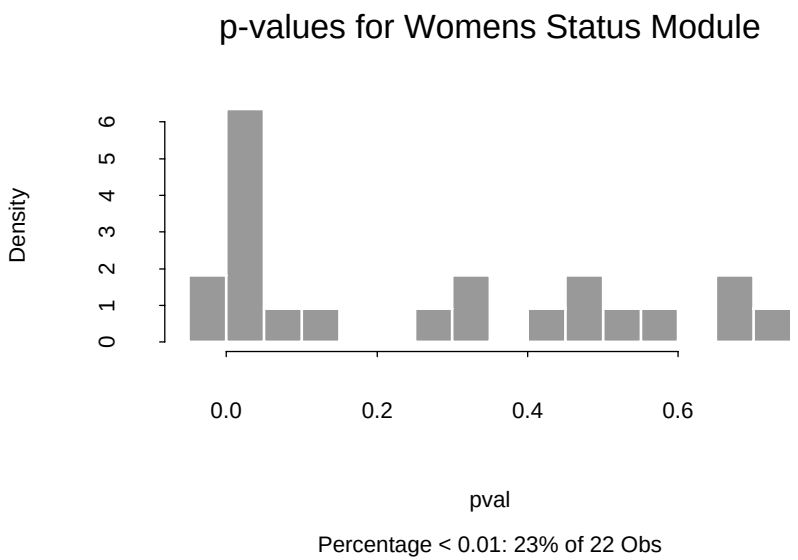


Figure 3: Histogram of P-values for Census Survey