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Shelter from the Storm: Upgrading Housing Infrastructure in Latin American Slums

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Abstract: This paper provides empirical evidence on the causal effects that upgrading slum dwellings has on the living conditions of the extremely poor. In particular, we study the impact of providing better houses *in situ* to slum dwellers in El Salvador, Mexico and Uruguay. We experimentally evaluate the impact of a housing project run by the NGO *TECHO* which provides basic pre-fabricated houses to members of extremely poor population groups in Latin America. The main objective of the program is to improve household well-being. Our findings show that better houses have a positive effect on overall housing conditions and general well-being: treated households are happier with their quality of life. In two countries, we also document improvements in children's health; in El Salvador, slum dwellers also feel that they are safer. We do not find this result, however, in the other two experimental samples. There are no other noticeable robust effects on the possession of durable goods or in terms of labor outcomes. Our results are robust in terms of both internal and external validity because they are derived from similar experiments in three different Latin American countries.

JEL: I12, I31, J13, O15, O18
Keywords: Slums, Housing, Health, Happiness, Internal and External Validity.

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1. Introduction

The 1948 United Nation Universal Declaration of Human Rights identified housing, along with food and clothing, as a basic requirement for achieving an adequate standard of living.[1] Despite this, almost one billion people, primarily in the developing world, live in urban slums and lack proper housing (United Nations, 2003).[2] Most slum dwellers live in houses with dirt floors, poor-quality roofs, and walls constructed out of waste materials such as cardboard, tin and plastic. These houses do not provide proper protection against inclement weather, are not secure and are not pleasant to live in. Many have insufficient access to services such as clean water, sanitation and electricity (UN-Habitat, 2003 and Marx et al., 2013).

Housing is one of the largest expenditures that a family makes and it a superior good, inasmuch as the share of income spent on housing typically increases disproportionately as income rises. Adequate housing provides a number of benefits. First, families live and spend a large amount of time in their houses. Houses are one of the few places that families can use for rest and relaxation. As such, housing quality contributes substantially to well-being, quality of life and mental health. A proper house can induce a sense of dignity and pride (Sen, 1999). In fact, Cattaneo et al. (2009) and Devoto et al. (2011) have shown how specific housing improvements such as better floors and access to water have resulted in increased satisfaction with quality of life and better mental health. Second, adequate housing can promote physical health by providing protection against the ravages of the environment. Roofs and walls shelter one from rain and from the cold. Water, sanitation and non-dirt floors protect against parasitic infestations and infections. Finally, housing may provide security and serve as a defense against crime, a major problem in slums (United Nations, 2003). Thus, proper housing may allow households to accumulate assets, as well as free up time for use in more productive activities that would otherwise be devoted to protecting assets.

[1] United Nations, Universal Declaration of Human Rights, Article 25 (1948).

[2] In line with previous work, we define a slum as an overcrowded settlement which has poor-quality housing, inadequate access to safe water and sanitation, and insecurity of tenure (UN-Habitat, 2003).

This paper provides some of the first experimental evidence regarding the causal effects of upgrading dwellings on the living conditions of extremely poor persons in slums. We examine the impact of inexpensive but sturdy houses constructed by TECHO, an NGO that provides basic pre-fabricated houses to extremely poor populations in Latin America. TECHO targets the poorest informal settlements and, within these settlements, the families who live in extremely substandard housing. TECHO houses are a significant improvement over existing housing units in terms of their flooring, roofs and walls. While the TECHO houses are substantial improvement over the pre-existing dwellings, they do not have indoor sanitation facilities, running water or kitchens.

In this paper, we use experimentally generated variation to assess the effects of upgraded housing on living conditions in three Latin American countries: El Salvador, Mexico and Uruguay. Our findings show that the better structures have a positive effect on overall housing conditions and general well-being: treated households are happier and more satisfied with the quality of their lives. This is a dimension of social policy that is often overlooked but is crucial to the "life experience" of poor people and, thus, should be taken into account whenever evaluating housing programs like TECHO. In two countries, El Salvador and Mexico, we also document improvements in children's health, while, in El Salvador, slum dwellers' perception of their safety and security also improves. There are, however, no robust noticeable effects on the possession of durable goods or in terms of employment outcomes.

Any causal study must overcome both internal and external threats to its validity (see Campbell, 1957, and Cook and Campbell, 1979). Most research is focused on addressing threats to internal validity; i.e., on ensuring that the estimated effects are "causal" within the context of the study population. External validity, in contrast, refers to the extent to which the estimated effects can be applied to other populations in different settings and at different times. Ultimately, external validity is established by replication in multiple data sets drawn from a variety of settings (Angrist, 2004).[3] Our results are unusually robust in terms of both internal and external validity because they are derived from experiments in three different Latin

[3] See Cruces and Galiani (2007) for an application of this idea in the context of a quasi-experiment on the effect of fertility on maternal labor supply.

American countries and we are therefore able to identify casual results that are robust across countries.[4]

Despite the importance of housing, however, very little evidence exists on the causal effects of housing programs. Our findings constitute a contribution to the small body of literature on this subject.[5] To the best of our knowledge, this study is the first randomized experiment undertaken to assess the impact of upgrading housing infrastructure in slums in the developing world.[6] Previous contributions include Katz et al. (2001), who analyzed the results of a program that randomly offered vouchers to poor slum dwellers in the U.S. that allowed them to relocate to areas with lower poverty rates. Voucher recipients experienced improvements in some indicators of well-being, including safety, health and the prevalence of behavioral problems among boys. Kling et al. (2004) exploited the same experiment and found a reduction in arrests of young people for violent crimes and of young females for property crimes, but also found increased behavioral problems and property crime in the case of young males. Cattaneo et al. (2009) exploited a natural experiment that showed that replacing dirt floors with cement floors in urban areas of Mexico has a positive impact on child health, maternal mental health, and satisfaction with quality of life. Finally, Devoto et al. (2011) studied the effects of randomly offering credit to finance household connections to the water distribution system in urban Morocco. While they do not find significant health effects, they do find a significant improvement in self-reported well-being.

The rest of this paper is organized as follows. In Section 2, we describe the intervention. Section 3 presents the experimental design. In Section 4 we introduce the econometric methods used

[4] While external validity is evaluated in terms of the direction and statistical significance of the effects of the intervention, the size of the effects could well be different across settings because the counterfactuals might also differ across settings.

[5] See Marx et al. (2013) for a survey on the economics of slums, Jaitman (2012) for a literature review on slum upgrading programs, and Duflo et al. (2012a) on urban services.

[6] There are also a large number of cross-sectional observational studies that point to the existence of strong associations between poor housing and indicators of poor health (see Thomson et al., 2001, for a review).

in this study, while in section 5 we present our empirical results. In section 6 we discuss who lives in slums and offer some insights on the formation of slums. Finally, section 7 concludes.

2. Upgrading Housing Infrastructure

TECHO provides basic pre-fabricated houses to extremely poor families living informal settlements (slums) in Latin America with the objective of improving well-being. It started up seventeen years ago in Chile and now works in 19 Latin American countries. The NGO has built almost 100,000 houses with the help of an army of volunteers. Every year more than 20,000 youth throughout Latin America volunteer to work with TECHO.[7]

The locations of the settlements in El Salvador are somewhat different than in the other 2 countries. In El Salvador TECHO works in poor areas scattered throughout the country, but excludes the primary urban center of San Salvador. In contrast, the TECHO intervention sites are concentrated closer to largest urban centers in the other two countries. In Mexico, this includes slums in Estado de Mexico located adjacent to Mexico City, and in Uruguay, slums located in and around Montevideo and Canelones.

TECHO targets the poorest informal settlements and the households within these settlements that live in very substandard dwellings. TECHO serves "irregular settlements," defined as communities comprised of families that inhabit plots of land that they do not own. Settlements are plagued by a host of problems such as insufficient access to basic services (water, electricity and sanitation), significant levels of soil and water contamination, and overcrowding. The typical housing units in these informal settlements are no better than their surroundings, as

[7] While the work primarily involves building homes, over 3,500 regular volunteers also commit at least one day a week to community organization and participating in social inclusion programs. This second phase of the intervention aims at developing skills through the implementation of these inclusive programs. Our study focuses on evaluating the impact of the first phase of the program: the construction of transitional housing. We limit the evaluation sample frame to settlements that did not receive the services provided during the second phase of the intervention so that no intervention other than the construction of housing took place in the settlements studied during the period of analysis.

they are rudimentary units constructed from discarded materials such as cardboard, tin and plastic, have dirt floors and lack connections to basic services such as water and sewer systems.

The TECHO housing units are 18 squared meters (6m by 3m) in size. The walls are made of pre-fabricated, insulated pinewood panels or aluminum and the roofs are made of tin to keep occupants warm and protect them from humidity, insects, and rain.[8] Floors are built on top of 15 stacks that raise it up to between 30 and 80 centimeters off the ground in order to reduce dampness and protect occupants from floods and infestations. Although these houses are a major improvement over the recipients' previous housing situation, the facilities they offer are limited, as they do not include a bathroom or kitchen or amenities such as plumbing, drinking water hook-ups, or gas connections.

The houses are designed to be low cost and easy to construct. Units are modular and portable, are constructed with simple tools, and are set up by volunteers working in squads of 4-8 members. The cost of a Techo house is less than $1,000, of which the beneficiary family contributes 10%. In El Salvador, this is approximately equivalent to 3 months' earnings, while in Mexico and Uruguay, it is roughly equivalent to 1.4 months. The following images show examples of the TECHO houses built in El Salvador, Mexico and Uruguay.

	
El Salvador	Mexico and Uruguay

[8] In El Salvador, floors are made of cement, and walls and roofs are made of aluminum. In Mexico and Uruguay, floors and walls are made of wood, while roofs are made of aluminum.

The houses are also easy to disassemble and move to a new location. It is important for the houses to be movable because most of the families in these makeshift settlements do not have formal title to the land that they live on. TECHO managers were concerned that upgrading the value of the land by building permanent housing might induce both public and private owners to try to force residents to move in order to reclaim the improved land. However, by making the housing mobile, there is no such incentive.[9]

3. Experimental Design

TECHO budget and personnel constraints limit the number of housing units that can be built at any one time.[10] Under these constraints, TECHO opted to select beneficiaries through a lottery system giving all eligible households in a pre-determined geographical neighborhood an equal opportunity to receive the housing upgrade in a given year. We exploit this experimental variability to assess the impact of improved housing living conditions.

TECHO first selected a set of eligible settlements and then conducted a census to identify eligible households (i.e., those poor enough to be given priority). The eligible households were then randomly assigned to treatment and control groups. Since TECHO did not have the capacity to work in all settlements at once, the program was rolled out in each country in two phases.[11] Random assignment was performed within each settlement on a rolling basis.[12, 13]

[9] A more comprehensive slum upgrading program would likely be preceded by a land titling program (see, among others, Field, 2005, and Galiani and Schargrodsky, 2010).

[10] This also constrained the size of the sample used in our study in each country.

[11] See Supplemental Appendix Table A1 for the dates of each phase and follow-up survey in each country.

[12] In El Salvador and Uruguay, some settlements were randomly assigned a higher intensity-of-treatment level. However, due to the small number of clusters, mostly, we do not exploit this feature in our analysis.

[13] Within each settlement every household had the same probability of being chosen for inclusion in the intention-to-treat group, but this was not necessarily the case across settlements.

Baseline surveys were conducted approximately one month before the start of each phase, and the follow-up surveys were between 19 and 29 months after construction (See Supplemental Appendix Table A1). In order to obtain truthful information from households and to avoid creating any desirability bias in the treatment group, the data collection was separated from the implementation of the intervention by contracting a highly respected survey firm in each country. The enumerators identified themselves as collecting data for a study on living conditions and did not make any reference to TECHO verbally or in written form. All surveys included modules on socioeconomic characteristics, the labor market, assets, security, health and self-reported measures of satisfaction. (Supplemental Appendix tables A2a, A2b, and A2c provide details on the variables in the analyses).

Our sample includes 23 settlements in El Salvador, 39 settlements in Mexico and 12 in Uruguay. The total number of eligible households in these settlements was 2,373 split approximately evenly across the 3 countries. Treatment was offered to 60% of the households in El Salvador, 51% in Mexico and 61% in Uruguay (See Supplemental Appendix Table A3).[14] In all, over 85% of the households in the intention-to-treat groups complied with the treatment assignment, while the compliance rates for the non-intention-to-treat groups were practically perfect. Finally, we attempted to track all of households that migrated out of the study settlements, but could find and interview only a fraction of them. Attrition rates from the sample are between 5.5% and 7% of households in the intention-to-treat group and 6.3% to 8.7% of those in the non-intention-to-treat group. Though the attrition rates are about one percentage point higher in the non-intention-to-treat group in all three countries, the differences are not statistically significant at conventional levels.

[14] Note, however, that the number of individuals, as measured in the follow-up survey, increased in almost all groups and samples. Among the households interviewed in the follow up survey, a large fraction of the new members are children below 2 years old. The rest is mainly account by other children of the head of the household not present at the house at the time we collected the respective baseline survey.

3.1. Experimental Group Balance

Under randomization, the outcomes of the intention- and non-intention-to-treat groups should be equal, on average, prior to treatment. In Supplemental Appendix Tables A4a and A4b, we present summary statistics separately for the intention- and non-intention-to-treat groups on a large set of pre-treatment variables grouped as socioeconomic characteristics, housing characteristics, assets, satisfaction with quality of housing and life, security, education and health. We also report robust standard errors and test for the null hypothesis of no difference between the mean values of each variable for each experimental group. Given that the randomization of units between experimental groups occurred within each settlement, we expect them to be well-balanced once we control for settlement fixed effects. Thus, when testing the null hypothesis of no differences between the two groups, we control by settlement fixed effects.

The analysis indicates that the design is well balanced, since, in Mexico and El Salvador, only 2 out of 44 variables are unbalanced at the 10% significance level, while, in Uruguay, six variables appear to be unbalanced at conventional levels. Finally, in the combined three experiments, only 4 out of 44 variables are statistically different between groups at conventional levels. This is about what would be expected by chance. [15,16]

3.2. Baseline Cross-Country Housing Differences

A major strength of this study is that it provides an evaluation of the same intervention in three different populations and environments. Mexico and Uruguay are much richer than El Salvador. The PPP Gross National Income (GNI) per capita in 2007 was USD 12,580 in Mexico, USD 11,020

[15] The analysis remains almost unchanged if we instead cluster the standard errors at the settlement level while still including settlement fixed effects. We find only three variables unbalanced in El Salvador, four in Mexico and Uruguay, and only three variables in the combined three experimental samples. These results are available upon request.

[16] Without controlling for settlement fixed effects, we find that, in Uruguay, only two variables appear to be statistically unbalanced; in Mexico, six variables are unbalanced, but in El Salvador as many as eight variables are unbalanced at the 10% level of statistical significance. Overall, in the combined three samples, six variables are unbalanced at conventional levels of statistical significance. These results are available upon request.

in Uruguay compared to USD 5,640 in El Salvador. These differences are reflected in housing and as such influence the estimated impacts of dwelling upgrades on outcomes. Therefore, a comparison of the baseline housing characteristics is an important input for the interpretation of our results as these provide the counterfactuals estimates for the treatment effects.

In Table A5, we highlight a set of 11 housing characteristics measured at baseline in all of the countries and test the null hypothesis of no difference between the mean values of each variable by country. Baseline housing was, as is to be expected, substantially better in Mexico and Uruguay than in El Salvador. For example, in Mexico 64.9% of households had high-quality floors, while in Uruguay the corresponding figure was 37.2% and in El Salvador it was only 14.4%. In Uruguay and Mexico, a large percentage of households had electricity (95.9% and 83.8%, respectively) and some form of water connection (91.3% and 51.0%, respectively), while, in El Salvador, only 39.1% of households had electricity and 21.5% of them had some sort of water hook-up on the property.

4. Methods

We report estimates of the average intention-to-treat effect for the outcomes of interest. Given the high compliance rate, these parameters are very close to average treatment effects. Operationally, we estimate the following regression model:

$$\mathrm{Y}_{ij} = \alpha + \gamma\, \mathrm{Intention\,to\,Treat}_{ij} + \beta\, \mathrm{X}_{ij} + \mu_j + \varepsilon_{ij} \qquad (1)$$

where i indexes households or individuals, j indexes settlements, Y_{ij} is any of the outcomes under study, and γ is the parameter of interest (i.e., the coefficient associated to a dummy variable that equals 1 for the households or individuals that were experimentally allocated to treatment, and 0 otherwise) on the outcome under consideration,[17] X_{ij} is a vector of pre-

[17] Some of the variables under study are limited dependent variables (LDVs). The problem posed by causal inference with LDVs is not fundamentally different from the problem of causal inference with

treatment characteristics measured at baseline, μ_j is a settlement fixed effect, and ε_{ij} is the error term. The settlement fixed effects capture the average unobservable differences across settlements that may exist given that randomization was conducted within each settlement. Controlling for settlement fixed effects, we assume that the error terms are independent and report only robust standard errors throughout the empirical section of the analysis.[18]

In studies with multiple outcomes, statistically significant effects may emerge simply by chance. The larger the number of tests, the higher is the likelihood of incurring in a type I error. We correct for this possibility by using Bonferroni Family-Wise Error Rates (FWER) to adjust the *p*-values of the individual tests as a function of the number of outcome variables. We compute Bonferroni FWER corrections at the 10 percent level of statistical significance by dividing the desired size of the test by the number of outcome variables in conceptually similar blocks of outcomes grouped by table and country experiment.

We also follow Kling et al. (2007) to construct summary indexes by family group. We first impute missing values using the mean of the settlement by intention-to-treat status. Then, we standardize each outcome variable by subtracting the mean value of the control group and by dividing by its standard deviation. Finally, the summary index is computed as the sum of standardized outcome variables in the group with the sign of each measure oriented so that more beneficial outcomes have higher scores divided by the number of outcome variables. These summary indexes, aggregating information across related outcomes, are not only useful summary statistics but might also improve the statistical power to detect effects of the

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continuous outcomes. If there are no covariates or the covariates are sparse and discrete, linear models are no less appropriate for LDVs than for other types of dependent variables. This is certainly the case in a randomized control trial where controls are included only in order to improve efficiency, but their omission would not bias the estimates of the parameters of interest.

[18] The statistical inference of the results reported in the next section are robust to clustering the standard errors at the settlement level in that rejection decisions of the null hypothesis of no effect remain the same at conventional levels of statistical significance. This result renders credibility to our assumption that the settlement fixed effect captures the systematic unobserved differences across slums. These results are available upon request.

intervention that are consistent across groups of outcomes when they have idiosyncratic variation.

Finally, standard statistical corrections to attempt to control the type-I error rate of a test, such as the Bonferroni correction, are more important in the context of an experiment where there is little other information used in the analysis than the one about the randomization of treatment status. Our study departs from that paradigm in that it reports effects of three independent samples and hence, we can rely on the information of these independent samples to reassure ourselves of the validity of our inference. In that sense, in the next section, we will tend to emphasize more the sets of results that we obtain in all three samples.

5. Results

In this section we report the estimated effects of TECHO houses on several outcome variables of interest, including dwelling quality, satisfaction with the house and quality of life, security, assets, labor supply and child health. We report the results of estimating equation (1) for two different specifications –one with and one without a set of control variables that are listed in the notes to the tables. In each table, we first present the results for Models 1 and 2 for each country separately and then present the estimates for the parameter of interest in these two models for a pooled sample that includes the three experiments. These estimates provide an informative "average" summary of the results across all 3 countries and also are likely to be more precisely estimated. At the bottom of each table we report the effect on the aggregated summary index for all indicators. Finally, we still report conventional significance levels in the traditional manner in the tables and the corresponding Bonferroni FWER adjusted p-value for each group in the table notes.

5.1 Housing

We begin by first demonstrating that the provision of a TECHO house had an impact on the quality of housing. This is a necessary condition in order for this intervention to have any impact on the other outcomes. In addition, we test whether families invested further in their

house. Better houses may also provide incentives to invest in further housing improvements, since such investments may be associated with other complementarities (see, among others, Banerjee and Duflo, 2011). Generally, we find that TECHO has had a large positive effect on the quality of housing but no more than that.

In Table 1a we present the results for the effects of the program on housing quality. As expected, the program resulted in substantial improvements in the quality of floors, walls and roofs, as well as in the percentage of rooms with windows. TECHO substantially improved overall housing as reflected in the program effect on the housing quality summary index. Since baseline housing conditions were worse in El Salvador than in Uruguay and Mexico, the program's absolute effects are consistently larger in the first case than in the others. Still, in all cases the effects are large both in absolute and in relative terms. All the estimated effects but those for number of rooms remain significant after adjusting the p-values for multiple outcomes. Nevertheless, the increase in the number of rooms remains statistically significant in the case of Mexico and also in the combined analysis across the three experiments.

In Table 1b we investigate whether the improvement in the house as a result of the intervention triggered further investments by the beneficiary families. We find that the program did not induce positive significant complementary investments among beneficiaries. In particular, there are no positive effects on access to water, electricity or sanitation. If anything, we find that two out of the five outcomes studied are negatively affected in the case Mexico at conventional levels of statistical significance. In one case, significance is lost when contrasted with the Bonferroni adjusted p-values. These results are consistent with households not holding land titles and hence lacking incentives to invest.

5.2 Satisfaction with house and quality of life

Table 2 presents the program's effects on ordinal self-reported measures of satisfaction with the housing unit as well as with an overall self-reported measure of quality of life. In all countries, all measures substantially increased. Families are happier with their houses and with

their lives.[19] The gains are substantially larger in El Salvador[20] than in Mexico and Uruguay, which is consistent with the fact that the improvement in housing conditions is greater in the first case than in the other two.[21] The index that measures satisfaction with the quality of floors, for example, is over 200% higher in households in the treatment group with respect to the control group in El Salvador, while in Mexico the index is around 20% higher in the intention-to-treat households than in the control-group households, and in Uruguay the differential is around 39%. Similarly, satisfaction with quality of life is 41% higher in the intention-to-treat households in El Salvador, while in Mexico the figure is around 28% and in Uruguay it is around 21%.

5.3 Security and safety

Security is one of the most important concerns of urban slum dwellers. Information from our baseline survey shows that overall 38% of the heads of household often or always felt unsafe and 54% felt unsafe when leaving their homes alone. In this sense, it could be argued that providing a better house could potentially make people feel safer.

In Table 3 we present the results of the program in terms of several measures of security related to housing. We report the effect of the program on the perception of security: whether people feel safe inside the house, whether they feel that it is safe to leave the house alone, whether it seems safe to leave children alone in the house and whether the house has been burglarized. All the questions refer to the preceding year. Our estimations show that, in El Salvador, all self-reported *measures* of security improve substantially. The increase in the index

[19] In order to interpret better these results, it is important to note that for all variables considered in this section and all experimental samples, the average outcome for the control group never decreased between the baseline and treatment measures.

[20] Due to a problem with data collection in the follow-up survey in El Salvador, non-response to this question was differentially larger for the control group. Thus, to be on the safe side, we impute a value equal to 1 ("satisfied with quality of life") to 84 missing values in control group observations, which reduces the non-response rate for this variable from 43% to 7%, the same as in the intention-to-treat group. Without performing this imputation, the coefficient is 0.479 for Model 1 and 0.480 for Model 2.

[21] Qualitatively, the results of this section are robust to the estimation of an ordered Probit model. The probability of being in the highest (or second highest) satisfaction category always increases with treatment and the marginal effect is always statistically significant at conventional levels. These results are available upon request.

for security inside the house is around 27% and the improvement is about 57% in the index that measures whether it is safe to leave children alone, but no such effect is detected in Uruguay or Mexico. We do not find that the program has any effect on crime, however, as there are no statistically significant reported changes in the frequency of burglaries during the past year in any of the three countries; it is also true, however, that, in El Salvador and Mexico, burglary rates in the settlements in our sample were very low and hence the exercise is not very informative.

5.4 Possession of durable goods

There are different ways in which housing conditions can influence the possession of durable goods. On the one hand, if a better house provides security to those who live in it, then it will also provide more security for the assets inside it. Thus, dwellers can invest more in buying durable goods. On the other hand, having an improved house can also increase the valuation of some durable goods and, thus, stimulate their acquisition.

Table 4 depicts the performance of different variables corresponding to the possession of assets. We estimate the effect of the program on the possession of TV sets, fans, gas stoves, refrigerators and bicycles. The results show, however, that the program has had no effect on the possession of any of these assets. In other words, at least during the period studied, we do not find that the treated households have responded to the investment in their houses by increasing their own investments in supplementary durable goods.

5.5 Household Structure and Labor Outcomes

In this subsection we present the results of our analysis with respect to household structure and labor outcomes. We first estimate whether the improved housing has had any effect on the number of members residing in each house and find no statistically significant effects on this front. We also investigate whether, in this limited period of time, there has been any effect on fertility by estimating whether the treatment has influenced the number of newborns in the housing units, but, here again, we do not identify any significant effects (see Table 5a).[22]

[22] In Uruguay, and only for model 2, the number of newborns in the last two years is statistically significant at conventional levels but the significance disappears once the test is contrasted against the

We then estimate whether the improved housing, either directly or indirectly, stimulates labor supply and earnings (in particular, the income per capita of the household and whether either the head of household or the spouse works more). As can be seen from the tables, we do not detect significant effects on any of these outcomes. We can conclude that better housing, at least in the way that it is provided by the TECHO program, has no effect on the labor outcomes of the treated households (see Table 5b).[23]

5.6 Child Health

The reasons why better housing can lead to an improvement in the health of the persons living in those houses are clear. For instance, dirt floors generally pose a serious threat to children's health. In the study carried out by Cattaneo et al. (2009) concerning the replacement of dirt floors with cement floors, the authors found a statistically significant reduction in the incidence of parasitic infections, diarrhea and the prevalence of anemia. Another way in which housing improvements can support health is the reduction in indoor air pollution. Duflo et al. (2012b) have shown that improper ventilation of houses and the use of substandard kitchen stoves can have significantly negative effects on respiratory –and even general- health. The houses provided by the TECHO program provide better ventilation than most of the slum dwellings do and may therefore have a positive effect on overall health as well.

In Table 6 we test whether the upgraded houses result in an improvement in child health; the indicators used for this purpose are the prevalence of diarrhea and of respiratory disease. The estimated coefficients are mainly negative in both El Salvador and Mexico, suggesting that there may have been a decrease in the prevalence of those illnesses due to the intervention,

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adjusted p-value for multiple comparisons. We also tested whether treatment affected the age structure of the household, given that we have detected some changes in household size, by estimating Models 1 and 2 for the four age categories reported in Appendix Table A4b. We did not find any significant effect at conventional levels. These results are available upon request.

[23] We also explored whether treatment affected education attainment, measured by the maximum years of schooling completed as reported in Appendix Table A4b for children 6 to 12 (primary school) and 13 to 18 years old (secondary school). Overall, we did not find any significant effect. We only detected a small negative effect in Mexico for children 13 to 18 years old but this variable was unbalanced at baseline for this group in this sample in the same direction and magnitude that the detected effect. Instead, in Uruguay, for the same age group, we did find a positive and statistically significant small effect. These results are also available upon request.

but this is not the case in Uruguay. However, given our sample sizes, the estimated coefficients are imprecisely estimated and hence are not statistically significant at conventional levels. The point estimates, though, show a large decrease in diarrhea both in Mexico and in El Salvador.[24] As a result, the overall effect, pooling across countries, is still large (a decrease of approximately 18% with a p-value equal to 0.17).[25] If we assume that the effect is not present in Uruguay because, there, the experiment took place in a better, more urbanized environment where people have greater access to services, then the pooled effect in the other two countries, reported in the two last columns of the table, point to an even larger effect, of approximately 27%, which is statistically significant at the 10% level. In contrast, we do not find significant evidence that would allow us to conclude that there is a large effect in terms of the reduction of the prevalence of respiratory diseases. Nevertheless, the health summary index is also statistically significant at the 5% level for those two countries together.[26]

6. Who Lives in Slums

The most robust result so far appears to be that upgrading dwelling infrastructural has large impacts on quality of life measured by satisfaction. This is despite conventional explanations that attribute the emergence of slums to the fact that the poor are willing to live in substandard housing in polluted or floodable areas or on slopes, ridges and other inhospitable geographical environments if they also could be close to employment opportunities in the city center (see,

[24] In both cases, the percentage changes are larger than the one estimated by Cattaneo et al. (2008) though the treatments nor the compliance rates are comparable between studies.

[25] We also interacted the intention-to-treat dummy variable with a dummy indicating whether, in the samples of El Salvador and Uruguay, the settlement was randomized to a high intensity treatment level. The interaction was never found statistically significant at conventional levels whether the standard errors were clustered or not at the settlement level. These results are also available upon request.

[26] Since this analysis is based on a set of assumptions, we do not contrast these results with the adjusted p-values, though the effect on the summary index would remain significant under this more stringent contrast.

for example, Glaeser, 2011).[27] Slum dwellers may have a strong preference for being close to the labor market –so strong that it may offset any kind of disadvantage that living in an irregular settlement may entail.

In this section, we provide some evidence to support the hypothesis that slum and non-slum dwellers have different preferences for income and housing. In Tables 7a to 7f, we compare a large number of outcomes of interest in regard to the slum population using information from the national household surveys of El Salvador, Mexico and Uruguay on the poor and non-poor populations in the same geographical areas as our TECHO samples.[28] The first column of each table shows the mean of the variable of interest for the poor population and the second for the slum dwellers targeted by TECHO. The third column shows the differential between the outcomes for the poor and the slum dwellers. For El Salvador and Mexico, we also show in the fourth column what the differential is once we control for a dummy that indicates whether the household is in a rural or urban area. In those cases, our preferred estimate of the differentials is the one shown in this last column of each table.

The first salient aspect of the comparison is that, in all three countries, slum dwellers are in general even worse-off in terms of assets than other poor populations. For instance, the share of rooms with good-quality floors is 14% among slum inhabitants compared to 61% for the poor population of El Salvador overall. In Mexico and Uruguay, the share of rooms with good-quality floors among the non-slum poor is 20 percentage points greater than it is for slum dwellers. Rates for water connections, access to toilets and sewerage systems, and possession of

[27] In fact, for example, one of the reasons mentioned by Banerjee et al. (2008) for the rise of unemployment in South Africa after the end of apartheid in 1994 is the high cost of job searches for the black population, since the country's persistent geographical racial segregation has confined blacks to areas far away from the city center, which is also hard to reach due to the unavailability of good public transportation. The end of apartheid thus resulted in an increase in the labor supply among the black population that, in light of high job-search costs, could not find a match in labor demand.

[28] In the case of Uruguay, the national survey enables us to distinguish between poor slum dwellers and poor groups not living in slum conditions. This is rather unique, since in general, household surveys have very low coverage of slums settlements, if any (see, among others, Marx et al., 2013), and hence, we use that national survey for the analysis in this section though restricting it to the geographical areas covered in our study. Instead, in El Salvador and Mexico, the information for slum dwellers comes exclusively from our baseline survey.

refrigerators and TV sets are all significantly higher for the average poor household of El Salvador and Mexico than for slum dwellers in the same country. In Uruguay, the differences are smaller –in part because the average rates are much higher among this highly urban population.

In Uruguay and Mexico, however, the incomes of slum dwellers are higher than the incomes of poor non-slum dwellers. In Mexico, the slum dwellers included in our baseline survey earn, on average, USD 108 per month per capita, while the average income for the poor population is USD 86 – a difference of 25%. In Uruguay, slum dwellers earn an impressive 71% more than poor non-slum dwellers, and the difference between men's and women's incomes is also significant in both countries. Consequently, the question that naturally arises is how we can explain why slum dwellers earn more but live in much worse housing units. Not only are monthly incomes higher, but also the wage incomes of slum dwellers are significantly higher than those of the rest of the poor population. The difference amounts to approximately 40% in Uruguay and 30% in Mexico when we average the wage differentials for both men and women.

El Salvador is different that than Mexico and Uruguay. In economic terms, the TECHO households in El Salvador are much more disadvantaged in all respects. In this case, the labor market outcomes of slum dwellers are worse than those of the poor not living in slums. However, educational attainment of heads households and school enrollment rates of their children are also worse in slums. This may have to do with the fact that many moved to slums in El Salvador to escape violent civil conflict as opposed to seeing economic opportunity. As such, this type of person who moved to a slum would be different in El Salvador compared to Mexico and Uruguay where the main motive was economic opportunity.

The results seem to be consistent with the existence of poor groups with different preferences. We find that, while slum dwellers have clearly worse housing infrastructure than the rest of the poor population, they earn significantly more than poor people living in non-slum areas even though they have the same levels of human capital. There appears to be an intrinsic "selection" among the poor: those who prefer to have good access to the labor market in cities tend to gather in slums, while those who are less willing to do so live in better environments, although at a significant cost in terms of income. Moving forward, an understanding of these differences

will be crucial in improving the design of policies for upgrading the living conditions of the urban poor.

7. Conclusion

This paper provides an analysis of the impact of providing better houses *in situ* to slum dwellers in El Salvador, Mexico and Uruguay. As expected, the quality of housing greatly improves after the intervention. Subsequently, satisfaction with housing and with the quality of life increases drastically. This is a very significant result since it suggests that limited *in situ* improvements in the housing of poor families has a large effect on their overall well-being. This finding is consistent with those of Cattaneo et. al (2009) and Devoto et. al (2011) and highlights the importance of using subjective indicators to evaluate interventions such as housing improvement programs, where the main objective is to facilitate the quality of family and social interactions. Thus, we conclude that the type house is an important input in a household's utility function irrespective of whether they affect other material outcomes. Our results show that, as in the case of the interventions analyzed by Cattaneo et al. (2009) and Devoto et al. (2011), improvements in housing conditions have a clearly positive effect on the satisfaction and well-being of poor slum dwellers.

Additionally, also in line with Cattaneo et al. (2009), we find that the improved housing conditions lead to large reductions in the incidence of diarrhea, at least in two of the three experiments. The one case in which these improvements do not seem to have health effects is the one in which the experiment took place in a better, more urbanized environment in which services are more accessible.

The provision of better housing has virtually no other statistically significant effects. Perceptions of security and safety change for the better only in El Salvador, while there is no change in the other two countries. In all three countries, better housing has little or no effect on further housing investments to supplement the upgrading intervention, the possession of durable goods, household structure or labor outcomes.

In this study we also compare slum dwellers to the rest of the poor population in the areas analyzed. When we consider the slum dwellers' situation within their national contexts, it becomes possible to shed some light on their housing decisions and the dynamics of slum formation. We find that slum dwellers have clearly worse housing infrastructure than poor non-slum dwellers. However, in the more urban areas, the slum dwellers earn significantly more than other poor households and have comparable levels of educational attainment and labor-market participation outcomes. These findings are consistent with the plausible explanation for slum formation as a consequence of some poor groups being more willing to trade off living conditions for better access to the labor market. These poor households choose to live in substandard dwellings in slum areas because they tend to be closer to production activities than other parts of urban conglomerates. At the same time, other poor people are less willing to do so and therefore live in better environments but at a significant cost in terms of their income. The existence of these two types of poor households with different preferences should be taken into account when designing housing policies.

These findings contribute inputs for the debate about slum upgrading initiatives. What emerges from our analysis is that the provision of the kind of *in situ* housing upgrade that we studied in this paper has some significant effects on the living conditions of slum dwellers but that those effects are perhaps not as large as society might wish or expect. At first glance, the conclusion to be drawn from this finding might be that *in situ* upgrading should be ruled out and priority should be given to geographic relocation policies. This conclusion could, however, be in error. First of all, the *in situ* intervention is fairly inexpensive and substantially increases life satisfaction. What is more, in the two countries where we detect a reduction in the incidence of diarrhea, the effects are quite large. Additionally, Cattaneo et al. (2006) analyzed the performance of the Mexican "*Iniciamos Tu Casa*" program, which provided new houses to poor inhabitants. These houses were located far from the city center. A year after the program had started, the authors found that a large proportion of the participants had abandoned the houses; moreover, those who remained in them mentioned that, although housing conditions were better, the new neighborhoods provided them with poor access to public goods and

general infrastructure. *In situ* upgrading therefore appears to remain a valid policy choice. This is also consistent with the evidence presented in Takeuchi et al. (2008) for Mumbai. These authors use a residential location model to assess the welfare of an *in situ* slum upgrade program and a slum relocation program and conclude that, at least for those households relocated to more remote locations, the disadvantages of changes in commute distance wipe out the housing benefits of the program and that the treated households would have been better off if they had been given access to the more limited housing improvements provided by the *in situ* intervention. This is also consistent with the evidence that we present in Section 4, where we show that, as noted above, at least in urban areas, poor households are willing to trade off housing conditions for better access to labor markets and, hence, higher earnings.

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Tables:

Table 1a. Regressions of housing quality on Program Dummy. [a]

Dependent Variable	El Salvador			Uruguay			Mexico			All		
	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2
Number of Rooms		0.233	0.234		0.100	0.081		0.234	0.220		0.188	0.179
		[0.117]**	[0.116]**		[0.132]	[0.132]		[0.088]***	[0.086]**		[0.064]***	[0.064]***
		[0.047]	[0.045]		[0.453]	[0.544]		[0.008]	[0.011]		[0.004]	[0.006]
	2.690 (1.330)	8.672	8.717	3.486 (1.636)	2.865	2.315	3.067 (1.285)	7.623	7.168	3.088 (1.440)	6.101	5.789
Share of Rooms with Good Quality Floors		0.284	0.288		0.197	0.198		0.111	0.110		0.182	0.183
		[0.027]***	[0.026]***		[0.033]***	[0.033]***		[0.022]***	[0.022]***		[0.016]***	[0.016]***
		[0.000]	[0.000]		[0.000]	[0.000]		[0.000]	[0.000]		[0.000]	[0.000]
	0.165 (0.274)	172.631	174.942	0.317 (0.415)	62.214	62.433	0.706 (0.355)	15.712	15.525	0.442 (0.426)	41.309	41.370
Share of Rooms with Good Quality Walls		0.255	0.255		0.136	0.137		0.167	0.163		0.178	0.176
		[0.026]***	[0.026]***		[0.035]***	[0.035]***		[0.024]***	[0.024]***		[0.017]***	[0.017]***
		[0.000]	[0.000]		[0.000]	[0.000]		[0.000]	[0.000]		[0.000]	[0.000]
	0.104 (0.223)	245.382	245.580	0.483 (0.471)	28.071	28.373	0.420 (0.388)	39.665	38.783	0.352 (0.410)	50.422	50.094
Share of Rooms with Good Quality Roofs		0.231	0.235		0.188	0.189		0.099	0.096		0.161	0.160
		[0.030]***	[0.030]***		[0.033]***	[0.033]***		[0.022]***	[0.022]***		[0.016]***	[0.016]***
		[0.000]	[0.000]		[0.000]	[0.000]		[0.000]	[0.000]		[0.000]	[0.000]
	0.283 (0.385)	81.636	83.148	0.312 (0.414)	60.036	60.439	0.599 (0.374)	16.527	16.011	0.427 (0.416)	37.760	37.565
Share of Rooms with Window		0.233	0.235		0.111	0.115		0.183	0.179		0.171	0.171
		[0.024]***	[0.024]***		[0.025]***	[0.025]***		[0.021]***	[0.021]***		[0.013]***	[0.013]***
		[0.000]	[0.000]		[0.000]	[0.000]		[0.000]	[0.000]		[0.000]	[0.000]
	0.192 (0.274)	121.692	122.649	0.607 (0.336)	18.352	18.945	0.303 (0.329)	60.473	58.983	0.364 (0.358)	46.998	46.986
Housing Quality Summary Index (z-score)		0.760	0.767		0.322	0.324		0.348	0.339		0.439	0.437
		[0.634]***	[0.063]***		[0.040]***	[0.040]***		[0.036]***	[0.036]***		[0.026]***	[0.026]***
	0.000 (0.651)	[0.000]	[0.000]	0.000 (0.520)	[0.000]	[0.000]	0.000 (0.586)	[0.000]	[0.000]	0.000 (0.586)	[0.000]	[0.000]

[a] Responses regarding construction materials used in rooms were included only for those households that reported information for all rooms. All the reggresions have a dummy by caserio. Model 1: No Controls; Model 2: Control for HH's Years of Schooling, HH's Gender, HH's Age, Assets - Value Per Capita (USD), Monthly Income Per Capita (USD), all measured during the baseline round. Following the standard procedure, when a control variable has a missing value, we impute a value equal to 0 and add a dummy variable equal to 1 for that observation, which indicates that the control variable was missed. The Housing Quality Summary Index (z-score) is defined is defined as the average of the z-scores of all the variables in the table, with the sign of each measure oriented so that the more beneficial outcomes have higher scores. Bonferroni corrected p-value=0.02 for a significance level of 0.1. Reported results: estimated coefficient, robust standard error, p-value and 100*coefficient/follow-up control mean, in that order.

*Significant at 10% level. **Significant at 5% level. ***Significant at 1% level.

Table 1b. Regressions of housing investment on Program Dummy. [a]

Dependent Variable	El Salvador			Uruguay			Mexico			All		
	Follow Up Control Mean	Model 1	Model 2	Follow Up Control Mean	Model 1	Model 2	Follow Up Control Mean	Model 1	Model 2	Follow Up Control Mean	Model 1	Model 2
Sink on Room where food is prepared		-0.008	-0.006		-0.014	-0.009		-0.008	-0.010		-0.010	-0.010
		[0.010]	[0.010]		[0.037]	[0.037]		[0.010]	[0.010]		[0.013]	[0.013]
		[0.418]	[0.558]		[0.706]	[0.809]		[0.421]	[0.361]		[0.453]	[0.488]
	0.016 (0.123)	-52.691	-39.219	0.335 (0.472)	-4.249	-2.707	0.020 (0.140)	-42.203	-49.262	0.112 (0.315)	-9.258	-8.533
Water in Terrain		-0.062	-0.059		0.008	0.002		-0.010	-0.012		-0.017	-0.018
		[0.034]*	[0.034]*		[0.022]	[0.022]		[0.032]	[0.032]		[0.017]	[0.017]
		[0.072]	[0.089]		[0.742]	[0.936]		[0.744]	[0.713]		[0.336]	[0.293]
	0.252 (0.434)	-24.626	-23.411	0.897 (0.304)	0.840	0.205	0.551 (0.498)	-1.901	-2.157	0.573 (0.494)	-2.944	-3.217
Electricity Connection inside the House		-0.046	-0.038		0.024	0.024		-0.044	-0.048		-0.021	-0.022
		[0.042]	[0.042]		[0.018]	[0.018]		[0.022]*	[0.023]**		[0.015]	[0.015]
		[0.279]	[0.370]		[0.191]	[0.193]		[0.058]	[0.039]		[0.166]	[0.153]
	0.496 (0.500)	-9.347	-7.687	0.933 (0.251)	2.548	2.558	0.903 (0.297)	-4.831	-5.289	0.800 (0.400)	-2.664	-2.755
Use Gas Stove or Kerosene to Cook		0.016	0.022		-0.014	-0.023		-0.051	-0.054		-0.022	-0.024
		[0.032]	[0.032]		[0.039]	[0.038]		[0.023]**	[0.022]**		[0.018]	[0.018]
		[0.626]	[0.507]		[0.724]	[0.560]		[0.029]	[0.018]		[0.233]	[0.195]
	0.167 (0.373)	9.640	13.014	0.521 (0.500)	-2.654	-4.337	0.252 (0.434)	-20.071	-21.606	0.309 (0.462)	-7.071	-7.623
House with Own Toilet		-0.069	-0.063		-0.011	-0.015		0.012	0.008		-0.016	-0.019
		[0.042]	[0.042]		[0.035]	[0.035]		[0.034]	[0.034]		[0.021]	[0.021]
		[0.103]	[0.133]		[0.748]	[0.663]		[0.727]	[0.826]		[0.459]	[0.377]
	0.516 (0.500)	-13.436	-12.315	0.730 (0.444)	-1.547	-2.107	0.392 (0.488)	3.039	1.920	0.527 (0.499)	-2.981	-3.548
Housing Investment Summary Index (z-score)		-0.066	-0.055		0.006	0.000		-0.054	-0.061		-0.036	-0.039
		[0.033]*	[0.036]		[0.034]	[0.034]		[0.027]*	[0.027]**		[0.018]*	[0.018]**
	0.000 (0.467)	[0.070]	[0.131]	0.000 (0.456)	[0.866]	[0.995]	0.000 (0.426)	[0.051]	[0.028]	0.000 (0.446)	[0.052]	[0.036]

[a] Responses regarding construction materials used in rooms were included only for those households that reported information for all rooms. All the reggresions have a dummy by caserio. Model 1: No Controls; Model 2: Control for HH's Years of Schooling, HH's Gender, HH's Age, Assets - Value Per Capita (USD), Monthly Income Per Capita (USD), all measured during the baseline round. Following the standard procedure, when a control variable has a missing value, we impute a value equal to 0 and add a dummy variable equal to 1 for that observation, which indicates that the control variable was missed. The Housing Investment Summary Index (z-score) is defined as the average of the z-scores of all the variables in the table, with the sign of each measure oriented so that the more beneficial outcomes have higher scores. Bonferroni corrected p-value=0.02 for a significance level of 0.1. Reported results: estimated coefficient, robust standard error, p-value and 100*coefficient/follow-up control mean, in that order.

*Significant at 10% level. **Significant at 5% level. ***Significant at 1% level.

Table 2. Regressions of Satisfaction on Program Dummy. [a]

Dependent Variable	El Salvador			Uruguay			Mexico			All		
	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2
Satisfaction with Floor Quality		0.387	0.389		0.121	0.122		0.108	0.107		0.180	0.181
		[0.039]***	[0.040]***		[0.038]***	[0.038]***		[0.034]***	[0.034]***		[0.022]***	[0.021]***
		[0.000]	[0.000]		[0.002]	[0.002]		[0.002]	[0.002]		[0.000]	[0.000]
	0.163 (0.369)	237.502	239.017	0.314 (0.464)	38.669	38.779	0.551 (0.498)	19.556	19.490	0.374 (0.484)	48.254	48.313
Satisfaction with Wall Quality		0.477	0.479		0.142	0.141		0.149	0.148		0.226	0.226
		[0.039]***	[0.040]***		[0.037]***	[0.037]***		[0.035]***	[0.035]***		[0.022]***	[0.021]***
		[0.000]	[0.000]		[0.000]	[0.000]		[0.000]	[0.000]		[0.000]	[0.000]
	0.132 (0.338)	361.860	363.502	0.267 (0.443)	52.998	52.789	0.439 (0.496)	33.878	33.732	0.303 (0.459)	74.603	74.413
Satisfaction with Roof Quality		0.476	0.477		0.179	0.176		0.153	0.156		0.241	0.241
		[0.038]***	[0.039]***		[0.037]***	[0.038]***		[0.034]***	[0.035]***		[0.021]***	[0.021]***
		[0.000]	[0.000]		[0.000]	[0.000]		[0.000]	[0.000]		[0.000]	[0.000]
	0.159 (0.366)	299.531	300.417	0.339 (0.474)	52.784	51.817	0.404 (0.491)	37.937	38.514	0.317 (0.465)	75.867	76.034
Satisfaction with House Protection against Water when it rains		0.426	0.427		0.166	0.160		0.094	0.096		0.199	0.199
		[0.038]***	[0.039]***		[0.038]***	[0.038]***		[0.034]***	[0.035]***		[0.021]***	[0.022]***
		[0.000]	[0.000]		[0.000]	[0.000]		[0.007]	[0.006]		[0.000]	[0.000]
	0.167 (0.373)	255.350	256.348	0.325 (0.469)	51.073	49.101	0.347 (0.476)	27.234	27.718	0.291 (0.454)	68.601	68.494
Satisfaction with Quality of Life		0.207	0.211		0.096	0.097		0.165	0.165		0.151	0.151
		[0.045]***	[0.046]***		[0.039]**	[0.039]**		[0.032]***	[0.032]***		[0.022]***	[0.022]***
		[0.000]	[0.000]		[0.015]	[0.015]		[0.000]	[0.000]		[0.000]	[0.000]
	0.506 (0.501)	40.915	41.685	0.449 (0.498)	21.379	21.635	0.593 (0.491)	27.791	27.931	0.527 (0.499)	28.691	28.693
Satisfaction Summary Index (z-score)		1.055	1.061		0.299	0.295		0.272	0.274		0.471	0.472
		[0.086]***	[0.088]***		[0.059]***	[0.060]***		[0.050]***	[0.050]***		[0.037]***	[0.037]***
	0.000 (0.781)	[0.000]	[0.000]	0.000 (0.734)	[0.000]	[0.000]	0.000 (0.751)	[0.000]	[0.000]	0.000 (0.753)	[0.000]	[0.000]

[a] All the reggresions have a dummy by caserio. Model 1: No Controls; Model 2: Control for HH's Years of Schooling, HH's Gender, HH's Age, Assets - Value Per Capita (USD), Monthly Income Per Capita (USD), all measured during the baseline round. Following the standard procedure, when a control variable has a missing value, we impute a value equal to 0 and add a dummy variable equal to 1 for that observation, which indicates that the control variable was missed. The Satisfaction Summary Index (z-score) is defined is defined as the average of the z-scores of all the variables in the table, with the sign of each measure oriented so that the more beneficial outcomes have higher scores. Bonferroni corrected p-value=0.02 for a significance level of 0.1. Reported results: estimated coefficient, robust standard error, p-value and 100*coefficient/follow-up control mean, in that order.

*Significant at 10% level. **Significant at 5% level. ***Significant at 1% level

Table 3. Regressions of Perception of Security on Program Dummy. [a]

Dependent Variable	El Salvador			Uruguay			Mexico			All		
	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2
Safe inside the house during the last 12 months		0.175	0.178		0.029	0.025		0.001	0.003		0.053	0.052
		[0.040]***	[0.041]***		[0.038]	[0.038]		[0.031]	[0.031]		[0.021]**	[0.021]**
		[0.000]	[0.000]		[0.455]	[0.507]		[0.969]	[0.936]		[0.013]	[0.013]
	0.643 (0.479)	27.121	27.676	0.621 (0.486)	4.597	4.088	0.718 (0.450)	0.172	0.356	0.668 (0.471)	7.870	7.807
Safe leaving the house alone during the last 12 months		0.155	0.159		-0.066	-0.069		0.014	0.018		0.021	0.022
		[0.043]***	[0.043]***		[0.037]*	[0.037]*		[0.035]	[0.035]		[0.022]	[0.022]
		[0.000]	[0.000]		[0.078]	[0.068]		[0.686]	[0.614]		[0.348]	[0.321]
	0.601 (0.490)	25.743	26.447	0.376 (0.485)	-17.683	-18.381	0.551 (0.498)	2.583	3.218	0.512 (0.500)	4.069	4.292
Safe leaving the kids alone in the house during the last 12 months		0.141	0.144		0.001	-0.002		-0.007	-0.006		0.032	0.030
		[0.043]***	[0.043]***		[0.029]	[0.029]		[0.026]	[0.026]		[0.018]*	[0.018]
		[0.001]	[0.001]		[0.986]	[0.936]		[0.806]	[0.823]		[0.085]	[0.101]
	0.248 (0.432)	56.923	57.872	0.170 (0.376)	0.308	-1.420	0.162 (0.368)	-4.053	-3.699	0.188 (0.390)	16.870	16.030
The house had been robbed in the last 12 months		0.023	0.023		0.013	0.013		0.002	0.002		0.011	0.011
		[0.019]	[0.019]		[0.035]	[0.035]		[0.017]	[0.017]		[0.014]	[0.014]
		[0.229]	[0.228]		[0.705]	[0.710]		[0.931]	[0.912]		[0.466]	[0.471]
	0.031 (0.173)	74.207	74.494	0.268 (0.443)	4.949	4.898	0.065 (0.246)	2.336	2.963	0.116 (0.319)	9.283	9.201
Perception of Security Summary Index (z-score)		0.218	0.223		-0.026	-0.031		0.001	0.004		0.045	0.044
		[0.062]***	[0.062]***		[0.050]	[0.050]		[0.044]	[0.044]		[0.029]	[0.029]
	0.000 (0.681)	[0.001]	[0.000]	0.000 (0.645)	[0.602]	[0.538]	0.000 (0.634)	[0.975]	[0.930]	0.000 (0.650)	[0.132]	[0.141]

[a] All the reggresions have a dummy by caserio. Model 1: No Controls; Model 2: Control for HH's Years of Schooling, HH's Gender, HH's Age, Assets - Value Per Capita (USD), Monthly Income Per Capita (USD), all measured during the baseline round. Following the standard procedure, when a control variable has a missing value, we impute a value equal to 0 and add a dummy variable equal to 1 for that observation, which indicates that the control variable was missed. The Perception of Security Summary Index (z-score) is definedis defined as the average of the z-scores of all the variables in the table, with the sign of each measure oriented so that the more beneficial outcomes have higher scores. Bonferroni corrected p-value=0.025 for a significance level of 0.1. Reported results: estimated coefficient, robust standard error, p-value and 100*coefficient/follow-up control mean, in that order.

*Significant at 10% level. **Significant at 5% level. ***Significant at 1% level.

Table 4. Regressions of Durable Goods on Program Dummy. [a]

Dependent Variable	El Salvador			Uruguay			Mexico			All		
	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2
T.V		-0.013	-0.001		0.005	0.011		-0.034	-0.033		-0.016	-0.013
		[0.047]	[0.047]		[0.022]	[0.021]		[0.030]	[0.030]		[0.018]	[0.018]
		[0.786]	[0.988]		[0.821]	[0.599]		[0.272]	[0.274]		[0.397]	[0.465]
	0.434 (0.496)	-3.004	-0.162	0.926 (0.261)	0.538	1.240	0.728 (0.445)	-4.616	-4.560	0.711 (0.453)	-2.222	-1.898
Fan		0.015	0.019		0.018	0.017		0.001	0.000		0.010	0.009
		[0.020]	[0.020]		[0.040]	[0.040]		[0.010]	[0.010]		[0.015]	[0.015]
		[0.458]	[0.348]		[0.656]	[0.676]		[0.934]	[1.000]		[0.516]	[0.545]
	0.034 (0.181)	44.316	56.566	0.535 (0.499)	3.363	3.190	0.018 (0.131)	4.942	0.011	0.177 (0.381)	5.627	5.258
Kitchen or Gas Stove		0.000	0.008		-0.008	-0.006		-0.035	-0.039		-0.018	-0.019
		[0.044]	[0.043]		[0.034]	[0.035]		[0.030]	[0.031]		[0.020]	[0.020]
		[0.997]	[0.853]		[0.809]	[0.868]		[0.262]	[0.210]		[0.383]	[0.367]
	0.404 (0.491)	-0.037	1.994	0.768 (0.423)	-1.098	-0.764	0.451 (0.498)	-7.684	-8.641	0.534 (0.499)	-3.351	-3.469
Refrigerator		-0.028	-0.016		-0.017	-0.016		-0.005	-0.009		-0.014	-0.015
		[0.032]	[0.031]		[0.037]	[0.037]		[0.026]	[0.026]		[0.018]	[0.018]
		[0.385]	[0.604]		[0.661]	[0.676]		[0.861]	[0.732]		[0.454]	[0.435]
	0.123 (0.329)	-22.833	-13.208	0.683 (0.466)	-2.439	-2.322	0.207 (0.405)	-2.259	-4.434	0.327 (0.469)	-4.308	-4.477
Bicycle		0.037	0.043		0.014	0.019		-0.029	-0.027		0.001	0.003
		[0.043]	[0.043]		[0.040]	[0.040]		[0.030]	[0.030]		[0.021]	[0.021]
		[0.400]	[0.325]		[0.726]	[0.632]		[0.347]	[0.371]		[0.967]	[0.890]
	0.323 (0.468)	11.368	13.352	0.546 (0.498)	2.596	3.530	0.279 (0.449)	-10.209	-9.635	0.370 (0.483)	0.240	0.797
Assets Summary		0.015	0.030		0.004	0.011		-0.043	-0.047		-0.013	-0.012
Index (z-score)		[0.050]	[0.048]		[0.046]	[0.045]		[0.036]	[0.036]		[0.024]	[0.024]
	0.000 (0.544)	[0.769]	[0.528]	0.000 (0.561)	[0.929]	[0.808]	0.000 (0.598)	[0.241]	[0.194]	0.000 (0.572)	[0.608]	[0.615]

[a] All the reggresions have a dummy by caserio. Model 1: No Controls; Model 2: Control for HH's Years of Schooling, HH's Gender, HH's Age, Assets - Value Per Capita (USD), Monthly Income Per Capita (USD), all measured during the baseline round. Following the standard procedure, when a control variable has a missing value, we impute a value equal to 0 and add a dummy variable equal to 1 for that observation, which indicates that the control variable was missed. The Assets Summary Index (z-score) is defined is defined as the average of the z-scores of all the variables in the table, with the sign of each measure oriented so that the more beneficial outcomes have higher scores. Bonferroni corrected p-value=0.02 for a significance level of 0.1. Reported results: estimated coefficient, robust standard error, p-value and 100*coefficient/follow-up control mean, in that order.

*Significant at 10% level. **Significant at 5% level. ***Significant at 1% level.

Table 5a. Regressions of Demographics Variables on Program Dummy. [a]

Dependent Variable	El Salvador			Uruguay			Mexico			All		
	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2
HH Size		-0.031	-0.098		0.253	0.286		0.002	-0.019		0.079	0.097
		[0.273]	[0.264]		[0.220]	[0.216]		[0.175]	[0.172]		[0.124]	[0.122]
		[0.909]	[0.710]		[0.252]	[0.188]		[0.991]	[0.912]		[0.522]	[0.428]
	5.453 (2.513)	-0.574	-1.806	4.954 (2.657)	5.110	5.764	5.264 (2.595)	0.037	-0.363	5.223 (2.596)	1.521	1.855
Newborns (<1)		0.011	0.010		-0.009	-0.007		0.028	0.027		0.011	0.013
		[0.031]	[0.032]		[0.028]	[0.028]		[0.025]	[0.025]		[0.016]	[0.016]
		[0.732]	[0.748]		[0.748]	[0.817]		[0.263]	[0.293]		[0.485]	[0.418]
	0.116 (0.321)	9.361	8.914	0.124 (0.351)	-7.290	-5.280	0.110 (0.320)	25.660	24.278	0.116 (0.330)	9.745	11.287
Newborns (<2)		-0.018	-0.022		0.053	0.068		0.023	0.022		0.023	0.028
		[0.041]	[0.041]		[0.041]	[0.040]*		[0.036]	[0.035]		[0.022]	[0.022]
		[0.668]	[0.591]		[0.205]	[0.096]		[0.526]	[0.530]		[0.314]	[0.213]
	0.229 (0.429)	-7.789	-9.733	0.262 (0.515)	20.023	25.770	0.239 (0.477)	9.548	9.375	0.243 (0.476)	9.490	11.545
Demographic		-0.007	-0.020		0.057	0.073		0.045	0.041		0.037	0.044
Summary Index (z-		[0.079]	[0.078]		[0.064]	[0.064]		[0.056]	[0.056]		[0.037]	[0.037]
score)	0.000 (0.742)	[0.933]	[0.805]	0.000 (0.789)	[0.377]	[0.252]	0.000 (0.761)	[0.421]	[0.470]	0.000 (0.763)	[0.327]	[0.234]

[a] All the reggresions have a dummy by caserio. Model 1: No Controls; Model 2: Control for HH's Years of Schooling, HH's Gender, HH's Age, Assets - Value Per Capita (USD), Monthly Income Per Capita (USD), all measured during the baseline round. Following the standard procedure, when a control variable has a missing value, we impute a value equal to 0 and add a dummy variable equal to 1 for that observation, which indicates that the control variable was missed. The Demographic Summary Index (z-score) is defined is defined as the average of the z-scores of all the variables in the table, with the sign of each measure oriented so that the more beneficial outcomes have higher scores. Bonferroni corrected p-value=0.033 for a significance level of 0.1. Reported results: estimated coefficient, robust standard error, p-value and 100*coefficient/follow-up control mean, in that order.

*Significant at 10% level. **Significant at 5% level. ***Significant at 1% level

Table 5b. Regressions of Labor and Income Variables on Program Dummy. [a]

Dependent Variable	El Salvador			Uruguay			Mexico			All		
	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2
Monthly Income Per Capita (USD)		0.704	1.373		-3.371	-3.788		-0.422	0.245		-1.835	-2.297
		[3.098]	[2.923]		[13.443]	[13.399]		[3.759]	[3.814]		[3.905]	[3.867]
		[0.820]	[0.639]		[0.802]	[0.777]		[0.911]	[0.949]		[0.638]	[0.553]
	31.618 (29.224)	2.226	4.342	94.862 (156.792)	-3.554	-3.993	55.422 (54.912)	-0.762	0.442	59.572 (81.054)	-3.081	-3.856
Hours worked last week by Head of HH		1.738	1.000		0.025	0.563		0.824	0.668		0.704	0.825
		[2.072]	[2.073]		[1.821]	[1.829]		[1.616]	[1.573]		[1.055]	[1.039]
		[0.402]	[0.630]		[0.989]	[0.758]		[0.610]	[0.671]		[0.505]	[0.428]
	38.033 (17.351)	4.570	2.630	39.081 (19.877)	0.064	1.440	41.086 (19.498)	2.006	1.625	39.711 (19.154)	1.773	2.077
Hours worked last week by Spouse		4.974	4.654		-0.047	-0.116		-3.052	-1.696		-0.693	-0.619
		[5.418]	[5.817]		[2.661]	[2.678]		[3.026]	[3.129]		[1.883]	[1.887]
		[0.361]	[0.426]		[0.986]	[0.966]		[0.315]	[0.588]		[0.713]	[0.743]
	35.500 (25.995)	14.012	13.111	39.353 (19.561)	-0.120	-0.294	28.250 (18.867)	-10.805	-6.005	34.194 (20.903)	-2.027	-1.810
Economic Summary Index (z-score)		0.054	0.056		-0.010	-0.004		-0.009	-0.008		0.006	0.008
		[0.042]	[0.041]		[0.039]	[0.040]		[0.032]	[0.032]		[0.021]	[0.021]
	0.000 (0.459)	[0.202]	[0.174]	0.000 (0.506)	[0.809]	[0.913]	0.000 (0.490)	[0.781]	[0.818]	0.000 (0.486)	[0.781]	[0.710]

[a] In the case of monetary variables, observations over the 99th percentile were excluded. With regard to the number of hours worked, cases in which more than 84 hours were reported were not considered. All the reggresions have a dummy by caserio. Model 1: No Controls; Model 2: Control for HH's Years of Schooling, HH's Gender, HH's Age, Assets - Value Per Capita (USD), Monthly Income Per Capita (USD), all measured during the baseline round. Following the standard procedure, when a control variable has a missing value, we impute a value equal to 0 and add a dummy variable equal to 1 for that observation, which indicates that the control variable was missed. The Economic Summary Index (z-score) is defined is defined as the average of the z-scores of all the variables in the table, with the sign of each measure oriented so that the more beneficial outcomes have higher scores. Bonferroni corrected p-value=0.033 for a significance level of 0.1. Reported results: estimated coefficient, robust standard error, p-value and 100*coefficient/follow-up control mean, in that order.

*Significant at 10% level. **Significant at 5% level. ***Significant at 1% level

Table 6. Regressions of Health Variables of Children on Program Dummy. [a]

Dependent Variable	El Salvador			Uruguay			Mexico			All			El Salvador and Mexico		
	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2	Follow Up Control Mean (Std. Dev.)	Model 1	Model 2
Respiratory		-0.041	-0.045		-0.002	0.002		-0.047	-0.043		-0.029	-0.028		-0.047	-0.045
Disease during last		[0.060]	[0.062]		[0.034]	[0.034]		[0.043]	[0.043]		[0.025]	[0.025]		[0.035]	[0.035]
4 weeks		[0.498]	[0.466]		[0.963]	[0.948]		[0.283]	[0.333]		[0.249]	[0.267]		[0.182]	[0.204]
	0.690 (0.463)	-5.950	-6.558	0.175 (0.381)	-0.934	1.290	0.417 (0.494)	-11.314	-10.213	0.403 (0.490)	-7.225	-6.987	0.519 (0.500)	-9.055	-8.662
Diarrhea during last		-0.050	-0.054		-0.011	-0.003		-0.035	-0.033		-0.027	-0.024		-0.040	-0.038
4 weeks		[0.042]	[0.044]		[0.034]	[0.034]		[0.028]	[0.028]		[0.019]	[0.019]		[0.023]*	[0.023]
		[0.243]	[0.224]		[0.737]	[0.930]		[0.224]	[0.246]		[0.172]	[0.219]		[0.095]	[0.108]
	0.168 (0.374)	-29.924	-32.004	0.158 (0.365)	-7.261	-1.885	0.135 (0.342)	-25.534	-24.600	0.151 (0.358)	-17.801	-16.038	0.147 (0.354)	-26.822	-26.102
Health Summary		0.114	0.122		0.016	0.002		0.092	0.087		0.064	0.059		0.100	0.097
Index (z-score)		[0.092]	[0.094]		[0.066]	[0.067]		[0.061]	[0.061]		[0.040]	[0.040]		[0.050]**	[0.051]*
	0.000 (0.743)	[0.219]	[0.196]	0.000 (0.725)	[0.812]	[0.977]	0.000 (0.755)	[0.131]	[0.161]	0.000 (0.741)	[0.111]	[0.143]	0.000 (0.750)	[0.048]	[0.059]

[a] All the regressions have a dummy by caserio. Model 1: Control for Age, Age Squared, Gender, and a dummy equal to 1 if the mother lives in the household at the time of the follow-up round; Model 2: Control for Age, Age Squared, Gender, a dummy equal to 1 if the mother lives in the household at the time of the follow-up round and also for HH's Years of Schooling, HH's Gender, HH's Age, Assets - Value Per Capita (USD), and Monthly Income Per Capita (USD) at the time of the baseline round. Following the standard procedure, when a control variable has a missing value, we impute a value equal to 0 and add a dummy variable equal to 1 for that observation, which indicates that the control variable was missed. The Health Summary Index (z-score) is defined is defined as the average of the z-scores of all the variables in the table, with the sign of each measure oriented so that the more beneficial outcomes have higher scores. Bonferroni corrected p-value=0.05 for a significance level of 0.1. Reported results: estimated coefficient, robust standard error, p-value and 100*coefficient/follow-up control mean, in that order.

*Significant at 10% level. **Significant at 5% level. ***Significant at 1% level

Table 7a. Differences of Means between Poors, Non Poors and Slum Dwellers. El Salvador[a]

Variable	(1) Mean of Observations National Poor (EHPM 2008) [b]	(2) Mean of Observations Settlements (UTPMP 2007-08)	Difference (1) - (2)	Difference (1) - (2)[d]
Income Indicator (HH)				
Monthly Income Per Capita (USD) [c]	37.293	30.146	7.147	2.844
	(0.622)	(1.777)	(1.896)***	(2.173)
Employment Indicators (IND)				
Employment rate 16-64	0.540	0.510	0.030	0.019
	(0.006)	(0.018)	(0.019)	(0.019)
Employment rate Males 16-64	0.352	0.368	-0.015	0.000
	(0.006)	(0.014)	(0.016)	(0.018)
Employment rate Females 16-64	0.188	0.143	0.046	0.018
	(0.006)	(0.014)	(0.016)***	(0.016)
Wage employment rate 16-64	0.328	0.195	0.134	0.122
	(0.007)	(0.016)	(0.018)***	(0.017)***
Wage employment rate Males 16-64	0.234	0.172	0.061	0.065
	(0.006)	(0.014)	(0.015)***	(0.015)***
Wage employment rate Females 16-64	0.095	0.022	0.073	0.058
	(0.003)	(0.005)	(0.007)***	(0.006)***
Self employment rate 16-64	0.212	0.313	-0.100	-0.101
	(0.006)	(0.020)	(0.021)***	(0.021)***
Self employment rate Males 16-64	0.119	0.192	-0.074	-0.061
	(0.005)	(0.022)	(0.023)***	(0.024)**
Self employment rate Females 16-64	0.094	0.121	-0.027	-0.040
	(0.004)	(0.010)	(0.012)**	(0.012)***
Average Wage Males 16-64 [c]	132.607	87.041	45.565	35.581
	(2.206)	(5.850)	(6.167)***	(5.356)***
Average Wage Females 16-64 [c]	111.619	84.060	27.560	18.781
	(2.216)	(5.105)	(5.514)***	(6.059)***

[a] Figures computed at household and individual levels in El Salvador using the 2008 multi-purpose household survey for all provinces (known as "departments") in which there are UTPMP households (excludes San Salvador Department) and UTPMP impact evaluation baseline data sources. Standard errors are clustered at the primary sample unit level shown in parentheses.

[b] The term "national poor "refers to households whose members were living on less than USD 89.4 per capita per month in urban zones and less than USD 58.2 per capita per month in rural zones in 2008; these figures are equivalent to two basic baskets for urban and rural areas, which represent the national poverty line and basic needs in El Salvador as of 2008.

[c] In the case of monetary variables, observations over the 99th percentile were excluded.

[d] Since price levels in urban and rural zones in El Salvador differ, in this column we test the hypothesis of equal means by controlling for a dummy variable that is equal to 1 if the household is located in a rural zone.

*Significant at 10% level. **Significant at 5% level. ***Significant at 1% level

Table 7b. Differences of Means between Poors, Non Poors and Slum Dweller. El Salvador[a]

Variable	(1) Mean of Observations National Poor (EHPM 2008) [b]	(2) Mean of Observations Settlements (UTPMP 2007-08)	Difference (1) - (2)	Difference (1) - (2)[c]
Demographics				
HH Size	4.669	4.977	-0.308	-0.181
	(0.052)	(0.129)	(0.132)**	(0.138)
Female Head	0.288	0.213	0.075	0.047
	(0.009)	(0.015)	(0.018)***	(0.020)**
Head of HH's Age	46.904	44.717	2.187	1.783
	(0.383)	(0.927)	(1.019)**	(0.989)*
Head of HH's Years of Schooling	3.693	2.438	1.255	0.825
	(0.086)	(0.184)	(0.198)***	(0.161)***
Children 5-12 enrolled in school	0.827	0.931	-0.104	-0.120
	(0.009)	(0.013)	(0.016)***	(0.017)***
Children 13-18 enrolled in school	0.622	0.578	0.044	0.010
	(0.015)	(0.037)	(0.041)	(0.040)
Housing and Assets				
Dorms Per Capita	0.507	0.126	0.381	0.343
	(0.009)	(0.012)	(0.015)***	(0.019)***
Share of Rooms with Good Quality Floors	0.606	0.144	0.462	0.385
	(0.014)	(0.014)	(0.019)***	(0.029)***
Water in Terrain	0.553	0.215	0.339	0.249
	(0.017)	(0.051)	(0.051)***	(0.042)***
House with Own Toilet	0.781	0.483	0.298	0.279
	(0.010)	(0.041)	(0.042)***	(0.040)***
Connected to Sewage Service	0.534	0.009	0.525	0.382
	(0.034)	(0.004)	(0.033)***	(0.064)***
Electricity Connection inside the House	0.805	0.391	0.414	0.352
	(0.011)	(0.058)	(0.060)***	(0.051)***
Refrigerator	0.331	0.075	0.256	0.199
	(0.012)	(0.019)	(0.023)***	(0.032)***
T.V.	0.666	0.436	0.230	0.168
	(0.014)	(0.037)	(0.039)***	(0.030)***

[a] Figures computed at household and individual levels in El Salvador using the 2008 multi-purpose household survey (EHPM) for all provinces (known as "departments") in which there are UTPMP households (excludes San Salvador Department) and UTPMP impact evaluation baseline data sources. Standard errors are clustered at the primary sample unit level shown in parentheses.

[b] The term "national poor "refers to households whose members were living on less than USD 89.4 per capita per month in urban zones and less than USD 58.2 per capita per month in rural zones in 2008; these figures are equivalent to two basic baskets for urban and rural areas, which represent the national poverty line and basic needs in El Salvador in 2008.

[c] Since price levels in urban and rural zones in El Salvador differ, in this column we test the hypothesis of equal means by controlling for a dummy variable that is equal to 1 if the household is located in a rural zone.

*Significant at 10% level. **Significant at 5% level. ***Significant at 1% level

Table 7c. Differences of Means between Poors, Non Poors and Slum Dwellers. Uruguay (Montevideo and Canelones Departments)[a]

Variable	(1) Mean of Obervations Poor Out of Slums (ECH 2008) [b]	(2) Mean of Observations Settlements (ECH 2008)	Difference (1)-(2)
Income Indicators (HH)			
Monthly Income Per Capita (USD) [c]	77.561	132.936	-55.376
	(0.627)	(3.475)	(3.364)***
Employment Indicators (IND)			
Employment rate 16-64	0.584	0.647	-0.063
	(0.004)	(0.007)	(0.007)***
Employment rate Males 16-64	0.337	0.388	-0.051
	(0.009)	(0.006)	(0.010)***
Employment rate Females 16-64	0.247	0.260	-0.012
	(0.011)	(0.006)	(0.011)
Wage employment rate 16-64	0.404	0.467	-0.063
	(0.005)	(0.008)	(0.009)***
Wage employment rate Males 16-64	0.225	0.271	-0.046
	(0.008)	(0.007)	(0.009)***
Wage employment rate Females 16-64	0.178	0.196	-0.017
	(0.010)	(0.006)	(0.012)
Self employment rate 16-64	0.181	0.180	0.000
	(0.003)	(0.007)	(0.008)
Self employment rate Males 16-64	0.112	0.116	-0.005
	(0.003)	(0.004)	(0.005)
Self employment rate Females 16-64	0.069	0.064	0.005
	(0.002)	(0.004)	(0.005)
Average Wage Males 16-64 [c]	187.336	260.234	-72.899
	(6.969)	(5.858)	(9.489)***
Average Wage Females 16-64 [c]	74.283	108.738	-34.455
	(2.086)	(4.156)	(3.657)***

[a] Figures computed at household and individual levels in Montevideo and Canelones provinces (known as "departments") in Uruguay using the 2008 continuous household survey (ECH). Standard errors are clustered at the primary sample unit level shown in parentheses.

[b] The term "national poor" refers to households whose members are below the national poverty line in urban zones in Uruguay. This line is calculated monthly; in 2008, it ranged between USD 213 and USD 234 per capita per month. The poverty line represents a basic basket of "staple food needs" plus a basic basket of "non-food needs", both calculated using 2006 as the base year.

[c] In US dollars of December 2008. In the case of monetary variables, observations over the 99th percentile were excluded.

*Significant at 10% level. **Significant at 5% level. ***Significant at 1% level

Table 7d. Differences of Means between Poors, Non Poors and Slum Dwellers. Uruguay (Montevideo and Canelones Departments)[a]

Variable	(1) Mean of Obervations Out of Slums (ECH 2008)[b] Poor	(2) Mean of Observations Settlements (ECH 2008)	Difference (1) - (2)
Demographics			
HH Size	4.274	3.691	0.584
	(0.091)	(0.053)	(0.118)***
Female Head	0.378	0.372	0.005
	(0.038)	(0.013)	(0.039)
Head of HH's Age	45.311	45.423	-0.112
	(0.213)	(0.352)	(0.395)
Head of HH's Years of Schooling	6.351	6.169	0.182
	(0.190)	(0.099)	(0.140)
Children 5-12 enrolled in school	0.980	0.978	0.002
	(0.002)	(0.003)	(0.004)
Children 13-18 enrolled in school	0.707	0.661	0.046
	(0.011)	(0.019)	(0.024)*
Housing and Assets			
Rooms Per Capita	0.836	0.977	-0.141
	(0.024)	(0.020)	(0.039)***
Share of Rooms with Good Quality Floors	0.758	0.596	0.162
	(0.010)	(0.017)	(0.016)***
Water in Terrain	0.864	0.989	-0.125
	(0.061)	(0.004)	(0.057)**
House with Own Toilet	0.922	0.895	0.027
	(0.006)	(0.009)	(0.012)**
Connected to Sewage Service	0.543	0.604	-0.061
	(0.033)	(0.023)	(0.025)**
Electricity Connection inside the House	0.988	0.996	-0.008
	(0.003)	(0.001)	(0.003)**
Refrigerator	0.886	0.860	0.027
	(0.006)	(0.011)	(0.011)**
T.V.	0.939	0.919	0.020
	(0.007)	(0.008)	(0.009)**

[a] Figures computed at household and individual levels in Montevideo and Canelones provinces (known as "departments") in Uruguay using the 2008 continuous household survey (ECH). Standard errors are clustered at the primary sample unit level shown in parentheses.

[b] The term "national poor" refers to households whose members are below the national poverty line in urban zones in Uruguay. This line is calculated monthly; in 2008, it ranged between USD 213 and USD 234 per capita per month. The poverty line represents a basic basket of "staple food needs" plus a basic basket of "non-food needs", both calculated using 2006 as the base year.

*Significant at 10% level. **Significant at 5% level. ***Significant at 1% level

Table 7e. Differences of Means between Poors, Non Poors and Slum Dwellers. Mexico (Estado de Mexico)[a]

Variable	(1) Mean Poor (ENIGH 2010) [b]	(2) Mean All Slums (UTPMP 2010 - 11)	Difference (1) - (2)	Difference (1) - (2)[d]
Income Indicators (HH)				
Monthly Income Per Capita (USD) [c]	86.274	107.674	-21.399	-34.770
	(1.629)	(6.073)	(6.218)***	(9.504)***
Employment Indicators (IND)				
Employment rate 16-64	0.877	0.563	0.315	0.278
	(0.010)	(0.009)	(0.014)***	(0.017)***
Employment rate Males 16-64	0.529	0.406	0.124	0.104
	(0.015)	(0.007)	(0.017)***	(0.026)**
Employment rate Females 16-64	0.348	0.157	0.191	0.174
	(0.013)	(0.008)	(0.016)***	(0.022)***
Wage employment rate 16-64	0.621	0.509	0.113	0.064
	(0.020)	(0.011)	(0.023)***	(0.037)*
Wage employment rate Males 16-64	0.387	0.378	0.009	-0.012
	(0.014)	(0.010)	(0.017)	(0.023)
Wage employment rate Females 16-64	0.234	0.130	0.104	0.075
	(0.013)	(0.007)	(0.015)***	(0.021)***
Self employment rate 16-64	0.252	0.049	0.203	0.214
	(0.016)	(0.008)	(0.018)***	(0.028)***
Self employment rate Males 16-64	0.140	0.024	0.116	0.116
	(0.010)	(0.005)	(0.011)***	(0.013)***
Self employment rate Females 16-64	0.112	0.025	0.087	0.098
	(0.015)	(0.004)	(0.015)***	(0.031)***
Average Wage Males 16-64 [c]	237.071	252.964	-15.893	-30.158
	(4.699)	(7.439)	(8.725)*	(8.264)***
Average Wage Females 16-64 [c]	152.216	253.512	-101.295	-110.316
	(4.922)	(20.365)	(20.726)***	(36.068)***

[a] Figures computed at household and individual levels in Estado de Mexico, Mexico, using the 2010 national household income and expenditure survey (ENIGH) and UTPMP impact evaluation baseline data sources (including non-eligible UTPMP households). Standard errors are clustered at the primary sample unit level shown in parentheses.

[b] The term "national poor" refers to households whose members were living on less than USD 167.67 per capita per month in urban zones and less than USD 107.29 in rural zones between August and November 2010; these figures are equivalent to two basic baskets, which represent the national poverty line and basic needs in Mexico as of 2010.

[c] In the case of monetary variables, observations over the 99th percentile were excluded.

[d] Since price levels in urban and rural zones in Mexico differ, in this column we test the hypothesis of equal means by controlling for a dummy variable that is equal to 1 if the household is located in a rural zone.

*Significant at 10% level. **Significant at 5% level. ***Significant at 1% level

Table 7f. Differences of Means between Poors, Non Poors and Slum Dwellers. Mexico (Estado de Mexico)[a]

Variable	(1) Mean Poor (ENIGH 2010) [b]	(2) Mean All Slums (UTPMP 2010 - 11)	Difference (1) - (2)	Difference (1) - (2)[c]
Demographics				
HH Size	4.658	4.721	-0.063	0.013
	(0.074)	(0.148)	(0.164)	(0.182)
Female Head	0.208	0.201	0.006	0.017
	(0.012)	(0.014)	(0.018)	(0.023)
Head of HH's Age	46.130	43.537	2.592	2.580
	(0.512)	(0.711)	(0.870)***	(1.159)**
Head of HH's Years of Schooling	6.897	5.214	1.682	1.134
	(0.165)	(0.227)	(0.279)***	(0.431)***
Children 5-12 enrolled in school	0.980	0.966	0.015	0.005
	(0.006)	(0.007)	(0.009)	(0.014)
Children 13-18 enrolled in school	0.632	0.430	0.202	0.148
	(0.025)	(0.030)	(0.039)***	(0.061)**
Housing and Assets				
Rooms Per Capita	0.921	0.854	0.067	0.034
	(0.022)	(0.023)	(0.032)**	(0.045)
Share of Rooms with Good Quality Floors	0.959	0.738	0.220	0.227
	(0.006)	(0.019)	(0.020)***	(0.034)***
Water in Terrain	0.926	0.574	0.353	0.331
	(0.014)	(0.050)	(0.051)***	(0.098)***
House with Own Toilet	0.835	0.481	0.354	0.310
	(0.012)	(0.032)	(0.034)***	(0.044)***
Connected to Sewage Service	0.903	0.311	0.592	0.450
	(0.018)	(0.048)	(0.051)***	(0.057)***
Electricity Connection inside the House	0.988	0.885	0.103	0.071
	(0.003)	(0.022)	(0.022)***	(0.023)***
Refrigerator	0.700	0.195	0.504	0.296
	(0.024)	(0.034)	(0.041)***	(0.070)***
T.V.	0.953	0.640	0.313	0.223
	(0.010)	(0.039)	(0.040)***	(0.048)***

[a] Figures computed at household and individual levels in Estado de Mexico, Mexico, using the 2010 national household income and expenditure survey (ENIGH) and UTPMP impact evaluation baseline data sources (including non-eligible UTPMP households). Standard errors are clustered at the primary sample unit level shown in parentheses.

[b] The term "national poor" refers to households whose members were living on less than USD 167.67 per capita per month in urban zones and less than USD 107.29 in rural zones between August and November 2010; these figures are equivalent to two basic baskets, which represent the national poverty line and basic needs in Mexico as of 2010.

[c] Since price levels in urban and rural zones in Mexico differ, in this column we test the hypothesis of equal means by controlling for a dummy variable that is equal to 1 if the household is located in a rural zone.

*Significant at 10% level. **Significant at 5% level. ***Significant at 1% level

Supplemental Appendix Tables:

Table A1. Timeline of Intervention and Surveys

	El Salvador	Mexico	Uruguay
Phase 1 - Construction	September, 2008 - January, 2010	May - July, 2010	November, 2007 - January, 2008
Phase 2 - Construction	April - September, 2008	October, 2010 January, 2011	August - October, 2008
Follow-Up Survey	September - October, 2009	February - April, 2012	January - March, 2010

Table A2a: Description of Variables and Sample Sizes. Intention to Treat Groups. Follow Up Survey

Variable	Description	El Salvador		Uruguay		Mexico		All	
		Obs. Control	Obs. Treatment	Obs. Control	Obs. Treatment	Obs. Control	Obs. Treatment	Obs. Control	Obs. Treatment
Monthly Income Per Capita (USD)	Monthly Income per capita in US dollars of July 2007. It is calculated as the sum of the monthly earnings of each household's member divided by the household size.	200	324	258	386	339	360	797	1,070
Assets Value Per Capita (USD)	Total Asset Value per capita reported by the household.	258	398	282	446	401	425	941	1,269
Newborns (<1)	Number of individuals below 1 year old by household.	258	398	282	446	401	425	941	1,269
Newborns (<2)	Number of individuals below 2 year old by household.	258	398	282	446	401	425	941	1,269
Age	Age in years for all the individual.	1,402	2,215	1,393	2,320	2,082	2,231	4,877	6,766
Age in Months	Age in months for children below 5 years old.	156	235	215	391	265	293	636	919
Head of HH's Age	Age of head of household in years.	257	397	281	443	392	412	930	1,252
Spouse's Age	Age of the spouse or partner of head of household in years.	180	292	174	250	291	314	645	856
Gender	Indicator equal to one if the individual is a man.	1,407	2,217	1,397	2,342	2,111	2,273	4,915	6,832
Head of HH's Gender	Indicator equal to one if the head of household is a man.	258	397	282	446	401	425	941	1,268
Years of Schooling (6-12 years old)	Years of schooling if individual is between 6 and 12 years old.	214	366	286	472	367	430	867	1,268
Years of Schooling (13-18 years old)	Years of schooling if individual is between 13 and 18 years old.	226	337	176	315	273	327	675	979
Head of HH's Years of Schooling	Years of Schooling of head of household equivalent to the higher level of education reached.	254	387	272	435	396	421	922	1,243
Spouse's Years of Schooling	Years of Schooling of the spouse or partner of head of household equivalent to the higher level of education reached.	178	287	168	242	293	321	639	850
Hours worked last week by Head of HH	Number of hours worked by the head of household at main and secondary job during the last week, conditional on having worked during the last week.	160	265	240	388	299	320	699	973
Hours worked last week by Spouse	Number of hours worked by the spouse or partner of head of household at main and secondary job during the last week, conditioned on having worked during the last week.	35	80	117	169	98	120	250	369
HH Size	Number of individuals living in the house.	258	398	282	446	401	425	941	1,269
Members per Household (<5)	Number of individuals below 5 years old living in the house.	258	398	282	446	401	425	941	1,269
Members per Household (6-12)	Number of individuals between 6 and 12 years old living in the house.	258	398	282	446	401	425	941	1,269
Members per Household (13-18)	Number of individuals between 13 and 18 years old living in the house.	258	398	282	446	401	425	941	1,269
Members per Household (>18)	Number of individuals over 18 years old living in the house.	258	398	282	446	401	425	941	1,269
Number of Rooms	Number of rooms in the terrain (observed by the enumerator).	258	398	278	444	401	424	937	1,266
Share of Rooms with Good Quality Floors	Proportion of rooms with floors made of good quality materials like cement, brick, or wood (observed by the enumerator).	258	398	278	444	401	424	937	1,266
Share of Rooms with Good Quality Walls	Proportion of rooms with walls made of good quality materials like wood, cement, brick or zinc metal (observed by the enumerator).	258	398	282	446	397	424	937	1,268
Share of Rooms with Good Quality Roofs	Proportion of rooms with roofs made of good quality materials like cement, brick, tile and zinc metal (observed by the enumerator).	258	398	279	444	401	424	938	1,266
Share of Rooms with Window	Proportion of rooms with at least 1 window (observed by the enumerator).	258	398	282	446	400	424	940	1,268
Water in Terrain	Indicator equal to one if there is access to drinkable or not drinkable water in the terrain where the house is located (observed by the enumerator).	258	398	282	446	401	425	941	1,269
House with Own Toilet	Indicator equal to one if there is a toilet inside or outside the house, but inside the terrain (observed by the enumerator).	258	398	282	446	401	425	941	1,269

Table A2b: Description of Variables and Sample Sizes. Intention to Treat Groups. Follow Up Survey

Variable	Description	El Salvador		Uruguay		Mexico		All	
		Obs. Control	Obs. Treatment	Obs. Control	Obs. Treatment	Obs. Control	Obs. Treatment	Obs. Control	Obs. Treatment
Electricity Connection inside the House	Indicator equal to one if there is a formal or informal connection to the electricity system inside the house (observed by the enumerator).	258	398	282	446	400	425	940	1,269
Sink on Room where food is prepared	Indicator equal to one if there is a sink inside the room where food is prepared (observed by the enumerator).	258	398	275	442	398	423	931	1,263
Use Gas Stove or Kerosene to Cook	Indicator equal to one if the household reports the use of gas stove or kerosene to cook.	258	398	282	446	401	425	941	1,269
Refrigerator	Indicator equal to one if the enumerator observes and the household reports having a refrigerator.	235	352	271	432	401	425	907	1,209
T.V.	Indicator equal to one if the enumerator observes and the household reports having a television.	235	352	271	432	401	425	907	1,209
Fan	Indicator equal to one if the enumerator observes and the household reports having a fan.	235	352	271	432	400	425	906	1,209
Kitchen or Gas Stove	Indicator equal to one if the enumerator observes and the household reports having a kitchen or gas stove.	235	352	271	432	401	425	907	1,209
Bicycle	Indicator equal to one if the enumerator observes and the household reports having a bicycle.	235	352	271	432	401	425	907	1,209
Satisfaction with Floor Quality	Indicator equal to one if the respondent reports being satisfied or very satisfied with the quality of floors, measured by a Likert scale of 4 categories that goes from "unsitisfied" to "very satisfied".	258	398	277	441	401	424	936	1,263
Satisfaction with Wall Quality	Indicator equal to one if the respondent reports being satisfied or very satisfied with the quality of walls, measured by a Likert scale of 4 categories that goes from "unsitisfied" to "very satisfied".	258	398	277	441	401	425	936	1,264
Satisfaction with Roof Quality	Indicator equal to one if the respondent reports being satisfied or very satisfied with the quality of roofs, measured by a Likert scale of 4 categories that goes from "unsitisfied" to "very satisfied".	258	398	277	441	401	425	936	1,264
Satisfaction with House Protection against Water when it rains	Indicator equal to one if respondent reports being satisfied or very satisfied with the protection against water when it rains, measured by a Likert scale of 4 categories that goes from "unsitisfied" to "very satisfied".	258	398	277	441	401	425	936	1,264
Satisfaction with Quality of Life	Indicator equal to one if respondent reports being satisfied or very satisfied with the quality of life, measured by a Likert scale of 4 categories that goes from "unsitisfied" to "very satisfied".	154	367	276	439	400	422	830	1,228
Safe inside the house during the last 12 months	Indicator equal to one if respondent has never or rarely felt unsafe inside the house during the last 12 months, measured by a Likert scale of 5 categories that goes from "never unsafe" to "always unsafe".	258	398	282	446	401	425	941	1,269
Safe leaving the house alone during the last 12 months	Indicator equal to one if respondent has never or rarely felt unsafe leaving the house alone during the last 12 months.	258	398	282	446	401	425	941	1,269
Safe leaving the kids alone in the house during the last 12 months	Indicator equal to one if respondent feels safe or very safe leaving the kids alone in the house during the last 12 months, , measured by a Likert scale of 5 categories that goes from "never unsafe" to "always unsafe".	258	398	282	446	401	425	941	1,269
The house had been robbed in the last 12 months	Indicator equal to one if respondent reports the house has been robbed during the last 12 months.	258	398	276	441	400	425	934	1,264
Respiratory Disease during last 4 weeks	Indicator equal to one if the mother reports that a child below 5 years old had a respiratory disease in the last four weeks.	155	229	211	374	259	283	625	886
Diarrhea during last 4 weeks	Indicator equal to one if the mother reports that a child below 5 years old had diarrhea in the last four weeks.	155	229	209	374	259	277	623	880

Table A2c: Description of Variables and Sample Sizes. Intention to Treat Groups. Follow Up Survey

Variable	Description	El Salvador		Uruguay		Mexico		All	
		Obs. Control	Obs. Treatment	Obs. Control	Obs. Treatment	Obs. Control	Obs. Treatment	Obs. Control	Obs. Treatment
Housing Quality Summary Index (z-score)	Equally weighted average of z-scores of Number of Rooms, Share of Rooms with Good Quality Floors, Share of Rooms with Good Quality Walls, Share of Rooms with Good Quality Roofs, and Share of Rooms with Window.	258	398	282	446	401	425	941	1,269
Housing Investment Summary Index (z-score)	Equally weighted average of z-scores of Sink on Room where food is prepared, Room where food is prepared is also used as Bedroom, Water in Terrain, Electricity Connection inside the House, Use Gas Stove or Kerosene to Cook, and House with Own Toilet.	258	398	274	446	401	425	933	1,269
Satisfaction Summary Index (z-score)	Equally weighted average of z-scores of Satisfaction with Floor Quality, Satisfaction with Wall Quality, Satisfaction with Roof Quality, Satisfaction with House Protection against Water when it rains, and Satisfaction of Quality of Life.	258	398	282	446	401	425	941	1,269
Perception of Security Summary Index (z-score)	Equally weighted average of z-scores of Safe inside the house during the last 12 months, Safe leaving the house alone during the last 12 months, Safe leaving the kids alone in the house during the last 12 months, and The house had been robbed in the last 12 months.	258	398	276	446	401	425	935	1,269
Assets Summary Index (z-score)	Equally weighted average of z-scores of Television, Fun, Kitchen or Gas Stove, Refrigerator, and Bicycle.	258	398	282	446	401	425	941	1,269
Economic Summary Index (z-score)	Equally weighted average of z-scores of Monthly Income Per Capita (USD), Hours worked last week by Head of HH, and Hours worked last week by Spouse.	258	398	282	446	401	425	941	1,269
Demographic Summary Index (z-score)	Equally weighted average of z-scores of HHSize, Newborns(<1), and Newborns(<2).	258	398	282	446	401	425	941	1,269
Health Summary Index (z-score)	Equally weighted average of z-scores of Respiratory Disease during last 4 weeks and Diarrhea during last 4 weeks.	155	229	208	374	259	283	622	886

Table A3. General Information. Intention to Treat Groups [a]

	El Salvador			Uruguay			Mexico			All		
	Observations Treatment	Observations Control	Mean Differences	Observations Treatment	Observations Control	Mean Differences	Observations Treatment	Observations Control	Mean Differences	Observations Treatment	Observations Control	Mean Differences
General Information												
N° Households	421	277		478	301		457	439		1,356	1,017	
	60.32%	39.68%		61.36%	38.64%		51.00%	49.00%		57.14%	42.86%	
N° Individuals	2,111	1,363		2,067	1,259		2,239	2,152		6,417	4,774	
	60.77%	39.23%		62.15%	37.85%		50.99%	49.01%		57.34%	42.66%	
Attriters: N° Households	23	19		32	19		32	38		87	76	
Attrition Rate	0.055	0.069	-0.014	0.067	0.063	0.004	0.070	0.087	-0.017	0.064	0.075	-0.011
	(0.011)	(0.015)	(0.018)	(0.011)	(0.014)	(0.018)	(0.011)	(0.013)	(0.017)	(0.006)	(0.008)	(0.010)
N° Households - Follow Up Sample	398	258		446	282		425	401		1,269	941	
Phase I	221	67		224	129		166	120		611	316	
Phase II	177	191		222	153		259	281		658	625	
N° Individuals - Follow Up Sample	2,217	1,407		2,342	1,397		2,273	2,111		6,832	4,915	
Compliers: N° Households	349	257		383	280		368	401		1,100	938	
	87.7%	99.6%		85.9%	99.3%		86.6%	100.0%		86.7%	99.7%	
Non Compliance Rate	0.123	0.004	0.119	0.141	0.007	0.134	0.134	0.000	0.134	0.133	0.003	0.130
	(0.016)	(0.003)	(0.016)***	(0.016)	(0.005)	(0.017)***	(0.016)	(0.000)	(0.016)***	(0.009)	(0.001)	(0.009)***
Movers[a]	20	16		36	25		22	22		78	63	
	4.75%	5.78%		7.53%	8.31%		4.81%	5.01%		5.75%	6.19%	
Movers Rate	0.048	0.058	-0.010	0.075	0.083	-0.008	0.048	0.050	-0.002	0.058	0.062	-0.004
	(0.010)	(0.014)	(0.017)	(0.012)	(0.015)	(0.019)	(0.010)	(0.010)	(0.014)	(0.006)	(0.007)	(0.009)

[a] The term "movers" refers to households whose members moved out of the original slum between the times that the baseline and the follow-up surveys were conducted. Some of these people were located and responded to the follow-up survey; those who were not located have been classified as attriters.

*Significant at 10% level. **Significant at 5% level. ***Significant at 1% level.

Table A4a. Differences in Pre-Treatment Means. Intention to Treat Groups. Baseline Survey. [a]

Variables	El Salvador			Uruguay			Mexico			All		
	Mean Treatment	Mean Control	Mean Differences	Mean Treatment	Mean Control	Mean Differences	Mean Treatment	Mean Control	Mean Differences	Mean Treatment	Mean Control	Mean Differences
Income and Assets												
Assets Value Per Capita (USD)	45.397	53.578	6.059	45.369	47.694	-1.599	48.772	50.265	1.048	45.177	48.745	-0.311
	(5.539)	(8.126)	(11.900)	(3.558)	(4.677)	(6.452)	(4.527)	(4.111)	(6.104)	(2.365)	(2.764)	(3.911)
Monthly Income Per Capita	29.940	30.463	-1.713	64.899	77.871	-15.626	56.281	67.969	-6.209	51.210	59.118	-6.453
(USD)	(1.413)	(1.893)	(2.855)	(4.179)	(6.834)	(9.275)*	(2.965)	(3.664)	(4.744)	(1.826)	(2.425)	(3.521)*
T.V.	0.453	0.412	-0.028	0.844	0.825	0.019	0.604	0.677	-0.039	0.643	0.651	-0.017
	(0.025)	(0.030)	(0.044)	(0.016)	(0.022)	(0.029)	(0.022)	(0.022)	(0.031)	(0.013)	(0.015)	(0.019)
Fan	0.043	0.050	0.004	0.291	0.264	0.037	0.033	0.023	0.005	0.127	0.101	0.016
	(0.010)	(0.013)	(0.022)	(0.021)	(0.025)	(0.034)	(0.008)	(0.007)	(0.010)	(0.009)	(0.009)	(0.013)
Kitchen or Gas Stove	0.455	0.527	-0.030	0.651	0.664	0.022	0.418	0.474	-0.027	0.511	0.544	-0.012
	(0.025)	(0.030)	(0.044)	(0.022)	(0.027)	(0.036)	(0.023)	(0.023)	(0.029)	(0.013)	(0.015)	(0.020)
Refrigerator	0.059	0.099	-0.018	0.495	0.510	0.011	0.204	0.187	0.014	0.263	0.259	0.006
	(0.011)	(0.018)	(0.026)	(0.023)	(0.029)	(0.039)	(0.018)	(0.018)	(0.024)	(0.012)	(0.013)	(0.018)
Bicycle	0.335	0.359	-0.014	0.453	0.462	-0.011	0.269	0.269	0.010	0.354	0.349	-0.003
	(0.023)	(0.029)	(0.041)	(0.023)	(0.029)	(0.039)	(0.020)	(0.021)	(0.029)	(0.013)	(0.015)	0.020)
Characteristics of the House												
Number of Rooms	2.488	2.354	-0.146	2.912	2.837	0.105	2.803	2.825	-0.023	2.743	2.700	-0.010
	(0.056)	(0.069)	(0.095)	(0.068)	(0.087)	(0.117)	(0.061)	(0.059)	(0.085)	(0.036)	(0.041)	(0.058)
Share of Rooms with Good	0.145	0.142	-0.038	0.371	0.374	-0.020	0.661	0.636	0.012	0.398	0.423	-0.011
Quality Floors	(0.011)	(0.014)	(0.021)*	(0.020)	(0.025)	(0.033)	(0.017)	(0.018)	(0.024)	(0.011)	(0.013)	(0.016)
Share of Rooms with Good	0.110	0.107	-0.021	0.248	0.217	0.022	0.259	0.237	0.022	0.204	0.193	0.010
Quality Walls	(0.010)	(0.012)	(0.018)	(0.021)	(0.026)	(0.035)	(0.017)	(0.016)	(0.021)	(0.009)	(0.010)	(0.014)
Share of Rooms with Good	0.101	0.149	-0.016	0.348	0.353	-0.023	0.502	0.468	-0.013	0.322	0.347	-0.017
Quality Roofs	(0.012)	(0.019)	(0.023)	(0.019)	(0.025)	(0.033)	(0.019)	(0.019)	(0.027)	(0.011)	(0.013)	(0.016)
Share of Rooms with Window	0.154	0.184	0.002	0.561	0.586	-0.026	0.294	0.253	0.015	0.345	0.333	-0.002
	(0.012)	(0.018)	(0.024)	(0.017)	(0.022)	(0.029)	(0.016)	(0.015)	(0.022)	(0.010)	(0.011)	(0.014)
Water in Terrain	0.228	0.195	-0.033	0.916	0.907	0.016	0.501	0.519	0.015	0.563	0.546	0.004
	(0.020)	(0.023)	(0.030)	(0.012)	(0.016)	(0.021)	(0.023)	(0.023)	(0.028)	(0.013)	(0.015)	(0.015)
Sink on Room where food is	0.014	0.007	0.002	0.269	0.231	0.047	0.013	0.025	-0.011	0.103	0.081	0.012
prepared	(0.005)	(0.005)	(0.010)	(0.020)	(0.024)	(0.033)	(0.005)	(0.007)	(0.009)	(0.008)	(0.008)	(0.012)
Electricity Connection inside the	0.394	0.386	-0.063	0.962	0.953	0.008	0.807	0.870	-0.041	0.734	0.763	-0.030
House	(0.023)	(0.029)	(0.038)	(0.008)	(0.012)	(0.016)	(0.018)	(0.016)	(0.023)*	(0.012)	(0.013)	(0.014)**
Use Gas Stove or Kerosene to	0.195	0.141	0.010	0.439	0.475	-0.017	0.276	0.280	-0.008	0.308	0.300	-0.007
Cook	(0.019)	(0.020)	(0.030)	(0.022)	(0.028)	(0.037)	(0.020)	(0.021)	(0.023)	(0.012)	(0.014)	(0.017)
House with Own Toilet	0.506	0.448	-0.056	0.657	0.598	0.062	0.403	0.392	-0.011	0.524	0.468	0.003
	(0.024)	(0.029)	(0.042)	(0.021)	(0.028)	(0.036)*	(0.022)	(0.023)	(0.031)	(0.013)	(0.015)	(0.020)

[a] Responses regarding construction materials used in rooms were included only for those households that reported information for all rooms. In the case of monetary variables, observations over the 99th percentile were excluded. Robust standard errors are reported in parenthesis.

*Significant at 10% level. **Significant at 5% level. ***Significant at 1% level

Table A4b. Differences in Pre-Treatment Means. Intention to Treat Groups. Baseline Survey. [a]

Variables	El Salvador			Uruguay			Mexico			All		
	Mean Treatment	Mean Control	Mean Differences	Mean Treatment	Mean Control	Mean Differences	Mean Treatment	Mean Control	Mean Differences	Mean Treatment	Mean Control	Mean Differences
Satisfaction with Quality of House and												
Satisfaction with Floor Quality	0.133	0.116	0.018	0.164	0.196	-0.020	0.375	0.377	0.036	0.225	0.252	0.013
	(0.016)	(0.019)	(0.027)	(0.016)	(0.022)	(0.030)	(0.022)	(0.023)	(0.030)	(0.011)	(0.013)	(0.017)
Satisfaction with Wall Quality	0.095	0.083	0.004	0.117	0.130	-0.012	0.255	0.249	0.030	0.157	0.169	0.010
	(0.014)	(0.016)	(0.025)	(0.014)	(0.019)	(0.026)	(0.020)	(0.020)	(0.029)	(0.009)	(0.011)	(0.016)
Satisfaction with Roof Quality	0.117	0.091	0.008	0.176	0.157	0.000	0.212	0.229	0.002	0.163	0.176	0.003
	(0.015)	(0.017)	(0.026)	(0.021)	(0.016)	(0.028)	(0.019)	(0.020)	(0.028)	(0.010)	(0.011)	(0.016)
Satisfaction with House Protection against Water when it rains	0.103	0.090	-0.005	0.159	0.180	-0.006	0.190	0.176	0.038	0.152	0.154	0.013
	(0.014)	(0.017)	(0.025)	(0.016)	(0.022)	(0.029)	(0.018)	(0.018)	(0.025)	(0.009)	(0.011)	(0.016)
Satisfaction with Quality of Life	0.266	0.181	0.025	0.219	0.229	-0.020	0.354	0.339	0.036	0.279	0.263	0.015
	(0.021)	(0.023)	(0.033)	(0.019)	(0.024)	(0.032)	(0.022)	(0.022)	(0.032)	(0.012)	(0.013)	(0.019)
Perception of Security												
Safe inside the house during the last 12 months	0.527	0.538	-0.045	0.615	0.595	0.029	0.713	0.708	0.013	0.621	0.628	0.004
	(0.024)	(0.030)	(0.043)	(0.022)	(0.028)	(0.037)	(0.021)	(0.021)	(0.031)	(0.013)	(0.015)	(0.020)
Safe leaving the house alone during the last 12 months	0.435	0.419	-0.011	0.328	0.272	0.061	0.615	0.597	0.031	0.458	0.452	0.031
	(0.024)	(0.029)	(0.043)	(0.021)	(0.025)	(0.035)*	(0.022)	(0.023)	(0.032)	(0.013)	(0.015)	(0.020)
Safe leaving the kids alone in the house during the last 12 months	0.147	0.166	-0.049	0.144	0.126	0.011	0.166	0.191	-0.034	0.153	0.165	-0.023
	(0.017)	(0.022)	(0.032)	(0.016)	(0.019)	(0.025)	(0.017)	(0.018)	(0.026)	(0.009)	(0.011)	(0.016)
House robbed in the last 12 months	0.079	0.036	0.053	0.273	0.283	-0.030	0.059	0.055	0.008	0.141	0.117	0.006
	(0.013)	(0.011)	(0.020)**	(0.020)	(0.026)	(0.033)	(0.011)	(0.010)	(0.015)	(0.009)	(0.010)	(0.013)
Sociodemographic Characteristics												
HH Size	5.014	4.921	-0.040	4.324	4.183	0.109	4.899	4.902	-0.099	4.732	4.694	-0.015
	(0.124)	(0.140)	(0.233)	(0.113)	(0.134)	(0.189)	(0.113)	(0.117)	(0.159)	(0.068)	(0.075)	(0.108)
Newborns (<1)	0.114	0.123	-0.013	0.178	0.150	0.010	0.118	0.153	-0.040	0.138	0.144	-0.017
	(0.016)	(0.021)	(0.030)	(0.018)	(0.021)	(0.029)	(0.015)	(0.017)	(0.024)	(0.009)	(0.011)	(0.016)
Newborns (<2)	0.214	0.220	-0.025	0.343	0.312	0.007	0.284	0.276	-0.008	0.283	0.271	-0.007
	(0.021)	(0.026)	(0.037)	(0.025)	(0.030)	(0.041)	(0.022)	(0.024)	(0.034)	(0.013)	(0.015)	(0.022)
Members per Household (<5)	0.622	0.606	0.016	0.828	0.794	-0.007	0.622	0.606	-0.086	0.769	0.782	-0.035
	(0.036)	(0.046)	(0.068)	(0.044)	(0.055)	(0.074)	(0.036)	(0.046)	(0.063)	(0.024)	(0.028)	(0.040)
Members per Household (6-12)	1.043	0.993	-0.059	0.831	0.731	0.137	1.043	0.993	0.026	0.965	0.905	0.043
	(0.054)	(0.064)	(0.096)	(0.048)	(0.055)	(0.077)*	(0.054)	(0.064)	(0.074)	(0.030)	(0.033)	(0.047)
Members per Household (13-18)	0.660	0.675	-0.023	0.542	0.455	0.093	0.660	0.675	-0.013	0.650	0.636	0.020
	(0.044)	(0.051)	(0.080)	(0.038)	(0.046)	(0.064)	(0.044)	(0.051)	(0.065)	(0.024)	(0.028)	(0.040)
Members per Household (>18)	2.437	2.350	0.076	1.856	1.947	-0.114	2.437	2.350	-0.029	2.172	2.213	-0.032
	(0.057)	(0.065)	(0.111)	(0.037)	(0.050)	(0.068)*	(0.057)	(0.065)	(0.075)	(0.029)	(0.032)	(0.047)
Head of HH's Age	45.038	44.227	0.129	38.723	37.270	1.827	41.518	41.379	0.426	41.627	40.935	0.824
	(0.819)	(1.013)	(1.555)	(0.649)	(0.806)	(1.089)*	(0.747)	(0.697)	(0.999)	(0.430)	(0.479)	(0.673)
Head of HH's Gender	0.798	0.769	0.028	0.498	0.545	-0.046	0.788	0.770	0.018	0.689	0.703	-0.001
	(0.019)	(0.025)	(0.036)	(0.022)	(0.028)	(0.038)	(0.019)	(0.020)	(0.028)	(0.012)	(0.014)	(0.019)
Head of HH's Years of Schooling	2.514	2.326	-0.053	5.828	5.877	0.121	4.144	3.850	0.305	4.091	3.741	0.281
	(0.147)	(0.170)	(0.245)	(0.135)	(0.183)	(0.237)	(0.151)	(0.151)	(0.203)	(0.099)	(0.105)	(0.140)**
Spouse's Age	38.909	37.900	0.274	33.623	33.036	0.595	37.110	37.731	0.065	36.727	36.514	0.270
	(0.852)	(1.047)	(1.609)	(0.754)	(0.927)	(1.263)	(0.744)	(0.757)	(1.045)	(0.460)	(0.519)	(0.725)
Spouse's Years of Schooling	2.210	1.921	0.127	6.023	6.229	-0.185	4.120	4.274	-0.320	3.889	3.867	-0.081
	(0.166)	(0.180)	(0.265)	(0.179)	(0.225)	(0.304)	(0.178)	(0.177)	(0.237)	(0.123)	(0.133)	(0.168)
Hours worked last week by Head of HH	41.278	40.963	1.373	38.610	40.258	-1.744	40.924	40.785	0.606	40.182	40.662	-0.046
	(1.230)	(1.461)	(2.306)	(1.113)	(1.437)	(1.910)	(1.150)	(1.140)	(1.623)	(0.671)	(0.764)	(1.092)
Hours worked last week by Spouse	34.261	26.340	4.137	37.159	37.438	0.267	28.122	28.113	-2.283	33.370	31.377	-0.250
	(2.872)	(3.035)	(4.392)	(1.845)	(1.775)	(2.759)	(1.864)	(1.865)	(2.699)	(1.225)	(1.225)	(1.786)
Years of Schooling (6-12 years old)	1.594	1.601	-0.090	1.900	2.012	-0.044	2.494	2.401	0.055	1.999	2.053	-0.013
	(0.076)	(0.096)	(0.145)	(0.077)	(0.104)	(0.140)	(0.087)	(0.090)	(1.678)	(0.047)	(0.057)	(0.080)
Years of Schooling (13-18 years old)	5.248	5.049	-0.134	5.373	5.535	-0.101	6.627	7.038	-0.366	5.795	6.088	-0.228
	(0.145)	(0.183)	(0.268)	(0.113)	(0.152)	(0.197)	(0.116)	(0.122)	(0.171)**	(0.076)	(0.093)	(0.118)*
Health (<5 years old)												
Respiratory Disease during last 4 weeks	0.669	0.635	0.042	0.351	0.352	-0.018	0.376	0.401	-0.022	0.444	0.439	-0.007
	(0.029)	(0.037)	(0.056)	(0.024)	(0.031)	(0.042)	(0.027)	(0.027)	(0.040)	(0.016)	(0.018)	(0.025)
Diarrhea during last 4 weeks	0.249	0.144	0.043	0.087	0.089	-0.018	0.131	0.138	-0.011	0.145	0.123	-0.002
	(0.027)	(0.027)	(0.042)	(0.014)	(0.018)	(0.024)	(0.018)	(0.019)	(0.028)	(0.011)	(0.012)	(0.017)

[a] Robust standard errors are reported in parenthesis.

*Significant at 10% level. **Significant at 5% level. ***Significant at 1% level

Table A5. Differences in Pre-Treatment Means between countries. Housing Characteristics. Baseline Survey[a]

Variables	Mean El Salvador (1)	Mean Uruguay (2)	Mean Mexico (3)	Mean Differences (1) - (2)	Mean Differences (1) - (3)	Mean Differences (2) - (3)
Characteristics of the House						
Number of Rooms	2.435	2.883	2.814	-0.448	-0.379	0.069
	(0.087)	(0.079)	(0.065)	(0.116)***	(0.108)***	(0.101)
Share of Rooms with Good Quality Floors	0.144	0.372	0.649	-0.228	-0.505	-0.276
	(0.014)	(0.030)	(0.027)	(0.033)***	(0.031)***	(0.040)***
Share of Rooms with Good Quality Walls	0.109	0.236	0.248	-0.127	-0.140	-0.012
	(0.013)	(0.033)	(0.031)	(0.035)***	(0.034)***	(0.045)
Share of Rooms with Good Quality Roofs	0.120	0.350	0.485	-0.230	-0.365	-0.135
	(0.034)	(0.024)	(0.031)	(0.041)***	(0.046)***	(0.039)***
Share of Rooms with Window	0.166	0.571	0.273	-0.405	-0.107	0.298
	(0.017)	(0.016)	(0.025)	(0.023)***	(0.030)***	(0.029)***
Water in Terrain	0.215	0.913	0.510	-0.700	-0.295	0.403
	(0.051)	(0.014)	(0.052)	(0.053)***	(0.072)***	(0.054)***
Sink on Room where food is prepared	0.012	0.254	0.019	-0.242	-0.008	0.235
	(0.005)	(0.025)	(0.004)	(0.024)***	(0.007)	(0.024)***
Room where food is prepared is also used as Bedroom	0.313	0.432	0.229	-0.119	0.084	0.203
	(0.047)	(0.025)	(0.025)	(0.053)**	(0.053)	(0.035)***
Electricity Connection inside the House	0.391	0.959	0.838	-0.568	-0.447	0.121
	(0.058)	(0.006)	(0.031)	(0.058)***	(0.065)***	(0.031)***
Use Gas Stove or Kerosene to Cook	0.173	0.453	0.278	-0.280	-0.105	0.175
	(0.034)	(0.052)	(0.057)	(0.061)***	(0.066)	(0.076)**
House with Own Bathroom	0.483	0.634	0.397	-0.151	0.085	0.237
	(0.041)	(0.024)	(0.035)	(0.047)***	(0.054)	(0.042)***

[a] Responses regarding construction materials used in rooms were included only for those households that reported information for all rooms. Standard errors clustered at cluster level shown in parentheses.

*Significant at 10% level. **Significant at 5% level. ***Significant at 1% level