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**IS *PROGRESA* WORKING? SUMMARY OF THE RESULTS OF
AN EVALUATION BY IFPRI**

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ABSTRACT

Programa Nacional de Educacion, Salud y Alimentacion (PROGRESA) is one of the major programs of the Mexican government aimed at developing the human capital of poor households. Targeting its benefits directly to the population in extreme poverty in rural areas, it aims to alleviate current poverty through monetary and in-kind benefits, as well as reduce future levels of poverty by encouraging investments in education, health, and nutrition. This document summarizes 24 months of extensive research by the International Food Policy Research Institute designed to evaluate whether PROGRESA has been successful at achieving its goals. The evaluation analyzes what has been the impact of PROGRESA on education, health, and nutrition as well as in other areas, such as women's status and work incentives.

The evaluation is based on data collected from seven states that were among the first to receive PROGRESA: Guerrero, Hidalgo, Michoacán, Puebla, Querétaro, San Luis Potosi, and Veracruz. A total of 24,000 households from 506 localities in these states were interviewed periodically between November 1997 and November 1999. Focus groups and workshops with beneficiaries, local leaders, PROGRESA officials, health clinic workers, and schoolteachers were also carried out.

In the central impact areas of education, health, and nutrition, the results are encouraging. The initial analysis of PROGRESA's impact on education shows that the program has significantly increased the enrollment of boys and girls, particularly of girls and above all, at the secondary school level. The results imply that children will have, on

average, about 0.7 years of extra schooling because of PROGRESA, although this effect may increase if children are more likely to go on to senior high school as a result of PROGRESA. Taking into account that higher schooling is associated with higher levels of income, the estimations imply that children will have lifetime earnings that are 8 percent higher due to the education benefits they have received through PROGRESA. As a result of PROGRESA, both children and adults are experiencing improvements in health. Specifically, children receiving PROGRESA's benefits have a 12 percent lower incidence of illness and adults report a decrease in 19 percent of sick or disability days. In the area of nutrition, PROGRESA has had a significant effect on reducing the probability of stunting for children aged 12 to 36 months. Finally, PROGRESA has also had important impacts on food consumption. PROGRESA beneficiaries report higher calorie consumption and a more diverse diet, including more fruits, vegetables, and meat.

In other areas of the evaluation, the design feature of PROGRESA that gives control of the monetary benefits to women has increased their household decision-making. Women report a greater level of empowerment, defined as increased self-confidence and control over their movements and household resources. Additionally, there is no evidence that adults are working less in response to the monetary benefits. This implies that PROGRESA does not create "dependence" on its benefits through reducing individual's self-sufficiency efforts.

CONTENTS

Acknowledgments.....	vi
1. Introduction.....	1
2. Background on PROGRESA	2
3. The Evaluation	5
Why Conduct an Evaluation?	5
Why Is This Evaluation Different From Others?	6
Evaluation Tools	8
4. The Selection of Beneficiary Households and an Evaluation of PROGRESA’S Targeting	11
Background.....	11
Methodology.....	12
Challenging Issues	14
5. The Impact of PROGRESA on School Enrollment.....	19
Background.....	19
Methodology.....	22
Challenging Issues	22
6. The Impact of PROGRESA on Health, Nutrition, and Health-Care Use	33
Background.....	33
Methodologies	33
Challenging Issues	35
7. The Impact of PROGRESA’s Monetary Transfers on Household Consumption and Work Incentives	40
Background.....	40
Methodology.....	41
Challenging Issues	42

8. The Impact of PROGRESA on Women's Status and Household Relations	45
Background.....	45
Methodology.....	46
Challenging Issues	47
9. A Cost Analysis of PROGRESA	51
Methodology.....	51
Challenging Issues	54
10. Policy and Research Considerations	56
Appendix: IFPRI-PROGRESA Research Team and Affiliated Institutions.....	61
Bibliography	62

FIGURES

1	School enrollment and labor force participation of children in PROGRESA communities prior to program implementation	20
2	Positive enrollment effect for children at primary and secondary school levels.....	23
3	Comparison of incidence of illness of PROGRESA children with non-PROGRESA children.....	36
4	Daily visits to public clinics.....	38

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1. INTRODUCTION

Because of Mexico's new and innovative Education, Health, and Nutrition Program (PROGRESA), poor Mexicans are beginning to see improvements in the health, education, and nutrition of their children. The International Food Policy Research Institute (IFPRI) of Washington, D.C., has assisted PROGRESA in conducting an evaluation indicating that the roots of this antipoverty program are beginning to take hold. Based on repeated surveys of individuals and households in localities randomly assigned as PROGRESA and non-PROGRESA localities before the start of the program, the research results show that after just three years, the poor children of the rural communities of Mexico where PROGRESA operates are attending school longer, eating more diversified diets, improving their health, and learning that the future may look quite different from the past.

While the Mexican Constitution mandates the well-being of the population, for the vast majority of society, the population welfare has been marred by generations of unequal accumulation of wealth and opportunity. What is perhaps the most innovative about PROGRESA—and a feature that has captured the attention of development practitioners throughout the world—is its simultaneous intervention on poverty's basic determinants: education, health, and nutrition. Research findings indicate that because of PROGRESA's efforts, a fragile transformation has begun.

This document summarizes 24 months of extensive research designed to evaluate the impact of PROGRESA on three poverty reduction focus areas: improving school

enrollment, improving health and nutrition outcomes, and increasing household consumption for poor rural families. Other topics, such as the impact of PROGRESA on women's status, intrahousehold transfers, work incentives, and the costs of running the program, are also examined. PROGRESA and IFPRI brought together an impressive team of eminent research economists, sociologists, nutritionists, and health care experts (see Appendix) to conduct and analyze survey data to determine PROGRESA's impact. The findings presented here summarize a series of reports presented by IFPRI to PROGRESA from November 1998 through November 2000. A more detailed description of the research, rationale and methods appears in the list of supporting documents from which this report has been derived (see Bibliography).

2. BACKGROUND ON *PROGRESA*

PROGRESA is one of the major programs of the Mexican government aimed at developing the human capital of poor households. PROGRESA began its operations in August 1997 in an effort to break the entangling web of poverty where malnutrition, morbidity, high infant mortality rates, high fertility, school dropout rates, and unhealthy living conditions prevail. As part of an overall strategy for poverty alleviation in Mexico, PROGRESA works in conjunction with other programs that are aimed at developing employment and income opportunities. As of the end of 1999, PROGRESA accounted for slightly less than 20 percent of the Federal Government budget allocated to poverty alleviation. Unlike other programs, PROGRESA's multi-sectoral focus provides an

integrated package of education, nutrition, and health services to poor families, and rather than being simply a cash transfer program, PROGRESA requires active participation by the recipient households in exchange for the benefits.

At the end of 1999, PROGRESA covered approximately 2.6 million families or about 40 percent of all rural families and one-ninth of all families in Mexico. At that time, the program operated in almost 50,000 localities, in more than 2,000 municipalities and 31 states. PROGRESA's budget of approximately \$777 million in 1999 was equivalent to 0.2 percent of Mexico's GDP. Mexico is implementing an effective program that is serving as a model and beginning to take hold across Latin America in countries such as Honduras, Nicaragua, and Argentina.

In order to reach the poor households, PROGRESA first selects communities using a marginality index based on census data. Then, within the selected marginal communities, households are chosen using socioeconomic data collected for all households in the community. The education component of PROGRESA is designed to increase school enrollment among youth in Mexico's poor rural communities by making education grants available to pupils' mothers, who then are required to have their children attend school regularly. In localities where PROGRESA currently operates, households that have been characterized as poor, and have children enrolled in grades 3-9, are eligible to receive these educational grants every two months. The levels of these grants were determined taking into account, among other factors, what a child would earn in the labor force or contribute to family production. The educational grants are slightly higher at the secondary level for girls, given their propensity to drop out at earlier ages.

In the area of health and nutrition, PROGRESA brings basic attention to health issues and promotes health care through free preventive interventions, such as nutritional supplements, and education on hygiene and nutrition as well as monetary transfers for the purchase of food. Receipt of monetary transfers and nutritional supplements are tied to mandatory health care visits to public clinics. This aspect of the program emphasizes targeting its benefits to children under five, and pregnant and lactating women, and is administered by the Ministry of Health and by IMSS-Solidaridad, a branch of the Mexican Social Security Institute, which provides benefits to uninsured individuals in rural areas.

Nutritional supplements are given to children ages 4 months to 2 years and to pregnant and breastfeeding women. If signs of malnutrition are detected in children ages 2 to 5, nutritional supplements are also administered. The nutritional status of beneficiaries is monitored by mandatory visits to the clinic and is more frequently monitored for children 5 years and under and pregnant and lactating women. Upon each visit, younger children and lactating women are measured for wasting (weight-for-height), stunting (height-for-age), and weight-for-age. An appointment monitoring system is set up and a nurse or doctor verifies adherence. Every two months, certification of beneficiary visits is submitted to PROGRESA by the health care professionals, which triggers the receipt of bimonthly food support.

PROGRESA is primarily a demand-side program, meaning that its main objective is to induce households (through cash transfers and conditions associated with the receipt of these cash transfers) to make more intensive use of the existing educational and health

facilities. The program is accompanied by complimentary efforts and resources directed at strengthening the supply and quality of the educational and health services, but these efforts serve only an auxiliary role as a means of easing potential capacity constraints that might arise as a result of the more intensive use of the existing facilities.

PROGRESA gives benefits exclusively to mothers. The concentration and value of this transfer in the hands of the mother, and the enormous scale of the program—so far 2.6 million families in extreme poverty, or almost 40 percent of all rural families in Mexico—suggests that the potential impact of the program in altering the balance of power within Mexican families is significant. Mexico has taken the lead in implementing an antipoverty intervention that recognizes that mothers effectively and efficiently use resources in a manner that reflects the immediate needs of the family.

3. THE EVALUATION

WHY CONDUCT AN EVALUATION?

Evaluations systematically examine programs to see if they are accomplishing their objectives, and if they are worth renewing or extending. Like all research, program evaluation follows a logical order or sequence of investigation. It begins with a problem and theoretical approaches to that problem, and formulates a research design that provides the blueprint for data collection related to the problem. Data are then gathered, analyzed, and synthesized. The objective of program evaluation, as a research effort, is to produce generalizable knowledge that may—as in the case of the evaluation of

PROGRESA—be applicable to a specific program. For PROGRESA, program evaluation can be used to help establish the best use of government resources as Mexico works to improve the quality of life for its poor population.

WHY IS THIS EVALUATION DIFFERENT FROM OTHERS?

The strength of this evaluation exercise lies in its methods. Three key factors contribute to its rigor: (1) the quasi-experimental design used for the evaluation of the program; (2) the collection of repeated observations on households and their members before and after the program; and (3) the analytical approaches used in determining whether PROGRESA has had an impact.

The fundamental problem in the evaluation of any social program is the fact that households participating in the program cannot be simultaneously observed in the alternative state of no treatment. For a proper evaluation of the impact of a program, it is necessary to observe a group of households that are similar to beneficiary households in every respect possible but do not benefit from the program. In the case of PROGRESA, where evaluation was conceived from the beginning as part of the design of the program, the solution to this evaluation problem is achieved by random assignment of localities into treatment and control groups. Annual fiscal constraints and logistical complexities associated with the operation of PROGRESA in very small and remote rural communities did not permit the program to cover all eligible localities at once. Instead, localities are covered by the program in phases. PROGRESA's quasi-experimental design takes advantage of sequential expansion to select a comparable or control group from the set of

localities that, while eligible for the program, have yet to be covered by it. This practice offers the opportunity to conduct a scientifically rigorous evaluation of whether the program has had an impact, and if so, the size of this impact on beneficiary households. A scientifically rigorous evaluation is the best way of determining whether scarce public funds are being used effectively and efficiently toward achievement of the short- and long-term objectives of the program.

Research indicates that the randomization methodology employed was adequately done (Behrman and Todd 1999a). PROGRESA's approach ensures that there is only a small known probability that the differences between treatment and control groups are due to unobserved factors. Thus, researchers were able to infer whether the changes observed in individual outcomes such as school enrollment, or health and nutritional status, were due to the program or other factors. It is important to emphasize that most large-scale social programs in developing and developed countries alike have not been able to take advantage of this preferred method of evaluation analysis. PROGRESA's randomized interventions lend exceptional strength to the evaluation process.

The quasi-experimental design of the evaluation combined with the availability of repeated observations on households and their members before and after the program can provide the most reliable answer to the question of whether the program has an impact or not. By examining changes over time within treatment and control localities (i.e., comparing difference-in-difference), evaluators can control for characteristics that do not change over time within treatment and control localities, as well as for characteristics that change over time and are common to control and treatment areas.

EVALUATION TOOLS

To evaluate impact, researchers conducted formal surveys, structured and semistructured observations and interviews, focus groups, and workshops with a series of stakeholders, including beneficiaries, local leaders, local and central PROGRESA officials, health clinic doctors, nurses and assistants, and schoolteachers.

Specifically, the sample used in the evaluation of PROGRESA consists of repeated observations (panel data) collected for 24,000 households from 506 localities. The data used in the evaluation were collected between November 1997 and November 1999. The communities were located in the seven states that were among the first to receive PROGRESA benefits: Guerrero, Hidalgo, Michoacán, Puebla, Querétaro, San Luis Potosi, and Veracruz. Of the 506 communities, 320 were designated as treatment and 186 as control communities.

The surveys began in November 1997 when PROGRESA conducted a census of the socioeconomic conditions of rural Mexican households (*Encuesta de Características Socioeconómicas de los Hogares* [ENCASEH]) in the evaluation communities to determine which households would be eligible for benefits. Based on PROGRESA's beneficiary selection methods, households were classified as eligible and non-eligible for participation in both treatment and control communities. On average in the evaluation sample, 78 percent of the households were classified as eligible for program benefits. Additional information on all individuals was collected by the first evaluation survey (*Encuesta Evaluación de los Hogares* [ENCEL]), which took place in March 1998 before the initiation of benefits distribution in May 1998. In combination, these two surveys

provide the baseline observations available for all households before the initiation of the distribution of cash benefits in the treatment villages.

The rest of the evaluation surveys were conducted after beneficiary households started receiving benefits. One round of surveys took place in November 1998, well after most households began receiving benefits under the program. The next two waves of surveys took place in June and November 1999.

A number of core questions relating to the demographic composition of households and their socioeconomic status were applied in each round of the survey. These core questions were accompanied by specific questionnaires, focused on collecting information critical to a thorough evaluation of the impact of the program. The topics of these modules included collecting information about family background, assets brought to marriage, schooling indicators, health status and utilization, parental attitudes and aspirations toward children's schooling, consumption of food and nonfood items, the allocation of time of household members in various activities, and self-employment activities.

The preceding surveys were supplemented by school and clinic surveys, community questionnaires, data on student achievement test scores, and other school and clinic administrative data. The evaluation surveys (ENCEL) collected by PROGRESA did not allow for an evaluation of the nutritional component of the program. For the purposes of evaluating this component, separate surveys of the same families were carried out by the National Institute of Public Health (INSP) in Cuernavaca. These surveys included collection of anthropometric data on children and of blood samples for

tests for anemia and other deficiencies. Note, however, that IFPRI researchers were able to merge the anthropometric data collected and made available by the INSP with the evaluation data collected by PROGRESA in order to conduct an early evaluation of the impact of PROGRESA on the height of preschool children (Behrman and Hoddinott 2000).

Given that impact can be affected by the operational efficiency of the program, an extensive operational evaluation was also conducted. The operational evaluation used both quantitative and qualitative surveys. The quantitative surveys included repeated surveys of beneficiary households, schools, and health clinics. The qualitative surveys included semi-structured interviews with stakeholders in PROGRESA, including school and health clinic directors and focus group discussions with PROGRESA liaisons (*promotoras*), beneficiaries, and nonbeneficiaries. In total, 23 focus groups were held involving 230 participants (80 beneficiaries from 8 communities, 80 nonbeneficiaries from 8 communities, and 70 *promotoras* from 70 communities). Although the information collected as part of the qualitative surveys is not statistically representative or true for the majority of the population, the research produces information that broadens the field of inquiry to include questions, issues, and factors that may have been missed, and additional levels of explanatory and interpretive power.

4. THE SELECTION OF BENEFICIARY HOUSEHOLDS AND AN EVALUATION OF *PROGRESA*'S TARGETING

BACKGROUND

The implementation of *PROGRESA* involved two distinct stages (for more details, see Skoufias, Davis, and Behrman 1999, and Skoufias, Davis, and de la Vega 1999). The first stage identified the most marginal rural localities where the extreme poor are likely to be found. The identification of these localities used a specially constructed “marginality index” that ranked localities based on a weighted combination of adult literacy, access to potable water, drainage, and electricity, average number of occupants per room, proportion of dwellings with a dirt floor, and share of population working in the primary sector. Additional considerations included geographical location, locality size (localities with less than 50 and more than 2,500 inhabitants were excluded), distance between localities, and access to some supporting infrastructure, such as a primary school within the locality and access to a secondary school and a health clinic within a certain distance from the locality. The second stage involved the selection of households within eligible localities. Within localities, socioeconomic data were collected at the household level in order to form an index that parsimoniously discriminated between the “poor” and the “nonpoor.” The index was a weighted mean of the ratio of family members to the number of rooms in the household, the age of the household head, the dependency ratio, the level of schooling and occupation of the household head, the number of children ages 5–15 not attending school, the number of children under 12 years, and binary variables characterizing the housing and the asset holdings of the household.

METHODOLOGY

Policy instruments for poverty alleviation range from uniform transfers that apply no selection criteria to other schemes involving more strict selection criteria. Each of these instruments has different costs and benefits associated with it. The primary benefit derived from targeting at the household level is that classifying households into those eligible and ineligible for receiving benefits from PROGRESA—and giving benefits to those who are eligible—is the most effective use of limited funds toward achievement of the social objective. This, however, is done at a cost. For example, the PROGRESA targeting mechanism involves collection of a household survey within all the localities selected as marginal (or as more likely to contain poor households). Such costs are taken into account by appropriately reducing the fixed budget available for poverty alleviation.

The evaluation of PROGRESA's targeting is based on a framework consisting of three key elements: (1) a social objective, (2) a set of economic, political, and social constraints under which policy has to operate, and (3) a range of instruments available to attain these objectives. Although PROGRESA has a number of interlinked objectives with respect to health, education, and nutrition, the benefits of PROGRESA's targeting are measured solely in terms of its impact on poverty alleviation. The economic, social, and political constraints under which policy has to operate are partly reflected in the budget available for PROGRESA, which is assumed to be fixed and limited in the sense that it is not sufficient to eliminate poverty completely.

Within this framework, the evaluation of PROGRESA's targeting asks how well PROGRESA's targeting performs in terms of its objective after taking into account the

costs and the constraints (financial and political) of achieving these objectives. This question is answered in two steps. First, PROGRESA's accuracy in targeting is evaluated both at the community and household levels by comparing PROGRESA's selection to an alternative selection of households based on consumption. Second, PROGRESA's targeting performance is evaluated in terms of its impact on poverty alleviation relative to other feasible targeting and transfer schemes assuming the same total budget. For the second task, the list of feasible alternatives includes uniform transfers that involve no targeting at all, targeting based on consumption (or "perfect" targeting), and geographic targeting (targeting at the locality, rather than the household, level). The costs associated with these schemes affect the budget available for poverty alleviation.

The evaluation adopts an indicator that is considered sensible for classifying households into poor and nonpoor, while being careful to point out that this is necessarily the perfect poverty indicator. The indicator used to examine PROGRESA's targeting is predicted household consumption. Consumption for households contained in PROGRESA's sample (beneficiaries and nonbeneficiaries) is estimated using the 1996 ENIGH. Based on this indicator, the accuracy of PROGRESA's targeting is assessed using the concepts of undercoverage (exclusion error) and leakage (inclusion error) used frequently in the targeting evaluation literature.

CHALLENGING ISSUES

Is PROGRESA selecting the right households?

PROGRESA appears to be effectively selecting households. The evaluation analysis shows that the accuracy of PROGRESA's targeting, both in terms of selecting localities where poor households are more likely to be found and in selecting poorest households within these localities, is good (Skoufias, Davis, and Behrman 1999). However, this accuracy fades when it comes to distinguishing among localities in the moderate level of marginality. A similar conclusion is derived from the evaluation of the targeting of households within localities. PROGRESA's targeting, while not perfect, is relatively effective at identifying extremely poor households within localities, but less so when it comes to identifying moderately poor households.

Based on simulations using quantitative data that take into account the costs of targeting, PROGRESA's targeting as practiced during the second phase of the program is found to be the most effective among the set of feasible targeting and transfer schemes in reducing the depth of poverty and the severity of poverty in Mexico (Skoufias, Davis, and de la Vega 1999). In short, PROGRESA performed closer to the ideal of "perfect" targeting than any feasible alternative transfer and targeting scheme examined. The research finds that PROGRESA's selection method outperforms alternatives in terms of reducing poverty measures weighting extremely poor households more heavily (Skoufias, Davis, and de la Vega 1999). A similar conclusion is drawn when examining the impact of PROGRESA's targeting on social welfare instead of the standard poverty measures (Coady 2000).

The research finds that the non-economic costs associated with targeting deserve serious consideration in the overall decision to pursue a household-level targeting strategy. The targeting evaluation study finds that PROGRESA's method of targeting households outperforms alternative methods in terms of reducing the depth and severity of poverty, even after taking into account the economic costs of targeting. However, the reduction in the depth and severity of poverty accomplished by household targeting over and above those accomplished by simply including all the households in the locality are relatively small (only 3.05 percentage points higher than the reduction in poverty achieved by including all households in the locality). Whether these marginal successes of targeting at the household level is a worthwhile effort depends on the size of the non-economic, or political and social, costs of targeting, all of which are very difficult to quantify. As the qualitative surveys from PROGRESA's evaluation discussed below indicate, these costs of targeting in rural, often indigenous, communities may not be negligible.

Does PROGRESA reduce current poverty?

In order to assess the impact of the PROGRESA cash transfers on short-run poverty indicators, two approaches were adopted. The first approach relies on simulations based on the predicted consumption of each household in the evaluation sample in November 1997 and adding the maximum amount of PROGRESA cash transfers an eligible household could receive assuming full compliance with the program's requirements (Skoufias, Davis, and Behrman 1999). The second approach relies on

reported household income and household consumption using the information collected by the household socioeconomic census (ENCASEH), the evaluation surveys (ENCEL), and the amount of cash benefits received by beneficiary households in treatment areas. In combination these two approaches offer the opportunity to check on the robustness of the measured impact of PROGRESA.

The results obtained from the simulated impact of PROGRESA's cash transfers show that the headcount ratio, which simply measures the percentage of the population with income levels below the poverty level in a community, is reduced by about 10 percent through the support of PROGRESA. The depth and severity of poverty measures that place greater weight on the poorest households within the population in poverty show that the level of poverty according to the depth is reduced by 30 percent, whereas the severity of the poverty index is reduced by 45 percent. For comparison, an untargeted or uniform transfer is found to reduce the poverty gap by 28 percent and the severity of poverty by 36 percent. Given that these indicators put greater weight on the poorest of the poor, the simulation results suggest that the largest reductions in poverty of PROGRESA are being achieved among the poorest of the poor population.

One potential shortcoming of using simulations to measure the impact of PROGRESA on poverty is the fact that the income households receive from both other government programs and children working in the labor market is assumed to be constant. Indeed, households receiving PROGRESA benefits should not, in principle, be receiving other similar benefits from programs like *Abasto Social de Leche, de Tortilla* and the National Institute of Indigenous People (INI). In addition, the school attendance

requirements of PROGRESA may force children to withdraw from paid activities and devote more time to school. Both of these factors may work to negate the positive effect of the PROGRESA cash transfers on total household income.

Among PROGRESA beneficiary households in treatment localities, the percentage of households receiving government transfers from other programs besides PROGRESA appears to decrease dramatically after the start of the PROGRESA program (Skoufias 2001). In addition, among PROGRESA beneficiary households with children ages 8–17, the total income received from children in this age group decreased.

Relying on reported household income allows one to obtain the difference-in-differences estimate of the program's impact on poverty, which compares the change in a poverty measure in treatment villages to the changes in the corresponding poverty measure in control villages. In addition to controlling for macroeconomic shocks common to both treatment and control localities, this estimate allows one to account for pre-existing differences in poverty between control and treatment localities and thus yields a “cleaner” estimate of the impact of the program on poverty.

Irrespective of the measure of welfare used (per-capita income or consumption) and poverty line used (value of basic food basket or median of the value of household consumption), the difference-in-difference estimates imply that PROGRESA had a significant impact in reducing poverty between November 1997 and November 1999. For example, using the income per capita as a measure of welfare and the 50th percentile of

the value of consumption per capita as a poverty line, the headcount poverty rate declined by 17 percent in treatment areas between November 1997 and November 1999.¹

What were the perceptions of stakeholders in PROGRESA localities regarding the selection of beneficiaries?

Quantitative and qualitative data indicate that there are perceived problems with the selection process: mainly, that there are poor people who need the benefits but do not receive them and, less frequently, there are people receiving benefits but do not need them (Adato, Coady, and Ruel 2000). Although not statistically representative, the qualitative data collected from focus groups indicate some problems with the original socioeconomic survey (i.e., ENCASEH). For example, in cases where people were not home when the enumerator came to call, the enumerator did not return. Or, people overstated their resources because they were ashamed to admit they were poor. Most respondents in the qualitative research did not disagree with targeting in the sense that they did not believe that professionals, shop-owners, or other relatively rich people should receive benefits; rather they believed that the mistakes should be corrected. Focus groups indicated that aside from these more obviously rich people, in these rural communities people perceive themselves as “all poor” and in need, and thus did not agree with the finer distinctions made in the selection process. However, they did indicate that the selection did not appear to be politically motivated.

¹ Over the same period, the poverty gap and the severity of poverty measures declined by 36 and 46 percent (Skoufias 2001), respectively. These estimates are very much in line with the estimates obtained using simulations, and provide further confirmation that the impact of PROGRESA is concentrated on the poorest of poor households in marginal rural areas.

At the community level, focus groups and interviews with doctors and school directors indicated that there has not been an opportunity to have an input into the selection process. In addition, these stakeholders indicated that PROGRESA's household targeting strategy has in some communities been associated with social divisions, most often manifested in nonbeneficiaries not wanting to participate with beneficiaries in community work (Adato, Coady, and Ruel 2000; Adato 2000). Responses from these stakeholders suggest that these problems could be reduced through a more systematic implementation of PROGRESA's policy proposal to provide an opportunity for communities to review and improve the selection so that they are in agreement with its fairness.

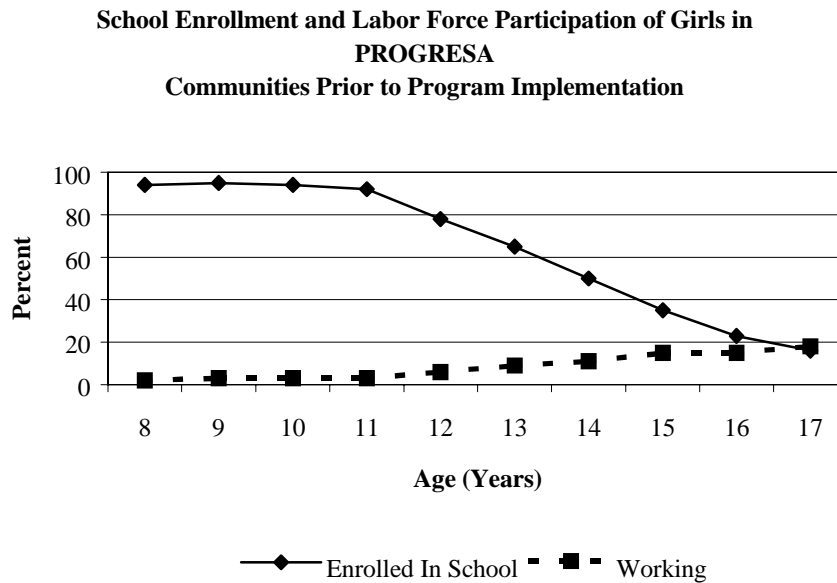
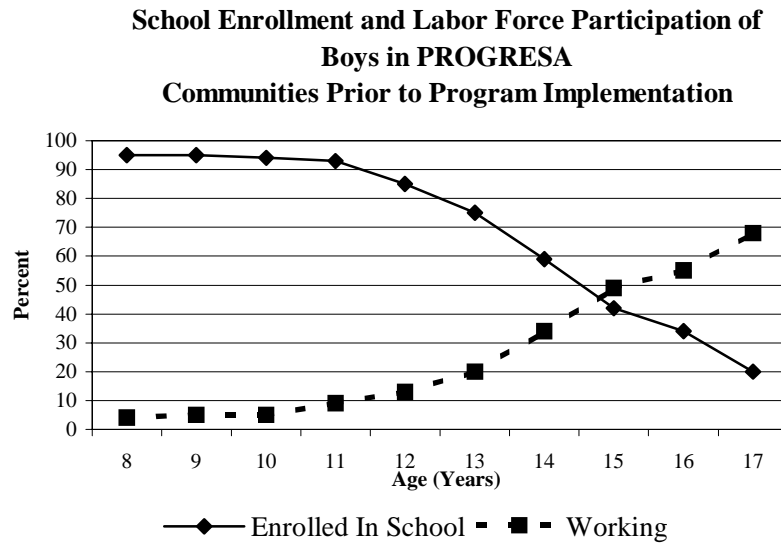
5. THE IMPACT OF *PROGRESA* ON SCHOOL ENROLLMENT

BACKGROUND

Studies have shown that the economic returns to children from continuing to enroll in secondary school are relatively large and provide children with opportunities to escape from poverty. Mexico's children typically maintain a high enrollment rate in primary school of about 93 percent (Figure 1). For the rural poor, however, education often stops there.

There appear to be two critical dips in enrollment rates among rural children in Mexico. Children generally begin dropping out of school after completing the sixth grade when enrollment rates decline to 55 percent. But the trend in enrollment once again

Figure 1—School enrollment and labor force participation of children in PROGRESA communities prior to program implementation



Source: Parker and Skoufias (2000).

declines steeply during the transition to senior secondary school or tenth grade, where enrollment once again falls to 58 percent for those qualified to enter.

As part of the education component of PROGRESA, benefits are given out in lump sums every two months. The monthly amount of the scholarship varies by age and sex of the child. For example, in the second semester of 2000, the scholarship ranged from the minimum of 90 pesos for a boy attending third grade to a maximum of 335 pesos for a girl attending the third year of secondary school. In poor areas of Mexico, girls tend to drop out earlier than boys. In order to reverse this tendency, PROGRESA grants were structured to be about 15 percent higher in the secondary school level for girls.

Money for school supplies is given twice a year. The amount given for materials varies by educational level. For primary school beneficiaries, this support amounts to 180 pesos per child per school year, while for children in secondary school, the benefit rises to 225 pesos per year.

The most critical objective of PROGRESA's education program is to increase the transition of poor rural youth into junior secondary school (grades 7–9). By design, educational grants for enrolling in the first year of junior secondary school increase by half to 275 pesos, with a small advantage to girls over boys in the first three years of secondary school.

METHODOLOGY

PROGRESA's effect on school enrollment is evaluated at two levels: first, by comparing for each grade completed simple differences in average enrollment rates of children in treatment (i.e., PROGRESA) and control localities; and second, by comparing differences in enrollment outcomes at the level of the individual child between those who are program-eligible and those who are not receiving benefits. Family and community factors are controlled for in this later analysis. To ensure confidence in the results, the robustness of the estimated impact of PROGRESA is also examined by comparing the impact of PROGRESA using two different samples of children. One sample consists of the children who are present in all five rounds of the surveys; the other consists of all observations on all children for which data are available.

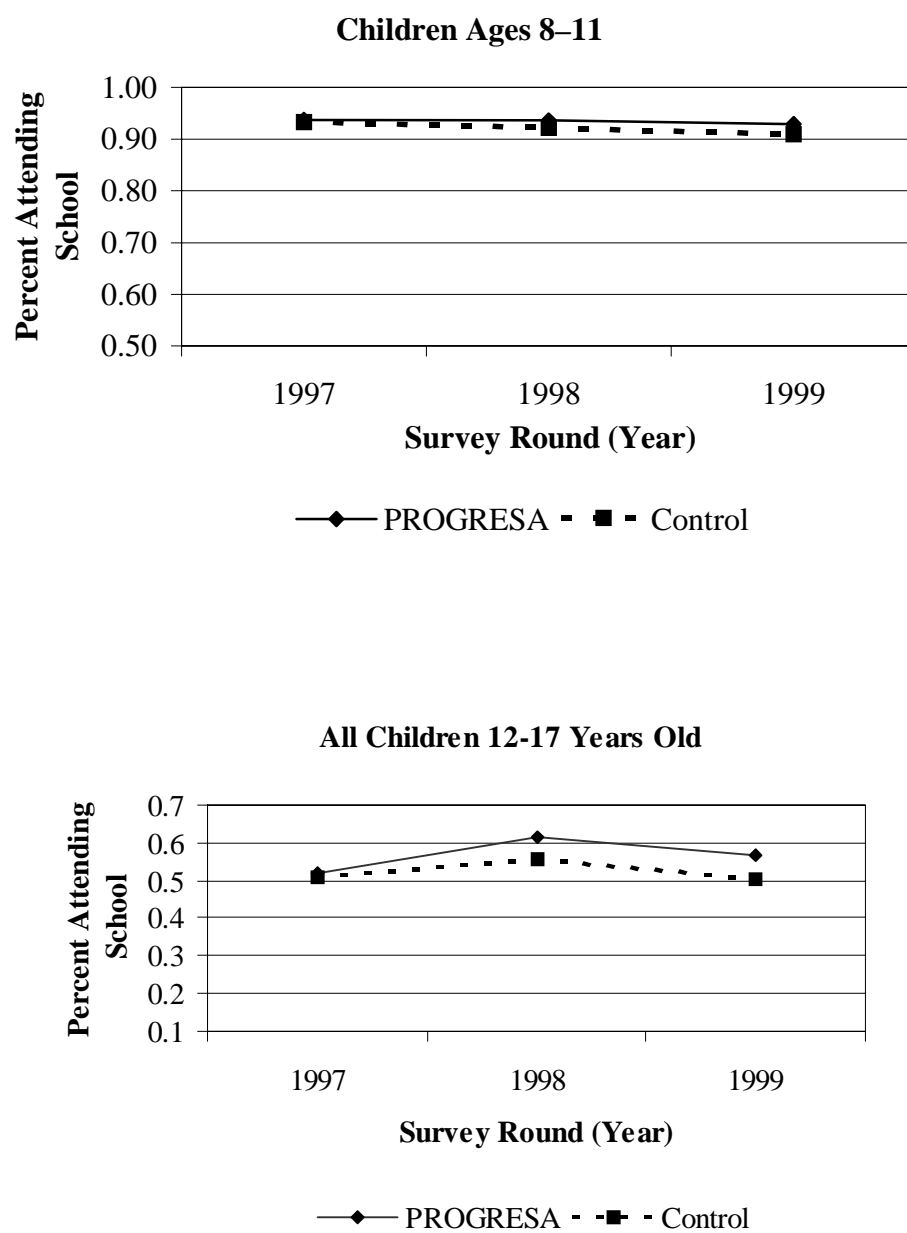
CHALLENGING ISSUES

Are enrollment rates higher in PROGRESA localities than in non-PROGRESA localities?

After an exhaustive series of statistical tests, it was concluded that in all cases PROGRESA had a positive enrollment effect for both boys and girls at the primary and secondary levels, irrespective of the sample used (Figure 2).

At the primary school level, where enrollment rates before PROGRESA were between 90 and 94 percent, statistical methods that control for the age and family background of children as well as community characteristics revealed that PROGRESA

Figure 2—Positive enrollment effect for children at primary and secondary school levels



Source: Author's calculation.

succeeds at increasing the enrollment rate of boys by 0.74 to 1.07 percentage points and of girls by 0.96 to 1.45 percentage points (Schultz 2000a).

At the secondary school level, where the initial enrollment rates before PROGRESA were 67 percent for girls and 73 percent for boys, the increase in enrollment effects for girls ranged from 7.2 to 9.3 percentage points and for boys from 3.5 to 5.8 percentage points. This represents a proportional increase of boys from 5 to 8 percent and of girls 11 to 14 percent (Schultz 2000a).

How much can schooling be expected to increase as a result of PROGRESA?

If these program effects could be sustained over the period in which a child is of school age, the accumulated effect on educational attainment for the average child from a poor household would be the sum of the estimated change for each grade level. Summing these values for grades 1 to 9 suggests that the program can be expected to increase educational attainment of the poor of both sexes by 0.66 years of additional schooling. Girls in particular gain 0.72 years of additional schooling by the ninth grade while boys gain 0.64 years (Schultz 2000a). Given that the average youth aged 18 achieved about 6.2 years of completed schooling prior to the program, these data are suggestive of an overall increase in educational attainment of about 10 percent.

If current urban wages approximate what PROGRESA's beneficiaries can expect to earn from their schooling in terms of future percentage increases in their wages, the internal rate of return, taking into account the costs of the grants, to PROGRESA's educational benefits is roughly 8 percent per year (Schultz 2000a). Children, when they

reach adulthood, will have permanently higher earnings of 8 percent as a result of the increased years of schooling. Thus, in addition to improving beneficiaries' current livelihood by reducing current poverty and raising consumption, PROGRESA is having a significant impact on raising overall human capital into the future.

Is increasing access to junior secondary schools more or less effective than providing educational grants to increase school enrollments of poor families?

Increased access to schooling may be considered as an alternative to providing educational grants to poor families. For example, 12 percent of the children in the PROGRESA evaluation sample currently travel more than 4 kilometers to a junior secondary school. The evaluation research shows that when access to secondary schooling is measured in terms of distance, if additional schools were to be built and staffed so that all children reside only 4 kilometers from their junior secondary school, secondary school enrollments would increase by 0.46 percentage points for girls and by 0.34 for boys, impacts less than one-tenth the size of those of PROGRESA. In comparison to the impact of PROGRESA's targeted educational grants to poor families, the effect of increased access to schooling appears to be a relatively less effective means of increasing school enrollments.

Furthermore, a more detailed investigation taking into consideration the costs associated with the options of building schools against the alternative of providing cash transfers conditional on enrollment revealed that in terms of the objective of getting more children into school, a demand-side intervention like PROGRESA is more cost effective

than a supply-side one (Coady 2000). In other words, the cost incurred in generating one extra year of schooling is lower in PROGRESA than the alternative of building new schools.

Are PROGRESA's educational grants having an impact on the critical educational transition from sixth to seventh grade?

The impact of PROGRESA on enrollment rates is largest for children who have completed the sixth grade and are thus qualified to enroll in junior secondary school, increasing 11.1 percentage points for both sexes combined or 14.8 percentage points for girls and 6.5 percentage points for boys, representing percentage increases of over 20 percent for girls and about 10 percent for boys (Schultz 2000a). These results imply that, whereas many children before PROGRESA would leave school after completing the primary level, an important fraction, particularly girls, are now going on to secondary school.

Does PROGRESA affect drop-out rates, progression through grades, grade repetition rates, and school reentry rates?

These questions are explicitly addressed in a study by Behrman, Sengupta, and Todd (2001). Their findings show that the participation in the program is associated with earlier ages of school entry, less grade repetition and better grade progression, lower dropout rates, and higher school reentry rates among dropouts. The program is especially effective in reducing dropout rates during the transition from primary to secondary school. In addition, at the secondary level, the program appears to be more effective in

inducing boys to enroll in the second and third years of secondary school, despite the fact that the benefit levels are slightly higher for girls. The study also finds the program to be effective in inducing children who dropped out prior to the initiation of the program to reenter school. However, it should be noted that a related analysis by Coady and Parker in Coady (2000) finds that the impacts of the program on children who were previously out of school are not sustainable over time. This suggests that those kids who do return to school tend to do so for only a year and then drop out again.

Does PROGRESA decrease the participation of children in labor market activities?

The results show very clear negative impacts of PROGRESA on children's labor market participation. Estimates based on double difference models of labor force participation before and after the implementation of PROGRESA show important reductions in children's labor force participation for both boys and girls, in both salaried and nonsalaried activities. Labor force participation for boys shows reductions as large as 15 to 25 percent relative to the probability of participating prior to the program. For girls, in spite of their overall lower participation level prior to the program, there are also significant reductions associated with PROGRESA. Also the lower incidence of child work due to the PROGRESA program is found to account for 65 percent (in November 1999) to 82 percent (in November 1998) of the increase in the enrollment of boys in school. In other similar programs, such as the Food for Education program in Bangladesh, the lower incidence of child labor was found to account for 25 percent of the increase in the enrollment of boys in school (Parker and Skoufias 2000). These estimates

suggest that a PROGRESA-like program has the potential of combating the problem of child labor.

Does PROGRESA increase the time children spend doing school homework and their performance in school?

Whereas PROGRESA has a significant impact on the number of children who enroll in school, it thus far does not show a significant impact on the time children spend in school or on the time they spend after school on assigned homework. This suggests that the impacts of PROGRESA are primarily to increase the number of children in school and to reduce the number of children who are working, but not necessarily, for instance, to reduce the number of hours worked of children who attend school. A substantial number of children continue to combine both work and school under the program (Parker and Skoufias 2000). Additionally, analysis of school standardized tests did not show any significant impact of PROGRESA in improving student scores on achievement tests (Behrman, Sengupta, and Todd 2000). Whereas additional years of data are needed to provide more conclusive evidence, the possibility of including bonuses or prizes to provide incentives for achieving high grades could be explored.

Is PROGRESA having an impact on regular school attendance?

A panel sample of data using children ages 6–16, some who benefit from PROGRESA scholarships and some who do not, indicates that for the school year of 1998/99, attendance rates in schools are higher in localities that are further removed from

major urban areas but the evaluation research clearly shows that PROGRESA has a more pronounced effect on school enrollment rates than on attendance rates. Because enrollment does not guarantee attendance, this question deserves fuller investigation (Schultz 2000b).

Do PROGRESA's educational grants encourage families to have more children?

By design, the educational benefits of PROGRESA are targeted to children ages 8–17. For these benefits to have a significant effect on the fertility decisions of rural men and women, it is necessary for households to have confidence that these benefits will be continued for at least eight years into the future. As of November 1999, there is no statistical evidence that PROGRESA female beneficiaries had higher fertility than poor females in control localities.

What were the perceptions of stakeholders in PROGRESA localities regarding the operation of the educational component of the program?

Analysis of the quantitative and qualitative data revealed that delays in the receipt of educational grants were common in the early stages of the program in part due to the cumbersome nature of the form design used to register school attendance (Adato, Coady, and Ruel 2000). The collection, filling out, and return of forms involved substantial time costs often incurred personally by school directors. The simplification of the forms appears to have reduced the time it takes to fill them out, and teachers and school directors seem to agree with the objectives of the program and the conditioning of

transfers on attendance. Beneficiaries may have experienced a lag in the receipt of educational grants and indeed PROGRESA's own records reveal that significant delays took place at the early stages of the program primarily due to delays in the verification of school attendance.

Analysis of the beneficiary surveys suggests that, on the supply side, the increased demands generated by the program have at least not led to a degeneration in the quality of education services suggesting that resources have been increased. In many cases, there seems to have been an improvement. This view is also consistent with evidence from the quantitative survey of directors, with most schools reporting some improvements in infrastructure and other resources, albeit from a poor initial position. It is clear from the qualitative interviews that the process of acquiring extra resources is time and resource intensive for teachers and school directors. But some teachers still complain that they lack such basic resources as televisions for tele-secondary schools. It will be interesting to compare this picture of the supply side with other data sources. Although most directors in the qualitative interviews report improvements in education outcomes, they attribute most of this to improved attendance, student interest, and nutrition, rather than improvements in the supply side.

Both the quantitative analysis of the school directors' survey and the qualitative analysis of the focus group interviews support the general perception that PROGRESA has led to improvements in the attitude of beneficiary students and their families toward education. The program is viewed as allowing those parents and children who were always motivated to acquire education, but who faced severe economic hardship thus

being unable to incur travel and other educational expenses and needing any income that children could contribute, to continue to send their children to school. The fact that lack of resources (or poverty) seems to be a major factor in explaining non-attendance at school, especially for older children, is consistent with the program design and initial estimates of program impact (Schultz 2000a) since the education subsidy (or scholarship) seems to have been effective in increasing demand.

Particularly from the focus-group analysis, there is evidence that families place a strong emphasis on school attendance and homework and that, where possible, parents attempt to adjust to these demands if children attend school. This was seen as an acceptable trade-off, with others in the family willingly substituting for school-going children's time, especially during the week. But children, in general, appear to have to continue to contribute to household chores, especially during weekends and the peak agricultural season. For some children, possibly those from the poorest families or those who have long distances to travel to secondary school, balancing the demands of school and work is difficult.

But children's lack of interest in school is also an important factor in explaining non-attendance, especially for older children, although this appears to be at least in part indirectly motivated by poverty and the desire of older children to contribute to the family, and the lure of migration which is seen as "progress." In the case of older female children, concern for their safety when they have to travel long distances is also an issue.

One of the common complaints in the qualitative interviews with school directors was that teachers were never consulted about the objectives and design of the program

nor informed how it would function. In particular, many could not understand why some “deserving” students were excluded, why some who need it do not receive it, and why they could not have had a role in the selection of beneficiaries. Also, parents often blame teachers for their children not being included, for delays in transfers, or for their child not receiving transfers due to poor attendance. Nonbeneficiaries in some communities are reluctant to contribute toward school resources, arguing that beneficiary families should be relied upon more. They also argue that the demands on them for school supplies should be less than for nonbeneficiaries. Finally, in some cases, the school directors point out that the increase in demand has brought in some students from remote areas who were given poor quality education and thus require more input from teachers.

In the qualitative interviews, teachers were asked for their overall view of the program. Their answers suggested that, on the whole, teachers saw the program as beneficial for the communities and favored greater participation. They invariably agreed with the objectives of the program as well as the conditioning of transfers. Some even suggested attaching extra conditions such as linking scholarships to academic performance. Most favored money transfers, although concern for how households spent their money was behind some suggestions that food or education coupons be introduced. The general perception was that the supply side was not sufficient to deal with the increase in demand, although better attendance and attitudes to schooling made teaching easier and more rewarding. Also some schools that would have shut down due to insufficient demand could now remain open. While in some cases the *promotoras* were

viewed as an asset to the school, in others there seemed to be some friction, possibly because of her perceived “interference” in educational matters.

6. THE IMPACT OF *PROGRESA* ON HEALTH, NUTRITION, AND HEALTH-CARE USE

BACKGROUND

The use of health care in rural Mexico is extremely low compared to other Latin American countries. On average, rural Mexicans make less than one visit to a medical provider per year. The nonpoor make about .8 visits and the poor make about .65 visits per year (Gertler 2000).

The nutrition of preschool children is of considerable importance, not only because of concern over their immediate welfare, but also because their nutrition in the formative stage of life is widely perceived to have substantial and persistent impact on their physical and mental development and on their health status as adults. Stunting—low height-for-age—is a major form of protein-energy malnutrition. In 1998, survey results indicate that 44 percent of children ages 12–36 months in *PROGRESA* regions were stunted.

METHODOLOGIES

The effect of *PROGRESA* on health is evaluated at two levels: at the level of health clinics, based on the administrative records of public clinics, and at the individual level, using data from the *PROGRESA* evaluation surveys. The analysis of the impact of

PROGRESA on health care centers investigates whether the service and incentives provided by the program led to improved health care and maintenance by exploring the impact on the use of facilities in terms of the number and purpose of visits.

The facility-level data were obtained from surveys of 3,541 clinics operated by IMSS-Solidaridad from January 1996 to December 1998. This information, complemented from the records of PROGRESA, pertains to the number of beneficiary families incorporated to the program every month in each clinic. About two-thirds of these clinics are in PROGRESA areas, while the remaining one-third operate in control areas.

As is the case for the PROGRESA evaluation survey, the availability of repeated observations on the same clinic over time, before and after the start of the program, permitted analysis of the changes over time within treatment and control clinics.

The individual-level data from the PROGRESA evaluation surveys included information on the utilization of public clinics, public hospitals, private providers, the incidence and type of illness, children's visits to clinics for nutritional monitoring, and whether children have received different types of immunization. Analysis of blood tests for anemia and other deficiencies did not form part of this evaluation, although the National Institute of Public Health in Cuernavaca has carried out analysis in this area. In the last two rounds of the survey, adolescent and adult health status was measured by collecting information for the last four weeks on the days of difficulty with daily activities due to illness, days incapacitated due to illness, days in bed due to illness, and the number of kilometers they were able to walk without getting tired.

CHALLENGING ISSUES

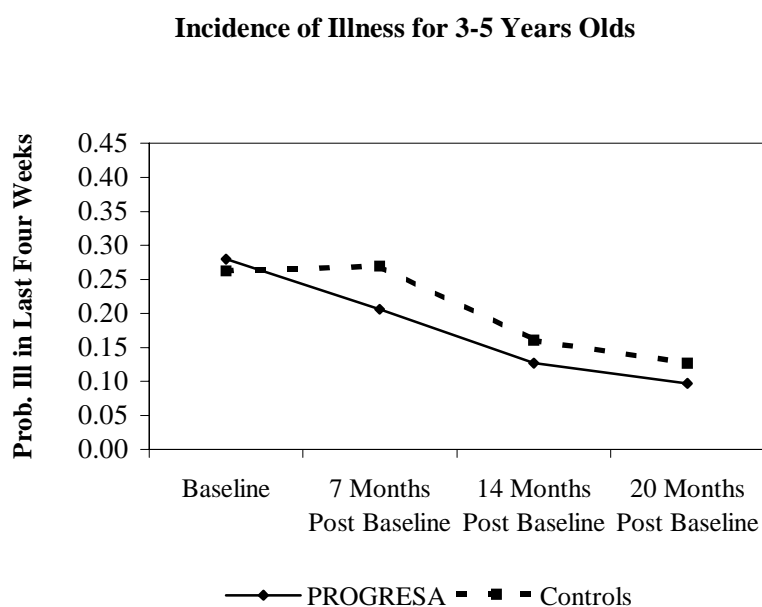
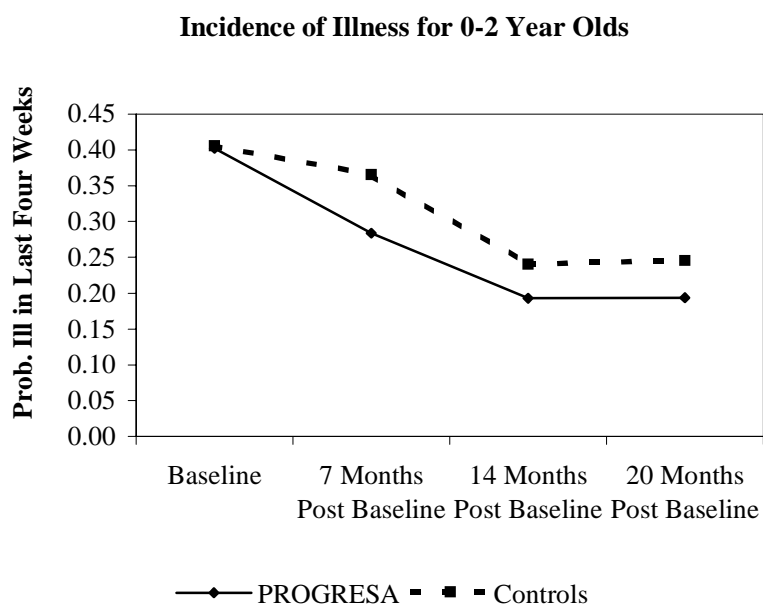
Does PROGRESA have an effect on children's health?

Improving livelihood security for the poor depends on improving early childhood health care. Frequency and duration of illness have profound effects on the development and productivity of populations. The analysis indicates that improved nutrition and preventative care in PROGRESA areas have made younger children more robust against illness. Specifically, PROGRESA children ages 0–5 have a 12 percent lower incidence of illness than do non-PROGRESA children (Gertler 2000) (Figure 3).

Does PROGRESA have an effect on the health of adults?

The analysis also finds that adult members in beneficiary households are significantly healthier (Gertler 2000). On average, PROGRESA beneficiaries have 19 percent fewer days of difficulty with daily activities, 17 percent fewer days incapacitated, 22 percent fewer days in bed, and are able to walk about 7 percent more than nonbeneficiaries. Prime-age PROGRESA adults (ages 18–50) had a significant reduction in the number of days of difficulty with daily activities due to illness and a significant increase in the number of kilometers they were able to walk without getting tired. Specifically, PROGRESA beneficiaries have 19 percent fewer days of difficulty due to illness than non-PROGRESA individuals, and are able to walk about 7.5 percent more without getting tired. For those over 50, PROGRESA beneficiaries have significantly fewer days of difficulty with daily activities, days incapacitated, and days in bed due to

Figure 3—Comparison of incidence of illness of PROGRESA children with non-PROGRESA children



Source: Gertler 2000.

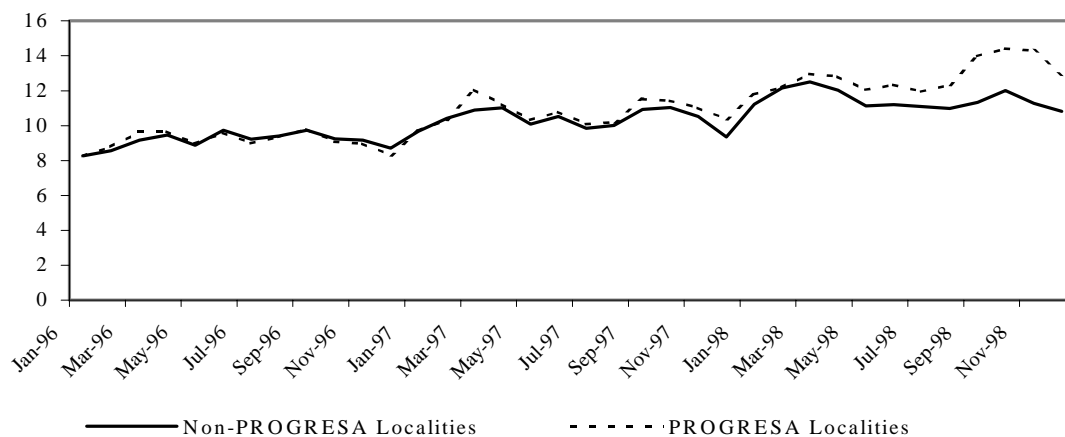
illness than nonbeneficiaries. As with younger adults, they are able to walk more kilometers without getting tired.

Is there an overall increase in visits to public health clinics in PROGRESA areas compared to non-PROGRESA communities?

In January 1996, more than a year before PROGRESA began, average visits to clinics were identical in control and treatment localities. In 1998, the first full year in which PROGRESA was operational in all treatment localities, visit rates in PROGRESA communities were shown to grow faster in PROGRESA villages than they did in control areas (Gertler 2000) (Figure 4). In addition, there was a significant increase in nutrition monitoring visits, immunization rates, and prenatal care. Regarding prenatal care, the evaluation analysis indicates that PROGRESA increased the number of first visits in the first trimester of pregnancy by about 8 percent. This shift to early prenatal care significantly reduced the number of first visits in the second and third trimester of pregnancy. Thus, as a result of PROGRESA, pregnant women make their first visit to the clinic much earlier than before, a positive change in behavior that is documented to have a significant improvement in the health of babies and pregnant mothers.

Are beneficiaries merely moving from private to public facilities?

The analysis of the individual-level data on health care use by type of provider confirms that for 18–50-year-olds and for those over 50, there was no impact on visits to private providers (Gertler 2000). This suggests that the increase in the use of public

Figure 4—Daily visits to public clinics

Source: Gertler 2000.

clinics was not from substitution out of the private sector, but rather new participation for preventive purposes from households previously not using public services.

Are PROGRESA's nutritional supplements having an impact on child growth?

The data suggest that PROGRESA has had a significant impact on increasing child growth and in reducing the probability of child stunting for children in the critical age range of 12 to 36 months (Behrman and Hoddinott 2000). These estimates imply an increase of about a sixth (16 percent) in mean growth per year, corresponding to about 1 centimeter for these children per year. The effects may be somewhat larger for children from poorer households and poorer communities but who come from households with more educated household heads. Overall, the effects suggest that PROGRESA had an

important impact on growth for the children who received treatment in the critical 12–36 month age range.

Will improved nutrition via PROGRESA have an effect on the child's productivity in the long run?

The analysis of the data suggests that PROGRESA may be having a fairly substantial effect on lifetime productivity and potential earning of currently small children in poor households. IFPRI estimates that the impact from the nutrition supplements alone could account for a 2.9 percent increase in lifetime earnings (Behrman and Hoddinott 2000). In addition, there are likely to be other effects through increased cognitive development, increased schooling, and lowered age of completing given levels of schooling through starting when younger and passing successfully grades at a higher rate. Since the nutrition supplement (*papilla*) constitutes only a small fraction of the program costs given full compliance, the benefit to cost ratio of the nutrition supplement is likely to be high.

What were the perceptions of stakeholders in PROGRESA localities regarding the operation of the health and nutritional component of the program?

Analysis of the quantitative and qualitative data revealed that the administration of the health and nutrition component of the program has improved considerably (Adato, Coady, and Ruel 2000). In 1999, registration of beneficiaries was reported to have reached 97 percent and health care professionals report few problems with filling out forms. Appointment books have proven to be an effective mechanism for insuring

compliance with scheduled visits despite the reported lack of time, transportation, and awareness of the benefits of preventative health care. The health education seminars (*pláticas*) were found to be widely available, effective, and very popular among beneficiaries, *promotoras*, and health professionals. Problems reported with *pláticas* in some cases were that male doctors giving talks to women about family planning and the pap smear test is culturally problematic, and that the participation of nonbeneficiaries varies widely.

Nutritional supplements for the mother and child are very popular among beneficiaries, yet some receive only a fraction of the daily ration they are supposed to receive from the program. Surveys reveal that families either run out of supplements, share the supplements with other household members, or the supplements are diluted, thus diminishing their effectiveness. It also appears that the supplements are being distributed to nonbeneficiaries, regardless of their nutritional status.

7. THE IMPACT OF *PROGRESA*'S MONETARY TRANSFERS ON HOUSEHOLD CONSUMPTION AND WORK INCENTIVES

BACKGROUND

A monthly monetary transfer of 135 pesos for food support (second semester 2000) is given to all beneficiary families regardless of their location, size, and household composition. Beneficiaries are entitled to this support on the condition that the scheduled health care visits are completed. It should be noted that these monetary benefits are currently capped at 820 pesos per household per month, and that the nominal amount of

benefits is adjusted upward in January and July each year to account for increases in the cost of living.

Why measure consumption? Expenditure-based or consumption-based standard of living measures are preferable to income-based measures, because estimates of current consumption are likely to provide a more reliable estimate of household's permanent income than estimates of current income that is subject to peaks and troughs. Consumption measures what people actually consume and thus provide a better measurement of a household's standard-of-living.

METHODOLOGY

Measuring consumption is not straightforward. Households rarely know how much they have spent over a given reference period, and experiments in survey design indicate that questions about broad categories of expenditures tend to lead to underestimates of consumption. Thus, the questions the evaluation exercise posed to households related to consumption were narrowed and then the results were aggregated up.

In each of the evaluation surveys, households were asked a set of questions on expenditures for food and nonfood goods. The "most knowledgeable individual" in the household was asked, "In the last seven days, how much did you spend on the following foods?" Thirty-six different foods were queried.

Nonfood expenditures are reported based on weekly expenditures, monthly expenditures, and expenditures made over the previous six months. These were all

converted to monthly expenditures and then converted into November 1997 prices for comparable analysis.

The connection between PROGRESA's subsidy and both monetary and nonmonetary private transfers from individuals outside the household was investigated using two methods of empirical analysis. Descriptive statistics compared the frequency and level of interhousehold transfers between nonbeneficiaries and beneficiary groups at two points in time for which the data were available. Other characteristics of the households that received and did not receive were also compared. Second, selection into PROGRESA was analyzed econometrically to determine whether the selection itself had a significant impact on the incidence and levels of existing private transfers, such as remittances from individuals working abroad.

It is worth commenting that the large increase in cash that these communities receive as a result of having PROGRESA beneficiaries is likely to have an effect on local economies and the development of new markets. Whereas this was not an aspect that was evaluated, it is an important topic that should be examined in future evaluations.

CHALLENGING ISSUES

Does PROGRESA have an impact on household consumption?

Using data from the three surveys after the start of PROGRESA, the average level of consumption (including purchases and consumption out of own production) increases by approximately 14.53 percent. (Hoddinott, Skoufias, and Washburn 2000). The rest of the transfers were likely used for saving or other purchases such as durable goods.

Does participation in PROGRESA affect the acquisition of food purchases in poor households?

In November 1998, median food expenditures were only 2 percent higher in PROGRESA households. However, in November 1999, median food expenditures were 10.6 percent higher when compared with comparable control households (Hoddinott, Skoufias, and Washburn 2000).

Do PROGRESA households eat a more varied diet than do non-PROGRESA recipients?

Not only are PROGRESA households increasing overall acquisition of food, they are choosing to improve dietary quality over caloric intake. The increase in household consumption is driven largely by higher expenditures on fruits, vegetables, meats, and animal products. By November 1999, median caloric acquisition has risen by 7.8 percent. There is also clear evidence that dietary quality has improved in PROGRESA households (Hoddinott, Skoufias, and Washburn 2000). The impact is greatest on the acquisition of calories from vegetable and animal products. These quantitative findings from the seven-day recall surveys reinforce the views of beneficiaries that access to PROGRESA has meant that they “eat better.”

Participation in PROGRESA is found to have a significant impact on the acquisition of calories from fruits, vegetables, and animal products, even after controlling for the effect of increased household income from monetary transfers (Hoddinott, Skoufias, and Washburn 2000). There is also some evidence that information conveyed

during the *pláticas* spills over and alters, in a positive fashion, the behavior of nonbeneficiaries in treatment localities.

Does the availability of the free nutritional supplement (*papilla*) undermine efforts to increase caloric availability in beneficiary households?

A possible concern is that the provision of the *papilla* may cause households to divert expenditures on food to other items, thus undermining efforts to increase caloric availability in these households. If the *papilla* is truly “crowding out” household acquisition of calories, we would expect to see lower measures of impact for beneficiary households, especially among those with preschool children. Statistical analysis of the caloric acquisition in households containing at least one child below age 5 revealed that such concerns are unfounded (Hoddinott, Skoufias, and Washburn 2000). The impact of participation in PROGRESA on caloric acquisition is, if anything, slightly higher for these households.

Does PROGRESA reduce incentives for adults to work?

PROGRESA does not appear to create negative incentives for work (Parker and Skoufias 2000). Analysis of before- and after-program data shows no reduction in labor force participation rates either for men or for women. These results may, in part, reflect the design of PROGRESA, where benefits are provided to families for three years, irrespective of family income, so that there is no disincentive effect on work, as opposed to transfer programs in other countries that often reduce benefits with work income. The

conventional wisdom is that there are trade-offs between providing benefits to a population in need and stimulating work; the analysis here shows that, thus far, there is not necessarily any such trade-off in PROGRESA.

Does PROGRESA influence the *likelihood* that households receive private transfers of monetary or nonmonetary resources from individuals outside the household?

There are no significant differences between treatment and control groups by year and over time with regards to the receipt of monetary transfers from individuals or friends not living in the household, including transfers from relatives working abroad, such as in the United States. After 19 months of receiving benefits, the analysis finds that the selection into the PROGRESA program has no influence over the incidence or level of either monetary or nonmonetary private transfers within households (Teruel and Davis 2000).

8. THE IMPACT OF *PROGRESA* ON WOMEN'S STATUS AND HOUSEHOLD RELATIONS

BACKGROUND

Mexico's social programs have recognized that mothers play a critical role in poverty reduction and livelihood security for the poor. The deliberate decision to give transfers directly to mothers is motivated by growing evidence that resources controlled by women are more likely to manifest greater improvements in child health and nutrition than resources placed in the hands of men. As a secondary effect, research has also found

that by increasing control over resources, women's bargaining power within the family increases, which has been shown to have a positive effect on children's (particularly girls') education and the livelihoods of future generations.

METHODOLOGY

Measuring the impact of PROGRESA on women's status and household relations is challenging. In general, household surveys are blunt instruments in this regard because gender-based decisionmaking is often understated; without adequate understanding of the sociocultural context, probing questions can easily be misinterpreted. Thus, this section of the evaluation takes a two-pronged approach, using quantitative and qualitative surveys to ascertain the position of women within the household (Adato et al. 2000). The analysis seeks to ascertain (1) whether PROGRESA has influenced household relationships and the impact of women's status and (2) the extent to which PROGRESA has influenced the attitudes toward the education of girls and women.

Several rounds of qualitative surveys conducted over a two-year period asked a series of questions related to women's status and intrahousehold relationships. In addition, related questions were explored through focus groups and interviews conducted by IFPRI's researchers. An additional qualitative research effort took place in 1999 to further investigate questions raised during the previous surveys. Focus groups rather than semi-structured interviews were chosen in order to enrich responses.

CHALLENGING ISSUES

Does PROGRESA have an effect on patterns of decisionmaking within the household?

PROGRESA's monetary transfers are a crucial aspect of the program with respect to bringing about changes in patterns of decisionmaking within households. While *residing in* a PROGRESA locality is shown to not have an effect on patterns of decisionmaking, *being in* PROGRESA decreases the probability that the husband is the sole decisionmaker in five out of the eight decisionmaking outcomes. In PROGRESA families, over time, husbands have shown they are less likely to make decisions by themselves, particularly as they affect the children. The surveys also indicate that through time, the probability that women solely decide on the use of their extra income increases.

Have men's attitudes toward women changed in PROGRESA areas?

Research has shown that by giving money to women, PROGRESA forces recognition among men, and within the community as a whole, of women's importance and of the government's recognition of women's level of responsibility in caring for the family. The survey shows that most men do not have problems with their wives' participation in PROGRESA. Men see the benefits as good for the entire family, since salaries, in general, are very low.

In focus group discussions, respondents indicated that, with few exceptions, men do not take women's PROGRESA income. In general, men are said to work as hard and

still give the same amount of money as they did before the family received PROGRESA benefits.

Has PROGRESA affected the demands on women's time?

Statistical analysis of time use of women shows that participation in the program yielded some evidence that the time demands on women associated with satisfying program obligations are significant (Parker and Skoufias 2000). Women in PROGRESA are more likely to report spending time in both taking household members to schools, clinics, etc., as well as having a greater participation in community work and *faenas*. Overall, however, there is no significant impact of PROGRESA on the leisure time of both male and female adults. This again provides reinforcing evidence that adult beneficiaries do not use the benefits to work less and increase their leisure, as may be predicted by some economic models. These results would also seem to support the hypothesis that PROGRESA does not create dependency on its benefits, in the sense that it does not appear to reduce the work incentives of adults.

In general, accordance with the results of the quantitative analysis, focus groups discussions revealed that women were evenly divided as to whether PROGRESA was too demanding on their time. Those who said it was demanding referred to the time demands of meetings. Women also discussed how they and sometimes their husbands had to do additional work that used to be done by their children. However, they were quick to point out that this was worthwhile in order for their children to study.

Has PROGRESA had an impact on women's empowerment and bargaining power?

The vast majority of responses indicated that women have benefited in ways that can be seen as “empowerment”—defined as increased self-confidence, awareness, and control over their movements and household resources. Women report that they leave the house more often; have the opportunity to speak to each other about concerns, problems, and solutions related to the household; are more comfortable speaking out in groups; are becoming more educated through the health *pláticas*; and have more control over household expenditures.

Has PROGRESA had an impact on attitudes toward girls' education?

PROGRESA's educational incentives for girls are based on the belief that the increased education of girls is fundamental to improving their living standards and social participation. In an exploration of attitudes toward girls' education, the survey found overwhelming support among women for girls' education.

Yet when faced with the hypothetical dilemma of sending a boy or a girl to school, most respondents chose the boy. It is thought that boys are favored because of men's responsibility as breadwinners and heads of households and the fact that girls get married. That said, the main reason to encourage girls' enrollment in school was to enable girls to get employment, or better employment. In general, women in the program do not understand the concept of PROGRESA's incentive to keep girls in school. Most think that the benefit for girls is higher than for boys because girls have higher expenses.

Because responses about girls' education were far stronger than statements about PROGRESA's effect on women's position within the household, it is thought that PROGRESA will have a far stronger secondary effect on household relationships through the next generation, more than the program is having on this one.

How did PROGRESA affect community social relations?

The overall conclusion of this research is that PROGRESA's system of household targeting involves social costs that should be taken into account in evaluations of this system and consideration of alternative targeting systems. Communities exhibit social solidarity in terms of the common ways in which beneficiaries and nonbeneficiaries evaluate the beneficiary selection process, outcomes, and impacts. At the same time, there is evidence of problems that the targeting has introduced into community social relationships. Although it is not known from a statistical point of view the percentage of communities in Mexico that have experienced these problems, the frequent and similar statements of beneficiaries, nonbeneficiaries, *promotoras*, and doctors in the majority of focus groups and interviews conducted across six states provide strong evidence that there is a problem that should be addressed.

PROGRESA has also strengthened social relationships between beneficiary women, potentially building new forms of social capital. This is a valuable second-round effect of the program, and suggests that these types of approaches to PROGRESA activities that promote social capital could be encouraged. At the same time, the creation of a group of "PROGRESA women" who participate in separate activities can reinforce

social divisions so these problems related to household targeting need to simultaneously be addressed.

9. A COST ANALYSIS OF *PROGRESA*

METHODOLOGY

In conducting an economic analysis of *PROGRESA*, it is necessary to highlight two complicating factors. First, in the absence of being able to attach monetary valuations to the human-capital impacts generated by the program, one is unable to aggregate across the range of impacts in order to undertake unified cost-benefit analysis of the program. Second, on the cost side, one faces the conceptually difficult problem of allocating joint costs to the various program components.

For these reasons and in order to apply cost-benefit (or cost-effectiveness) analysis to the evaluation of the program, IFPRI's evaluation can be characterized as making two types of comparisons: across different programs and across different policy questions. In making comparisons across different programs, one can think of a number of different program designs. Each component of *PROGRESA* (i.e., current poverty, education, and health) may be considered as a *stand-alone* program. Then one can deal with each of the impacts separately and identify the costs that would have to be incurred in order to generate these impacts in isolation. For example, one can focus on the cost of transferring income to households through the program, or the cost of generating the observed human-capital impacts. All of these hypothetical programs will incur the joint

costs but certain costs will be specific to individual components, e.g., the supply-side costs or the costs of monitoring attendance at schools and health centers. These can then be compared to the costs that would have to be incurred to generate the same impacts using an alternative instrument.

When comparing across different policy questions, one can distinguish between the costs associated with implementing the program from scratch (i.e., the actual program), the costs associated with expanding the program to incorporate more localities (i.e., program expansion), and the costs associated with continuing the existing program unchanged (i.e., continuation of the program). The relevant costs are generally lower in moving from the actual program-to-program expansion to program continuation, reflecting the presence of sunk costs.

As explained in more detail in the report of Coady (2000), the *total costs* of a program of the nature of PROGRESA can be categorized as *program costs* and *private costs*. *Program costs* capture all the costs associated with the delivery of cash transfers to households, such as (1) targeting costs associated with the targeting of transfers to the most marginal localities as well as only to the poorest households within these localities; (2) conditioning costs associated with ensuring that households meet their responsibilities by ensuring attendance of children at school and household members at scheduled regular preventative check ups; and (3) operation costs associated with the actual operation of the program. *Private costs* are the costs that households incur in order to receive cash transfers. Private costs include the time and financial costs of traveling to schools and

health clinics (i.e., due to the conditioning of the program) as well as to collect the transfers from distribution points.

Although information on *total* private costs is, in general, a useful input into policy analysis, for the purposes of evaluating PROGRESA, it is only the *incremental* costs due to the introduction of the program that are relevant. For example, in order to qualify for the food transfer, household members must make a series of visits to health clinics for checkups and health lectures. One estimate of the private costs incurred by households is that households incur travel costs of 6.38 pesos per 100 pesos received through the food transfer (Coady 2000). Such an estimate, however, is substantially higher than the incremental private costs incurred by the household as a result of PROGRESA. The incremental private cost incurred by the household is the cost of the extra trips brought about by the program. According to Gertler (2000), PROGRESA brought about a 30–50 percent increase in the number of trips. Using an estimate of a 40 percent increase, this implies that only 28.6 percent of total trips are additional. This, in turn, implies that the *incremental* private costs of receiving the food transfer are 1.82 pesos per 100 pesos received. Approximately the same cost ratio is estimated for the incremental travel costs incurred by households sending their older children to secondary schools outside their locality (1.5 pesos per 100 pesos received) and the travel costs incurred for collecting the bimonthly PROGRESA cash transfer (1.2 pesos per 100 pesos received).

CHALLENGING ISSUES

What are the program costs of PROGRESA?

IFPRI's analysis of PROGRESA's program costs consisted of calculating cost-benefit ratios that summarize the program cost incurred in transferring monies to beneficiaries. According to the program costs analysis, for every 100 pesos allocated to the program, 8.2 pesos are administration or program costs. Given the complexity of the program, this level of program costs appears to be quite small. It is definitely relatively low compared to the numbers given by Grosh (1994) for the LICONSA and TORTIVALES programs, which imply program costs of 40 pesos and 14 pesos per 100 pesos transferred, respectively.

By comparing the cost benefit ratios across the different hypothetical programs to that for the actual program that is targeted and provides cash transfers conditionally, one can also identify the relative importance of the different activity costs (see Table 13 in Coady 2000). For example, the largest cost component is that associated with targeting at the household level. This activity accounts for nearly 30 percent of the program cost. This is followed by the costs associated with conditioning the program, which accounts for 26 percent of the program cost. Thus the costs associated with both the targeting and the conditioning of the program make up 56 percent of the program's costs. This also implies that it is important to ensure that there is a return to these activities.

When the incremental private costs discussed above are added to the program costs, it is found that the total cost-benefit ratio increases by about 27 percent (from 0.089 to 0.113). So, for every 100 pesos transferred to households, 11.3 pesos are incurred in

administrative and private costs. The cost analysis also reveals that private costs associated with participating in the program are as important as household targeting and conditioning costs.

Overall, the administrative costs employed in getting transfers to poor households appear to be small relative to the costs incurred in previous programs and for targeted programs in other countries. This is in spite of the program being quite complex, which involves both the targeting and conditioning of transfers and all the costs that such activities entail. Although this partly reflects operational efficiency, it is important to keep in mind that the size of the program also plays an important role in keeping these numbers low. In combination, the large number of households covered by the program and the size of the transfers tend to reduce the unit fixed costs of the program.

How does the financing of PROGRESA impact on overall household welfare?

The cost analysis above and the evaluation of the impact of the program on poverty focus exclusively either on the costs of operating the program or on the direct effects of the program on beneficiaries. Such partial equilibrium analyses may provide only a limited view of the potential costs or effects of the program, since they ignore the indirect effects arising from the need to finance the program domestically. As a matter of principle, in evaluating a program of the size and nature of PROGRESA, it is also necessary to adopt a broader perspective. PROGRESA, for example, may be considered as being financed by the elimination of subsidies and various reforms in the structure of value-added taxes. The removal of food subsidies are likely to have a negative impact on

the welfare of poor households in urban areas where PROGRESA is not yet in operation; yet, their removal will also create efficiency gains.

These potential indirect effects of the PROGRESA program are examined using a computable general equilibrium model of the Mexican economy (Coady and Harris 2000). Their results show that financing the program through the elimination of distortionary food subsidies is associated with a substantial welfare gain. The simulation results suggest that there are clear welfare gains from introducing a new efficiently targeted program like PROGRESA; the benefits from more efficient targeting of households is substantial and they are reinforced by the welfare gains from being able to reform the existing system of subsidies and taxes. The results also clearly indicate substantial welfare gains from the expansion of the PROGRESA program to include the urban poor.

10. POLICY AND RESEARCH CONSIDERATIONS

The majority of the evaluation findings suggest that PROGRESA's combination of education, health, and nutrition interventions into one integrated package has a significant impact on the welfare and human capital of poor rural families in Mexico. The initial analysis of PROGRESA's impact on education shows that the program has significantly increased the enrollment of boys and girls, particularly of girls and, above all, at the secondary school level (Schultz 2000a). In addition, most of the increase in school attendance takes place by children and especially boys working less. The results

imply that children will have, on average, about 0.7 years of extra schooling because of PROGRESA, although this effect may increase if children are more likely to go on to senior high school as a result of PROGRESA. Taking into account that higher schooling is associated with higher levels of income, the estimations imply that children have lifetime earnings that are 8 percent higher due to the education benefits they have received through PROGRESA. As a result of PROGRESA, both children and adults are also experiencing improvements in health. Specifically, children receiving PROGRESA's benefits have a 12 percent lower incidence of illness as a result of the program's benefits and adults report a decrease in 19 percent of sick or disability days (Gertler 2000). In the area of nutrition, PROGRESA has had a significant effect on reducing the probability of stunting for children aged 12 to 36 months (Behrman and Hoddinott 2000). PROGRESA has also had important impacts on food consumption. Program beneficiaries report higher calorie consumption and eating a more diverse diet, including more fruits, vegetables, and meat. The program is also found to have no apparent effects on the work incentives of adults, while the award of the cash benefits to mothers in beneficiary households appears to have led to the empowerment of women.

A detailed cost analysis of the program also provides strong evidence that the program is generally administered in a cost-effective manner. For example, for every 100 pesos allocated to the program, 8.9 pesos are "absorbed" by administration costs (Coady 2000). Given the complexity of the program, this level of program costs appears to be quite small and definitely relatively low compared to the numbers for roughly comparable programs.

The findings from IFPRI's evaluation also suggest that there is considerable room for improvement in some of the structural components and the operation of the program. For example, the program was found to have no measurable impact on the achievement test scores of children in beneficiary localities or on their regular school attendance. This suggests that if the program is to have a significant effect on the human capital of children, more attention needs to be directed to the quality of education provided in schools. Enrolling in and attending school regularly are only necessary conditions for the improvement of children's human capital. Currently the award of PROGRESA's educational benefits is conditional on regular school attendance but not performance. There may be considerable improvements to be attained by linking benefits to performance, such as granting bonuses to encourage successful completion of a grade, or linking benefits with other programs. It is also important to find ways to maintain and improve the quality of the information provided in the *pláticas*. Although the targeting of households within poor marginal communities may be a source of more social tensions than social benefits, there is no doubt that if PROGRESA were to expand in urban areas, some form of targeting has to take place. Better alternatives to the current reliance of PROGRESA on reported income include the use of household consumption as a measure of poverty.

Whether the vicious cycle of poverty and its intergenerational transmission are indeed broken can only be determined by continuing with PROGRESA and continuing to evaluate in the medium- and long-term its impact on the livelihood of Mexico's poor. The possibility of expanding the coverage of PROGRESA to poor households in urban

areas implies that there is opportunity to use program evaluation, such as the one presented herein, as a means to adapt some of the components of the program to suit the needs of households in different environments. Mexico's policy leaders are encouraged to capitalize on the innovative precedent established by PROGRESA and to consider program evaluation as an indispensable component of all social policies.

Undoubtedly, the opportunity to conduct a rigorous evaluation of a program like PROGRESA has set a higher set of standards for the design and conduct of social policy in Mexico and in Latin America in general. As policymakers now have a better sense of what types of programs can be effective toward alleviating poverty in the short- and long-terms, the list of questions and concerns about program choices and program design cannot help but grow. For example, is it possible for unconditional cash transfers without any "strings" attached to have similar or higher impact on human capital investments of poor rural families? Is the amount of the cash transfer given to families too high or not high enough? Perhaps lower cash transfers could achieve the same impact? Is the simultaneous intervention in the areas of education, health, and nutrition preferable to intervening in each of these sectors separately? Is it not possible that similar or even better effects on school attendance can be achieved through alternative programs, such as building new schools or improving the quality of educational services? Given that the evaluation finds only a larger program impact on the schooling attendance of children of secondary school age, would it not be preferable to reorient the funds from primary school to families with children of secondary school age? What if the benefits were given

to fathers rather than the mothers in the household? Are programs aimed toward children at younger ages to be preferred over programs aimed toward children of older ages?

The nature of the program and the scope of the program's impact evaluation can provide, at best, only a tentative answer to some of these questions. More definite answers can be obtained through the testing of pilot programs that incorporate all or some of these features as part of their structure. Hopefully, early involvement of researchers in the design and evaluation of programs implemented in other Latin American countries, such as Honduras, Nicaragua, Colombia, Jamaica, and Argentina, can shed some light on these critical questions for policy.

APPENDIX:

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