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## Evaluating the Cost of Poverty Alleviation Transfer Programs: An Illustration Based on PROGRESA in Mexico

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### **Abstract**

One of the common criticisms of poverty alleviation programs is that the high share of administrative (nontransfer) costs substantially reduces the programs' impact on poverty. But very little empirical evidence exists on program costs. For example, a recent extensive international review of targeted poverty alleviation programs in developing countries could find data on costs for only 32 out of the 111 program reviewed. Even then, the numbers available were not always comparable. In this paper, we present a detailed analysis of the cost structure of a program recently introduced in Mexico, called PROGRESA. Our analysis shows how cost data can be used as the basis for an evaluation of the cost efficiency of anti-poverty programs. It cautions, however, that one must be very careful when interpreting cost numbers or undertaking comparisons across programs in order to avoid misleading conclusions. Any credible analysis of a program's cost efficiency must involve a detailed analysis of cost structure and not simply provide aggregate cost information. We also highlight the importance of not neglecting private costs incurred by households in taking up transfers.

**Key words:** cost efficiency, poverty alleviation, human capital, Mexico

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## 1. Introduction

It is now widely accepted that social safety nets play an important role in alleviating poverty and promoting development in developing countries (World Bank 1997). However, a common criticism of such programs is that a large proportion of the program budget is absorbed by nontransfer costs and thus never reaches the intended beneficiaries.<sup>1</sup> Any effect on poverty is thus offset by the high cost of achieving this impact, with obvious adverse consequences for the program's overall cost-effectiveness. Yet little rigorous empirical evidence exists concerning the cost levels or structures of poverty alleviation programs in developing countries. For example, in their review of targeted poverty alleviation programs in developing countries, Coady, Grosh, and Hoddinott (2004) could find some sort of cost data for only 32 of the 111 programs reviewed. Moreover, the cost data available were far from comparable because they were calculated in different ways. Sometimes the cost refers to administrative costs. For other studies, it refers to the cost in terms of theft or other losses. Where the focus is on administrative costs, it is often unclear at what stage of maturity the program was observed—whether the cost relates to the program to date or to the most recent year for which data were available. A point made in this paper is that such detail is necessary if one is to make any sensible comparison of cost levels across programs.

In this paper, we provide a detailed analysis of the levels and structure of the various cost components of PROGRESA, a poverty alleviation program introduced in August 1997 across rural Mexico, with the objective of showing how such an analysis can be used to evaluate and compare the cost efficiency of poverty programs. Since the total budget is made up of the sum of administrative costs and transfers, it is common to analyze this aspect of cost effectiveness in terms of the cost of transferring a unit of funds to beneficiaries (i.e., the cost-transfer ratio). However, how one interprets such a measure of cost effectiveness for policy purposes depends on what goes into calculating

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<sup>1</sup> For example, Grosh (1994, 46) states that “Concern over high administrative costs is perhaps the reason that is most commonly given for not adopting targeted programs.”

it: for example, it depends on whether or not it includes the fixed costs of setting up the program (or just recurring costs), the average size of transfers, the duration of the program, and whether the program is expanding over time or is now a “mature” program. Detailed knowledge of such ingredients is a prerequisite for interpreting such numbers and for any sensible comparison with other programs. Therefore, in this paper we also analyze the cost structure of the program and not just aggregate cost levels.

While focusing on cost-transfer ratios (CTRs) is adequate for programs whose objective is simply to disburse funds, in practice, programs obviously have more ambitious objectives. The ultimate objective of PROGRESA is to decrease both current and future poverty. Two features of the program are especially important in this respect. Transfers are targeted to the poorest municipalities and to some of the most vulnerable households in these communities, especially households with children. Receipt of transfers is also conditional on households investing in the nutritional, health, and education status of their children (i.e., their human capital). Since both of these program activities require resources, there is an obvious potential trade-off between reducing costs and generating human capital benefits. Improving the cost effectiveness of the program by reducing the CTR may not necessarily be desirable if it comes at the expense of the resources devoted to targeting or to monitoring compliance with the conditions set for participating in the program.<sup>2</sup> So interpreting the CTR as a measure of overall cost effectiveness can be misleading, especially in the context of programs like PROGRESA, which have multiple objectives. For this reason, we refer to the CTR as a measure of “cost efficiency” and reserve the term “cost effectiveness” for when we incorporate the broader objectives of the program. It is important to ensure that improvements in cost efficiency do not come at the expense of the program’s overall cost effectiveness. This provides another motivation for looking at the structure of costs and not just cost levels.

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<sup>2</sup> Grosh (1994, 46) also says that “The conclusion that total administrative costs are low must be somewhat tempered, however. In several of the programs, it appears that low administrative budgets have led to deficient program management. Spending more on administration with a given program framework might lead to better service quality, better incidence, or both.”

As indicated above, in this paper we are solely concerned with describing the detail required when analyzing and comparing costs. Of course, one would ideally like to put these costs into perspective by, for example, comparing them to program benefits or the costs and benefits of other programs. To compare different designs of the current program would require measures of benefits and costs for each of the alternative designs. To compare this program to other programs would require measures of benefits and costs for each alternative program. Unfortunately, very little exists in the way of impact analysis for other national programs and even less on costs. It would also be very difficult to persuade a government to implement a program using different designs in different areas, never mind persuading them to evaluate them. Undoubtedly, the need for investments that enable such comparisons is great, and we hope that the insights from the current paper help to highlight the issues that must be addressed on the cost side. In a companion paper, Caldés, Coady, and Maluccio (2004) compare costs across similar programs recently implemented in other Latin American countries.

The format of the paper is as follows. In the next section, we present a brief description of the program. In Section 3, we briefly highlight the important ingredients of any comprehensive evaluation of a program's cost efficiency. This is followed in Section 4 by a detailed analysis of program administrative costs. Section 5 presents an analysis of private household costs, and these are combined with program costs for a discussion of their relative importance in total costs. Section 6 summarizes the main points of the paper.

## **2. The Design and Implementation of PROGRESA**

In recent years increasing emphasis has been placed on the role of human capital in stimulating economic growth and social development. Investing in the human capital of poor households is also widely believed to be crucial to alleviating poverty over the long term. However, recognition is also growing of the need for effective social safety nets to protect poorer households from poverty and malnutrition during the push for more

broad-based economic growth. For example, according to the World Bank (1997), investing in basic social services and protecting the vulnerable constitute two of the five fundamental tasks of government.<sup>3</sup> Others have also emphasized that effective social safety nets can have a positive influence on economic growth (Ravallion 2003).

Recently governments in developing countries, particularly in Latin America, have introduced innovative programs that attempt to integrate these objectives. One of the first programs of this type was PROGRESA, introduced in Mexico in August 1997. PROGRESA had a total annual budget in 2000 of around \$800 million, equivalent to just below 20 percent of the Federal poverty alleviation budget or 0.2 percent of GDP. This program, designed and implemented by the Federal government, has a number of key design features.<sup>4</sup> Participating communities and households are selected by program officials, who are situated in the central government, and transfers go directly to eligible households without passing through state budgets. It was hoped that this would eliminate the unnecessary bureaucracy inherent in many existing programs. The program uses a range of targeting methods (e.g., geographic, household proxy means, and community targeting methods) to ensure that program benefits reach the poorest households. Continued eligibility to receive benefits is conditional on households investing in the education and health status of household members, in particular children. Failure to meet these conditions leads to a loss of benefits, often temporarily at first but eventually permanently.

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<sup>3</sup> The other three roles identified are establishing a foundation of law, maintaining a nondistortionary policy environment and macroeconomic stability, and protecting the environment. It also argues that: "Public policies and programs must aim not merely to deliver growth but to ensure that the benefits of market-led growth are shared, particularly through investments in basic education and health. They must also ensure that people are protected against material and personal insecurity." Similarly, in his Prebish lecture, Stiglitz (2000, 31-32) identifies education and health as key priority areas in all developing countries' development strategies.

<sup>4</sup> See Skoufias (2005) for a detailed description of the program and a synthesis of the results from a wide range of program impact evaluations and Coady (2004a) for a broad discussion of the concept, implementation, and evaluation of the program.

### **Description of the Program**

As pointed out above, a key feature of the program is that it is not simply a cash transfer program. Before the transfer takes place, beneficiaries must undertake a number of actions directed toward improving the nutrition, health, and education status of household members, especially of children. This essentially transforms the program from a pure cash transfer to a subsidy for human capital investments by households. The transfers have two components: a food transfer and an education and health transfer. Only children over seven years were eligible for education transfers (the starting age for Third Grade). Transfers increase by grade and are higher for girls than for boys in middle school (grades 7-9). In 1999, monthly benefits started at 80 pesos in grade 3 of primary school.<sup>5</sup> In middle school, benefits rose to 265 pesos for boys and 305 pesos for girls by grade 9. Transfers are also conditional on an 85 percent attendance record and children are allowed to repeat a grade at most twice.

The “food transfer” was fixed for each family at 125 pesos per month and was conditional on households making regular trips to health clinics for a range of preventative health checks as well as attending monthly nutrition and hygiene information sessions. In principle, the education and food transfers are independent in the sense that beneficiaries can take up one and not the other. In addition to the cash transfer, beneficiary households with children of less than three years receive a monthly nutritional supplement that contains essential micronutrients (a box of 30 sachets per month).

The ceiling for education and health transfers is 750 pesos. On average, the transfer to beneficiary households was substantial, constituting around 20 percent of total household consumption. The money was given to the mothers, reflecting the belief that mothers are more likely to maximize the benefits of the extra income by spending it for children’s welfare. Transfers are also inflation-indexed every six months.

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<sup>5</sup> In 1999 the exchange rate was approximately 10 pesos per U.S. dollar.

### **Implementation of the Program**

PROGRESA is implemented in two distinct stages. In the first stage, the most marginal rural localities were identified using a specially constructed “marginality index” based mainly on data from the national census. Based on this marginality index, selected localities are visited to ensure that they do indeed have access to the required supporting infrastructure in the form of schools and health clinics. In the second stage, households in eligible localities were selected, using locality census data to classify households as “poor” or “nonpoor,” based on a statistical analysis of household income and other characteristics. Once beneficiary households are identified, a general assembly is held to incorporate households into the program and to inform them of their responsibilities and rights and, more generally, of the objectives and functioning of the program.

The expansion of the program across localities took place in phases. The data collection for the first and second phases of PROGRESA began in October 1996, and these data were used to develop the statistical model for classifying households as poor or nonpoor and thus their eligibility to participate in the program (i.e., household targeting). As shown in Table 1, Phase 1 began in August 1997, when 140,544 households in 3,369 localities were incorporated, with the first transfers taking place during September-October 1997. Phase 2 of the program began in November 1997, when a further 160,161 households in 2,988 localities were incorporated, with the first transfers taking place in January 1998. For the most part, expansion of the program over time has been determined by budget allocations, with the greatest expansion occurring in 1998 (i.e., Phases 3 to 6) when nearly 1.63 million families in 43,485 localities were incorporated. By Phase 11, the final phase of the program in early 2000, the program included nearly 2.6 million families in 72,345 localities in all 31 states. This constitutes about 40 percent of all rural families and one-ninth of all families in Mexico.

**Table 1—Expansion of PROGRESA over time**

Item	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8	Phase 9	Phase 10	Phase 11
ENCASEH Survey	October-December 1996	October-December 1996, October-December 1997	October-December 1997	May-July 1998	Cleaning of Phases 1-3	October-December 1998	May-July 1999 (plus cleaning Phase 6)	May-July 1999	May-July 1999	October-December 1999	Completion of 1999 (plus Chiapias)
Incorporation date	August/September 1997	November/December 1997	February/March, May 1998	July-September 1998	October 1998	November/December 1998	May/June 1999	July/August 1999	September/October 1999	November/December 1999	March/April 2000
Localities incorporated	3,369	2,988	4,334	25,568	5,432	8,151	3,290	9,758	2,801	6,523	131
Households incorporated	140,544	160,161	141,211	1,000,496	65,303	422,317	96,372	283,818	26,389	251,778	5,670
Cumulative families	140,544	300,705	441,916	1,444,412	1,507,715	1,930,032	2,026,404	2,310,222	2,336,611	2,588,389	2,594,059
First transfer	September/October 1997	January/February 1998	April-August 1998	September-December 1998	November-December 1998	January-April 1999	July-August 1999	September-October 1999	November-December 1999	January-March 2000	May-June 2000

Notes: The treatment and control samples (506 localities and 24,000 households) used for the evaluation of program impact were taken from Phase 2. See Skoufias (2005) for more detail and a synthesis of the impact results. The control households were incorporated during Phases 10 and 11.

### 3. The Ingredients of a Cost Analysis

Interpreting cost data or using them for comparisons across programs depends on what goes into calculating these numbers. Undertaking a comprehensive cost analysis requires one to go beyond identifying the total program budgetary costs. For policy purposes, one needs transparency with regard to the details of cost items that have been included in the aggregate cost. It is also useful to identify how costs have changed over the life of the program. For the purposes of cost analysis, costs should be distinguished according to

- *Whether they are incurred in cash or in-kind.* Costs can involve either *financial* costs (e.g., salaries, user charges, or travel costs) or *opportunity* costs (e.g., time or “unpaid” personnel costs from outside the program or of volunteers). Often the latter are wrongly overlooked.
- *Who incurs the cost?* Costs can be categorized as *program*, *private*, or *social* costs. Program costs are those financed out of the program budget (e.g., administrative salaries); private costs are costs borne by beneficiaries (e.g., travel costs); and social costs are those borne by others (e.g., by other government departments or by nonbeneficiary volunteers). All of these can be incurred either as financial or as opportunity costs. Often too much attention is focused on program costs relative to private or social costs.
- *The timing of costs.* *Fixed* costs are usually incurred at the start of the program before any “output” is produced, and thus they do not vary as output varies. These costs are often irretrievable (i.e., “sunk”) once incurred. As the program evolves one expects average fixed costs to converge to zero. The size of *variable* (or recurring) costs, on the other hand, depends on the scale of the program. Over time one expects average program costs to converge to average variable costs. One also needs to distinguish between set-up costs, which tend to be sunk costs, and capital costs (e.g., equipment), which are “used” over the life of the program.

Breaking costs down into these categories is a helpful mechanism for ensuring that important costs are not ignored and that any evaluation is useful, transparent, and accessible. Categorizing costs is also important in that not all costs are relevant to all policy questions. One must also focus on “incremental costs,” i.e., the extra costs brought about by the introduction of the program.

#### **4. The Cost Structure of PROGRESA**

In this section we present our cost analysis of PROGRESA. We start by explaining how the data on program costs were collected, processed, and analyzed. We then do the same for private costs.<sup>6</sup>

##### **Program Costs**

When analyzing program costs, cost data are typically presented with annual program costs broken down by standard accounting activities (Table 2). Based on the total cost and transfer data, one can calculate the cost-transfer ratio (CTR) for the program to date as 0.106, implying that it costs 10.6 pesos in program costs for every 100 pesos transferred to households. Or, equivalently, 9.6 percent of the total budget is absorbed by program costs.<sup>7</sup>

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<sup>6</sup> We do not include social costs in the analysis because on the whole these are not thought to be particularly important for PROGRESA since the government had already previously invested heavily on the supply side. In any case, data are not available (for example, on the extra time devoted by teachers and health clinic staff to “processing” and serving beneficiaries). Such costs can be expected to be more substantial in countries where the supply side in targeted areas requires substantial investments. Note that ideally one would like to compare various resource costs (such as time and money) in “control” and “treatment” areas.

<sup>7</sup> Note that to get the total welfare impact of the program one would need to adjust for imperfect targeting performance—that some of the transfers “leak” to the nonpoor population. In this paper, we focus exclusively on administrative costs and ignore these leakage costs. But see Coady (2001, 2004b) for an evaluation of the targeting performance of PROGRESA and other social safety net programs.

**Table 2—Disaggregated program costs ('000 pesos)**

<b>Accounting cost records</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>Total</b>
Honoraries and commissions	-	26,432	43,910	37,900	108,242
Salaries	-	32,295	77,220	81,800	191,315
Materials and supplies	-	28,610	37,005	24,217	89,832
Basic services	1,565	25,327	93,137	127,133	247,161
Rental and lease payments	-	1,837	2,207	1,491	5,535
Training, information and reports	-	40,893	10,384	38,695	89,972
Commercial and bank services	-	6,853	5,186	4,987	17,026
Maintenance of computer equipment	-	97	679	748	1,525
Maintenance of other equipment, buildings	-	6,487	5,709	4,446	16,642
Dissemination of information	-	13,764	17,882	15,140	46,786
Travel and subsistence	-	42,583	47,635	43,976	134,195
Official services	-	9,909	3,421	6,442	19,772
Other services	-	31	35	25	91
Other state expenses	-	7,885	-	-	7,885
Furniture and real estate	329	2,623	2,916	2,200	8,068
Machinery, incl., telecom. equipment	16,016	13,638	2,409	3,080	35,142
Vehicles	2,681	73	12,354	3,520	18,628
Tools and parts	-	841	-	-	841
Surveys	109,034	216,855	95,220	20,600	441,710
Other expenses	76,421	-	-	-	76,421
<b>Total program costs</b>	<b>204,481</b>	<b>477,033</b>	<b>457,310</b>	<b>416,400</b>	<b>1,555,224</b>
<b>Total cash transfers</b>	<b>152,365</b>	<b>1,494,388</b>	<b>5,252,266</b>	<b>7,756,876</b>	<b>14,655,895</b>
<b>Cash-Transfer Ratios (CTRs)</b>					
Total program costs	1.342	0.319	0.087	0.054	0.106
Cumulative	1.342	0.414	0.165	0.106	-

However, care must be taken in interpreting this ratio for a number of reasons. First, it contains some costs relating to an external program evaluation, which was a one-off evaluation that did not influence the current program design or operations. This evaluation should be distinguished from the ongoing internal evaluation of the program, the results of which have been continually fed back into the program decisionmaking process in order to improve current program design and operations. Whereas the external evaluation can be viewed as a sunk fixed cost that will not be incurred again, the latter is a recurring activity. Second, this ratio also includes capital costs, which need to be transferred from a stock expenditure to a flow expenditure. Third, the cost number used also includes up-front fixed set-up costs. As the program matures, average fixed costs will converge toward zero and the CTR will converge toward average variable costs.

Since most fixed costs tend to be incurred at the start of the program, one may be able to estimate the CTR for the mature program and thus determine the relative importance of fixed costs by estimating the CTR for each year of the program separately. As the program matures one expects this CTR to decrease and converge toward average variable costs. This is indeed what happens, with the CTR decreasing rapidly over the life of the program from a high of 1.342 in the first year to a low of 0.054 in the most recent year. One can also use the evolution of the CTR over time to get some idea of the magnitude of the “overestimate” from basing program CTRs on snapshots of the program over time. The final row of Table 2 presents the cumulative average CTR for the program. Considering the sharp decline in annual CTRs, basing the average CTR on a snapshot of the program after two or three years would obviously substantially overestimate the CTR of the program by the end of 2000, when all beneficiary households had been included and the program nearing maturity. This highlights the need to take great care when comparing CTRs across programs to ensure that such numbers are comparable.

In general, one expects that the decreasing CTR will reflect both increasing transfers over time and decreasing costs due mainly to declining fixed costs. In Table 2, note that while the former is true, with transfers increasing from 1,494 million pesos in 1998 to 7,757 million pesos in 2000, the latter is not as pronounced. Costs decrease only from 477 million pesos in 1998 to 416 million pesos in 2000. This suggests that these numbers may still include a substantial portion of fixed costs, especially since we also know that the program was still expanding up to the year 2000. Therefore, one expects that the estimated CTR of 0.054 for the mature program is probably an overestimate.

One way to adjust further for the presence of fixed costs is to associate program costs with key program activities that occur at different stages of the program. By focusing only on those activities that recur throughout the life of the program, one may get a better estimate of the CTR for the mature program. Focusing on key program activities can also facilitate comparisons of CTRs across alternative program designs. For example, by identifying the costs associated with household targeting or with the

conditions of the program, one can compare CTRs across programs with and without such targeting or conditions.

### **Identifying Key Program Activities**

For the purpose of linking program costs to activities, we identify key program activities.

1. *Selection of localities* (or geographic targeting), which involves using the national census data to construct a locality “marginality index.” This index was used to select the “poorest” localities to participate in the program.
2. *Identification of beneficiaries* (or household targeting), which involves the collection of household socioeconomic data (through community *Encuesta de Características Socioeconómicas de los Hogares* (ENCASEH) census surveys), processing these data, and validating the findings with community officials.
3. *Incorporation of beneficiaries*, which involves convening a beneficiary meeting in each community to inform participants of their rights and responsibilities under the program.
4. *Certification of compliance*, which involves distributing registration and attendance forms to schools and health clinics and collecting and processing these forms.
5. *Delivery of cash transfers*, which involves informing communities of the location and timing of cash deliveries and ensuring that the transfer process is carried out in a timely and orderly manner.
6. *Other operational activities*, including general program monitoring and evaluation activities.

A more detailed description of each activity is presented in Table 3.

**Table 3—Description of program activities**

<p><b>(1) Selection of Localities</b> These costs are incurred before any localities, or households within localities, are identified as being eligible for benefits and are thus independent of the number of households in the program or the level of household cash transfers.</p>	<p>(i) Coordinate with education/health sectors: Collect and process data from health and education ministries and the national census to determine which localities are eligible for the program, and which have access to a school and health clinic. A marginality index is constructed for each locality with the most marginal selected for the program.</p> <p>(ii) Verify access to, and capacity to provide, education and health services: Inform municipal governments of which localities were selected, confirm their access to adequate facilities, and consider others who may qualify.</p>
<p><b>(2) Identification of Beneficiary Families</b> These costs are also incurred prior to the incorporation of households from eligible localities into the program and are thus independent of the total number of households incorporated and the level of household transfers. We associate these with household targeting.</p>	<p>(i) Collect household socioeconomic information: Collect baseline ENCASEH surveys, including revisiting households to reassess beneficiary status.</p> <p>(ii) Enter and process data: These data are entered in PROGRESA's central office.</p> <p>(iii) Identify households in extreme poverty: This involves the application of discriminant analysis to baseline ENCASEH data.</p>
<p><b>(3) Incorporation of Families</b> The magnitude of these costs is expected to increase with the number of localities and households incorporated into the program, but it is independent of the level of household transfers. We associate these costs with the conditions imposed to obtain transfers.</p>	<p>(i) Print and distribute forms (and induction package): Forms are handed to beneficiary households during the general assembly.</p> <p>(ii) Organize and operate the process of incorporating families: Do advance preparation for and carry out general assemblies.</p> <p>(iii) Collect forms from households: Collect at first cash transfer and require proof of registration at schools and health clinics.</p>
<p><b>(4) Certification of Fulfillment of Co-Responsibility Actions</b> The magnitude of these costs increases with the total number of households but is independent of the level of transfers. We associate these with program conditions.</p>	<p>(i) Confirm school registration/attendance: Collect E2 forms from the various institutions. The schools send these forms via the state personnel.</p> <p>(ii) Confirm health registration/attendance: Collect S2 forms from the various institutions. The health clinics send these forms via state personnel.</p>
<p><b>(5) Delivery of Cash Transfers</b> These costs increase with the number of households in the program and the level of household transfers.</p>	<p>(i) Cost of transferring cash transfers: Pay Telecomm for distributing cash transfers (fixed percent of transfers).</p> <p>(ii) Verify/monitor cash transfers: Set up and run cash transfer.</p> <p>(iii) Deliver and administer holograms needed by households to identify themselves as beneficiaries.</p>
<p><b>(6) Follow-up Services</b> These costs are expected to increase with the number of localities and households in the program. We treat them as being incurred regardless of whether transfers are targeted to poor households or conditional on human capital accumulation.</p>	<p>(i) Prepare monthly reports on education/health services.</p> <p>(ii) Organize, collect, and process reports by PROGRESA.</p> <p>(iii) Support to beneficiary families: Receive new applications for inclusion, changes in the beneficiary list, and other related operational activities.</p> <p>(iv) Support to nonbeneficiaries: Deal with requests for inclusion from households and localities, processing and filing this information.</p>
<p><b>(7) Evaluation of Program</b> These costs, excluding ENCEL surveys, are treated as part of the program costs.</p>	<p>(i) Analyze ENCEL and other surveys: Some undertaken in PROGRESA, some by IFPRI. Collect ENCEL survey data for evaluation of program.</p>

Note that these activities have a natural sequential ordering. The first three (selection of localities, identification of beneficiaries, and incorporation of families) are

activities that must be undertaken up front before any cash transfers take place. The selection of localities is a fixed (and sunk) cost that does not vary with the total size of the program (the number of beneficiary localities or households).<sup>8</sup> Therefore, this component of average fixed cost per peso transferred (or per household) will decrease as the program expands to include more localities and households or as the level of household transfers increases. The identification and incorporation of families, however, involve costs that increase with the number of localities and households included in the program, but these costs are unrelated to the size of transfers. The last three activities (certification of compliance, cash transfers, and program monitoring) recur throughout the life of the program and increase with the number of beneficiary households.

The process of allocating costs to activities involves the following steps. Based on the disaggregated cost data in Table 2, we first allocate some of these costs directly to certain activities. For example, the cost of collecting surveys is allocated to “identification of beneficiaries” and “evaluation,” the former relating to the cost of the ENCASEH survey and the latter to the cost of the *Encuesta Evaluation de los Hogares* (ENCEL) surveys (see the notes to Table 4 for more details).<sup>9</sup> All remaining costs are then allocated to program activities, using the time allocation matrix set out in Table 4. We then combine both these expenditures to calculate the activity cost shares and their contribution to the CTR in Table 5.

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<sup>8</sup> Here we are referring primarily to the statistical analysis undertaken to develop and implement the geographic targeting algorithm to calculate the marginality index. If additional costs, such as costs associated with verifying that potentially eligible localities satisfy other criteria such as having a certain minimum operational and service capacity, exist, then such costs can be expected to vary with the size of the program.

<sup>9</sup> Two adjustments are made to the accounting data before these are allocated. First, since from the accounting data we can identify capital costs, we can also transform these expenditures into flows over the life of the assets. Capital equipment is assumed to depreciate at the following annual rates: Furniture and real estate (10 percent), machinery and industrial and telecommunications equipment (30 percent) and vehicles (25 percent).

Second, amounts are converted into constant year 2000 pesos using the following inflation factors: 1997 = 1.5, 1998 = 1.3, and 1999 = 1.1.

**Table 4—Time allocation matrixes for program staff**

Activity	1997	1998	1999	2000
Selection of localities	13.8	6.8	6.0	5.4
Identification of beneficiaries	9.5	5.7	5.5	5.0
Incorporation of beneficiaries	9.8	13.4	11.3	11.1
Certification of responsibilities	19.5	31.2	33.9	34.2
Delivery of cash transfers	17.9	15.3	14.8	15.0
Follow-up services	22.5	20.8	21.9	20.2
Evaluation	7.0	6.8	6.6	9.1

Notes: The above time matrixes are used to allocate program costs (excluding directly assigned costs) to program activities. The program costs from Table 2 directly assigned to program activities are as follows. (1) Basic services: postal and telegraphic costs amounting to \$1,042 for 1997, \$22,996 for 1998, \$84,285 for 1999, and \$124,100 for 2000 are allocated to delivery of cash transfers; (2) Training: these include costs that are allocated to evaluation and also costs for information services that corresponds to some contracts for entry and processing survey data that are allocated to identification of beneficiaries, \$8,623 for 1998 and \$4,945.19 for 1999; (3) Travel: International travel and subsistence costs of \$303 for 1998, \$208 for 1999, and \$157 for 2000, are allocated to evaluation; (4) Surveys: this refers to the cost of collecting the ENCASEH surveys (which are allocated to identification of beneficiaries) and ENCEL surveys (which are allocated to evaluation).

**Table 5—Activity cost shares and cost-transfer ratios (CTRs)**

Cost share/CTR	1997	1998	1999	2000	Total
Activity cost shares					
Selection of localities	0.06	0.03	0.04	0.04	0.04
Identification of beneficiaries	0.61	0.47	0.26	0.03	0.34
Incorporation of families	0.04	0.07	0.07	0.08	0.07
Certification of responsibilities	0.08	0.16	0.21	0.24	0.18
Delivery of cash transfers	0.08	0.13	0.25	0.41	0.22
Follow-up services	0.10	0.11	0.13	0.14	0.12
Evaluation	0.03	0.03	0.04	0.06	0.04
Activity CTRs					
Selection of localities	0.074	0.010	0.003	0.002	0.004
Identification of beneficiaries	0.766	0.137	0.022	0.002	0.037
Incorporation of families	0.052	0.020	0.006	0.004	0.007
Certification of responsibilities	0.104	0.046	0.017	0.012	0.020
Delivery of cash transfers	0.106	0.036	0.021	0.021	0.024
Follow-up services	0.120	0.031	0.011	0.007	0.013
Evaluation	0.037	0.010	0.003	0.003	0.005
Aggregate CTR	1.260	0.290	0.085	0.052	0.111

Looking first at the activity cost shares in the table, the largest cost items are identification of beneficiaries (34 percent of total costs), delivery of cash transfers (22 percent), and certification of responsibilities (18 percent). The time profile of cost shares

also reflects the sequential nature of these activities. The cost share of identification of beneficiaries decreases from a high of 61 percent in 1997 to a low of 3 percent in 2000. The cost share of certification of responsibilities increases from a low of 8 percent in 1997 to a high of 24 percent in 2000. Similarly, the cost share of delivery of transfers increases from 8 percent in 1997 to 41 percent in 2000. The substantial shift of cost shares toward recurring cost items is consistent with the program being very near maturity. By 2000, the recurring activities (i.e., the last five activities) account for 85 percent of total program costs in that year.

The second panel in Table 5 presents CTRs for each activity, for each year, and for the overall program.<sup>10</sup> The CTR for the overall program is 0.111, and the costs associated with the key design features of PROGRESA are an important component of total costs and thus the aggregate CTR. The costs associated with household targeting (identification of beneficiaries) account for 34 percent of total costs, while those associated with imposing conditions on transfers (incorporation of families and certification of responsibilities) account for 25 percent of total costs.

It is obviously important that these costs, which substantially increase the CTR of the program, generate an adequate return. In the context of targeting, this requires that costs incurred result in an adequate increase in the share of transfers reaching the poorest households, thus enhancing the impact of the program on current poverty. Coady (2001) provides an in-depth analysis of the welfare gains from household targeting. In the context of the conditions, this requires that the extra costs incurred result in an adequate improvement in human capital outcomes and thus in future poverty reductions. Schultz (2004), Behrman and Hoddinott (2000), and Gertler (2000) provide detailed analyses of the education, nutrition, and health impacts of the program. More generally, since monitoring compliance with the conditions constitutes a substantial share of total program costs, it is important that transfer levels are high enough to generate human

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<sup>10</sup> The difference between this average CTR and the ratio of 0.106 presented in Table 2 reflects the fact that we have now adjusted for inflation (which increases the CTR) and excluded external evaluation costs associated with the collection and processing of the ENCEL surveys used for the impact analyses.

capital impacts that can compensate for the resulting higher CTR. Higher transfer levels thus improve the program’s overall cost-effectiveness both through higher human capital benefits and a lower CTR, due to the larger transfer base.

In Table 6, we present aggregate CTRs for different program designs. The present program is a conditional-targeted program. One can consider alternative programs that do not make transfers conditional or do not target households or either. Since both conditions and targeting require program resources (to monitor households behavior and to administratively select “poor” households within participating localities), the costs of implementing unconditional or untargeted programs will be lower than their conditional or targeted counterparts. The costs associated with the identification of

**Table 6—Cost-transfer ratios, by program type**

<b>Program type</b>	<b>Present</b>	<b>Long-run</b>	<b>Long-run (including recertification)</b>
Targeted/conditional	0.111	0.044	0.081
Untargeted/conditional	0.074	0.044	
Targeted/unconditional	0.084	0.032	0.069
Untargeted/unconditional	0.047	0.032	

beneficiaries are incurred only when household targeting is used; in the absence of targeting, we assume that there is no need to collect and analyze household data (from the ENCASEH surveys). In the absence of conditions, there would be no costs incurred for incorporating households or certifying that they satisfy the conditions: incorporation is the process of providing households with information regarding their responsibilities and how the program operates, and certification is not necessary if there are no conditions. However, when one decides to make transfers conditional on certain actions by specific household members (children going to school, for example), this automatically involves some categorical targeting since transfers are linked to the demographic composition of households. Only households with children in the relevant age groups are eligible for education transfers. Therefore, it doesn’t really make sense to consider an untargeted-unconditional program. But we still present the CTRs for such a program simply because

it helps to get a picture of the magnitude of targeting costs. In the ratios discussed below, we assume that the costs of targeting are the same whether the targeting is based on a proxy-means test, categorical groups, or both.

The CTR for the actual targeted/conditional program is 0.111; that is, it cost 11.10 pesos to transfer 100 pesos to households. In other words, administrative costs have absorbed around 10 percent of the total budget to date. For a number of targeted poverty alleviation programs, Grosh (1994, 44–46) found that the share of administrative costs ranged from 0.4 to 29 percent, with a median of 9 percent. For programs involving proxy-means tests, the median was 10 percent. Given the relative complexity of PROGRESA as a poverty alleviation program, its administrative cost share of 0.111 would appear to be quite acceptable, being just above the median for all programs and exactly equal to the median for programs targeted using proxy-means methods. It is definitely low compared with the numbers given by Grosh (1994) for the LICONSA and TORTIVALES programs in Mexico, which imply program costs of 40 pesos and 14 pesos per 100 pesos transferred, respectively. But one must caution that it is hard to be confident of such comparisons, given that we are unclear about what exactly is included in the figures quoted in Grosh (1994).<sup>11</sup>

The relative complexity of the programs relates mainly to the decision to undertake proxy-means household targeting and to condition transfers on household actions. As already pointed out, undertaking these program functions requires resources. The substantial drop in the CTR when transfers are either not targeted or not conditional neither reflects the large share of these costs in total program costs. Dropping household targeting results in a decrease in the CTR from 0.111 to 0.074, a 33 percent fall. Dropping the conditions results in a decrease from 0.111 to 0.084, a 24 percent fall. Dropping both leads to a CTR of 0.047, a 58 percent fall.

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<sup>11</sup> Grosh (1994) discusses a range of difficulties associated with collecting and analyzing cost data for poverty alleviation programs. She also states that one of the biggest drawbacks faced by her study was “the imprecision in calculating administrative costs” (p. 30).

But these ratios include fixed costs, which become less important over time.<sup>12</sup> Excluding these fixed costs (selection of localities, identification of beneficiaries, and incorporation of beneficiaries) enables us to estimate the long-run CTR of the program. This comes out to 0.044 for the actual targeted/conditional program; in other words, over time the cost of transferring 100 pesos to a beneficiary will converge to 4.40 pesos. Equivalently, over time the proportion of the total budget absorbed by administrative program costs will fall from 10 percent to only 4.2 percent. This is comparable to the lowest numbers in the Grosh (1994) study referred to above. One should note that the long-run CTR for the conditional program is the same, regardless of whether it is targeted or not. This reflects the fact that all of the targeting costs are treated as fixed costs and do not enter recurring costs. Therefore, whereas the gains from targeting are permanent (at least in a static sense) the costs of initial targeting become irrelevant over time.

However, this implicitly assumes that there is no need for recertifying the socioeconomic status of households, which is almost certainly not valid. Therefore, the long-run CTR for the (targeted) program is likely to be higher than the 0.044 estimated. In Table 5, we can see that the CTR for identification of beneficiaries was 0.037 over the life of the program. This is likely to be an overestimate of the incremental cost of recertifying households. But what we can say is that the long-run CTR for the program is probably somewhere between 0.044 and 0.081. However, achieving the lower levels requires the program to continue over a long enough period. In other words, *ceteris paribus*, programs requiring large set-up costs are only justified if the program is expected to continue for a reasonable time period or if there are substantial returns to these fixed costs in terms of poverty reduction or impacts on human capital.

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<sup>12</sup> Note that if the program is expected to continue into the future, then it makes sense to focus on the lower long-run cost as an indicator of cost efficiency. However, for shorter programs, fixed costs are more important and it probably makes more sense to focus on the higher average cost. This, of course, highlights a key issue with regard to the choice and design of programs that are intended to be temporary: one should avoid programs with large fixed costs. In the context of PROGRESA, the willingness to incur these fixed costs reflected the clear intention that the program would be around for many years and would also eventually have national coverage.

The long-run CTR for an unconditional program falls to 0.032 (or 0.069 if the “fixed” targeting costs are included), a decline of 27 percent. This large decline reflects the fact that a large proportion of the costs associated with the conditions on transfers are recurring costs linked to the certification of responsibilities activity. Since these costs persist throughout the life of the program, it is important also that the impacts on human capital also persist.

### **5. Private Costs**

In order to qualify for and collect transfers, households must incur private costs, including both financial and time costs. To qualify for the food transfer, household members must make regular trips to health clinics for checkups and instruction in health and nutrition. So, in traveling to the clinic, households incur both financial and time costs as well as a time cost for attending the clinic. To qualify for the education grants, children may also incur travel costs to go to and from school, and they may forgo earnings in order to attend school. Also, beneficiaries must make bi-monthly trips to collect the cash transfers.

In this section we analyze these costs in detail. Whereas the program costs can be gathered from sources within PROGRESA, private costs (e.g., time, travel, forgone earnings, etc.) have to be estimated from survey data. We use a combination of data sources (including the ENCEL surveys used for the impact evaluations, data collected as part of program operation and monitoring, the 1996 Encuesta Nacional de Ingreso-Gasto de los Hogares (ENIGH) surveys used to identify beneficiaries and as a baseline for the impact evaluations, time-allocation data, and locality-level data) to build up a picture of the composition and level of private costs. Although we also discuss the total costs incurred by households as a result of these responsibilities, it is important to emphasize that, for the purpose of evaluating the program, only incremental costs are relevant; in other words, we should only include costs that would not have been incurred in the

absence of the program. In each of the sections below, we start by examining total private costs and then indicate how these can be adjusted to arrive at incremental costs.

### Food Transfers

In order to qualify for the food transfer, household members must make a series of visits to health clinics for checkups and health lectures. The required schedule of visits for the various household members is presented in Table 7. From the table we can see that private costs will depend on the size and age composition of the family.

**Table 7—Family health attendance requirements**

<b>Age group</b>	<b>Frequency of visits</b>
Less than 4 months	Two visits: at 7 and 28 days, and at 2 months
From 4 to 24 months	Eight visits for nutrition and immunization: at 4, 6, 9, 12, 15, 18, 21, and 24 months. In addition, one monthly visit to measure weight and height.
From 2 to 4 years	Three annual visits: one every 4 months
From 5 to 16 years	Two annual visits: one every 6 months
More than 17 years	One visit a year

**Source:** Various program documents. See Skoufias (2005) for more detail

Note: Since children between 0 and 2 years must make 25 visits, we assume 12.5 visits per year.

To calculate the financial cost of travel, for each household we calculate the annual number of return trips as follows. We assume that the mother must accompany all children less than 17 years old to the clinic, thus incurring extra travel costs. We further assume that children 0 – 2 years do not have to pay for the trip, that children 3 – 5 years pay half price, and that everyone over 5 years pays full price. These factors are used to transform the number of “actual trips” into the number of “effective trips” (or fully paid trips) for each household. The financial cost of trips for each household is then calculated as the number of effective trips times the cost of a return trip.

For each household, the cost of a trip is taken as the median cost for their locality. If there is a health clinic in the neighborhood then these costs are assumed to be zero. In Table 8, we see that nearly 92 percent of localities, accounting for nearly 86 percent of households, do not have a health clinic in their locality. Household members on average

**Table 8—Private costs associated with health component, by state**

	Guerrero		Hidalgo		Michoacán		Puebla		Queretaro		San Luis Potosí		Veracruz		Total	
	Standard deviation	Mean														
1 Trips by family (annual)	8.09	26.68	7.61	24.74	7.64	25.30	8.15	25.66	8.91	25.70	8.37	24.66	7.47	25.01	7.92	25.25
2 Actual trips (more than 5 years old)	7.25	24.72	6.80	23.23	6.86	23.73	7.25	23.90	7.84	24.13	7.50	23.16	6.70	23.48	7.07	23.64
3 Effective trips (year) by family (2-4 years = 0.5)	7.61	25.70	7.14	23.98	7.19	24.51	7.64	24.78	8.32	24.91	7.88	23.91	7.03	24.24	7.44	24.45
4 Travel time																
Single trip	82.42	122.83	92.44	127.78	62.53	96.00	85.09	142.45	40.18	87.14	76.45	112.76	78.70	115.88	80.11	118.24
Age group: 0 - 5 years old	172.99	139.78	165.42	101.86	130.28	88.28	233.68	163.96	104.29	81.58	157.05	100.60	148.27	105.80	170.77	114.25
Age group: 6 - 12 years old	207.68	165.28	206.62	159.18	187.90	155.36	249.05	215.44	130.91	126.70	201.14	145.04	178.11	152.64	204.00	163.64
Age group: 13 – 16 years old	127.87	78.65	123.19	79.10	130.88	84.99	154.69	101.16	87.80	66.58	128.42	75.50	122.15	81.34	129.96	82.91
Age group: 17 years old and more	185.60	120.99	182.31	110.70	167.20	101.73	261.19	158.12	149.49	109.86	189.36	114.06	185.96	114.17	197.68	119.83
Age group: 13 to 50 years old	338.92	373.34	321.19	358.72	336.78	350.83	423.06	494.32	218.16	302.25	330.95	361.95	325.86	367.97	346.75	382.23
Mothers	88.83	119.52	92.27	114.85	71.80	99.04	120.71	162.79	50.53	90.39	96.22	117.11	90.97	118.61	96.14	121.54
Fathers	78.43	97.02	82.54	102.12	67.86	89.32	100.64	135.49	42.63	75.83	78.40	100.14	72.55	100.41	81.11	103.76
Family	610.52	721.24	595.05	667.80	541.97	618.73	772.02	936.97	353.50	550.95	580.08	652.45	551.92	672.97	613.51	705.92
5 Distance (kilometers)	3.23	3.77	3.74	4.58	3.42	4.80	3.41	4.87	3.11	2.96	4.13	3.94	6.33	4.29	4.37	4.37
6 Cost per trip (pesos)	6.81	4.06	9.66	5.69	7.49	6.86	5.26	2.47	5.60	2.00	11.62	8.21	5.78	2.94	8.36	4.92
7 Cost per trip (values > zero)	6.27	12.17	10.91	12.96	5.19	12.85	5.43	10.99	8.49	14.00	10.64	18.48	6.13	10.84	8.70	13.53
8 Cost per effective trips (annual)	179.01	118.30	180.28	79.84	194.65	169.16	142.06	54.39	120.72	37.02	236.66	162.85	120.48	55.37	178.67	95.71
9 Waiting time (minutes)	27.34	37.36	18.44	38.08	15.33	44.56	24.07	34.80	11.00	20.36	26.00	52.04	25.50	38.77	23.31	40.21
10 Consult time (minutes)		20		20		20		20		20		20		20		20
11 Pláticas time (minutes)		60		60		60		60		60		60		60		60
12 % localities without clinic		85.7%		86.6%		91.1%		100.0%		85.7%		94.4%		91.4%		91.6%
13 % families or households		10.2%		17.8%		12.4%		16.7%		4.3%		15.2%		23.4%		100.0%
14 % families without clinic		73.5%		71.6%		86.3%		100.0%		73.8%		92.4%		89.8%		85.9%

**Sources: Household data sets collected for program targeting and operations (ENCASEHs) and for program impact evaluations (ENCLEs), various years.**

Notes: The average persons, by age group: 0-5 years (0.99), 6-12 years (1.45), 13-16 years (0.74), 17+ years (1.05), mother (1.06), father (0.91), and 13-50 years (3.37). Total number of families is 7,799.

make just over 25 trips per year, most of these obviously being accounted for by the two monthly trips made by mothers. The average distance traveled to the clinic is 4.37 kilometers, rising to 5.12 kilometers when zeros are excluded. The average cost of a return trip is 4.92 pesos, rising to 13.53 pesos when zeros are excluded. We calculate that the total annual travel cost is, on average, 95.70 pesos per family.

Households also incur time costs in traveling to and from the clinic, in waiting to be seen for a checkup, in attending the checkup itself, and in attending the health and nutrition information sessions (*platicas*). Time costs are derived as follows. The travel time costs for each household are taken as the median travel time for households in the locality; note that these are zero when there is a health clinic in the locality but also zero if household members walk to the nearest health clinic. Households also incur time costs while waiting to be attended to at the clinic and during the actual checkup. The former is taken as the median of the relevant locality values given in the operations survey and the latter is assumed to be constant at 20 minutes for each checkup. The *platicas* are assumed to last one hour, based on a talk time of 45 minutes.

The average travel time to the clinic is just over 118 minutes per single return trip. The average annual travel time per household is just over 48 hours, equivalent to roughly 4 hours each month; mother's time accounts for about 68 percent of the travel time. On average, households have to wait about 40 minutes to be seen for a checkup (or consultation). In total, each month household members make on average 2.1 trips, each taking nearly 2 hours travel time. One of these is a *platica*, which takes 1 hour; the other 1.1 trips, for checkups, incur a 40 minute waiting time and a 20 minute consultation time. So, on average, household members incur around 6.3 hours in time costs in order to meet health-clinic attendance requirements.

### **Education Grants**

As with health visits, households incur both financial and time costs because children have to travel to and from school, attend school, and undertake homework. The

approach used to derive these costs are similar to those used for health visits. The median time to travel to the nearest locality with a school and the cost of travel are charged to each household, both being zero if there is a school in the neighborhood. Financial costs are also zero if children walk to school. These numbers are applied to all children enrolled in school. For the primary level, it is assumed that all localities have a primary school so that travel time and money costs are approximately zero.

From Table 9 we learn that secondary school children spend on average nearly 50 minutes traveling to and from school, rising to nearly 100 minutes when zeros are excluded. The average distance traveled to school is 1.94 kilometers, rising to 3.68 kilometers when zeros are excluded. This is consistent with many children having to travel substantial distances to attend secondary school. In the sample, 17.3 percent of localities, accounting for 31.3 percent of secondary school children, have a secondary school. The average cost of travel is 1.17 pesos per return trip, rising to 9.90 pesos when zeros are excluded. On average then, households incur 316 pesos in school travel costs annually, rising to 1,980 pesos when zeros are excluded.

### **Cash Transfers**

In principle, beneficiaries pick up their cash transfers once every two months. This implies both financial and time travel costs plus the time costs associated with waiting in line for the transfer. The procedure for calculating these costs is the same as that described above for health and education. Each household is allocated the median time and financial costs for their locality, assuming six trips per year. Table 10 shows that only 1.13 percent of localities, accounting for 2.79 percent of households, have a distribution point located in them. The average distance to a distribution point is 9.64 kilometers, rising to 9.83 kilometers when zeros are excluded. We find that households on average spend around 138 minutes traveling to and from transfer distribution points, at an average cost per return trip of 14.37 pesos per return trip. This implies a household on average incurs 75 pesos annually in travel costs, rising to 113 pesos when zeros are

**Table 9—Private costs associated with secondary education, by state**

	Guerrero		Hidalgo		Michoacán		Puebla		Queretaro		San Luis Potosí		Veracruz		Total	
	Standard deviation	Mean														
1 Travel time to school (minutes)	63.53	49.55	63.50	51.12	44.69	38.46	77.95	66.15	45.38	59.91	31.58	18.67	61.09	61.33	60.49	49.33
2 Travel cost to school (constant pesos November of 1999)	-	-	4.03	1.59	3.47	1.50	4.13	1.89	2.81	2.29	2.82	0.47	2.17	1.02	3.21	1.17
3 Distance (kilometers)	2.27	2.36	1.58	1.63	1.59	2.10	1.61	1.88	1.30	3.00	1.70	1.13	1.81	2.28	1.77	1.94
4 Percent students		7.5		18.80		14.30		15.60		3.40		14.40		26.00		100.0
5 Percent students living in localities with school (over total students in secondary)		33.2		38.80		26.90		28.00		0.00		59.20		18.50		31.30
6 Percent localities with secondary school		10.5		17.2		13.3		12.5		0.0		44.4		7.2		17.3

Sources: Household data sets collected for program targeting and operations (ENCASEHs) and for program impact evaluations (ENCELs), various years.

**Table 10—Private costs associated with collecting cash transfers, by state**

	Guerrero		Hidalgo		Michoacán		Puebla		Queretaro		San Luis Potosí		Veracruz		Total	
	Standard deviation	Mean														
1 Travel time (minutes)	110.31	148.33	91.00	138.26	55.47	99.00	136.80	172.09	80.52	120.71	73.14	135.93	90.29	140.19	94.97	137.74
2 Travel cost (pesos)	14.05	12.11	12.46	14.07	12.51	18.63	11.76	9.17	13.77	11.86	15.01	21.07	13.69	11.45	13.76	14.37
3 Distance (kilometers)	4.36	7.04	4.46	7.91	5.44	9.66	4.25	6.51	4.68	6.09	9.47	14.09	7.58	11.45	6.90	9.64
4 Frequency of visits to cash transfer locality																
Daily		1.36		0.97		1.28		2.14		2.15		0.35		0.92		1.18
Weekly		39.43		19.90		27.58		19.36		20.43		17.73		16.45		21.63
Every 15 days		9.62		7.80		12.03		14.83		4.30		10.83		6.21		9.66
Monthly		6.37		6.99		10.33		5.27		2.51		8.21		5.98		6.85
By chance		16.26		25.10		15.23		12.52		11.47		16.16		22.14		18.20
Only for transfers		24.39		37.04		31.20		42.92		56.63		45.07		41.92		39.16
Not responding		2.57		2.19		2.34		2.97		2.51		1.66		6.38		3.31
Total		100.00		100.00		100.00		100.00		100.00		100.00		100.00		100.00
5 Percent beneficiaries living at pay points		0		1.38		0		0		1.17		0.14		0.09		2.79
6 Percent localities with pay point		0		0.31		0		0		0.31		0.31		0.31		1.13

Sources: Household data sets collected for program targeting and operations (ENCASEHs) and for program impact evaluations (ENCELs), various years.

excluded. We also find that nearly 40 percent of households make at least monthly trips to these locations for various reasons.

### **Incremental Costs**

Up to this point we have focused on the total costs incurred by beneficiary households in meeting the conditions attached to the program (attending health clinics and schools and collecting transfers at distribution points). However, some of these costs would have been incurred in the absence of the program. For example, some mothers already make regular trips to the health clinics or to the area where the clinic is situated, some children already attend school, and beneficiaries may make regular trips to the location where benefits are distributed. So for many households, the introduction of the program may have negligible implications for the total costs incurred. In this section, we adjust the total costs to arrive at the incremental costs incurred due to the introduction of the program.

We focus exclusively on the financial cost of travel, since these are the costs that were easy to monetize. This is equivalent to assuming that the opportunity cost of time is zero, consistent with the household being able to sufficiently substitute time between activities so that only the most unproductive tasks are not undertaken. We now discuss the relative magnitudes of these costs for health, education, and the collection of transfers.

#### *Health*

We have already determined that the total average cost of trips per family is 95.70 pesos per year. Households receive 125 pesos per month in food transfers, equal to a 1,500 pesos annual transfer. This means that households incur travel costs of 6.38 pesos per 100 pesos received. However, this is a substantial overestimate of the incremental private costs, since this cost is only additional for the extra trips brought about by the program. According to Gertler (2000), the program brought about a 30–50 percent increase in the number of trips. Using an estimate of a 40percent 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.

### *Education*

Based on the school calendar, the private costs discussed earlier imply an annual cost of around 316 pesos. If a household receives 217 pesos per school month, this gives them 2,170 pesos per year. Both these numbers imply that households on average incur 14.60 pesos for every 100 pesos of education grants received. However, as with the health costs, this is a substantial overestimate of the incremental cost due to the program since most of these travel costs would have been incurred in its absence. Based on Schultz (2004), we assume that the program brings about an 8.2 percent increase in enrollment levels at secondary school from a starting average enrollment rate of around 70 percent, so that only 10 percent of travel costs are additional. Using this number we can then calculate that households spend, on average, only an additional cost of 1.50 pesos per 100 pesos received. This number implicitly assumes that the opportunity cost of children's time is zero, on average, which is consistent with the findings of Skoufias and Parker (2001).

### *Cash Transfers*

The average transport costs incurred to collect transfers were earlier calculated as 75.20 pesos per year. Households on average receive 219 pesos monthly in education grants (over 10 months) and 125 pesos in food transfers, giving an average annual household transfer of 3,900 pesos. This implies that households incur a cost of 1.90 pesos per 100 pesos received. Adjusting for the fact that these trips are additional for only 60 percent of households, this implies a private cost of 1.20 pesos per 100 pesos received.

### Total Costs

In this section we aggregate across program and private costs in order to get some idea of the relative magnitude of the latter. Whereas program costs are relevant to the total transfer a household receives, this is not so for all private costs, since the private costs associated with attending health clinics are relevant only for the consumption transfer and the private costs associated with secondary school attendance are relevant only for the secondary grants. We assume that private costs associated with primary school are zero. The private costs associated with collecting transfers are relevant to the total transfer. To aggregate program and private costs, we use the following transfer shares: a food/health share of 35 percent and a secondary schooling share of 41 percent. Also, the private health and schooling costs are relevant only for the program with conditions, and, since they are recurring, they enter into both the average CTR and the long-run CTR.

The average CTR, including both program and private costs, lies in the range of 0.059 to 0.136, depending on the program being considered (Table 11). Focusing on the actual targeted/conditional program, the average CTR increases to 0.136 when private

**Table 11—Average and long-run program and private costs**

Program type	Average CTR	Long-run CTR
Targeted/conditional	Program = 0.111	Program = 0.044
	Private = 0.025 (Share=18%)	Private = 0.025 (Share = 36%)
	Total = 0.136	Total = 0.069
Targeted/unconditional	Program = 0.084	Program = 0.032
	Private = 0.012 (Share = 13%)	Private = 0.012 (Share = 27%)
	Total = 0.096	Total = 0.044
Untargeted/unconditional	Program = 0.047	Program = 0.032
	Private = 0.012 (Share = 20%)	Private = 0.012 (Share = 27%)
	Total = 0.059	Total = 0.044

Note: In constructing private costs, we weight the CTRs for the health and education components of beneficiary transfers by their transfer shares. For example, the total private cost for the actual targeted/conditional program is calculated as

$$(\text{Health} = 0.018 \times 0.35) + (\text{Secondary Education} = 0.015 \times 0.41) + (\text{Collection} = 0.012) = 0.025.$$

Private costs associated with the primary school transfer are assumed to be zero since all communities have a primary school. The private costs associated with health and education are only incurred for the conditioned program and, since they are recurring, they enter into both the average and long-run CTR.

costs are included. Private costs account for 18 percent of total costs. In this respect, ignoring private costs will obviously lead to a substantial underestimate of total program costs. So, for every 100 pesos transferred to households, administrative and private costs amount to 13.6 pesos. The importance of private costs for the average CTR holds over all the program types considered, ranging from 13 percent for the targeted/unconditional program to 20 percent for the untargeted/unconditional program.

Turning to the long-run total CTR of the program, it should be clear that the share of private costs will increase since the CTR based only on program costs always falls. The share of private costs in the total CTR now lies in the range of 27 percent for the unconditional programs to 36 percent for the actual targeted/conditional program. Therefore, focusing on the actual targeted/conditional program, we can say that the share of private costs in the total CTR is expected to lie in the range of 18 to 36 percent. Even for the least complex program considered—the untargeted/unconditional program—the share of private costs in the total CTR can be expected to lie in the range of 20 to 27 percent, which is still quite substantial. It is clear then that ignoring private costs can lead to a substantial underestimate of the total cost of transferring money to households under these transfer programs.

## **6. Conclusions**

As we stated in the beginning, it is commonly argued that the administrative costs associated with transferring income to poor households can be very large, thus substantially reducing the impact on poverty of the overall poverty alleviation budget. However, we also pointed out that the empirical evidence on administrative costs is limited, which severely limits our ability to verify their importance. In addition, the few numbers available are not always comparable, and lack of detail about what has been included in such numbers means that one needs to be extremely careful in making comparisons.

The aim of this paper is to help close the large gap that exists with regard to empirical knowledge of the cost structures of poverty alleviation programs. In the context of PROGRESA, a large poverty alleviation program introduced in Mexico, we show how available cost data can be used to evaluate the cost efficiency of the program. The analysis also helps to reinforce the view that the numbers one ends up with can differ depending on how they are calculated. And how one interprets them or uses them for comparison across alternatives also depends on how they are calculated. Very different numbers emerge when one takes snapshots of programs at different stages (say, after two years or after five years) and whether one includes or excludes up-front, set-up, or fixed costs. For example, fixed costs are typically a more important component of total program costs earlier in the life of the program. Over time, average fixed costs converge to zero, so that the average cost-transfer ratio (or, equivalently, share of administrative costs in total costs) converges to the ratio of recurrent operating costs to total transfers (or to their share in total costs).

PROGRESA targets transfers to the most marginal rural communities in Mexico and to households classified as poor within these communities. These transfers are also conditional on beneficiaries undertaking a number of actions intended to increase their human capital and thus generate a sustained decrease in poverty (such as regular attendance at health clinics and school). Both these dimensions of program design require additional program resources to be put into effect, thus increasing the administrative cost of the program. Therefore, the program is much more complex administratively than many existing transfer programs. We estimated here that, four years after its implementation, administrative costs have accounted for 10 percent of total program costs. Also, we estimate that this share should converge toward 4.2 percent over time, reflecting the size of upfront fixed costs. This level of administrative cost seems relatively low compared with that for other programs in Latin America and Mexico, especially given its complex design. As expected, the costs associated with targeting and imposing conditions on transfers are substantial, together accounting for more than half of total program costs. Other studies have also shown that the additional resources

devoted to these activities have generated substantial returns in terms of increasing the share of the transfers that reach poor households and in generating substantial improvements in nutrition, health, and education outcomes among these poor populations.

In this paper we also emphasize the potential importance of the incremental private costs incurred by households who participate in the program, especially for conditional programs. We estimated that these private costs are substantial in PROGRESA, accounting for 18 percent of total (program plus private) costs. Over the long run, reflecting the fact that they are associated with recurring household activities, these costs become more important, converging to 36 percent of total costs. These high shares confirm that ignoring private costs can lead to a substantial underestimate of the costs associated with introducing such programs.

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