



# The Cost of Poverty Alleviation Transfer Programs: A Comparative Analysis of Three Programs in Latin America

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**Summary.** — A common criticism of antipoverty programs is that the high share of administrative (nontransfer) costs substantially reduces their effectiveness. Yet, there is surprisingly little rigorous empirical evidence on program costs. Improved information and a better understanding of the costs of such programs are crucial for effective policymaking. This study proposes and implements a replicable methodology for a comparative cost analysis of three similar poverty alleviation programs in Latin America, and assesses their cost efficiency. The findings underscore that any credible assessment of cost efficiency requires a detailed analysis of program cost structures that goes well beyond simply providing aggregate cost information.

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## 1. INTRODUCTION

It is widely accepted that social safety nets play crucial roles both in alleviating poverty and promoting social and economic development (World Bank, 1997). Nevertheless, a common criticism of such programs is that a large proportion of their budget is absorbed by administrative costs and never reaches the intended beneficiaries.<sup>1</sup> Depending on how such administrative resources are used, the poverty alleviation effect of the programs and, consequently, their overall cost effectiveness may be reduced.

Proper assessment of the criticism that such programs are “expensive” is difficult, however, since there is little rigorous empirical evidence on their costs and cost structures.<sup>2</sup> For

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example, in their review of targeted poverty alleviation programs in developing countries, Coady, Grosh, and Hoddinott (2004) find cost information of any sort for only 32 of the 111 programs examined, and most of these were from a single source (Grosh, 1994). Moreover, the available cost information is rarely comparable between studies, even for similar programs. Some studies refer to administrative costs, while others consider costs only in terms of theft or other losses and leakages. When the focus is on administrative costs, it is often unclear whether the figures refer to the entire life of the program or only a specific period, such as the most recent year. For programs at different stages of maturity that have high fixed costs or undergo extensive learning-by-doing, analyses based on different time periods can lead to very different conclusions. Improved information and a better understanding of the costs of such programs are crucial for effective policymaking.

This study proposes and implements a replicable methodology for a detailed, comparative analysis of the level and structure (the various activities being carried out) of costs for three similar poverty alleviation programs in Latin America. They are the *Programa Nacional de Educación, Salud y Alimentación* (PROGRESA) in Mexico, the *Programa de Asignación Familiar-Fase II* (PRAF) in Honduras, and the pilot *Red de Protección Social-Fase I* (RPS) in Nicaragua. The primary objective of these programs is to generate a sustained decrease in poverty in some of the most disadvantaged regions in their respective countries. The programs' underlying premise is that a major cause of the intergenerational transmission of poverty is the inability of poor households to invest in the human capital of their children. Supply-side interventions on their own, which increase the availability and quality of education and health services, are often ineffective in resolving this problem. These programs address this problem by targeting transfers to the poorest communities and households and by conditioning the transfers on attendance at school and health clinics.

Since the total program budgets are the sum of administrative costs and total (cash and in kind) transfers, we evaluate the *cost efficiency* of each program by considering the cost of making a one-unit transfer to a beneficiary; we refer to this as the "cost-transfer ratio" or CTR (Coady, Perez, & Vera-Llamas, 2005).<sup>3,4</sup> How we use and interpret the CTR depends

on how it is calculated and on program characteristics. Whether the fixed costs of setting up the program or only the variable costs of running it are included and whether the entire life of the program or a specific period is under consideration influence the CTR.<sup>5</sup> Features of the program including targeting and monitoring, size, type, and delivery mechanism of the transfers (e.g., cash or in kind, demand or supply side), coverage, duration, and whether the program is expanding also matter. In this article, we propose strategies for how cost information can be used to assess the relative cost efficiencies of the different programs, making it clear that understanding design differences across programs is essential for making sensible comparisons, even for similar programs such as the three considered here.

While focusing on CTRs would be sufficient to evaluate a program whose sole objective was to disburse transfers, the programs considered in this article have more ambitious goals and specific design features aimed at achieving them. First, transfers are targeted to poor areas and to poor households within those areas. Second, transfers are conditioned on households investing in the nutrition, health, and education of their children. The combination of targeting and conditioning makes these programs operationally and administratively complex, and affects both the level and structure of program costs, as well as program performance. Hence, there is a potential trade-off: reducing the CTR may not be cost effective if it comes at the expense of activities devoted to administrative tasks such as targeting the poor or monitoring compliance.<sup>6</sup> For example, program expenditures arising from setting up and implementing program targeting rules will presumably have a return in terms of improved targeting effectiveness, but while the costs will be included in the CTR, the expanded benefits will not. Similarly, expenditures associated with setting up and implementing mechanisms for monitoring adherence to program requirements will presumably lead to greater effects on human capital, but will only be reflected as a cost in the CTR. Given these programs' designs and multiple objectives, particularly improved human capital for children that is likely to yield returns over many years, we emphasize that it would be incorrect to interpret the CTR either as a measure of overall cost effectiveness or as a cost-benefit ratio. In Section 4, however, we discuss evidence on the relative targeting effectiveness and human capital impacts of the

programs, facilitating a more comprehensive comparison of program costs.

## 2. DESIGN AND IMPLEMENTATION OF THE PROGRAMS

To analyze the cost structures of these programs, it is necessary to understand how they operate and how they have evolved. Table 1 summarizes some basic features of each program.

### (a) *Programa Nacional de Educación, Salud y Alimentación (PROGRESA)*

PROGRESA (Mexico) started in 1997 and was the prototype for the other two programs.<sup>7</sup> Its cash transfers have two components. Children over age 7 (the starting age for grade 3) are eligible for education transfers. Transfers increase by grade and are higher for girls than for boys in middle school (grades 7–9). In 1999, monthly benefits were 80 pesos (\$8) for grade 3.<sup>8</sup> By grade 9, benefits rise to 265 (\$27) and 305 (\$30) pesos for boys and girls, respectively. In addition to enrollment, transfers are conditioned on an 85% attendance record, and children are allowed to repeat a grade, at most, twice.

The second component of the transfer, for food security, health, and nutrition, is 125 pesos (\$13) per month for each household, conditioned on household members making regular trips to health clinics for preventive health checks, and attending monthly nutrition and hygiene information sessions. The education and food security transfers are independent—beneficiaries can receive one and not the other, even if they are eligible for both. In addition to

the cash transfers, beneficiary households with children under age 3 receive a monthly nutritional supplement.

There is a ceiling of 750 pesos (\$75) per month for education and food transfers combined. On average, the transfer to beneficiary households constitutes around 20% of preprogram annual household expenditures. The program design of PROGRESA (as well as of PRAF and RPS) calls for the money to be given to mothers. Transfer amounts are indexed to inflation and adjusted every six months, something not done in the other two programs.

PROGRESA was targeted in two stages. The first stage identified the most marginal rural localities, using a “marginality index” constructed from the national census. The selected localities were then visited to ensure that they had access to the necessary infrastructure (schools and health clinics). The second stage targeted households within eligible localities, using census data specially collected in program areas to classify households as “poor” or “non-poor,” based on a statistical analysis of income and other household characteristics. After beneficiary households were identified, a general assembly was held to explain the objectives of the program, incorporate households, and inform them of their responsibilities and rights.

The expansion of the program throughout Mexico took place in several phases. The census for the first and second phases began in October 1996. In August 1997, Phase 1 began with incorporation of approximately 140,000 households in 3,369 localities. The first transfers took place in September 1997. Phase 2 began in November 1997, when a further 160,000 households in 2,988 localities were incorporated, with the first transfers taking place in January 1998. Expansion of the program has

Table 1. *Program characteristics*

	<i>PROGRESA</i> (Mexico)	<i>PRAF</i> Phase II (Honduras)	<i>RPS</i> Pilot (Nicaragua)
Years (in study)	1997–2000	1999–2002	2000–2002
Budgeted	\$998 million in 2000	\$50 million over three years	\$11 million over three years
Coverage	2,600,000 rural households end-end-1999, in all 31 states	47,800 rural households end-2002, in 40 of 297 municipalities	10,000 rural households end-2002, in six of 151 municipalities
Components	Education and health demand-side transfers	Education and health demand- and supply-side transfers	Education and health demand- and supply-side transfers
Targeting methods	Geographic and proxy-means test	Geographic and categorical	Geographic and proxy-means test

been determined largely by budget allocations, with the greatest expansion occurring in 1998, when nearly 1.63 million households in 43,485 localities were incorporated. By early 2000, the program had an annual budget of \$1 billion and included nearly 2.6 million rural households in 72,345 localities in all 31 states. This constituted approximately 40% of all rural households in Mexico.

(b) *Programa de Asignación Familiar-Fase II (PRAF)*

PRAF (Phase II, Honduras) began in the second half of 2000 and includes both demand- and supply-side transfers.<sup>9</sup> On the demand side, the education subsidy is 812 lempiras (L) (\$54) per child per year, up to a maximum of three education transfers per household.<sup>10</sup> This transfer is conditioned on the enrollment and regular attendance of all children who have not yet completed grade 4 of primary school. The food security, health, and nutrition transfer provided for pregnant women and children under age 3 is L644 (\$43) per beneficiary per year, with a maximum of two transfers per household. This transfer is conditional on pregnant women and children making monthly trips to health clinics for preventive checkups and growth monitoring. Transfers are distributed twice a year and, on average, comprise about 4% of preprogram total household annual expenditures (one-fifth of the equivalent percentage of PROGRESA).

Unlike PROGRESA, where the supply side is left to the education and health ministries to manage, PRAF directly invests resources to improve supply-side services. For education, it makes grants to school parent associations. For health and nutrition, PRAF operates a community-based child growth and monitoring program that provides mothers with one-on-one counseling, as well as makes grants to local health service committees to improve the quality of health-care provided by the government health system.

The program was geographically targeted to poor municipalities, which were chosen by ranking all municipalities according to the average rates of stunting observed in the 1997 National Census of the Height of First-Graders. Seventy municipalities with the highest rates of stunting were considered eligible (MNPTSG, 2002). Of these, 50 were randomly selected, leaving the others as a control group for the program evaluation. In 40 of the chosen

municipalities, all households with pregnant women, children under age 3, and/or children aged 6–12 who had not yet completed grade 4 of primary school were eligible for benefits (the remaining 10 municipalities selected received only the supply-side transfers described below). Transfers began in November 2000 and, by the end of 2002, PRAF had 47,800 beneficiaries and was operating in 50 rural municipalities (out of a total of 298) from seven departments. Eighty-seven percent of the households in these departments were classified as poor.

(c) *Red de Protección Social-Fase I (RPS)*

The third program, RPS (Phase I, Nicaragua), began as a pilot in 2000 in rural areas in the northern part of the central region of Nicaragua.<sup>11</sup> Each participating household receives a food security, health, and nutrition transfer of 240 Córdobas (C\$) (\$18) per month, conditional on taking children under age 5 to scheduled health controls and attending health and nutrition workshops.<sup>12</sup> To receive a monthly education transfer of C\$120 (\$9) per household, households with children in the age group of 7–13 who have not completed grade 4 of primary school have to ensure their enrollment and over 85% attendance at school. In addition, the household receives C\$275 (\$21) annually upon enrollment for each eligible child in school for school supplies (e.g., uniforms and shoes) and C\$100 (\$8) annually per eligible child to be delivered to the teacher. Similar to PROGRESA, the total transfers (excluding the amount passed on to the teacher) constitute, on average, approximately C\$3,800 (\$300), which comprised 18% of total annual household expenditures for beneficiary households before the program.

RPS also has supply-side components, though they differ substantially from those of PRAF. For education, there is the transfer paid to the teachers per student beneficiary described above. For health and nutrition, RPS contracts, trains, and pays private health-care providers to deliver the services required by the program. These services, provided free to beneficiary households, are focused on children under age 5 and include growth and development monitoring, vaccination, and provision of antiparasites, vitamins, and iron supplements. Children under age 2 are seen monthly, while those in the age group of 2–5 are monitored bimonthly.

The pilot program was implemented in two (out of 17) relatively poor departments in Nicaragua, chosen using a combination of poverty and operational criteria. Around 80% of rural households in these departments are classified as poor. Six (out of the 20) municipalities from these departments were then chosen on the basis of similar criteria. A marginality index was constructed and an index score calculated for each of the 59 rural *comarcas* (administrative areas comprising one to five villages) in the six municipalities, using data from the 1995 national census. Forty-two *comarcas* were chosen to participate in the first stage of the pilot phase in which there was to be only geographic targeting. Twenty-one were randomly excluded from the program for two years, and these constituted the control group for the program evaluation (Maluccio & Flores, 2005). Nearly all of the 6,000 households in these areas were eligible to receive program benefits and they received their first transfers in October 2000. In the second stage of the pilot program (begun in early 2001), 80% (i.e., 4,000) of households in the remaining 17 *comarcas* that were not part of the evaluation were selected, using household targeting based on a proxy means test (Maluccio, 2005). By end-2002, the RPS pilot covered 2% of the rural households in Nicaragua.

#### (d) *Program differences*

The above descriptions make it clear that while they have many similarities, the three programs also have important differences, including being in different countries. PROGRESA is a national program and PRAF covers one-sixth of the Honduran population, but the RPS pilot is much smaller. All three programs are at different stages of maturity. There are also important program-design differences. While all three programs have a demand-side component, its structure and size differ across programs. PROGRESA is solely a demand-side program, providing transfers of, on average, 20% of total household expenditures. RPS delivers similarly sized transfers, while those of PRAF are much smaller. PRAF and RPS also have significant supply-side interventions, though even these differ in the services they provide, how those services are provided, and who pays for them. Consequently, the PRAF and RPS face very different internal program costs, even for components of the services that are similar, such as vaccine provision. All of these differences affect how we collect and process

cost information, and interpret the CTR, as well as the extent to which we can make sensible comparisons among the programs.

### 3. ANALYSIS OF PROGRAM COST STRUCTURES

#### (a) *Using existing accounting data*

The primary source of information on program costs is typically the program's accounting records. It is usually straightforward to obtain annual data on total program costs and transfers, ingredients for the initial estimates of the cost-transfer ratio.<sup>13</sup>

Table 2 presents the accounting information for each of the programs, which allows us to present our first crude estimates of the CTR. For PROGRESA, the average CTR for the program to end-2000 (total nontransfer program costs divided by total program transfers for four years) is 0.106. That is, 10.6 cents were spent on administrative costs for every dollar transferred to households. Equivalently, 9.6% of the total budget was absorbed by program costs.<sup>14</sup>

We must be careful, however, when interpreting this ratio. First, it includes costs relating to the external evaluation of the program. This was a once-off evaluation that, while influencing the redesign of these and other related programs, did not substantially affect program design or operations in real time. This type of external evaluation must be distinguished from the ongoing internal monitoring and evaluation, which did feed continuously into program decisionmaking, improving the current program design and operations. The external evaluation is plausibly treated as a (sunk) fixed cost that would not recur, at least not on the same scale, in a fully developed, mature program, whereas the internal monitoring and evaluation is a recurring activity and best treated as a variable cost. Second, in addition to the external evaluation, the costs presented include a variety of other costs plausibly treated as fixed costs associated with start-up activities. Last, for data spanning a number of years, adjustments to account for inflation and depreciation of capital investments can be made; for these programs during the period covered such adjustments made little substantive difference in the results.

Since the majority of fixed costs tend to be incurred at the start of the program, examining

Table 2. *Disaggregated program costs in US dollars*

Year	<i>PROGRESA</i> ('000)					<i>PRAF</i> Phase II ('000) <sup>a</sup>					<i>RPS</i> Pilot ('000)			
	1997	1998	1999	2000	Total	1999	2000	2001	2002	Total	2000	2001	2002	Total
Program costs	20,448	47,703	45,731	41,640	155,522	482	2,483	1,669	1,930	6,564	1,149	1,348	1,492	3,989
Total program transfers	15,237	149,439	525,227	775,688	1,465,591	0	2,589	5,469	5,102	13,160	452	2,702	3,192	6,346
Demand-side transfers	15,237	149,439	525,227	775,688	1,465,591	0	2,486	4,813	4,486	11,785	443	2,315	2,232	4,990
Supply-side transfers	–	–	–	–	–	0	103	656	615	1,374	9	387	960	1,356
Cost–transfer ratio (CTR)	1.342	0.319	0.087	0.054	0.106		0.959	0.305	0.378	0.499	2.543	0.499	0.467	0.629
Cumulative CTR	1.342	0.414	0.165	0.106	–		1.145	0.575	0.499	–	2.543	0.791	0.629	–

*Notes:* PROGRESA figures are translated into US dollars using a constant (1999) exchange rate of 10 pesos per US\$1, and PRAF figures using a constant (2000) exchange rate of 15 Lempiras per US\$1. RPS accounting records were provided in US dollars.

<sup>a</sup> PRAF accounting costs have been adjusted to include unaccounted for costs including water, telephone, electricity, and additional staff hired for the delivery of the transfers.

the annual CTR separately for each year sheds light on the relative importance of these types of costs over time and on the expected long-run CTR for a (more) mature program. As the program matures, we expect the annual CTR to decrease, since the average fixed costs will decline. This is what we find for PROGRESA, where the annual CTR decreases rapidly over the four years, starting at 1.342 in the first year and declining to 0.054 in 2000. Even the annual CTR of 0.054 observed in 2000 might include some fixed costs, however, and therefore still might overestimate the long-run CTR for a fully mature program. We consider this possibility, and ways to control for it, in the analysis below.

The other reason for the annual CTR to decrease over time is that the programs under consideration have expanded, with total transfers increasing (at a rate much faster than costs). Table 2 shows that transfers in PROGRESA increased fivefold over 1998–2000, from \$149 to \$775 million. Total costs, on the other hand, actually decreased over the same period, dropping from \$48 to \$42 million.

We can use the evolution of the estimated CTRs to assess how much we would overestimate the cost efficiency if we base it on early snapshots of the program. The final row of Table 2 presents the cumulative average CTR for the program. Because of the sharp decline in the estimated annual CTRs, basing the average CTR on only the first two or three years of data substantially overestimates the average calculated at end-2000, when all beneficiary households had been included and the program was nearing maturity. In 1998, the cumulative average is four times as large as the four-year average, and even in 1999 it was more than 1.5 times as large. Had we carried out the analysis in early 2000 using only information to end-1999, the results for PROGRESA would have differed substantially. It is important to ensure that the CTR estimates are as comparable as possible before attempting comparisons between programs, or even between years within a program.

We turn now to the other two programs. Since they contain both demand- and supply-side transfers, we use the sum of these to calculate the total transfer in the denominator of the CTR. This implicitly equates the value of a unit of transfer to households, regardless of whether it is given directly to the household in cash or indirectly via health and education (in kind) services. For the in-kind transfers, then, we

are valuing their benefit, that is, the beneficiaries' willingness-to-pay, at the cost of provision. In the case of PRAF, this includes transfers made to school parent associations and local health teams, as well as the cost of the community-based child growth program. For RPS, it includes transfers given to teachers as well as the payments made to the private health-care providers.

For PRAF, the average CTR for the program to end-2002, dividing total program costs by total demand- and supply-side transfers, is 0.499, that is, it has cost 50 cents for every dollar transferred by the program. Equivalently, 33% of the total program budget to end-2000 has been absorbed by administrative costs. While high compared to PROGRESA, there are some reasons why we would expect such an unfavorable "raw" comparison among the programs.

While the PRAF annual CTR begins in 2000, at a level below that of PROGRESA in its first year, it does not decline as dramatically or as consistently after that start. Although the annual CTR falls from 0.959 to 0.305 between the first and second years, it increases to 0.378 in 2002. This rise reflects both increased costs and decreased transfers from 2001 to 2002. In late 2001, with elections that brought a change of ruling party, a new program team was installed, apparently without sufficient overlap with the previous team to ensure a smooth transition. During the transition, effort and resources were diverted from making demand-side transfers and other regular activities toward updating the beneficiary register. As a result, the annual estimates for 2001 or 2002 may give misleading impressions of what the long-run CTR will look like when the program's operational problems have been addressed and all or most of the fixed costs have been incurred.

For the pilot RPS, the program average CTR to date is 0.629, even higher than that for PRAF. For the three years of operation to end-2002, it costs 63 cents in administrative costs for every dollar distributed in demand- and supply-side transfers. Equivalently, administrative costs absorbed nearly 40% of the total program budget during the period. There was a substantial decline in the annual CTR after the first year, but only a small decline between the second and third years. The increase in total program transfers in 2002 is due largely to the substantial increase in supply-side transfers in that year—this part of the program was begun

in mid-2001, so only about one-half of the expected supply-side transfers for a normal operating year were made in 2001. The increase in total program costs over the latest two years reflects, in part, program activities not related to the implementation of the pilot program itself, but rather to the design and planning of the expansion phase of the program, which began in 2003. Therefore, even the year 2002 is likely to yield an overestimate of the pilot program's CTR.

(b) *Identifying key program activities and associated costs*

The existence of fixed costs associated with setting up and planning program activities, as well as activities associated with expansion or operational difficulties, makes it clear that it would be misleading to use the "unadjusted" CTRs presented above as the basis for assessment or comparison of the relative cost efficiency of the three programs. A proper comparison requires further consideration of the details of their cost structures, in particular, the relationship between program costs and activities.

In focus groups and key informant interviews with program officials and staff, we first prepared a timeline of the important activities, from the beginning of each program. This retrospective approach was possible because most key staff had been in place for some time and could either recall many of the institutional developments or could easily refer to different progress reports for each program.<sup>15</sup> Then, on the basis of further interviews with managers and staff, the percentage of time spent by individuals in the office to each of the activities in each year was estimated for program sub-units. For example, for RPS, key managers met and completed a month-by-month matrix of activities and time allocation for the relatively small office. This approach had the benefit that all activities were known, but it suffers from the typical weaknesses of recall data.

Based on the timeline and specific activities, we next identified mutually exclusive key program activities at a more aggregate level, such that the specific activities fit into them. To the extent possible, we delineated them in sequential order in the life cycle of the program, according to whether they correspond to fixed or variable costs for the program, and in a manner to facilitate comparison among the programs. This enables us to better approxi-

mate the cost structure and CTR of mature programs. It also permits an exploration of hypothetical alternative programs that do not include all the activities of the actual programs. For example, by identifying the costs associated with household targeting or with the conditioning of the program, we can explore how the CTRs vary with and without these program features.

While any such categorization of activities is necessarily somewhat subjective, there are some fairly obvious, broadly defined activities in the three programs that are common to most social safety net programs (e.g., program design and benefit delivery). Others are common to targeted conditional cash transfer programs (e.g., identification and incorporation of beneficiaries, and conditionality).

The key activities we identified for the three programs were:

1. *Program design and planning*: Includes selecting program areas (geographic targeting).
2. *Identification of beneficiaries (household targeting)*: Collecting, processing, validating, and analyzing household socioeconomic data to identify eligible households.
3. *Incorporation of beneficiaries*: Planning and convening assemblies to inform the participants of their responsibilities and rights; collecting and processing participation forms.
4. *Delivery of demand transfers*: Calculating transfers, informing beneficiaries about scheduled transfers, and ensuring that they are carried.
5. *Delivery of supply transfers (and services)*: Organizing, planning, and providing the supply-side services (e.g., health services).
6. *Conditionality*: Distributing, collecting, and processing the registration, attendance, and performance forms to schools and health-care providers.
7. *Monitoring and evaluation*: Overall program monitoring and internal evaluation, the results of which feed into the ongoing adjustments made to the program.
8. *External evaluation*: Including the evaluation design, collection and processing of surveys, and analysis, the results of which feed into redesign of the program.

The first three activities (1–3) must be undertaken at the outset, before any cash transfers are made. Program design is a fixed cost that does not vary with the total size of the program



(i.e., the number of beneficiary localities or households). Therefore, this component of costs per unit of transfer (or per household) will decrease on average as the program expands to include more households. Identification and incorporation of beneficiaries, on the other hand, while reasonably treated as fixed per household, involve one-time costs that increase with the number of households included in the program but do not recur once a household has been incorporated. The next four activities (4–7) increase with the number of beneficiary households and recur throughout the life of the program. External evaluation (8), as discussed above, can be treated as a fixed cost that would typically end for an ongoing program. In this way, we crudely separated fixed and variable costs across activities, though we emphasize that this separation is not perfect. That is, within each activity we expect to find a mix of fixed and variable costs, though one or the other might dominate.

Based on the information from the focus group sessions identifying specific activities and the time spent on them, we grouped them into their relevant key activity, and calculated the fraction of time spent by program personnel on each key activity in each year. From this information, we developed what we refer to as a time allocation matrix for each program (Appendix A, Table 6).<sup>16</sup> Although this methodology is best treated as approximate, it does appear to identify substantive trends and patterns. Reassuringly, much of what we see in the matrices can be corroborated by our knowledge of the program activities and their relative intensities over time. For future analyses, however, we would recommend elaborating the activity list and time matrix from the start of the program or using survey based methods for greater accuracy.

The next step in the analysis was to associate, where possible, the various accounting costs described in the previous subsection with program activities. Some accounting line-item costs from the detailed accounting records (about 25%) could be allocated directly to certain activities without ambiguity. For example, the fees paid to firms delivering the monetary transfers can be allocated directly to the delivery of demand-side transfers activity or the cost of collecting the baseline evaluation survey to the external evaluation activity. For many other costs, such as salaries of management personnel, direct assignment is not possible because they cut across program activities.

These are allocated to program activities on an annual basis using the time-allocation matrix. By multiplying total unassigned costs by the time-allocation matrix percentages, we can distribute these shared costs across program activities. The key assumptions underlying this methodology for assigning costs are that:

- the average wage of individuals in each activity is the same (true if there were an identical mix of personnel of different skills and salary levels working in each activity),
- the average use of other inputs is the same in each activity (e.g., computer time, transportation, furniture, and other overheads) (Coady *et al.*, 2005).

While in practice it might be that some activities are more intensive in high-wage personnel or other inputs than others, there is no reason to think that this would severely bias our results, as all the broad activities involve personnel and materials ranging across the wage spectrum.

The accounting-based approach we use was possible because all three programs operated autonomously, and most program-related activities were carried out directly under the programs and therefore were under their accounting systems. This is not always the case, however, particularly when projects are embedded in the existing ministries. For example, Fiedler (2003), in a cost analysis of a Honduran community-based integrated childcare program that did not have a centralized accounting system, had to construct total program costs from the bottom up, directly estimating the costs required for each activity by costing out the inputs for each activity and then aggregating them, in what is sometimes referred to as “activity-based costing.”

This is another valid approach that tends to focus on more specific activities than we do, thereby allowing useful simulations of marginal costs under varying program designs (e.g., excluding certain components). A drawback to the bottom-up approach, however, is that it is difficult to capture all of the activities and the associated costs borne by the central office of the program (and usually they are ignored). Our view, supported by Fiedler (2003) and Waters (2000), is that it would have likely led to an underestimate of the overall costs. It can be a powerful tool for managers, however, for understanding and controlling the costs of different activities, as it is in business, particularly if implemented early in the program.

(c) *Activity cost shares*

After assigning all costs to activities, we calculate the activity cost shares, that is, the fraction of costs devoted to each activity (Table 3). For PROGRESA, over the first four years of the program, the largest cost items are identification of beneficiaries, delivery of transfers, and conditionality, accounting for 34%, 22%, and 18% of total costs (excluding transfers), respectively. The annual profile of these cost shares reflects the sequential nature of these activities. The cost share for the identification of beneficiaries decreases from 61% in 1997 to 3% in 2000. In contrast, the share for conditionality activities increases from 8% in 1997 to 24% in 2000. Similarly, the cost share for delivery of transfers increases from 8% in 1997 to 41% in 2000. This shift of costs toward predominantly recurring cost items is consistent with the program nearing maturity. By 2000, recurring activities account for 85% of total program costs.

In the case of PRAF, over the first four years of the program, activities associated with the external evaluation and the identification of beneficiaries (which included the incorporation of beneficiaries) were the most important cost items, accounting for 35% and 26% of the total program costs, respectively. These were followed by the delivery of demand- and supply-side transfers, which combined to account for 16% of the total costs. The high cost share for the external evaluation explains a large portion of the difference in the program average CTRs for PRAF relative to PROGRESA.<sup>17</sup>

In addition to the declining average fixed costs, the evolution of PRAF cost shares over time also reflects the operational difficulties encountered by the program. In 1999, at the very start of the program, program design and planning accounts for 83% of program costs. In 2000, the activities associated with identifying program beneficiaries dominate, accounting for 35% of program costs. In 2001, the activities associated with distributing transfers and setting up and implementing the monitoring system become more important, each accounting for 15% to 21% of the program costs. Somewhat unexpectedly, the share of program costs associated with the identification of beneficiaries increases substantially in 2002, accounting for 25% of the program costs. This apparently reflects the problems in program operations described earlier.

For RPS, from the start of the pilot in 2000 to end-2002, the largest share of costs (22%) was spent on external evaluation, as in PRAF. This was followed closely by the 20% devoted to implementing the supply side of the program. Unlike PROGRESA and PRAF, RPS contracts and trains private health-care providers. These providers also help monitor the conditionality of the program. Internalizing these health service delivery costs in the program has implications for the program budget. The next largest cost category was for general program design, 18%, and included work related to both the pilot phase and the expansion phase that started in 2003. This is a natural consequence of RPS being a pilot: despite careful advance planning, there are always details to work out as a program translates plans into action. Last, during the pilot, about 10% of the nontransfer costs were spent on identification of beneficiaries, incorporation of beneficiaries, and internal monitoring and evaluation.

When we examine the evolution of the cost shares during the three years of the RPS pilot, we find patterns (due to initial fixed investments) similar to the other two programs. Identification of beneficiaries declined in intensity as the program matured. Household survey work, a major component of identification of beneficiaries, was carried out in 2000 and 2001, but having fulfilled the pilot phase objective of reaching 10,000 beneficiaries, very little activity of this sort was necessary in 2002. The share devoted to incorporating beneficiaries also declined, though the need for continuous updating (e.g., for births and other changes in household composition) kept it from altogether disappearing. The fraction spent on program design, however, remained roughly constant. Disaggregating program design and planning activities according to whether they were for the pilot phase or for the expansion phase begun in 2003 (not shown), we find that the former declined substantially over the three years, whereas the latter increased in roughly equal proportions—the combined effect is that the total share dedicated to design activities was roughly constant over the three years (Caldés & Maluccio, 2005).

Delivery of demand- and supply-side transfers accounted for more than one-quarter of costs in 2002, with the latter comprising the majority of those costs. Conditionality, that is, activities related to monitoring whether households are complying with the program requirements, has grown in intensity over time,

Table 3. *Activity cost shares*

Program activity	<i>PROGRESA</i>					<i>PRAF</i> Phase II <sup>a</sup>					<i>RPS</i> Pilot			
	1997	1998	1999	2000	Total	1999	2000	2001	2002	Total	2000	2001	2002	Total
1. Program design and planning	0.06	0.03	0.04	0.04	0.04	0.83	0.03	0.01	0.00	0.08	0.20	0.16	0.18	0.18
2. Identification of beneficiaries	0.61	0.47	0.26	0.03	0.34	0.02	0.35	0.08	0.25	0.23	0.20	0.16	0.01	0.12
3. Incorporation of beneficiaries	0.04	0.07	0.07	0.08	0.07	–	–	–	–	–	0.15	0.09	0.06	0.09
4. Delivery of demand transfers	0.08	0.13	0.25	0.41	0.22	0.03	0.04	0.19	0.12	0.10	0.04	0.09	0.06	0.06
5. Delivery of supply transfers	–	–	–	–	–	0.00	0.08	0.21	0.02	0.06	0.15	0.22	0.21	0.20
6. Conditionality	0.08	0.16	0.21	0.24	0.18	0.00	0.13	0.15	0.02	0.09	0.00	0.02	0.07	0.03
7. Monitoring and evaluation	0.10	0.11	0.13	0.14	0.12	0.12	0.06	0.09	0.02	0.06	0.09	0.07	0.12	0.10
8. External evaluation	0.03	0.03	0.04	0.06	0.04	0.00	0.31	0.26	0.57	0.35	0.17	0.19	0.29	0.22
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

<sup>a</sup> The identification and incorporation of beneficiaries were not separable for PRAF; the figures in the row for identification represent the sum of those two activities.

as the number of beneficiaries grew. General program monitoring, including monitoring of supply services, also increased substantially over the period. The rise in 2002 was due in part to the implementation of random spot-checks of private providers after some were discovered to have been delivering poor quality services, activities that may have had an effect on the quality of services and the overall human capital impact of the program. Finally, even though the time devoted to evaluation declined continuously over the three years, the cost shares increased, largely due to the lumpiness in payments made to external evaluators.

(d) *Activity cost-transfer ratios*

For each activity and program, Table 4 presents annual CTRs and an overall program average. These reflect the costs associated with each activity per one-unit transfer to the beneficiary. The CTR for each program activity is simply the cost share for that activity multiplied by the aggregate CTR (for all activities), so that their relative sizes reflect the activity cost shares presented in Table 3. Focusing on CTRs by activity type facilitates comparison among programs by making the composition of the aggregate ratios clear and also by ensuring that the costs included in the aggregate ratio are consistent across programs.

To further facilitate comparison, we adjust the CTR by removing the costs associated with external program evaluations. Unsurprisingly, given the overall size of PROGRESA, this changes its CTRs little, with the average program CTR decreasing from 0.111 to 0.106, and in the final year from 0.052 to 0.0490.<sup>18</sup> The effect on the other two programs' CTRs, however, is substantial. The program average CTR for PRAF decreases from 0.499 to 0.325, and there is now an annual decline over the period, with the annual CTR for 2002 decreasing from 0.378 to 0.163. For the RPS pilot, the program average CTR decreases from 0.629 to 0.489, and the decline in the annual CTR is now more pronounced, with the annual CTR for 2002 decreasing from 0.467 with external evaluation to 0.331 without.

Even with these adjustments, the above CTRs are likely to overestimate the long-run CTRs, since some of the included activities have a large component of fixed costs. Earlier, we described how one can treat the last year observed for each program as an estimate for the

program in a mature state. After excluding external evaluations, the final year (for which we have data) annual CTRs are 0.049, 0.163, and 0.331 for PROGRESA, PRAF, and RPS, respectively. Based on these numbers, the two supply-side programs still appear to cost substantially more, with the RPS pilot costing twice as much per unit of transfer as PRAF. This methodology implicitly assumes that the programs are all nearing maturity. While plausible for PROGRESA, this is less likely for the other programs. PRAF has had operational difficulties associated with updating the beneficiary lists, implementing the supply side, and monitoring conditionality. For the RPS pilot, 2002 includes design costs associated with preparing for the expansion of the program. Therefore, the final year annual CTRs are still likely to overestimate long-run CTRs.

To better approximate the long-run CTR, we further adjust it by excluding other fixed costs we can identify. The activity categories are roughly sequential in nature, with the first three (1–3) representing activities that need to be carried out at the outset of the program before any transfers are distributed to households or service providers. These activities are likely to be much less important cost components for the mature program. Therefore, by subtracting these costs, we can derive better estimates of the long-run CTRs.<sup>19</sup> These adjusted estimates are shown in the bottom row of Table 4 and result in final-year annual CTRs of 0.041, 0.068, and 0.212 for PROGRESA, PRAF, and RPS, respectively. Based on these ratios, we get the same ranking across programs according to program costs, but now PRAF is closer to PROGRESA, while the RPS pilot remains relatively more costly.

Apart from the relative complexity of the RPS supply-side intervention,<sup>20</sup> which implies additional monitoring and conditioning costs, another reason that the cost-transfer ratio for RPS is higher than the others is related to its being a pilot. Even within the activities we treat as recurring, part of the activities for RPS during the pilot had to do with one-time or fixed costs, as new modalities were considered and the team explored how best to do things. *Caldés and Maluccio (2005)* disaggregate each of the activity categories into their fixed and variable components and find that this further reduces the annual CTR, particularly in the earlier years.

Another important reason that the CTRs differ across programs relates to differences in

Table 4. Activity cost–transfer ratios

Program activity	PROGRESA <sup>a</sup>					PRAF Phase II <sup>b</sup>				RPS Pilot			
	1997	1998	1999	2000	Total	2000	2001	2002	Total	2000	2001	2002	Total
1. Program design and planning	0.074	0.010	0.003	0.002	0.004	0.029	0.002	0.002	0.038	0.501	0.080	0.086	0.113
2. Identification of beneficiaries	0.766	0.137	0.022	0.002	0.037	0.337	0.026	0.093	0.114	0.511	0.080	0.005	0.073
3. Incorporation of beneficiaries	0.052	0.020	0.006	0.004	0.007	–	–	–	–	0.377	0.042	0.028	0.058
4. Delivery of demand transfers	0.106	0.036	0.021	0.021	0.024	0.042	0.059	0.047	0.052	0.102	0.047	0.026	0.040
5. Delivery of supply transfers	–	–	–	–	–	0.076	0.065	0.007	0.045	0.384	0.110	0.098	0.124
6. Conditionality	0.104	0.046	0.017	0.012	0.020	0.122	0.046	0.007	0.046	0.000	0.010	0.032	0.020
7. Monitoring and evaluation	0.120	0.031	0.011	0.007	0.013	0.059	0.028	0.007	0.030	0.232	0.036	0.056	0.061
8. External evaluation	0.037	0.010	0.003	0.003	0.005	0.295	0.079	0.215	0.175	0.436	0.094	0.136	0.140
Total	1.260	0.290	0.085	0.052	0.111	0.959	0.305	0.378	0.499	2.543	0.499	0.467	0.629
Total without external evaluation	1.223	0.280	0.082	0.049	0.106	0.664	0.226	0.163	0.325	2.107	0.405	0.331	0.489
Total without external evaluation and program design and planning	1.149	0.270	0.079	0.047	0.102	0.635	0.224	0.161	0.287	1.606	0.325	0.245	0.376
Total without external evaluation, program design and planning, and identification and incorporation of beneficiaries	0.331	0.113	0.051	0.041	0.057	0.298	0.198	0.068	0.173	0.718	0.203	0.212	0.245

<sup>a</sup> Figures for PROGRESA are inflation-adjusted to 2000 using CPI indices of 1.5, 1.3, and 1.1 for 1997, 1998, and 1999, respectively, and adjusted for capital purchases.

<sup>b</sup> The identification and incorporation of beneficiaries were not separable for PRAF; the figures in the row for identification represent the sum of those two activities.

costs of doing the similar things in different settings. The cleanest comparison would be between programs that have the same objectives and target the same population, in the same locale. While the objectives and target populations across the three programs examined here are similar, they are not identical. Moreover, the programs operate in three different countries with different institutional settings, infrastructure, population densities, transportation systems, and labor markets.<sup>21</sup> While beyond the scope of this article to assess these potential differences, it seems likely that these sorts of differences would lead to higher operating “costs” in Honduras and Nicaragua, relative to more developed Mexico.

CTRs may also differ among programs because their average transfer levels differ. If two programs are identical except for the fact that the average household transfer in the first is twice that in the second, then the CTR for the first would be half that for the second, assuming the same level of operational efficiency and negligible costs directly related to the size of the transfer (such as delivery costs). When both supply- and demand-side transfers are included for RPS and PRAF, the average transfer size for RPS is similar to that for PROGRESA, whereas that for PRAF is approximately one-third the size of PROGRESA. Therefore, increasing the level of transfers in PRAF by a factor of three would decrease our estimate of the long-term CTR for the program to 0.024, even lower than PROGRESA. This is somewhat surprising, since PROGRESA involves only a demand-side intervention (which, based on these programs’ experiences, we conjecture is less costly to implement than a supply-side component), and RPS appears to be an effectively run intervention as documented in its impact evaluation (Maluccio & Flores, 2005). We have already noted that the lower costs for PRAF are due, in part, to fewer resources being devoted to conditionality and routine program monitoring and evaluation.

#### 4. RELATING PROGRAM COSTS TO PROGRAM BENEFITS

To promote their objectives of decreasing current poverty and generating a sustained decrease in poverty over time, the three programs have two key design features. First, in order to ensure that transfers reach the poorest house-

holds, the programs use varying combinations of geographic, categorical, and proxy-means targeting methods. Second, the transfers are conditioned on households undertaking certain actions intended to enhance the nutrition, health, and education outcomes of family members, particularly children. Both of these features require resources, thus increasing the share of administrative costs in the program budgets and, consequently, the CTRs.

We assess the relative importance of the costs associated with these key activities by calculating their share in total program costs, after excluding the external evaluation and fixed program design costs. We assume that costs associated with the identification of beneficiaries are incurred only when household targeting is used—in the absence of household targeting, there is no operational need for the program to collect and analyze household information. While obviously not completely accurate, since even an untargeted program may require some sort of household registration system, we are implicitly assuming that any such related costs would be minimal. This would be the case, for example, if a reliable and recent census were already available. Similarly, if there were no conditioning, the program would not incur the costs of incorporating households or of certifying that beneficiaries are satisfying their responsibilities.

Table 5 presents the share of targeting and conditioning costs in total program costs for all three programs over the periods considered. Excluding external evaluation (the first column for each program), the proportions make it clear that targeting and conditioning costs are substantial. Combined, they account for 60%, 49%, and 31% for PROGRESA, PRAF, and RPS, respectively. These shares increase modestly when we also exclude costs for program design in the share calculation (second column for each program). The relatively low percentage for the RPS pilot partly reflects the fact that setting up and implementing the supply side, an activity included in the costs in this table, has proved to be very resource intensive. The absence of these activities in PROGRESA increases the relative shares of targeting and conditioning costs. Targeting costs in PRAF are higher than they otherwise would have been, due to the difficulties in maintaining the beneficiary identification system. At the same time, the resources allocated to dealing with these problems appear to have come at the expense of monitoring conditionality, suggesting

Table 5. *CTR-share of activities*

Program activity	<i>PROGRESA</i>		<i>PRAF</i> Phase II		<i>RPS</i> Pilot	
	Total cost – external evaluation	Total cost – external evaluation – program design	Total cost – external evaluation	Total cost – external evaluation – program design	Total cost – external evaluation	Total cost – external evaluation – program design
Targeting	0.35	0.37	0.35	0.40	0.15	0.19
Conditioning	0.25	0.27	0.14	0.16	0.16	0.21
Other activities	0.40	0.36	0.51	0.44	0.69	0.60
Total CTR	0.106	0.102	0.325	0.287	0.489	0.376

that the latter are smaller than would otherwise have been the case during a normal operating year. Since these latter activities are important for ensuring that cash transfers are translated into human capital improvements, this raises the possibility that the observed time reallocation was detrimental to the programs' overall cost effectiveness. On balance, it is possible that the sum of the two activities is about right, though there is no way for us to be certain. Even with these caveats, the message from this exercise is clear: costs devoted to targeting and conditioning form a substantial part of the ongoing operations of these programs. It is essential that these activities generate an adequate return; we turn now to an (admittedly crude) assessment of their cost effectiveness.

Targeting and conditioning will be cost effective if the incurred costs result in a sufficient increase in the share of transfers reaching the poorest households and in improvements in human capital, thereby improving the programs' current poverty alleviation. While we do not assess formally the return to targeting (or conditioning) related costs, the evidence suggests that the payoff from targeting has been high across all three programs. A comparative analysis (MNPTSG, 2002) finds that the poorest 40% of households received 62%, 80%, and 81% of total transfers in PROGRESA, PRAF, and RPS, respectively. In other words, these relatively "poor" households receive from 1.5 to 2 times their population shares. To put this performance in perspective, for the more than 100 programs reviewed by Coady *et al.* (2004), the median targeting performance was consistent with 50% of program benefits accruing to the poorest 40% of the population (i.e., the poor receiving 1.25 times their population share). The three programs discussed here all ranked in the top third of those reviewed in Coady *et al.* (2004). Further, over 80% of the transfers went to the poorest 60% of households in PROGRESA and over 90% in PRAF and RPS—suggesting that errors of inclusion, a potential loss of the programs, were small (Besley & Kanbur, 1993).

For two of the programs, PROGRESA and RPS, the human capital impacts have also been substantial (Maluccio & Flores, 2005; Skoufias, 2005). For education, the main effect of PROGRESA was to increase enrollment rates in secondary school (Behrman, Sengupta, & Todd, 2005; Schultz, 2004). Among those who successfully completed primary school, the pro-

gram increased enrollment rates in the first year of middle school by 15 percentage points for girls and 7 percentage points for boys. In the RPS, primary enrollment rates in grades 1–4 were about 70% before the program and increased 13 percentage points with the program (Maluccio & Flores, 2005).

The effects on nutrition were also substantial. In PROGRESA, prior to the program, stunting levels for children aged 12–36 months were very high, at 44%. The program had a substantial effect on reducing the probability of stunting, increasing the annual mean growth rate by one centimeter per year for these children (Behrman & Hoddinott, 2005; Gertler, 2000). There is also evidence of a substantial increase in food consumption and dietary diversity (Hoddinott & Skoufias, 2005). RPS also had an enormous impact on a range of health and nutrition indicators. The percentage of children under age 3 who were weighed in the past six months increased by nearly 30 percentage points, from around 60% prior to the program. This was accompanied by a decline of 6 percentage points in the prevalence of stunting for those under age 5 (from 40% before the program), an unprecedented decline in such a short period of time. The results on expenditures suggest that not only have the total expenditures on food increased, but so, too, has the food budget share, by nearly 4 percentage points. The program has had a beneficial impact on dietary diversity; both the number of different food items consumed and the nutritional quality of the diet improved, with households eating more meat, fats, and fruits (Maluccio & Flores, 2005).

Evidence regarding the human capital impacts of PRAF suggests that these are smaller than for the other two programs (IFPRI, 2003). For example, it appears to have had little impact on primary enrollment rates (which were already quite high), although there was an improvement in dropout rates. Visits by children to health clinics for growth monitoring and vaccinations increased in areas with the demand-side program, but the program does not appear to have improved health outcomes. These small effects are consistent with the evidence of operational difficulties and suggest the possibility that the low CTR of PRAF comes at the expense of the program's overall effectiveness. The relatively small effect, however, also likely reflects in part the lower transfer level per household compared to the other programs.



## 5. CONCLUSIONS

This article has assessed the cost efficiency of PROGRESA, PRAF, and RPS by focusing on the cost–transfer ratio, defined as the ratio of nontransfer costs (i.e., administrative costs) to transfers. In doing so, we have demonstrated that for a meaningful assessment of cost efficiency, it is misleading to make calculations using only raw accounting data, the approach normally taken (Coady *et al.*, 2004). Rather, one must delve into the details and activities of the program. Features of the program, and how the CTR is calculated are important for how it is used and interpreted. This is particularly true for new programs, which typically have a lot of initial fixed costs associated with design and setting up operations, on top of other equipment fixed costs. It is also true for complex programs, such as conditional cash transfer programs, that have a number of costs associated with specific design features. It is essential to keep in mind that this examination of program costs, transfers, and CTRs includes not only the costs required to transfer the money to the beneficiaries, but also costs of activities that may enhance the effectiveness of the program (e.g., targeting or monitoring of conditionality). Therefore, in addition to the level of costs, we focused on the structure of costs for the various activities in each program. These details must be considered to make sensible comparisons among programs, either within the same country or across countries.

This article begins to fill the gap in empirical evidence on the cost structures of poverty alleviation programs. Examining three large poverty alleviation programs in Latin America, we have shown how typically available cost data, augmented by activity-level information on time use, can be used to assess the cost efficiency of such programs. The analysis also underscores that the interpretation and use of the ensuing estimates depend sensitively on how they are calculated. Very different numbers emerge when one takes snapshots of programs at different stages or when one includes or excludes fixed costs. This reflects the fact that 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 toward zero, so that the average CTR converges toward the ratio of recurring operating costs to total transfers. The analysis also underscores that comparisons across

programs are complicated, even for seemingly similar programs, particularly if they operate under different conditions, for example, in different countries.

How do these three programs' cost efficiencies compare to those of other poverty alleviation programs in the region? As highlighted at the outset, evidence is hard to come by and, where it exists, is often not comparable. Grosh (1994) finds that the share of administrative costs for programs she considered ranged from 1% to 29%, with a median of 9%. For programs involving individual or household assessment mechanism (including proxy-means tests), the median was slightly higher, at 10%. In Section 3, we calculated various CTRs for each of the programs, two of which serve as lower and upper bounds of our best estimates of the long-run CTR. These are the final year annual CTRs for the program without external evaluation and those activities largely comprised fixed costs (Table 4, bottom row) and without external evaluation and program design, but including the other fixed costs that may not completely disappear in later years (Table 4, penultimate row). These produce a range for each of the programs of 0.041–0.047 for PROGRESA, 0.068–0.161 for PRAF, and 0.212–0.245 for the RPS pilot. The lower estimated CTRs for PROGRESA undoubtedly reflect, in part, economies of scale (it is a massive program in comparison to the others), as well as the fact that it does not have a supply-side component.

For PROGRESA, even its upper bound CTR of 0.047 compares well with the median program reported in Grosh (1994), all the more impressive, given the relative complexity of PROGRESA's design compared to more conventional social safety net programs. Furthermore, it is very low when compared to the LICONSA (a subsidized milk program delivered through state shops in urban areas) and TORTIVALES (a tortilla subsidy program) programs in Mexico, which had program costs in the early 1990s of 40 cents and 14 cents per dollar transferred, respectively. If we assume that the median levels reported in Grosh (1994) adequately reflect the operating costs, then the lower-bound CTR for PRAF also compares well with the median program, though this conclusion is subject to the caveats made throughout regarding our estimates for PRAF. The RPS pilot, however, which has a lower-bound CTR equal to 0.212, appears to be relatively more expensive. Of course, RPS is

much more complex than conventional poverty programs, and there is clear evidence that it has had large human capital impacts—much is being bought with these expenditures.<sup>22</sup>

In closing, we caution that it is difficult to be certain about these comparisons, since it is unclear exactly what is included in the figures

quoted in Grosh (1994).<sup>23</sup> It may be that the variation in these numbers reflects different cost definitions rather than different levels of cost efficiency. It is difficult to compare them more formally without having substantially more detail about the cost structures of the other Latin American programs.

## NOTES

1. For example, in her review of poverty alleviation programs in Latin America and the Caribbean, Grosh (1994, p. 46) finds that “Concern over high administrative costs is perhaps the reason that is most commonly given for not adopting *targeted* programs” [our emphasis].
2. Newman, Rawlings, and Gertler (1994) argue that “Most published impact evaluations pay little attention to costs” (p. 183). “More effort needs to be devoted to collecting and reporting information on the costs of carrying out specific interventions” (p. 197).
3. For a welfare-based theoretical model underlying the cost–transfer ratio, see Caldés, Coady, and Maluccio (2004).
4. In some frameworks, leakage to the nonpoor is also considered as a program cost (Besley & Kanbur, 1993); we do not do this. See Section 4 as well as Coady (2001), MNPTSG (2002), and Maluccio (2005) for discussions of targeting in the three programs.
5. *Fixed* costs are usually incurred at the start of the program before any “output” is produced and thus do not vary as output varies. Many of these costs are irretrievable (i.e., sunk) once incurred, for example for program design. As the program evolves, we expect average fixed costs to diminish. *Variable* (or recurring) costs, on the other hand, vary with the size of the program, that is, the number of beneficiaries.
6. The importance of this trade-off is noted by Grosh (1994, p. 46): “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.”
7. The analysis for PROGRESA draws from Coady *et al.* (2005).
8. In 1999, the exchange rate was approximately 10 pesos per US dollar.
9. The analysis for PRAF draws from Caldés and Coady (2003).
10. In 2000, the exchange rate was approximately 15 Lempiras per US dollar.
11. The analysis for RPS draws from Caldés and Maluccio (2005).
12. In 2000, the exchange rate was approximately C\$13 per US dollar.
13. The figures presented in Table 2 differ from the budgeted amounts shown in Table 1, reflecting the difference between budgeted and actual expenses. In some cases, the analysts use budgets in cost analyses; when available, actual expenditures are preferable.
14. Calculated as follows:  $10.6 \div (100 + 10.6) = 0.096$ . The CTR is (obviously) always greater than the percentage of administrative costs for positive transfer levels.
15. In the case of PRAF, we also interviewed the former staff.
16. Further details are provided for PROGRESA, PRAF, and RPS in Coady *et al.* (2005), Caldés and Coady (2003), and Caldés and Maluccio (2005), respectively. The details of the methodology varied slightly between countries. For example, some categories were not relevant to all programs, such as supply-side delivery in PROGRESA.
17. This finding, in addition to suggesting that it is important to separate out external evaluation costs in the cost analysis of programs, raises the issue of whether smaller programs should be underwriting the bulk of the evaluation costs, in particular when they arguably generate a number of intellectual public goods.

18. The slight difference between the total CTRs from Table 1 reflects adjustments for inflation and capital investments made for PROGRESA. These were not carried out for the other programs, as they made almost no difference in the reported figures.

19. It is probable that some of these costs are recurring in the medium term, however, such as activities related to the identification of beneficiaries that may include some costs related to periodic updating of registration system. We implicitly assume that these are relatively small or are offset by the fixed costs that exist in the other activities that we do not subtract. Alternatively, one can think about the estimates excluding the fixed costs as representing lower bounds.

20. Table 2 shows that RPS has, by far, the largest relative supply-side transfers, suggesting that only for RPS would netting out the "supply side" of these programs make a substantial difference in the estimated CTRs. We estimate the CTR for RPS if it had no supply-side services by subtracting out all costs that we

can associate with the supply side, and the corresponding transfers. The 2002 annual CTR declines from 0.211 reported in the text to 0.162, indicating that the supply-side transfers are, indeed, more cost-intensive.

21. We acknowledge an anonymous referee for this insight. This is an example of an instance where the activity-based costing approach might provide additional insights into relative costs across countries.

22. A comparison of the CTR for these programs with those for food price subsidy programs shows that the three programs analyzed here are substantially more cost efficient at delivering resources. Ahmed, Bouis, Gutner, and Löfgren (2001) examine programs in seven countries around the globe and find CTRs all in excess of 1.20.

23. Grosh (1994) discusses a range of difficulties associated with collecting and analyzing cost data for poverty alleviation programs. She indicates that one of the weaknesses in her study was "the imprecision in calculating administrative costs" (p. 30).

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## APPENDIX A

See Table 6.

Table 6. *Time allocation matrix: share of time allocated each year to each activity*

Program activity	PROGRESA				PRAF Phase II <sup>a</sup>				RPS Pilot		
	1997	1998	1999	2000	1999	2000	2001	2002	2000	2001	2002
1. Program design and planning	0.138	0.068	0.060	0.054	0.705	0.100	0.000	0.000	0.272	0.219	0.247
2. Identification of beneficiaries	0.095	0.057	0.055	0.050	0.030	0.170	0.000	0.500	0.075	0.094	0.013
3. Incorporation of beneficiaries	0.098	0.134	0.113	0.111	–	–	–	–	0.145	0.100	0.079
4. Delivery of demand transfers	0.179	0.153	0.148	0.150	0.050	0.150	0.300	0.300	0.029	0.025	0.018
5. Delivery of supply transfers	–	–	–	–	0.000	0.300	0.300	0.050	0.169	0.304	0.282
6. Conditionality	0.195	0.312	0.339	0.342	0.000	0.000	0.200	0.050	0.000	0.028	0.092
7. Monitoring and evaluation	0.295	0.276	0.285	0.293	0.215	0.230	0.150	0.050	0.144	0.101	0.161
8. External evaluation	0.000	0.000	0.000	0.000	0.000	0.050	0.050	0.050	0.166	0.129	0.108
Total	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

<sup>a</sup> The identification and incorporation of beneficiaries were not separable for PRAF; the figures in the row for identification represent the sum of those two activities.

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