# Peru: Public Expenditure Tracking Study[1]

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**Summary**

Does higher public expenditure buy better results in social outcomes? It is commonly recognized that reducing unproductive expenditures, increasing social expenditure, and improving its efficiency and quality are critical elements of countries that have achieved macroeconomic stability and have decided to pursue poverty reduction actively. In Peru, there have been little empirical efforts to evaluate the evidence supporting such a common belief and assess the efficiency in the use of such increased resources. Leakages and poor targeting are two critical shortcomings that affect the efficiency of pro-poor expenditure. On the one hand, a highly decentralized budget execution brings the possibility of significant leakages in the flow of resources toward the final beneficiaries of social programs. Leaks may undermine social policy by their ability to prevent a critical input—public expenditure—to produce desired social outcomes. The introduction of an innovative tool—a Public Expenditure Tracking Survey (PETS)—reveals major leakages in revenue transfer mechanisms toward local governments and downwards, in particular for the Vaso de Leche program, the most important food supplementary program in Peru. The same national survey indicates that the most significant leaks are not at the origins of the chain, between the Central and local governments, which is a very positive achievement for the financial management system, but at the mid- to lowest levels of the chain, as resources get closer to beneficiaries. Transfers to local governments are also compounded by insufficient audit control and poor transparency. On the other hand, poor targeting deviates pro-poor outlays toward the non-poor. Targeting rates in social programs vary tremendously in Peru and their degree of regressivity/progressivity provides a mixed picture. Household survey-based findings show that targeting is adequate for Desayunos Escolares, but inadequate for others like ESSALUD and Comedores Populares. This note first addresses the empirical evidence supporting the rationale for increasing expenditure in the education and health sectors briefly; then goes on at length to fully describe the main findings of the PETS; and finally assesses the status of targeting in pro-poor expenditure in Peru.

[1] This excerpt comes from a larger joint World Bank/ Inter-American Development Bank report *Peru: Restoring Fiscal Discipline for Poverty Reduction: Public Expenditure Review*, Report No.24286-PE, June 28,2002 (Chapter 4, pp. 57-85).

## Does Higher Government Expenditure Buy Better Results in Education and Health Care?[2]

Increased public expenditure in health and education improve both access to and attainment in schools and reduce mortality rates for infants and children. There is increased recognition that expenditure allocations in favor of education and health can boost economic growth, while promoting equity and reducing poverty. The rationale for higher public spending in education is often based on its impact on individuals' lifetime incomes (i.e., the social rate of return, highest in primary education, then secondary). Similarly, the rationale for increased spending in health is justified on the basis that such spending reduces the impact of diseases on the productive life years of the population. Empirical evidence, however, has not been conclusive, especially if public resources are used inefficiently and inequitably and public expenditure crowds out private spending on the social sectors. Using a model and a cross-sample database developed by Gupta, Verhoeven and Tiongson (1999), data from Peru are added to a sample of around 50 countries, and ensuing estimation followed an OLS and two-stage least squares (2SLS) linear regression technique (**Tables 4.1a-b**).[3] Highly robust results for education and health indicators show that:

- Total education spending has mixed coefficients: a statistical significant one as a determinant of enrollment rates in secondary education, but insignificant ones as a determinant of enrollment rates in combined gross primary and secondary education. In the 2SLS gross secondary education regression, the coefficient of combined primary and secondary education spending is also statistically significant.[4] Overall, the F-statistics is significant at the 1-percent level. Other variables whose coefficients also appear as statistically significant are population, child mortality rate, income per capita, and urbanization.
- Total health spending has a statistically significant effect on both outcomes, infant and child mortality. Its coefficient appears weakly significant in the 2SLS infant and child mortality regressions. Other variables whose coefficient appears statistically significant are: adult illiteracy rate and income per capita.

[2] This section draws on Gupta, Verhoeven, and Tiongson (1999), who kindly shared the IMF database and allowed us to include Peru in their consistent dataset in order to facilitate the estimates leading to the findings hereby submitted.

[3] OLS are corrected for heteroskedasticity and 2SLS is used to address the problem of reverse causality (i.e., higher spending on primary education may have a positive effect on enrollment, but a higher demand for primary education, reflected in higher enrollment rates, may also provide a push for higher spending). We also applied a third method of estimation, the seemingly unrelated regression (SUR) procedure, and our findings remained robust to changes in specification, instruments, and weights defined. In evaluating the regression results, it should be borne in mind that some degree of multicollinearity among variables affects the standard errors of coefficients. Fortunately, the variables for overall sectoral spending are generally not correlated with other independent variables, except health spending with adult illiteracy. White's technique is used to correct for heteroskedasticity and Sargan's test is used to assess 2SLSL specification.

[4] Regressions do not permit to draw up conclusions about changes in the level of spending on primary and secondary education as opposed to the share of such spending in total expenditure.

**Table 4.1a Regression Results for Education Indicators: Linear Regressions[a]**

| | ENROLLMENT RATES | | | |
|---|---|---|---|---|
| | Gross Primary and Secondary | | Gross Secondary | |
| | OLS *(weighted)*[b] | 2SLS *(weighted)*[c] | OLS *(weighted)*[b] | 2SLS *(weighted)*[c] |
| Constant | 53.81 | 36.28 | 23.04 | ***31.10 |
| | (42.65) | (27.38) | (18.92) | (11.25) |
| Primary and secondary education spending | –.19 | –.20 | .12 | *.22 |
| (% of total educ. spending) | (.30) | (.31) | (.11) | (.11) |
| Education spending | 1.18 | .80 | ***2.43 | *1.86 |
| (percent of GDP) | (1.47) | (1.52) | (.95) | (1.08) |
| Population aged 0-14 | .17 | .85 | **–.76 | ***–.77 |
| (percent of population) | (.98) | (.77) | (.37) | (.26) |
| Child mortality rate | **–.12 | ***–.21 | ***–.01 | *–.07 |
| (per thousand of children 0-5 years) | (–.06) | (.07) | (.03) | (.03) |
| Income per capita in PPP terms[d] | 1.82 | –.086 | ***3.07 | **1.65 |
| | (2.20) | (1.32) | (1.16) | (.81) |
| Urbanization (percent of population) | .53 | **.71 | ***.45 | ***.45 |
| | (.37) | (.32) | (.15) | (.13) |
| Adjusted R-squared | 53.78% | 48.46% | 78.15% | 81.05% |
| Number of observations | 43 | 42 | 44 | 43 |
| F-statistic | ***17.45 | ***12.29 | ***60.40 | ***81.64 |
| P-Value | 0.00 | 0.00 | 0.00 | 0.00 |

*Source*: World Bank estimates.

a. Robust standard errors are in parenthesis: *** indicates significance at the 1% level, ** significance at the 5% level, and * significance at the 10% level.

b. By adult illiteracy.

c. Instruments used: aid in percent of government expenditures, military spending in percent of government expenditures, share of unallocated education spending and total government spending.

d. Multiplied by 1000.

**Table 4.1b Regression Results for Health Indicators: Log-Log Regressions[a]**

| | Infant Mortality | | Child Mortality | |
|---|---|---|---|---|
| | OLS | 2SLS *(weighted)*[b] | OLS | 2SLS *(weighted)*[b] |
| Constant | ***5.64 | ***5.49 | ***6.44 | ***6.31 |
| | (.89) | (.87) | (1.13) | (1.15) |
| Health spending | –.11 | *–.14 | .11 | *–.14 |
| (percent of GDP) | (.09) | (.08) | (.076) | (.07) |
| Adult illiteracy rate | ***.35 | ***.39 | ***.36 | ***.39 |
| (percent of population 15 or older) | (.07) | (.07) | (.08) | (.08) |
| Income per capita in PPP terms | **–.30 | **–.34 | **–.37 | **–.39 |
| | (.12) | (.13) | (.15) | (.15) |
| Urbanization (percent of population) | –.19 | –.12 | –.24 | –.19 |
| | (.18) | (.22) | (.19) | (.20) |
| Access to sanitation | .06 | .08 | .10 | .11 |
| (percent of population) | (.10) | (.11) | (.12) | (.13) |
| Adjusted R-squared | 75.75% | 79.89% | 77.97% | 78.85% |
| Number of observations | 31 | 29 | 31 | 29 |
| F-statistic | 27.49 | 50.99 | 46.10 | 65.00 |
| P-Value | 0.00 | 0.00 | 0.00 | 0.00 |

*Source*: World Bank estimates.

a. See footnote 1 in Table 4.1

b. Instruments used: aid in percent of government expenditures, military spending in percent of government expenditures, and total government spending.

The policy implications of such findings are obvious.

*Recommendations*

- The GOP has made the right decision in deciding to increase the share of public resources allocated to education and health. However, caution is required in using these figures to estimate budgetary resources needed for achieving specific targets in social areas, as the verified lack of significance for some critical coefficients (e.g., for combined primary and secondary education spending on gross primary and secondary enrollment rates) confirms that there are also other important determinants to take into account.
- There are mutually reinforced positive implications between social outcomes: e.g., a higher illiteracy rate has a positive impact on health outcomes; ditto for a lower mortality rate on higher education enrollment.
- As the study reported on below shows, increasing resources is not enough. Improving efficiency through the reduction of leaks and improvements in targeting in order to assure funds actually reach their intended beneficiaries is critical for achieving desired outcomes.

Broad estimates indicate that the efficiency of Peruvian public expenditure is below the Latin American average for health, but above average for education, and in relationship to world averages, similar results holds true.

- *Peru's level of efficiency in reaching health outcomes is below both the Latin American and the World averages.* Two relative efficiency indexes—technical and relative—measure the efficiency of public expenditure on health among Latin American countries during 1990-98 (Table 4.2). These indexes combine five outcomes: life expectancy, infant mortality, under-five mortality, height-for-age malnutrition, and weight-for-age malnutrition. The technical efficiency index varies from 76 to 94 percent, well below LAC and world averages in most health indicators, particularly in malnutrition-height, under-five mortality, and life expectancy. The relative efficiency index is below 100 in most cases (except malnutrition-weight), which reflects that compared to LAC benchmarks and given its inputs—health spending and a time-trend (a proxy for technological progress)—Peru could do better in improving its health outcomes (Jayasuriya and Wodon, 2002).[5]
- *Outcome indicators for Peru's educational inputs look acceptable in comparison to LAC and the world averages, but important quality and equity issues remain.* Net enrollment rates in primary and secondary education are the outcome indicators for the education sector, and the inputs are education spending, adult literacy (which is not an outcome, but an input since we are looking at performance in primary and secondary education), and a time-trend. Peru's technical efficiency index for net primary enrollment is 77 percent, on par with other Latin American countries; whereas for net

[5] The Technical Efficiency index values depict country level efficiency of spending, with a value of 100 indicating that a country has reached the maximum possible outcome given its inputs. The Relative Efficiency index measures each country's spending efficiency relative to a Latin American regional benchmark efficiency, with the benchmark being the straight average for the countries in the sample. The inputs taken into account for the analysis are the level of health spending, adult education levels (as measured by the share of the adult population which is literate), and time. Sensitivity tests have been performed with additional input variables, such as GDP per capita, but the relative ranking of various countries does not change much.

secondary enrollment is 72 percent, much above LAC average of 51 percent. Despite this progress, severe educational shortcomings are still relevant particularly in terms of the very low quality of education services and poor teacher's qualifications, especially in rural areas; and in terms of the high inequality of resources devoted to private and public education.

**Table 4.2 Peru: Efficiency of Public Expenditure in Reaching Social Outcomes 1990-1998**

| | Technical Efficiency | Relative to | | Technical Efficiency | Relative to | | Technical Efficiency | Relative to | |
|---|---|---|---|---|---|---|---|---|---|
| | | LAC | World | | LAC | World | | LAC | World |
| **HEALTH** | *Life Expectancy* | | | *Infant Mortality* | | | *Under-Five Mortality* | | |
| Peru | 81.6 | 97.7 | 100.9 | 94.5 | 98.6 | 98.8 | 89.9 | 98.1 | 98.3 |
| Latin America | 83.4 | | 103.2 | 95.9 | | 100.3 | 91.6 | | 100.2 |
| World | 80.9 | 96.9 | | 95.6 | 99.7 | | 91.4 | 99.8 | |
| | *Malnutrition – Height* | | | *Malnutrition – Weight* | | | *Combined Health* | | |
| Peru | 76.2 | 89.2 | 91.5 | 94.3 | 101.3 | 107.7 | 87.3 | 97.1 | 99.5 |
| Latin America | 85.4 | | 102.5 | 93.1 | | 106.3 | 89.9 | | 102.4 |
| World | 83.3 | 97.6 | | 87.6 | 94.1 | | 87.8 | 97.6 | |
| **EDUCATION** | *Net Primary Enrollment* | | | *Net Secondary Enrollment* | | | *Combined Education* | | |
| Peru | 77.1 | 100.9 | 104.1 | 71.8 | 141.0 | 132.8 | 74.4 | 116.9 | 116.2 |
| Latin America | 76.4 | | 103.1 | 50.9 | | 94.2 | 63.7 | | 99.4 |
| World | 74.1 | 97.0 | | 54.0 | 106.2 | | 64.1 | 100.6 | |

The value 100 reflects the average for the LAC region.
*Source* : Jayasuriya and Wodon (2002).

## Tracing Leakages of Public Funds in Peru—a Public Expenditure Tracking Survey[6]

This section focuses on the leakage of public funds through municipalities (districts) in Peru. "Leakage" is defined as the portion of public funds that do not reach their ultimate targeted beneficiary, but instead is diverted for other purposes, including private gain or other potentially legitimate but clearly unintended purposes. This particular study of leakages is different from the study of corruption *per se*. Studies of corruption examine the bald diversion of public funds and the taking of bribes by public officials that are both clearly illegal and fraudulent in intent (Rose-Ackerman, 1999; Seligson, 2002; Treisman, 2000). Research on leakages, instead, begins by asking the question: Why do public expenditures often not produce concomitant increases in social outcome indicators?[7] While there are many factors that go into the answer to that question, only recently has it been appreciated that part of the explanation lies in the fact that institutional factors, as well as local organization constraints, or private gain prevent that some public funds never in fact reach their intended targets. This "leaking away" of public funds in Peru is the subject of the present investigation.

[6] This section draws on the findings of two national surveys jointly developed with Apoyo Institute (2002).

[7] A recent parametric model (SIMSIP) developed by the World Bank (Jayasuriya and Wodon, 2002) to estimate the projected impact of fiscal inputs on selected social outputs, especially the Millennium Goals, does not take into account country differences in leakages of public spending in its estimates and assumes them constant in its projections. If developed regularly and in several countries, PETS could not only expand SIMSIP in both directions, but set baselines for countries with similar levels of leakages.

**Work on leakages of public expenditure is in the pioneer stage worldwide.** It builds on the seminal work developed by the World Bank in Africa, more particularly in Uganda (Reinikka and Svensson, forthcoming). That study found that only 13 percent of the non-wage expenditures made by the central government were received by the local schools. The study of Peru deepens the approach followed in the Uganda study, however, mainly because it is able to trace linkages at *each* level in the chain from the first emission of public funds at the central level, down to the consumer at the level of the household. The Uganda study looked only at the national/individual leakage, and thus was unable to attribute leakages to each stage in the chain. As a result of this more comprehensive and disaggregated focus, surprising findings presented here emerge, especially because it is possible to identify and quantify the specific steps where main leakages occur. Moreover, the Peru PETS, because it pinpoints the locus and key causal factors responsible for the leakages, gives policy makers clear direction for dealing with the problem.[8] The chapter also looks at how resources are procured and distributed, and examines both the provider and household behavior, which allows to identify how much the government spend on the wrong goods or wrong people, and infer about those instances of the chain where a reasonable presumption of corruption could be pinpointed as "worst offenders." Finally, the Peru PETS is preceded by a thorough discussion of the system of Central Government transfers to the municipalities, and its shortcomings.

The approach taken to the measurement of leakages is to employ survey instruments at each level in the process of transference of government funds from the central authority down to the household. The study employed data on 120 municipalities of the 1828 municipalities in Peru. Data were obtained from the Central Government on four transfers to municipalities managed by the GOP: FONCOMUN, Canon Minero, Canon/Sobrecanon Petrolero, and the *Vaso de Leche* Program. Since all but the last of these programs do not extend below the level of the municipality, the concentration of the research is on the last of the four, the so-called "Glass of Milk" program. It is in tracing the flow of funds in this program that the research attempts to make its most innovative, but not unique, contribution. Using survey data at the level of the municipality, at the level of the local milk distribution committees, and, finally, at the level of the beneficiary household, it was possible to trace the flow and leakage of central funds from the top of the chain to the last link at the bottom. The methodology is very complex, not only because it involves multi-level comparisons, but because the input itself is transformed from cash to commodities as the funds move from the top to the bottom, and as "the commodity itself" actually becomes commodities, since the program is not limited to milk or milk products alone, despite its name. The product is then transformed at the household level, as the food products are mixed with other foods before being served. Yet, despite this complexity, it has been possible to determine the relative magnitude of leakages at each level.

The survey findings do send up an important warning signal: leakages in Peru are significant and far more pervasive and extensive at the bottom of the chain than at the top. From the entire amount of public funds intended for the *Vaso de Leche* program, barely 29 percent get to their intended beneficiaries. This does not mean that 71 cents from each dollar are fully lost in corruption costs. Rather, the diverted resources get leaked away through a combination of off-budget administrative costs; expenditure on non-eligible products; in-kind deliveries to non-beneficiaries; fees for overpriced items; and, last but not least, sheer corruption. Results also challenge the predominant view of the last decade that organizations

[8] The study gets as detailed as to identify the entities presumed as "worst offenders" in producing leakages (and their estimated amount)!

that are closer to the people perform necessarily better in service delivery. This is not necessarily the case if the local organizations are not transparent and do not practice accountability, which seems to be the case of the *Vaso de Leche* Committees in Peru These are hybrid organizations where both the government and the beneficiaries are represented. They are made up of three government representatives and three representatives of the beneficiaries of the Program, democratically elected by the rank and file. The government representatives are the Mayor of the municipality; another municipal official; a representative of the Ministry of Health. Additionally, a representative of the Association of Agricultural Producers of the region is entitled to participate in the Committee. The relationship between these committees and the direct beneficiaries is characterized by at least two features. First, there is asymmetric information: final beneficiaries have limited access to the information about the decisions made by the committees. The beneficiaries also have limited information about how much resources they are entitled to receive from the Program and which procedures should they employ to secure them. Second, there is lack of transparency and accountability *vis-à-vis* both the beneficiaries and the upper echelons of government. In addition to these two features there likely is, in many committees, a somewhat low level of management capacity. The fact of the matter, anyway, is that the committees so dominate the running of the Program at the local level that they may divert resources from their original purpose, without being held accountable or sanctioned for doing so, since both the higher official authorities (say, the MEF) and the intended beneficiaries do not know about it. The committees then dispose of the resources at their own discretion and sometimes end up vitiating, even unwittingly, the Program's expected effects. This arrangement is, of course, a far cry from the desirable participatory setting where the citizens of a community could directly observe, talk to, and even argue with, those providing them key services and where they would be able to hold those individuals and institutions accountable for their actions. On the contrary, in the *Vaso de Leche* Program we have the case of hybrid committees (made up of both government and elected representatives) placed in direct control of a development program, which, due to lack of accountability and transparency, can distort its goals and/or become rent-seekers benefiting not the collectivity but their own narrow interests. This, of course points to the fact the Program has severe design problems. These committees are beyond the common citizens' reach and are frequently dominated by self-serving, rent-seeking, self-styled "representatives" of the Program beneficiaries. The evidence amassed in this study enables us not only to directly compare diversions (referred to here as "leakages") of public resources for private gain or for a distorted purpose at each level of the public assistance "food chain," but also to conclude that, in this case, the lower we go "down the chain," the *greater* the diversion. Thus the conventional belief that every local body is necessarily more accountable than the national and public authorities is turned on its head.

Anticipated main findings above presented deserve some caveats. The survey was conducted in a country that in the past three years has undergone a restructuring of the way public expenditures are managed and controlled by the integrated financial management system (SIAF). For that reason, it may be the case that our central finding is one that is not easily replicated elsewhere. SIAF allows that nearly all central government expenditures get to the municipalities for which they were intended, and our findings confirm that most arrive without extensive delays, although their volatility and supervision remain somewhat of a problem in some instances. Where the leakages are extensive, however, is below the level of the municipality. Thus, in Peru, the leakages increase exponentially as central funds move away from the capital and move down to the neighborhoods and families. Future studies in other countries in which central funds are less well controlled may well find that leakages remain extensive at the local level, but perhaps would be far greater at the upper levels than

they are in Peru. In both cases, leakages are extensive and have serious negative implications for development. Hence, a tracking survey is needed because a municipal SIAF is not installed in all municipalities yet. So, even though transfers from the Central Government to municipalities are well recorded, there is no further virtual control of what happens inside the municipality once it receives its transfers and moves it downwards. PETS methodology does not allow measuring other types of leaks such as inflating the prices of milk products, but indirectly through comparison of price variation for the same milk or milk-derived product, including overpricing with respect to supermarket retail prices.

*The Significance of Intergovernmental Transfers*

The Government of Peru has committed itself to improving the efficiency of its social spending and the quality of the provision of social services at the local level, including its nutritional programs. It has recognized that an increased social spending needs to be decentralized and has realized that this implies delegating more budgetary responsibilities to Regional Units of Ministries (particularly Education and Health), and efficient mechanisms to transfer resources to local governments. While these improvements are important, they may not necessarily translate into actual increases in public funds reaching their intended destinations. That is because the GOP lacks a solid baseline to evaluate the quality, efficiency, and efficacy of public expenditure below the national level. In fact, very little is known about how resources are channeled (particularly outside of Lima), and even less is known about how much of these resources initially allocated actually get spent in their original purpose, what percentage really reaches their intended beneficiaries, or what are the magnitudes of transfer delays. Supervision is also very poor. For instance, we found that in 78 percent of the municipalities visited the central government had not carried out any supervision regarding the use of resources in the *Vaso de Leche* program. Moreover, in rural areas, only 14 percent of the municipalities had any supervision.

This study applies Public Expenditure Tracking Surveys (PETS) to detect, analyze, and quantify the leakages and delays in the transfer of public expenditure as well as to assess the effects of service delivery deficiencies on the quality of the associated services. The PETS are quantitative and objective surveys that collect information currently non-existent and otherwise very difficult, if not impossible, to systematically collect. The information is collected at the different levels involved: central government, decentralized government unit (if any), final service units as well as any intermediate units.

In Peru, public resources are distributed by two mechanisms: those that are centrally allocated and administered through branch offices of the central government, and those that are transferred to local governments (municipalities). The education budget is an example of the former while the *glass of milk* program is an example of the latter. In both cases, there is a considerably long chain of intermediaries between the original central government budgeting office and the intended recipient. Findings presented here focuses on the later mechanism; in contrast to the work in Uganda, that focused on the former and whose equivalent for Peru still is under development.[9]

The *Vaso de Leche* program is the only one of the four main transfers to municipalities that can be traced from the top of the chain to the bottom. It targets children six years old or younger, as well as pregnant and nursing mothers. The Law under which the program operates also allows for leftover resources to be used for children between the ages of seven and thirteen, the elderly, and those suffering from tuberculosis. The transfer criteria from the central government to the municipality are based on per-capita poverty formulas. At the

[9] The latter survey will be concluded in June, but its main focus is on the quality of service delivery.

municipal level, the local government is required, via special committees set up for the purpose, to use 100 percent of the funds into milk products, which must be overwhelmingly produced nationally. These committees are nearly ubiquitous, with 98 percent of the urban municipalities and 95 percent of the rural municipalities having them, according to the survey. The products are purchased via competitive bidding, which is supposed to help insure employment of the lowest price criterion. However, the study found that while bidding was predominant, 19 percent of the products purchased were done through other mechanisms, and some high prices were also found.

Despite its name, the program called the "glass of *milk*" appears in fact including milk, milk products, or milk substitutes, and other products such as oatmeal, quinua, and other grains. This flexibility in the program produces the unfortunate effect of reducing both the protein and calcium intake of the beneficiaries since milk and milk products contain the highest levels of these nutrients in comparison to grains. The fieldwork determined that only 15 percent of all municipalities distribute milk alone, with the vast majority "diluting" the milk with the distribution of cereal, a combination of milk and cereal, or distributing cereal only. Once these products are purchased, they are transferred to the next level down in the chain: to the local committees or clubs comprised of mothers, which are neighborhood or village-based volunteer groups. These local groups then distribute the "milk" on some sort of regular cycle (daily, weekly, monthly, bimonthly) depending on local circumstances, presumably based on the legal criteria mentioned above, as well as locally determined criteria for need. Within the recipient household, presumably the "milk" is then fed to the children and mothers for whom it was designated. As we shall see, much of the above is more theoretical than real, as the fieldwork for this project determined.

It is difficult not to overstate the importance of transfers to municipal governments. For the districts outside of Lima, transfers—on average—represent 72 percent of total income and, among the districts of the poorest stratum, they can represent in excess of 90 percent of total income. Central government's main four transfers include FONCOMUN and *Vaso de Leche* (VdL) for all municipalities, and Canon Minero and Canon/Sobrecanón Petrolero for provinces and districts in regions where mining and petroleum products are extracted or the mining and petroleum company headquarters are located.

In 2001, these four major central government transfers totaled 1.9 billion Soles (roughly $560 million).[10] Total transfers to municipalities in 2001 can be broken down in three major ways: (i) by separating Lima from the rest of the country; (ii) by dividing the sample into urban vs. rural and population size, and (iii) by level of poverty (Annex D, Sampling Notes).

- The largest of the four transfers is the *Fondo de Compensación Municipal* (FONCOMUN), which accounts for 1.4 of the 1.9 billion Soles in 2001 (in some districts it represented upwards of 90 percent of total income).
- The second largest central government transfer is the *Vaso de Leche* transfer, which totaled $97 million in 2001. By law, approximately 7 percent of public social spending in Peru is dedicated to the nutrition programs. Much of this effort involves the *Vaso de Leche* program. These funds form part of the overall transfers of central government resources to local governments, 100 percent of which in turn are supposed to be delivered to local milk committees and from there onto households and individuals. This transfer, unlike the others, is earmarked specifically for use in the purchase of

[10] A comprehensive and detailed description of the transfer mechanism is described in Annex D (Sampling Notes).

VdL products. This program is very important: excluding Lima, the municipalities in our survey reported a total of 645,346 beneficiaries; or, expanding this to the national population, equals 3,693,406 (2,207,209 being children between the ages 0 to 6) which would suggest a rough coverage of 92 percent for children between the ages of 0 to 6.

- The third largest of the four major transfers is the Canon/Sobrecanon Petrolero that totaled 128 million Soles (roughly $37 million) in 2001. The importance of the total figure is misleading, however, at the local level. For municipalities that are eligible to receive this transfer, it can represent as much and, in some cases, more resources than the FONCOMUN.
- Of the four transfers, only the canon minero is not variable month-to-month. It is the fourth largest transfer with about US$24 million distributed in 2001.

How meaningful are these transfers to the individual Peruvian? On a per capita basis, FONCOMUN transfers—the largest of the programs—average $8.57 in Lima per year and $18.61 per year in the rest of the country. In a country in which the GNP per capita (PPP terms) is in the neighborhood of $4,300, the largest of the transfers (FONCOMUN) amounts to no more than four tenths of a percentage of GNP per capita. A similar comment applies to the canons also. Yet, these calculations are somewhat misleading since the funds are designated for the poor—not the entire population; and, since the poor represent a significant portion of the transfers, are higher on a poor per-capita basis. In addition, such comparisons are misleading in the case of *Vaso de Leche* transfers. Its expenditure should be better compared to social spending rather than total spending. The cash value of those funds is not the only factor to consider as the transfer provides, in theory at least, key nutritional supplements for children, whose nutritional status during childhood could impact their future health and productivity.

Expenditure on intergovernmental transfers shows a significant degree of progressivity. Using Lorenz curves, the highest degree of progressivity happens with the distribution of the canon minero, followed by FONCOMUN and *Vaso de Leche*, which exhibit almost a similar distribution as a social program with universal coverage (**Figure 4.1**).[11] These results are consistent with the laws that govern them, as well as with the findings of our survey. According to the legislation, all but canon petrolero transfers are to be distributed according to per capita population, adjusted for poverty levels.[12] This is especially so for the FONCOMUN allocation formula, which counts each rural resident (who are usually the poorest in the country) twice as much as each urban resident. This should mean that the transfers would be higher in the rest of Peru than in Lima, and also would be higher in the more impoverished areas than in the less poor areas. In practice, the FONCOMUN per-capita contributions are clearly far higher in the rest of the country than in Lima. The same pro-poor poverty bias appears in the *canon minero* and, to a much lesser extent, in the *Vaso de Leche* program (**Table 4.3**).

[11] Since these are progressive distributions, curves are above the 45 degrees line. Otherwise, standard regressive Lorenz curves are depicted below it.

[12] Except the canon/sobrecanon petrolero that is distributed by other criteria, except that by introducing the urban/rural factor, indirectly measures poverty as part of the criteria.

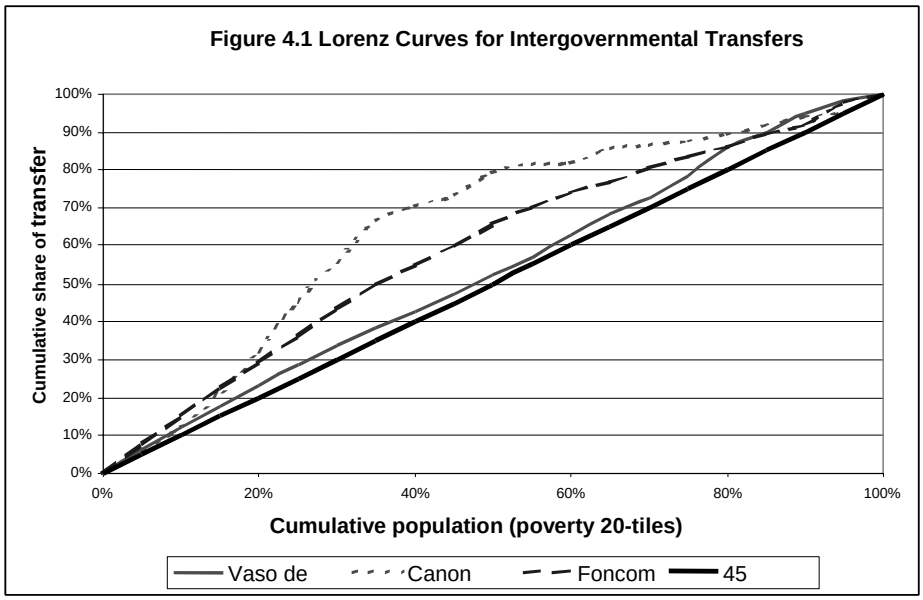



**Table 4.3 Per Capita Transfers to Municipalities in 2001**
*(in U.S. dollars)*

| | FONCOMUN | Canon Minero | Canon/Sobrecanon Petrolero | Vaso de Leche |
|---|---|---|---|---|
| **PERU** | **15.35** | **1.20** | **12.51** | **3.73** |
| Lima | 8.57 | 0.09 | NA | 3.99 |
| Urban | 8.33 | 0.09 | NA | 4.00 |
| Rural | 25.24 | 0.19 | NA | 3.33 |
| No. of observations | 177 | 171 | NA | 177 |
| **Rest of Peru** | 18.61 | 1.89 | 12.51 | 3.60 |
| Less poor | 14.38 | 1.55 | 10.97 | 2.96 |
| Poor | 18.94 | 2.07 | 11.16 | 3.54 |
| More poor | 22.54 | 1.99 | 19.47 | 4.35 |
| Urban | 15.46 | 1.54 | 10.22 | 3.14 |
| Rural | 22.73 | 2.25 | 17.37 | 4.21 |
| Small | 31.97 | 1.84 | 48.15 | 4.37 |
| Medium | 20.05 | 1.77 | 19.40 | 4.13 |
| Large | 16.28 | 1.92 | 10.62 | 3.39 |
| More accessible | 17.33 | 1.81 | 9.81 | 3.39 |
| Less accessible | 23.72 | 2.15 | 20.90 | 4.47 |
| Non-provincial capital | 16.98 | 1.48 | 11.95 | 3.73 |
| Provincial capital | 21.60 | 2.69 | 13.09 | 3.41 |
| No. of observations | 1,641 | 1,296 | 142 | 1,641 |

*Recommendations*

- The formula (and criteria) used for determining the canon minero and FONCOMUN transfers does not need any change and should be kept.
- As transparency is the main issue, it is to the interest of the Authorities to have these transfers fully available to the public and the direct beneficiaries through SIAF and the Portal de Transparencia.

Volatility of most transfers is significant. One of the most serious long-term problems faced by local governments in Latin America is the consistent inconsistency in the reliability of central government transfers. In many countries, such transfers often result in arrears. Volatility is calculated as the standard deviation of the annual percentage changes in the transfer amounts. While volatility is not directly a leakage issue, it does make planning difficult and does cause suffering when milk and other foodstuffs are not delivered on time. In Peru, using the new financial management system that is now in place, volatility has been minimized, but not eliminated, as the results of our survey show. In the worst case, volatility for the *Vaso de Leche* transfer, outside of Lima, often exceeds 10 percent with the poorest districts averaging over 15 percent (Annex D, Sampling Notes).

*Recommendation*

- SIAF expansion among municipalities should continue, but alternatives to diminish the remaining volatility of transfers should be explored. Structural volatility in the canon minero transfers (related to international mineral prices) may require a Stabilization Fund (Chapter VIII).

Understanding of the amount of the transfers at the local level is insufficient and knowledge about the arrival day of the transfers is poor. Overall, most of the officials interviewed in the municipalities surveyed claim to have a reasonable understanding of the various transfer programs. However, the same is not true at the neighborhood level. For example, the survey found that 90 percent of the municipalities in the Lima area and 79 percent in the rest of the country claimed to know the allocation criteria used for the FONCOMUN program. Yet, the survey also found that when questioned, only 11 percent of the municipal officials in Lima—who earlier claimed to have knowledge of the criteria—actually did. In the rest of Peru, surprisingly, the knowledge was higher among those who claimed to know, as 67 percent actually did. As for the amount of transfers expected from FONCOMUN, the knowledge base is more reasonable as only 5 percent in Lima and 15 percent in the rest of Peru claimed not to know. In poor and rural areas outside Lima, however, this percentage of uncertainty increased to nearly one-third. In the case of Canon/Sobrecanon Petrolero transfers, there is considerable uncertainty as to the expected amounts, with the majority in the rest of Peru districts not knowing. Knowledge of the date of arrival of the transfers was far weaker in Lima with 40 percent of the municipalities not knowing. In the rest of Peru, 33 percent did not know. Similar percentages are found for FONCOMUN and canon minero (Table **4.4**).

*Recommendation*

- The GOP's decision to include monthly transfers to each municipality in a user-friendly format from 2002, also including the methodology used for their estimates, should be complemented with adequate training and information to major and local authorities (e.g. *Vaso de Leche* Committees).

**Table 4.4 Municipalities that do not know the arrival day of the transfer**

*(in percent)*

| | Foncomun | Canon Minero | Canon / Sobrecanon Petrolero |
|---|---|---|---|
| **Lima** | **40** | | |
| Urban | 42 | NA | NA |
| Rural | 38 | NA | NA |
| *No. Observations* | *20* | *NA.* | *NA* |
| **Rest of Peru** | **33** | **35** | **40** |
| Not Poor | 27 | 29 | 2 |
| Poor | 49 | 63 | 94 |
| Extreme Poor | 38 | 30 | 40 |
| Urban | 61 | 87 | 35 |
| Rural | 28 | 28 | 47 |
| Small | 30 | 30 | 38 |
| Medium | 39 | 36 | 31 |
| Large | 45 | 62 | 44 |
| More accessible | 18 | 21 | 15 |
| Less Accessible | 66 | 66 | 64 |
| Non-Provincial capital | 34 | 33 | 41 |
| Provincial capital | 28 | 50 | 29 |
| *No. Observations* | *99* | *74* | *32* |

*Source: Survey among municipalities*

Supervision of transfers to municipalities is extremely poor. On average, only six out of ten of the municipalities are audited with regards to FONCOMUN and *canon minero,* and barely about a third of those eligible for the *canon/sobrecanon petrolero* are supervised by some central government entity. Furthermore, the central government audits are reaching only the more accessible districts while leaving the poorer, rural, more remote districts wholly unsupervised! CG supervision is not only rare, but also irregular, as the bulk of audits in about 80 percent of FONCOMUN and *canon minero* cases (43 percent for the *canon petrolero*) are done on a yearly basis (Table **4.5**).

**Table 4.5 Municipalities that are subject to CG supervision**

*(in percent)*

| | Foncomun | Canon Minero | Canon / Sobrecanon Petrolero |
|---|---|---|---|
| **Rest of Peru** | **61** | **61** | **34** |
| Not Poor | 75 | 75 | 34 |
| Poor | 27 | 29 | 16 |
| Extreme Poor | 52 | 42 | 58 |
| Urban | 32 | 31 | 21 |
| Rural | 67 | 65 | 55 |
| Small | 67 | 67 | 0 |
| Medium | 30 | 28 | 31 |
| Large | 58 | 50 | 51 |
| More accessible | 78 | 79 | 23 |
| Less accessible | 26 | 19 | 46 |
| Non-Provincial capital | 62 | 61 | 30 |
| Provincial capital | 58 | 56 | 65 |
| *No. Observations* | *100* | *73* | *33* |

*Recommendation*

- Auditing procedures to districts should be overhauled, including training, management reform, and periodic internal and external audits by the Comptroller's Office. This reform is particularly urgent in the case of the canon petrolero.

Leakages in the transfer of FONCOMUN and the canon minero appear very small. This leak is defined as the percentage of transfer reported by Ministry of the Economy and Finance that is unaccounted for by the municipality. Leakages amount to 1.5 percent in Lima and 0.5 percent in the rest of Peru for FONCOMUN, which is the largest program, but rise to 7.1 percent in the Canon Minero program in Lima (essentially driven by to two outliers), but only 0.7 percent in the rest of Peru for this program.[13] (**Table 4.6**) These so-called small leakages are tolerable and can be safely assumed to be mainly due to reporting errors (round-off) or simply bad recollection due to poor or non-existent records at the municipality.

**Table 4.6 Leakages in FONCOMUN and *canon minero***

| | Leak 0 | |
|---|---|---|
| | **Foncomun** | **Canon Minero** |
| **Lima** | **1.52%** | **7.12%** |
| Urban | 0.15% | 5.88% |
| Rural | 3.66% | 8.90% |
| *No. Observations* | *18* | *17* |
| **Rest of Peru** | **0.45%** | **0.70%** |
| Less Poor | 0.00% | 0.00% |
| Poor | 1.11% | 0.03% |
| More Poor | 1.02% | 2.47% |
| Urban | 0.00% | 0.00% |
| Rural | 0.89% | 1.13% |
| Small | 1.56% | 2.76% |
| Medium | 0.35% | 0.06% |
| Large | 0.00% | 0.00% |
| More accessible | 0.39% | 0.40% |
| Less Accessible | 0.65% | 1.38% |
| Non-Provincial capital | 0.83% | 1.10% |
| Provincial capital | 0.00% | 0.00% |
| *No. Observations* | *96* | *64* |

*Recommendation*

- SIAF proposed expansion at the municipal level should be able to trace these leaks on a regular and virtual basis.

Important shortcomings surround the evidence to determine how much of the transfers of Foncomun, Canon Minero, and Canon Petrolero actually go towards current expenditures. Last year FONCOMUN law required a ceiling of 30 percent devoted to current expenditure (100 percent devoted to capital expenditure and milk products in the cases of *canon minero* and *Vaso de Leche*). In 2002, FONCOMUN restriction was eliminated, and the GOP left open to each municipality to decide on how best combine its resources. Survey findings show that the percentage assigned to current expenditure from FONCOMUN resources varies between 27-41 percent, but such evidence is non-conclusive as a significant number of respondents (more than half in the case of the canons) did not know how the transfers were used; other respondents accounted for more than 100 percent of the transfer, and yet about another one-third of respondents could only account for less than 70 percent of canon minero/petrolero funds (in implicit violation of

[13] Canon/sobrecanon petrolero figures provided by the MEF were not trustworthy and complete, so were not included.

the law) (**Table 4.7**). However, these findings show an important shortcoming in transfer mechanisms—that is, the readiness of municipalities for complying with the required current expenditure/capital ratios.

*Recommendations*

- If current expenditure/capital ratios are to be respected, present procedures for their auditing and accountability should be upgraded; otherwise, due to the lack of GOP enforcement capacity, present ratios should be eliminated and left open to municipalities to decide on how best to allocate their own resources.

**Table 4.7 Fraction of Transfers Used for Current Expenditure**

| | Unrestrictive Definition[a] | | Restrictive Definition[b] | |
|---|---|---|---|---|
| | Percentage | No. of Observations | Percentage | No. of Observations |
| FONCOMUN | 41 | 61 | 27 | 61 |
| Canon/Sobre Canon Petrolero | 35 | 16 | 29 | 16 |
| Canon minero | 8 | 45 | 0 | 45 |

a. Employee Payrolls (white and blue collar), Pensions, Road Maintenance, Sanitation, Other Current Expenditures.
b. Employee Payrolls (white and blue collar), Pensions, Other Current Expenditures

*Leakages in the Vaso de Leche Program*

Leakages in the *Vaso de Leche* Program occur at many levels, but measurement of these leakages is an extremely complex task. Perhaps the major complexity emerges from the law itself. According to the law, the foods must be distributed to beneficiaries in prepared form. This could mean, for example, mixing of powered milk into a cereal or other cooked product. It would be virtually impossible for any study to then measure with exactitude how a given amount of milk input arrives in the stomach of the beneficiary. But, more importantly, from a practical point of view, distribution committees often cannot reasonably prepare the food since the beneficiaries are pre-school children whose parents cannot transport them on a daily basis to a central distribution point. Consider the mother who is nursing two pre-schoolers, and whose partner works outside the home. She cannot reasonably be expected to visit a central kitchen each day to feed her children. Moreover, and more important according to our findings, the overhead costs of preparing the food, including distance, time, materials and spoilage for unconsumed food, deter many committees from attempting to follow the law. As a result, 60 percent of the committees in the sample do not prepare the food and distribute it unprepared. For the purposes of the study, this is a plus, since it allows us to more precisely measure the distribution, since we can more easily count cans of milk, pounds of cereal, etc. However, it brings an additional challenge in that many of these products are marketed in units that are not easily divisible. For example, if a household is entitled to 1.5 cans of milk based on the number of children, the committee could not reasonably be expected to open a can and divide it and pour the remainder into a glass for another beneficiary family. The result is that individual families will receive more or less than their exact ration of milk and other products, a factor which makes calculation of leakages at the household level even more complex.

The problem of food distribution and preparation is exacerbated by the widespread absence of knowledge of the municipalities, committees and effective training of the mothers. The survey found, for example, that only 20 percent of the municipalities in the rest of the country (and 43 percent in Lima), were familiar with the central government criteria for

**Table 4.8. Beneficiary households that received training/information**
*(in percent)*

| | Yes | No |
|---|---|---|
| **Urban/rural** | | |
| Urban | 34 | 66 |
| Rural | 20 | 80 |
| **Stratum** | | |
| Least poor | 36 | 64 |
| Poor | 20 | 80 |
| Most poor | 19 | 81 |
| **Accessible** | | |
| Less accessible | 15 | 85 |
| More accessible | 32 | 68 |

*Source:* Survey among households in the rest of the country, February2002.

allocation of the "milk." At the level of the committee, barely two percent of them in the rest of the country outside of Lima have knowledge of the allocation criteria used by municipalities (and 5 percent in Lima). And, at the level of the mothers, only 27 percent of them reported having received training in the preparation of the "milk" and 26 percent reported receiving training on its proper allocation within the household. Most disturbing was that the level of training *declined* as poverty levels increased (**Table 4.8**), so that training was lowest where it was needed the most.

**"Milk" Leakage Stage 1: Central Government to Municipality**

A first, and very small, leakage occurs during the transfer of the Central Government to the municipalities.[14] It represents on average 0.06 percent in Lima and 0.02 in the rest of Peru, which could be determined by rounding and recording errors. Thus, at the top level, where one often assumes the greatest level of corruption (and therefore the greatest leakage) the leakage is virtually non-existent. This is a major accomplishment for the SIAF system! However, considerable volatility remains in *Vaso de Leche* transfers outside Lima. Volatility in 2001, calculated as the standard deviation of monthly percent changes of *Vaso de Leche* transfers, was virtually zero in Lima, but in the rest of Peru it averaged 11.6 percent, and a high of 15.4 percent in the poorest areas (para 4.16). Hence, the less accessible the area, the more volatility there were at this level. Despite this volatility, none of the municipalities in Lima and only 1.7 percent in the rest of the country were unsure of the amount of *Vaso de Leche* funds that they would be receiving. However, in the municipalities of Lima, 40 percent have no knowledge of the date in which they will receive their VdL transfer, while 31 percent of the districts outside of Lima claim the same problem, a surprising result given the relative simplicity of the transfer mechanism at the central government. In Lima, 21 percent of the municipalities suffered delays of seven or more days, while in the rest of Peru this level reached 25 percent. Furthermore, given that these delays imply that children and other beneficiaries are kept expecting food, a major basic need, the large percentage of municipalities whose arrival time variation is more than 7 days is quite serious (**Table 4.9**).

[14] Exact formulas applied to estimate each leakage are in Annex D (Sampling Notes).

**Table 4.9 VdL Transfer Schedule**

| | Municipalities with no knowledge of next arrival date (%) | Arrival time variations | | |
|---|---|---|---|---|
| | | 1-2 Days | 2-7 Days | 7+ Days |
| **Lima** | **40** | **26** | **53** | **21** |
| Urban | 42 | 27 | 55 | 18 |
| Rural | 37 | 25 | 50 | 25 |
| *No. Observations* | 20 | 20 | 20 | 20 |
| **Rest of Peru** | **31** | **43** | **32** | **25** |
| Not Poor | 25 | 0 | 29 | 71 |
| Poor | 45 | 49 | 51 | 0 |
| Extreme Poor | 35 | 45 | 23 | 33 |
| Urban | 57 | 0 | 43 | 57 |
| Rural | 26 | 47 | 31 | 21 |
| Small | 29 | 58 | 0 | 42 |
| Medium | 30 | 47 | 43 | 10 |
| Large | 42 | 17 | 64 | 18 |
| More accessible | 67 | 45 | 33 | 22 |
| Less Accessible | 13 | 41 | 32 | 27 |
| Non-Provincial capital | 31 | 42 | 32 | 26 |
| Provincial capital | 32 | 48 | 33 | 19 |
| *No. Observations* | *100* | NA | NA | NA |

*Source:* Survey among municipalities.

### "Milk" Leakage Stage 2: Unaccounted for Conversion of Transfer to Products

Once the transfer reaches the municipality, the funds are converted to products to be given to the local committees. From the municipal level onwards, the transfer of resources for the VdL program becomes in-kind transfers such that no subsequent stages of execution receive money but rather receive the transfer in-kind. Our field work team was instructed to get prices and quantities of VdL product purchases made by the municipality in December 2001 and to verify this information via signed contracts, purchase orders, or receipts. The quantities were in most cases obtained from the municipality's distribution roster (padrón municipal), which includes the amounts allocated and distributed to each mothers committee within the municipality's jurisdiction. This leak was defined as the percentage of the amount transferred to the municipality from the Central Government for the month of December 2001 that is unaccounted for by the total expenses of the municipality for that month (in terms of products purchased for the VdL program).

Leakages found at this stage were also quite small. In Lima, it appears to have amounted to 3.03 percent of the totals transfer, whereas in the rest of Peru it amounted to 0.63 percent. We say "appears" because of the larger urban districts surveyed in the province of Lima—which all have populations exceeding 200,000—most refused to provide our team with any price information or price-related documentation. This refusal supports the qualitative information collected by our team at later stages of the execution path, that suggest there is considerable misuse of funds at the municipal level within these districts. We were, however, able to document a number of worst-case offenders. We found one municipality in Lima in which this leak was 18 percent of the transfers and another where it was 15 percent, again, keeping in mind that most larger municipalities refused to cooperate with us on obtaining this data. In the rest of Peru, we found 4 municipalities out of 76

surveyed in which the leakage at this stage was over 10 percent, with one reaching 15.5 percent. Thus, although the national averages are low, these isolated cases in which the leakage at this point exceeds 10 percent of the total transfer amount are serious. Without taking into consideration any of the leakages at subsequent transfer stages, the beneficiaries—mainly children aged 0 to 6—already are receiving less than 90 cents on the dollar. About one-tenth of all municipalities surveyed were found out to have leaks higher than 5 percent. In addition to this, one would have to consider the possibility of overpricing reflected in two facts: the high price variability found amongst districts for purchasing similar products, and the premium paid when comparing those prices to leading retail supermarket prices, even when adjusting them for quality and transportation costs. For instance, (i) the price of generic *Enriquecido Lácteo*, a milk substitute, distributed in 32 out of 100 districts visited, varies from NS/.1-15 per kilogram; (ii) and the price of cans of milk are in some cases outside Lime, twice higher than in a Lima supermarket!

Private gains are not the only possible reason of these leaks. One explanation for the leakages at this stage could be a diversion of VdL funds to cover the program's operating expenses (personnel, bookkeeping materials, transportation costs, and warehousing costs). Although prohibited by law, this kind of leak is not a result of a corrupt act. Indeed, the leakages at this stage are found more significant in small, rural, and less accessible districts. In many cases, it was found that in small rural districts there are severe budget as well as personnel limitations that make the operating costs of the program prohibitive. Moreover, given the large and organized network of *Vaso de Leche* mothers representing a unified and powerful faction of the constituency that exerts considerable pressure on the mayor, it is no surprise that there may exist many cases in which the municipality supplements the CG transfer with municipal resources. Indeed, we find that oftentimes, leak 2 turns out to be negative (the municipality spent more in December 2001 than was allocated to it by the MEF), although operationally leakages were truncated at zero.

**"Milk" Leakage #3: Transfer from the Municipality to the Local Committees**

**Table 4.10 Leakage # 3: Municipality to Local Committees**

| | Leak 2 |
|---|---|
| **Lima** | **10.06%** |
| Urban | 6.83% |
| Rural | 18.77% |
| *No. Observations* | *37* |
| **Rest of Peru** | **2.59%** |
| Less Poor | 0.54% |
| Poor | 5.67% |
| More Poor | 5.22% |
| Urban | 1.26% |
| Rural | 4.52% |
| Small | 2.83% |
| Medium | 4.23% |
| Large | 2.25% |
| More accessible | 2.31% |
| Less Accessible | 3.70% |
| Non-Provincial capital | 3.10% |
| Provincial capital | 1.97% |
| *No. Observations* | *320* |

Leakages found at this stage were more significant. In Lima, they averaged over 10 percent, but were far lower—only 2.6 percent—in the rest of Peru (Table **4.10**). However, it is obvious from the results that the poorer, more remote areas have far higher leakages at this level. Every municipality has an allocation formula, based almost entirely on the size of the target population, that each *Vaso de Leche* committee services. Thus, criteria of *relative* poverty do *not* play a role here, but only the number of poor counts. The roster of beneficiaries is centralized at the municipal level and provides detailed information on the quantities distributed to each Committee within the district. This roster was used to randomly select four VdL committees in order to verify the veracity of the municipal distribution roster. This information was compared to the quantities that the committees visited declared to have received from the municipality in the same period for every product distributed. This allowed us to calculate leakages associated with the transfer

from the municipality to each of four randomly selected committees. This leak was defined as the percentage of the amount listed in the municipal not accounted for by the *Vaso de Leche* committee and estimated using municipal and committee data computed at the committee level.

**Table 4.11 Worst Offenders, Leakage # 3**

| Worst Offenders | |
|---|---|
| Rank | Leak #2 |
| Lima | |
| 1 | 84.5% |
| 2 | 57.4% |
| 3 | 48.2% |
| 4 | 44.8% |
| 5 | 43.8% |
| 6 | 24.4% |
| Rest of Peru | |
| 1 | 63.7% |
| 2 | 55.1% |
| 3 | 53.2% |
| 4 | 49.6% |
| 5 | 47.4% |
| 6 | 47.2% |
| 7 | 41.7% |
| 8 | 40.1% |
| 9 | 40.0% |
| 10 | 40.0% |
| 11 | 38.9% |
| 12 | 34.8% |
| 13 | 34.0% |
| 14 | 34.0% |
| 15 | 31.8% |
| 16 | 29.4% |
| 17 | 28.6% |
| 18 | 27.8% |
| 19 | 27.2% |
| 20 | 26.7% |
| 21 | 25.4% |
| 22 | 24.3% |
| 23 | 23.5% |
| 24 | 23.0% |
| 25 | 22.6% |
| 26 | 22.3% |
| 27 | 20.7% |

A clearer picture of the magnitude of the leakage problem that occurs in the transfer from local government to civil society is obtained by examining the worst offenders. The national averages do indeed hide very important information (Table **4.11**). There are 27 districts/*Vaso de Leche* committee pairs (about a tenth of the total surveyed) with leakages in excess of 20 percent and 10 pairs that exceed 40 percent. In the case of such top-ranked worst offenders, the beneficiaries receive 36 cents of every dollar without taking into consideration all the leakages in prior segments of the chain of distribution![15] A possible explanation of these very high leakages is that in some cases municipalities may make changes to the allocations to every committee, keeping one product already assigned for later distribution, but such informal arrangement significantly diminish transparency of the program and should be prohibited.

### "Milk" Leakage # 4: Committee to Beneficiary/Household

Estimation at this step became very difficult because when evaluating the situation inside the committee, we found that it is very difficult to quantify what happens to the products distributed to beneficiaries. This is the case because the committee representatives do not follow the criteria established by the program regulation. Instead, they make decisions at their discretion as to how to proceed regarding the distribution of the product. In most cases, the committee representatives have been democratically elected and mostly rely on the approval of the population of their communities. So, our methodology originally contemplated the comparison of per-beneficiary rations at the household level with the total per-beneficiary rations at the committee level, but this was complicated due to the fact that multiple products get distributed to beneficiaries and the only way to aggregate them was to use a common measurable indicator. To further complicate matters, in the cases of distribution of "prepared" products, there was no way to gauge whether the servings-per-container directive was followed and therefore there was no way to measure the amount of raw product a household was actually receiving, so we eliminated from the sample the cases in which the product was not distributed in raw form.

Estimation of this leakage was done by calculating the monetary values of each product (using municipal price figures) and adding these up. This allowed a comparison of the monetary value of the amount of all the products received by the *Vaso de Leche*

[15] It is important to note that this leakage was computed at the committee level with 320 observations. A lot of committees had a zero leakage and therefore their average is much quite lower than that of the worst offenders.

committee per beneficiary with the monetary value of the amount received by the individual households per beneficiary (excluding the committees that distribute prepared products). The first variable would be obtained from the quantities declared by the mothers' committee representative in the VdL committee survey (in the four committees surveyed in each municipality). The second variable would be obtained from the quantities declared by the beneficiaries' household representative in beneficiary household survey (in the four households surveyed for each VdL committee). Although the implementation of the proposed formula faced several operational problems, it served to provide very important insight as to the distribution process to the individual households. Some of the problems that made it impossible to quantify the rations received by the beneficiaries are due to the very large variation of types, units, and frequencies of the distribution and products—which makes the program less transparent and thus more difficult to evaluate and supervise, and to products distributed already prepared (approximately 40 percent of the committee cases). Although the municipality reported (in most cases) the number of rations that could be obtained by each package of product, the VdL committee did not necessarily follow the recommended recipe. Many committee representatives expressed that their objective is to try to service the largest possible number of recipients. Furthermore, the households receive a ration in a large variety of ways—as a cup, a glass, a handful, or just a ration. So, we standardized frequencies, units and products, and eliminated all cases in which the products were distributed in prepared form by the committee or in committees with unclear target beneficiaries.

**The leakage at this level is quite high**. On average, over a quarter of the product is lost at this stage in Peru outside of the Lima area (for which we have no data as shown in Table **4.12**). Leaks are markedly more serious in urban districts (34 percent), in provincial capitals (40 percent) and in large districts (29 percent). To further understand the subtleties of the program, which made this leakage difficult to quantify, one must look at the law itself, which provides for an unnecessarily broad definition of its target beneficiaries. According to the law, beneficiaries need not exclusively be young children, but may include children from 7 to 13 years, the elderly, and others in need—if there are enough resources. The result is that this open-ended definition allows such a broad interpretation of eligibility that leakages seem bound to occur, which causes confusion in the committees and in the population in general as to who are the intended beneficiaries. This problem is further complicated by the indivisibility of the formula chosen and the ad hoc decisions made at the discretion of committee representatives as to the criteria of distribution. These include number of household members; number of children; equal quantity for each household; or other criteria that the study was unable to identify, many of which alter the originally estimated quantities per beneficiary in each household of the same committee and municipality.

**Table 4.12 Leak 4: Vaso de Leche Program**
***(At household level)***

| | Leak 4 |
|---|---|
| **Lima** | NA |
| Urban | NA |
| Rural | NA |
| *No. Observations* | NA |
| **Rest of Peru** | **26.70%** |
| Not Poor | 26.67% |
| Poor | 19.21% |
| Extreme Poor | 32.91% |
| Urban | 34.53% |
| Rural | 25.01% |
| Small | 24.41% |
| Medium | 22.83% |
| Large | 29.63% |
| More accessible | 25.71% |
| Less Accessible | 28.32% |
| Non-Provincial capital | 22.72% |
| Provincial capital | 40.31% |
| *No. Observations* | *488* |

### Leak #5: Within the household (dilution of the ration)

This leakage was estimated using household-level data. As a final stage of the research effort, the fieldwork team visited four households per committee in order to quantify the amounts of the in-kind *Vaso de Leche* transfers that actually reach the intended beneficiaries. Because of the complications concerning the "target population" mentioned in the previous section, the analysis is restricted to children aged 0 to 6, pregnant women, and breastfeeding mothers. The leak attributed to "beneficiary dilution" is defined at the household level as one minus the percentage of household members who consume *Vaso de Leche* products, who are official beneficiaries (Table **4.13**).

**Table 4.13 Leak 5**
*(At the beneficiary household level)*

| | **Leak 5** |
|---|---|
| **Lima** | NA |
| Urban | NA |
| Rural | NA |
| *No. Observations* | NA |
| | |
| **Rest of Peru** | **58.89%** |
| Not Poor | 59.93% |
| Poor | 57.89% |
| Extreme Poor | 59.15% |
| | |
| Urban | 59.26% |
| Rural | 58.70% |
| | |
| Small | 59.01% |
| Medium | 61.46% |
| Large | 57.90% |
| | |
| More accessible | 60.75% |
| Less accessible | 56.11% |
| | |
| Non-Provincial capital | 58.69% |
| Provincial capital | 59.32% |
| | |
| *No. Observations* | *985* |

*Source:* Survey among municipalities.

Results make clear that, upon reaching the households, there is considerable dilution. On average, target beneficiaries only receive 41 percent of the ration that arrives at the household (not taking into account all the losses associated with earlier leakages)! This dilution effect is possible because in most cases the beneficiaries do not receive their rations directly from the committee, but because the children receive the rations filtered through their mothers (and in some cases the father), who pick up the total rations allocated to her/his household for later distribution. Consistent with evidence in studies of other nutritional assistance programs worldwide, the official distribution criteria are very difficult if not impossible to enforce. In most cases, it is de facto impossible to exclude non-targeted members of the household. Furthermore, in about 60 percent of the committees visited, the products are distributed in unprepared forms, which as noted above, is understandable since the transactions costs in receiving daily prepare rations could be too high, but non-prepared frequently result in mixing the nutrition ration with the families overall food intake. In these cases, considerable variation appears in their final use.

In sum, the PETS survey reveals that targeted beneficiaries get on average 29 cents of each dollar initially transferred by the Central Government! The survey surprisingly indicates the leak is much higher in the bottom (VdL committees and households-leaks 4-5) levels rather than in the top (CG and municipalities-leaks 1-3) levels of the ladder. This not only demonstrates significant improvements in the official financial management of resources by the SIAF/MEF, but also challenges the predominant view that local private organizations are more accountable in managing resources than official organizations (Figure **4.2**). Transfers appear also compounded by the generalized lack of audit controls, poor transparency, and volatility. Finally, leaks clearly affect the poorest, urban and provincial municipalities more than others, but their level appear similar among districts of different sizes and distances to the province (Table **4.14**).

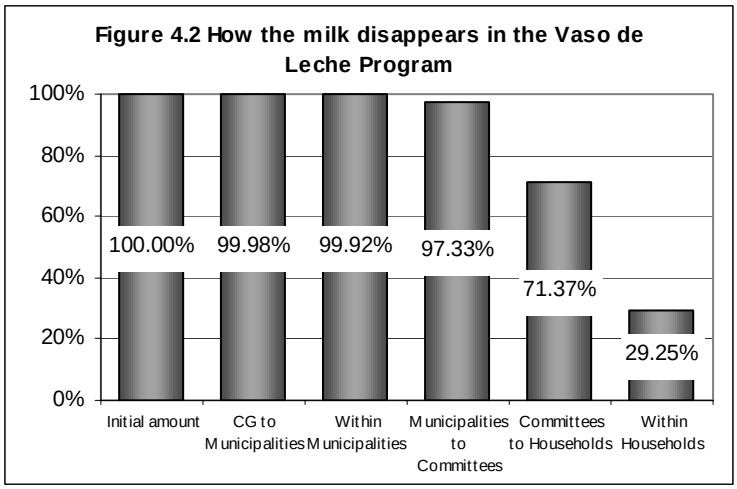



**Table 4.14 VdL Leakages**

| | Leak 1 | Leak 2 | Leak 3 | Leak 4 | Leak 5 | Combined |
|---|---|---|---|---|---|---|
| **Lima** | **0.06%** | **3.03%** | **10.06%** | NA | NA | NA |
| Urban | 0.03% | 2.73% | 6.83% | NA | NA | NA |
| Rural | 0.11% | 3.58% | 18.77% | NA | NA | NA |
| *No. Observations* | *20* | *14* | *37* | NA | NA | NA |
| **Rest of Peru** | **0.02%** | **0.63%** | **2.59%** | **26.70%** | **58.89%** | **70.84%** |
| Not Poor | 0.00% | 0.13% | 0.54% | 26.67% | 59.93% | 70.81% |
| Poor | 0.00% | 1.36% | 5.67% | 19.21% | 57.89% | 68.34% |
| Extreme Poor | 0.12% | 1.30% | 5.22% | 32.91% | 59.15% | 74.39% |
| Urban | 0.00% | 0.42% | 1.26% | 34.53% | 59.26% | 73.77% |
| Rural | 0.05% | 0.85% | 4.52% | 25.01% | 58.70% | 70.70% |
| Small | 0.11% | 0.05% | 2.83% | 24.41% | 59.01% | 69.94% |
| Medium | 0.00% | 0.59% | 4.23% | 22.83% | 61.46% | 71.68% |
| Large | 0.00% | 0.84% | 2.25% | 29.63% | 57.90% | 71.29% |
| Accessible | 0.00% | 0.54% | 2.31% | 25.71% | 60.75% | 71.67% |
| Remote | 0.09% | 0.82% | 3.70% | 28.32% | 56.11% | 69.98% |
| Municipal | 0.04% | 0.87% | 3.10% | 22.72% | 58.69% | 69.35% |
| Provincial capital | 0.00% | 0.21% | 1.97% | 40.31% | 59.32% | 76.25% |
| *No. Observations* | *95* | *76* | *320* | *488* | *985* | N/A |

Lessons from the PETS can be grouped under two areas: those referring to accountability of transfers and municipal management issues; and those referring to the VDL.

*Recommendations*

- On financial management accountability. Among those suggested above are (i) increase the transparency of transfers to municipalities through a monthly report by SIAF, accompanied by thorough dissemination of their redistribution criteria; (ii) build local capacity to manage them; (iii) reduce their volatility, particularly among poorest recipient municipalities; and (iv) upgrade auditing procedures, as a priority, of municipal governments not only by the Comptroller's Office, but also by means of internal audits of the municipal administrations themselves.

- On the Vaso de Leche program. A major lesson to learn from the VdL experience is that a poorly designed social program, with a presumed high degree of participation of community leaders grouped in a committee, can be inefficient—voluntarily or involuntarily—and unaccountable to both its agents (constituent beneficiaries) and to its principal (municipal authorities), thereby missing the original purpose or intention of the program. Suggested actions can be grouped as follows:

In the short term, suggested priority actions should focus on amending regulations to enforce accountability to the municipalities and committees: (i) review VdL regulations, particularly regarding products to be distributed and the form of distribution, so as to make the list of selected milk derivatives shorter and more homogeneous, and thus raise chances of improving the nutritional impact of the program; (ii) establish a proper registry of Vaso de Leche beneficiaries, if possible supported by SIAF; (iii) undertake information campaigns and training sessions to VdL committees and individual beneficiaries, to raise their awareness of new information available and the rules; (iv) undertake surprise audits of worst offenders (municipalities and committees) in the near term, so as to eliminate major deviations; and (v) establish a policy of no-budget increase in real terms of the annual budget for the VdL program. The implementation of the above actions requires a significant overhaul of the system, and should be accompanied by the design of a new comprehensive framework for food supplementary programs in Peru (discussed next).

In the medium term, the question is, given its failures and defective design, should the *Vaso de Leche* program be transformed to a cash-transfer program? The answer is Yes. Mexico's PROGRESA, which successfully moved its food supplement program to an integrated and better targeted model of social assistance, is a good example. However, as this proposal goes beyond the sole issue of leakages and also addresses targeting, we will return to this subject at the end-of this chapter.

## Enhancing Targeting of Social Programs[16]

The GOP's proactive policy of targeted programs for the poor has been fundamental in the poverty reduction achievements of the past years. As a percent of GDP, total social spending has increased from 3.6 percent in 1993 to 6.9 percent of GDP in 2002. Commitment by the Authorities to a set of comprehensive safety net programs has been reflected in a multiplicity of safety net programs specializing in development and relief components. The development component provides permanent access to improving human capital accumulation of the poor in the form of health, education, and basic infrastructure services. The relief component provides a consumption floor for the poor through two types of mechanisms: temporary employment or cash programs, like *A Trabajar*—Urban and Rural—and direct transfer programs usually in the form of food, or basic services.

As a point of departure, the new authorities are not increasing resources to existing safety net programs, but rather attempting to improve efficiency in their administration and targeting. The budget share assigned to *extreme* poverty reduction programs as a percentage of GDP increased from 1.1 percent in 1994 to about 1.7 percent in 1998, and remained constant up to 2002. This is considered adequate to existing needs (The World Bank, 2000). Striking the right balance between the two types of safety nets, however, requires further assessment of their performance. Indeed, up to the creation of *A Trabajar* in 2002, direct transfers dominated the landscape of safety net programs in Peru. At present, however, such a temporary employment program will have to compete for scarce resources. Furthermore,

[16] This section mainly draws from the work done by Díaz (2001).

**Table 4.15 Correlation Expenditure and Poverty by Department**

| | Correlation | Expected direction if poverty targeted |
|---|---|---|
| Dept. Expenditure per Capita to Poverty, by definition | | |
| Poverty rate | –0.522 | positive |
| Extreme poverty rate | –0.463 | positive |
| MEF Poverty ranking | 0.265 | negative |
| INEI Poverty ranking | 0.458 | negative |
| INEI Extreme poverty ranking | 0.507 | negative |
| CTAR Expenditure per Capita to Poverty, by definition | | |
| Poverty rate | –0.207 | positive |
| Extreme poverty rate | –0.130 | positive |
| MEF Poverty ranking | 0.397 | negative |
| INEI Poverty ranking | 0.202 | negative |
| INEI Extreme poverty ranking | 0.135 | negative |

*Source*: World Bank estimates.

ongoing unification of rural infrastructure projects under one administration—PRONAMACHS, INADE—is an initial step to reduce administrative costs and overlaps/gaps in coverage.[17] This leaves targeting as a major issue requiring efficiency improvements. Fortunately, Peru already has a well-developed poverty map.[18]

Broad geographic regional targeting remains regressive in Peru**.** While adequate targeting in social programs in Peru is a critical component to optimize scarce resources and deal with prevailing heterogeneity in program resources *to reach the poor*, it is also needed to offset broad mistargeting in regional public expenditure. Simple correlation coefficients between per-capita spending by department (and by CTAR) and poverty and extreme poverty rates produce negative results; whereas they should be positive, had they been allocated to the department with the highest poverty rates. Furthermore, correlation coefficients are positive between per-capita spending by department and poverty rankings, ordered from poorest to richest, whereas they should be negative (Table **4.15**). Such misallocation is explained by the rigid components of the budget, particularly in current expenditure.

*Recommendation*

- Broad geographic targeting of public expenditure should carefully be reviewed, particularly in light of the incoming process or regional decentralization, giving greatest weight to departments with the poorest populations.

Access by the poor to social programs is in general progressive, but important differences prevail among individual programs. Poor household access to social programs is high. A total of 82 percent of poor household have access to social programs (84 percent for those in extreme poverty) and 69 percent access to at least two social programs (73 percent for extreme poverty) (Table **4.16**). Poor rural households have proportionally been more

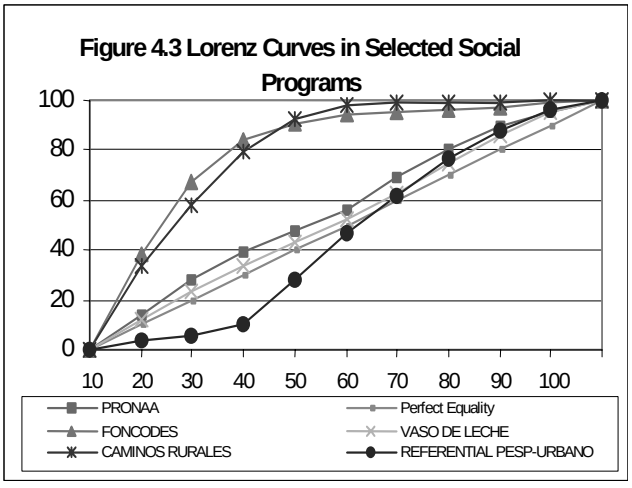
[17] Initial for other infrastructure projects remain, like COOPOP, Caminos Rurales and others from the Ministry of the Presidency.

[18] Peru has an excellent FGT2-based poverty measure, which takes into account both the number of people below the poverty line, and the severity of their poverty (the gap between their incomes and the poverty line). The MEF map combined information from the 1993 census with a household survey conducted by INEI in 2000 to "impute" the consumption of households in the census. This in turn was aggregated up to the district level, and combined with information on the poverty line to estimate the number of households in each district below the poverty line (the headcount index), the poverty gap, and the FGT2 (square poverty gap).

adequately reached by social programs than urban households. Among major social programs, FONCODES (excluding *A Trabajar*), joined by Caminos Rurales, remains with the best record in progressive spending, adequately reaching poor beneficiaries (**Figure 4.3**). PRONAA, however, has lost ground and joined *Vaso de Leche* in the mild progressivity of its programs. No doubt, their targeting has worsened. Finally, the program PESP-*A Trabajar Urbano* has started on the wrong foot. Its overall progressivity, particularly at the first four poorest levels of the populations (which goes beyond the population in extreme poverty), reveals that self-targeting of the most needy beneficiaries is failing. The reason for this is to be found in the seemingly too high wage rate being paid to attract workers from only the poorest deciles.[19]

**Table 4.16 Targeting by Food Assistance, Health, and Education Programs, 2000**

| Social Program | No. of Beneficiaries | Total | Extreme Poverty | Non-Extreme Poverty | Total Poverty | Non Poor |
|---|---|---|---|---|---|---|
| **Food Assistance** | | | | | | |
| Desayuno Escolar | 2,972,859 | 100 | 51.1 | 18.7 | 69.8 | 30.2 |
| Vaso de Leche | 2,283,919 | 100 | 40.1 | 24.1 | 64.2 | 35.8 |
| Comedor Popular | 746,134 | 100 | 40.2 | 14.5 | 54.7 | 45.3 |
| **Health** | | | | | | |
| Regulating child growth | 1,729,899 | 100 | 33.7 | 18.4 | 52.1 | 47.9 |
| School health insurance | 1,157,912 | 100 | 36.8 | 20.6 | 57.4 | 42.6 |
| Family planning | 870,942 | 100 | 22.1 | 24.8 | 46.8 | 53.2 |
| **Education** | | | | | | |
| School text and materials | 2,970,567 | 100 | 44.4 | 19.7 | 64.1 | 35.9 |




[19] The current wage rate appears even more generous in the A Trabajar Rural, but this is less alarming because of the sharing income mechanism often being employed de facto by the rural communities, with members being assigned to a project, but actually sharing the working time, or the monthly wage or both. Therefore, the wage rate does not work as a tool for individual self-targeting the way it does in urban areas. Notice that the success of the program is not measured only by the share of beneficiaries found in the poorest income quintiles, but also by the income gains received as a result of participating in the program and the coverage of the program with a proportion of unemployed poor having access to the program, and the efficiency with which it operates (ratio of wages to administrative costs and material inputs) (Schady 2002).

*Recommendation*

*A Trabajar* should offer a wage rate that makes it only attractive to poor households. To do this, the GOP should undertake an evaluation study, including assessment of household targeting outcomes, and lower the wage should the study indicate poor urban targeting outcomes. A similar study should be done regarding *A Trabajar Rural*. The study should be widely disseminated to support the GOP's decisions.

**Figure 4.4 Lorenz Curves for health expenditure**

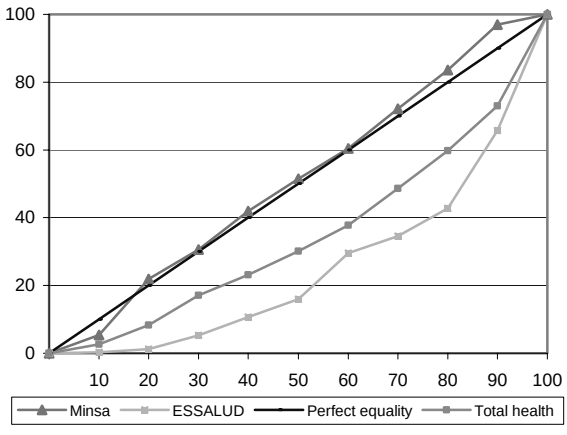
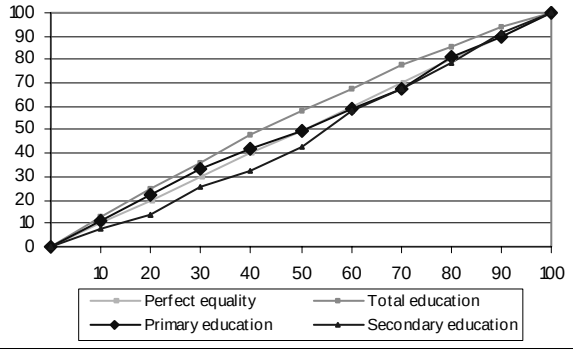



**Figure 4.5 Lorenz Curves for education expenditure**

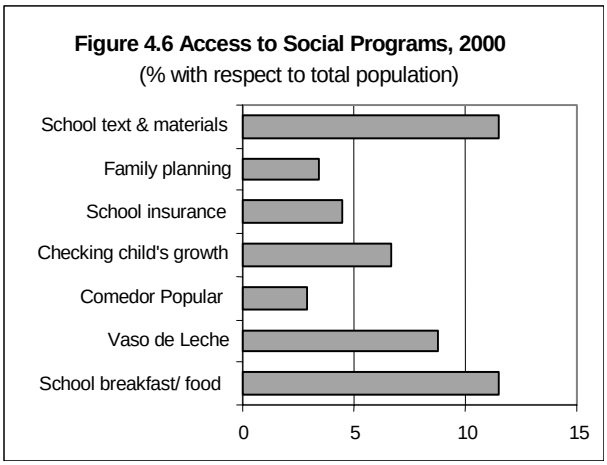



The main social sector programs also reflect a mixed picture in terms of the progressivity/regressivity of their resources allocated nationwide. On the one hand, health expenditure appears with significant regressivity, much exceeded by ESSALUD whose services clearly focus on the population located in the non-poor deciles, but offset by MINSA programs, which show mild progressivity thanks to a few local service delivery programs that clearly target most needy beneficiaries (Figure **4.4**). On the other hand, education expenditure shows some degree of progressivity, certainly reflecting a similar feature in primary education, barely offset by the regressivity of expenditure in secondary education (Figure **4.5**).

In general, safety-net programs reach less than 40 percent of their intended extreme poverty beneficiaries. This is the case of the *Vaso de Leche* and *Comedores Populares* programs (Table **4.17**). *Desayuno Escolar* and School Text and Materials, however, are the exception, with an acceptable 51 percent and 44 percent of their beneficiaries belonging to the three poorest deciles. *Seguro Escolar* ranks relatively better among health programs, whereas *Planificación Familiar* is found among the worst targeted programs. This ranking also broadly corresponds to the level of access—measured by the ratio of beneficiaries to the total population—that these programs have, with *Comedores Populares* and *Planificación Familiar*, having the lowest percentages (Figure **4.6**).

**Table 4.17 Household Access to Social Programs by Poverty Level, 2000**

| Geographic area | Total | Extreme Poverty | Non-Extreme Poverty | Total Poverty | Non Poor |
|---|---|---|---|---|---|
| Total | 5,632,815 | 1,161,588 | 845,355 | 2,006,943 | 3,625,872 |
| Beneficiaries | 59.1 | 83.9 | 79.7 | 82.1 | 46.4 |
| One program | 13.4 | 10.5 | 17.2 | 13.3 | 13.5 |
| More than one | 45.7 | 73.4 | 62.5 | 68.8 | 32.9 |
| Non-beneficiaries | 40.9 | 16.1 | 20.3 | 17.9 | 53.6 |
| Urban | 3,607,764 | 266,243 | 607,221 | 873,464 | 2,734,300 |
| Beneficiaries | 50.8 | 81.9 | 78.8 | 79.7 | 41.6 |
| One program | 14.9 | 19.1 | 19.1 | 19.1 | 13.5 |
| More than one | 36.0 | 62.7 | 59.7 | 60.6 | 28.1 |
| Non-beneficiaries | 49.2 | 18.1 | 21.2 | 20.3 | 58.4 |
| Rural | 2,025,051 | 895,345 | 238,134 | 1,133,478 | 891,573 |
| Beneficiaries | 73.9 | 84.5 | 81.9 | 84.0 | 61.1 |
| One program | 10.8 | 7.9 | 12.3 | 8.9 | 13.3 |
| More than one | 63.1 | 76.6 | 69.6 | 75.1 | 47.8 |
| Non-beneficiaries | 26.1 | 15.5 | 18.1 | 16.0 | 38.9 |




*Recommendations*

- In the short term, application of a common poverty targeting methodology and criteria—based on a poverty map updated every 3 years—in all social programs should be made more explicit, transparent and focused on populations that are extremely poor, and be accompanied by complementary training, information campaigns, community mobilization or nutrition education.
- Programs with substantial mistargeting should be redesigned, merged or closed. To evaluate this regularly, benchmarks in terms of the share of expenditure reaching extreme poor beneficiaries (lowest 4 quintiles) should be set explicitly for at least the ten main social programs, and progress toward meeting such benchmarks should also be monitored on an annual basis with SIAF support. As their evaluation indicates that programs do not meet their objectives or overlap, their immediate restructuring will be necessary. Some of them, like *Vaso de Leche*, showing significant leakages and not meeting nutritional objectives significantly, might require a major restructuring in the future.

**Box 4.1 MEXICO: Integrating Social Programs for Improved Efficiency. The Case of PROGRESA**

In 1996, the Mexican Government designed and successfully implemented PROGRESA, a single and integrated social assistance intervention replacing a series of disparate food subsidies, education, health, and other social programs. PROGRESA's unified approach provides immediate financial transfers to the rural poor while at the same time promoting investment in children's human capital (future earnings) via increased schooling and improved health and nutrition status. The program provides cash transfers to selected poor rural families, selected with household surveys updated every three years, conditional on keeping children in school and providing them with basic preventive health care and nutrition. A key feature of the program is the provision of the cash-transfer to registered mothers, a mechanism designed to ensure that the money is well invested in children and as an incentive to empower women in rural communities. In 2001, the program covered 3.2 million rural families (well over half of the rural poor), at a cost of 2.3 percent of the government's social expenditures, or 0.2 percent of GDP. The program is highly efficient with administrative costs of about 4 percent; therefore, over 95 percent of its expenditure is transferred as cash directly to poor households.

Six years later, an independent evaluation confirmed PROGRESA's impressive results, i.e. (i) increased primary enrollment rates by about 1 percent, and increasing secondary enrollment rates by 8 percent for girls and 5 percent for boys; (ii) children's educational achievement is estimated to have increased by about 10 percent, which would represent an increase in their future earnings of over 8 percent; (iii) increased prenatal care in the first trimester of pregnancy by 8 percent; and (iv) decreased incidence of disease among children under 5 by 12 percent, as did the probability of malnutrition among children between 12 and 36 months.

- In the medium term, a comprehensive restructuring of the main social programs dealing with extreme poverty is necessary, perhaps following the example of PROGRESA (Box **4.1**) in Mexico. Given very limited fiscal resources, budget rigidities, and low levels of efficiency for a substantial amount of resources already devoted to extreme poverty programs, this seems rather an urgent task. The restructuring of social programs in Peru should aim at several goals: (i) improve the quality of service delivery; (ii) expand the coverage of social programs, particularly among most vulnerable rural groups; (iii) generate fiscal savings that could be used to increase coverage of most effective programs at the local level.[20]

- Restructuring Peru's feeding programs into a unified intervention along the lines of PROGRESA (or, more ambitiously, folding other programs into this unified structure) is a very viable option that Peru might consider. This offers a broad coverage of the poor under a single program structure, with proper targeting and very powerful positive impacts on poor families. Rough calculations based on PROGRESA's costs per beneficiary ($80 per year) indicate that to cover the *entire* rural poor population of Peru (4.5 million people) with a similar unified intervention (primary education, basic preventive health, and food supplement) would entail a *maximum* cost of $360 million—or 1,200 million soles (0.6 percent of GDP)[1]. Interestingly, this amount represents about a third of total budget expenditure devoted to extreme poverty programs, just over three times the current cost of the *Vaso de Leche* program, or the combined sum of the *Vaso de Leche,* Comedores Populares, Desayunos Escolares and

[20] A recent study has found that the educational impact of Desayunos Escolares in terms of rate of attendance, rate of repetition and drop-out rates is small, but not negligible: about 10 percentage points in attendance, between a 1-3 percentage point drop in repetition and a 0.3-1.6 percentage reduction in dropout.

Seguro Materno-Infantil programs. Obviously, if the selected target population would be the extreme poor, then the cost would be considerably lower.

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