

***DRAFT***

**DO WE KNOW WHAT WORKS?**

**A Systematic Review of Impact Evaluations of Social Programs  
in Latin America and the Caribbean**

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This working paper is being published with the sole objective of contributing to the debate of a topic of importance to the region, and to elicit comments and suggestions from interested parties. This paper has not gone through the Department's peer review process or undergone consideration by SDS Management. As such, it does not reflect the official position of the Inter-American Development Bank.

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An Earlier Version of This paper was distributed in the High Level Panel / Seminar: What Next for Social Policy: Building on the Experience of Conditional Cash Transfer Programs held during the Inter-American Development Bank 2006 Annual Meeting in Belo Horizonte, Minas Gerais, Brazil, April 1, 2006

This version September 15 2006

Additional copies of this publication may be obtained from:

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## Foreword

Poverty is a multidimensional phenomenon closely related with the low accumulation of human capital and scant economic opportunities for the poor. Government efforts to help households to overcome poverty require actions on multiple fronts. Although sustainable economic growth, macroeconomic stability and governance are essential ingredients for poverty reduction, they are not sufficient. *Specific actions* to boost capacity (assets), opportunities and risk management options for the poorest and most excluded groups are also required to promote greater equity and increase the impact of growth on poverty. The governments of the region, with the support of multilateral institutions such as the IDB, are making important efforts to scale up innovative programs to increase the capabilities and economic opportunities of the poor to ensure attaining the Millennium Development Goals.

Increasingly, the implementation of these programs has been accompanied by significant efforts and resources to evaluate their impact and effectiveness. The implementation and evaluation of the portfolio of interventions to improve the capabilities and opportunities of the poor has produced useful lessons that have helped identify best practices to reduce poverty and inequality and promote MDG attainment. The present document reviews these experiences placing emphasis on extracting lessons from projects and programs for which impact evaluations are available in order to rigorously assess the development effectiveness of these interventions.

While impact evaluations of similar projects in different countries (or regions) are not generally expected to yield the same results, the mounting evidence increasingly allows us to infer some important lessons to design and improve social programs in the region. The results presented in this review show a mostly positive picture of the impact of the programs evaluated. Results of the evaluations have also proven to be useful, not only for measuring impacts, but also for identifying program weaknesses (e.g. problems with targeting mechanisms or groups that are not reaping the full benefits of the program) and induce the adjustments necessary to increase program effectiveness. The evaluation results and the experience in implementing these programs also raise various issues for the reform of social and fiscal policies in order to make public social expenditure more effective, pro-poor, and fiscally sustainable.

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# Contents

<b>I.</b>	<b>Introduction .....</b>	<b>9</b>
<b>II.</b>	<b>Evaluating the Impact of Social Programs: .....</b>	<b>11</b>
	Concepts, Methodology and Policy for Evaluation.....	11
	Concepts and Methodology .....	11
	Implementing systematic evaluation of social policy .....	15
<b>III.</b>	<b>Systematic Review Methodology .....</b>	<b>16</b>
<b>IV.</b>	<b>Programs to Increase the Capabilities of the Poor.....</b>	<b>19</b>
	Early Childhood Development Programs.....	22
	Health Programs .....	32
	Education Programs.....	36
	Conditional Transfer Programs .....	41
	Social Investment Funds.....	49
	Training Programs for Unskilled Youth.....	53
	Comprehensive Urban Development Programs for Marginalized Neighborhoods .....	57
	Water and Sanitation Programs .....	58
<b>V.</b>	<b>Scaling Up Programs to Increase the Economic Opportunities of the Poor.....</b>	<b>60</b>
	Road Rehabilitation .....	61
	Active Labor Market Programs .....	62
	Microfinance and Micro enterprise Programs .....	68
	Land Titling Programs.....	72
<b>VI.</b>	<b>Conclusions .....</b>	<b>75</b>
<b>VII.</b>	<b>Bibliography .....</b>	<b>79</b>
	Annex 1: Impact Evaluations Included in the Review .....	90
	Annex 2: Summary of Impact Evaluation Results from Conditional Cash Transfer Programs .....	94







# I. INTRODUCTION

Latin America and the Caribbean is the most unequal region in the world and this inequality is associated with significantly higher levels of poverty than would be expected given the region's per capita income. The governments of the Latin America and the Caribbean, with the support of multilateral institutions and think tanks, are making important efforts to scale up innovative programs to increase the capabilities and economic opportunities of the poor. Efforts to improve capabilities, include government support for investments to increase the human capital of the poor and their access to basic social and economic infrastructure by setting up conditional transfer programs and social investment funds; enacting reforms and creating programs to improve the delivery of basic health and education services to the poorest families, as well as early childhood interventions, training programs for poor workers and youth, and comprehensive urban development programs for marginalized neighborhoods, and making investments to increase access to water and sanitation in rural and urban marginalized areas. In the area of economic opportunities, governments have placed special emphasis on the creation of employment in times of crisis and improving the productivity of the poor through emergency employment, land titling and microfinance and micro enterprise programs.

Increasingly the implementation of social programs in Latin America and the Caribbean has been accompanied by significant efforts and resources to evaluate their impact and effectiveness. The implementation and evaluation of the portfolio of interventions to improve the capabilities and opportunities of the poor has produced useful lessons that have helped identify best practices to reduce poverty and inequality. Impact evaluations have proved their usefulness in ensuring the continuity of effective programs and in identifying the adjustments required in existing programs.

This document reviews social programs placing emphasis on extracting lessons from those that have been evaluated in order to assess the development effectiveness of these interventions. The paper analyzes the topics that usually arise from systematic reviews of development programs (specifically, poverty reduction programs) and initiate a discussion about them. The topics include (i) identifying general relationships and treatment effects through the synthesis of individual study results; (ii) finding reasons for conflicting evidence; (iii) answering questions, using variations in studies, that could not have been answered in the individual component studies; (iv) explaining variations in practice; (v) reviewing the evidence on the subjective experience of an intervention, and/or (vi) building connections between related areas of research (see Centre for Reviews and Dissemination, 2001). This study should be used as a guide to available information and basic results, we recommend that specialists consult the full documents cited in the bibliography to take into consideration any technical details that may be relevant to a specific topic or study.

The need for such reviews has been underlined by institutions such as the Center for Global Development through a report by their Evaluation Gap Working Group (See CGD, 2006). All evaluations included in the review have a control group and use the rigorous statistical methodologies (randomization or experimental design, propensity score matching, and instrumental variables) to estimate the impact of the interventions. Using this criteria 76 studies from 70 social programs were included.

Among the general conclusions found in the study we highlight the need to design social programs as harmonious components of extreme poverty eradication policies and social protection systems, taking advantage of instrument complementarity; the need to include conditionality in program design; the need to include strong components for beneficiary training and monitoring of beneficiary responses in some interventions, especially those aim at improving local basic infrastructure; ensure an institutional environment that is conducive to program sustainability; go beyond increased access to improve the quality of services provided; respond to political and fiscal questioning of interventions with demonstrated cost effectiveness; and the need to combine quantitative analysis and qualitative analysis to get better diagnostics of problem areas.

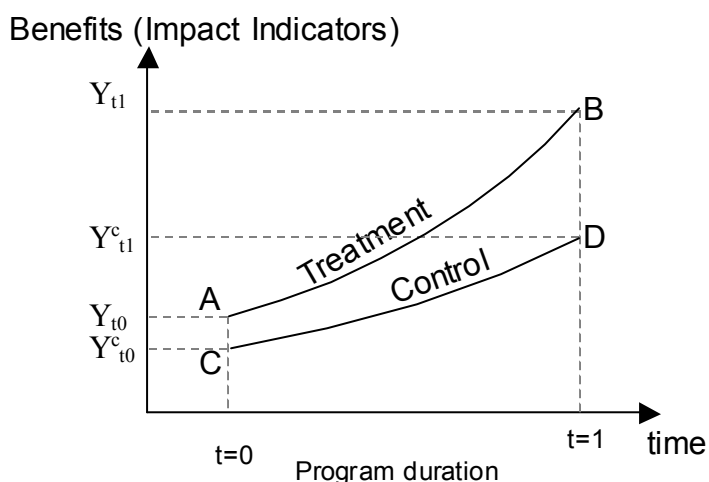
The paper is organized as follows; section II presents some basic concepts and methodology about the evaluation of social programs. Section III presents the methodology for the systematic review and the type of programs included in the study. Section IV and V review programs to increase the capabilities and opportunities of the poor respectively, and section VI concludes and summarizes the findings from the review.

## II. EVALUATING THE IMPACT OF SOCIAL PROGRAMS: CONCEPTS, METHODOLOGY AND POLICY FOR EVALUATION

### CONCEPTS AND METHODOLOGY

The main purpose of an impact evaluation is to measure the value added of a specific program. That is, we want to estimate the changes in certain outcome variables that are attributable to the program independently of other factors that may have simultaneously affected the selected outcome variable. In order to do this the evaluator would need to observe what the change in the outcome variable for a program participant or group of participants would be both with and without the program. In practice this is impossible to measure, and for this reason the evaluator is forced to find a valid comparison group against which to compare the changes in the outcome variables found in beneficiaries. In Figure 1 we illustrate some of the basic concepts of evaluation methodology.

**Figure 1**  
**Measuring Intervention Impacts on Program Beneficiaries**



For example, let's say we want to measure the effect of a certain program on the outcome variable  $Y$ . A naive approach would be to compare the value of the outcome variable  $Y$  before and after implementation of the program. This is equivalent to finding the value  $Y_{t1} - Y_{t0}$  in figure 1. This approach is called a *reflexive comparison*. Its main problem is that it attributes the change in the outcome variable to participation in the program and fails to take into account other factors such as macroeconomic conditions, natural disasters, or other interventions and covariate shocks that may have affected  $Y$  at the same time. One can improve upon this estimate by directly comparing values of  $Y$  for participants with those of a group of non-participants with similar characteristics (called the control group) after the program, which is equivalent to calculating  $Y_{t1} - Y_{c1}$  in figure 1. However that approach fails to take into account differences in the initial

conditions of both groups, which could generate biases in the measured effects of the program. Depending on data availability, it is possible to improve upon the previously mentioned indicators by comparing changes in the outcome variable before and after the program between participants and non participants, this is known as the *difference in difference estimator* given by  $(Y_{t1}-Y_{t0})-(Y^c_{t1}-Y^c_{t0})$  in figure 1.

The strength of the last two approaches depends on finding a *valid* control group, since differences in observable and unobservable characteristics between the treatment and comparison groups may cause biases in the estimation of the impact of the program.<sup>1</sup> A valid control group is one that resembles as closely as possible the ex-ante characteristics (both observable and unobservable) of the treatment group. A broad range of methodologies for solving these problems exists today, such as *randomization*, *propensity score matching* and *instrumental variables* depending on the nature of the project and the data available.

Under *randomization* or *experimental design*, beneficiaries of a program are selected randomly from a pool of eligible participants. Since observable or unobservable characteristics played no role in the selection of beneficiaries (besides the characteristics that qualify them as eligible for the program), it is expected that on average there will be no difference in these characteristics between control and treatment groups. This method is considered the golden standard for impact evaluations; however, since it requires a very strong commitment to the evaluation on the part of the program executor it is only rarely seen in practice. In some cases, beneficiaries of social programs will be selected randomly due to some exogenous factor; for example, the evaluation of the PETI in Brazil exploited an error in the system that caused it to drop from the program all the names that contained the characters é, ô or ç.

*Propensity score matching (PSM)* is a methodology designed to match program beneficiaries with a control group of individuals with similar observed characteristics. It improves over the simpler approach of matching two individuals, one participant and one non participant based on many dimensions (i.e. similar education, age, income, geographic location, etc.) by condensing them into one measure given by the probability that the individual will be a participant into the program. The beneficiary is then compared to a non beneficiary (or group of beneficiaries) with a similar probability of participating in the program.

The method of *instrumental variables (IV)* also tries to control for differences in characteristics that may have caused selection into the program. The idea behind this method is to find an exogenous source of variation in the participation variable; that is, one exogenous variable that may influence participation in the program but not the outcome variable in a direct manner. The first condition can be tested empirically, but the second one is usually justified using arguments for the exogeneity of the variable. For example, it is argued that geographical distance to the supplier of a social service connected to a program being evaluated might influence participation in the program but not the actual effect that the program has on the outcome variable given

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<sup>1</sup> For example if one wants to evaluate a micro credit program there may be unobserved characteristics such as entrepreneurial talent, ability to keep books, or family connections that may cause people who would do better even in the absence of the program to choose to participate in the program. In this case one could overestimate the effects of the program by comparing participants against a group with similar observed characteristics but lower levels of the mentioned unobserved characteristics.

participation. In practice, the analyst must use the instrumental variable to predict the participation variable and then use the predicted value instead of the original participation variable to measure the effect of the program. When using this methodology it is also necessary to discuss in detail the rationale behind the use of a certain variable as an instrument. Table 1 discusses the variables used as instruments in the studies reviewed and provides a brief discussion of their potential weaknesses.

**Table 1**  
**Discussion of instrument used for instrumental variables in paper**

Country	Year	Project	Instrument used	Discussion
Argentina	2006	Land titling program	Offer of title	The IV is not the main strategy of the study and it is used as an instrument of obtaining a title in order to fix the potential bias that would be generated by people who were offered the title and did not accept it for different reasons.
Bolivia	2003	Seguro Básico de Salud	Availability of medical personnel in the municipality	This evaluation actually borrows concepts from the IV technique to separate the sample between a control and treatment group based on the supply of medical personnel (municipalities with supply of medical personnel below a certain threshold are considered controls). The document argues that the supply of medical personnel is not related to demand for services (the dependent variable) but predicts availability of the program, however it is not clear that availability of medical personnel is not related to other characteristics of the municipality (e.g. cultural propensity for the use of modern health services) so the validity of the instrument is open to criticism.
Colombia	2004	Empleo en Acción	Intention to treat: Selection as an eligible beneficiary	The instrument is similar to the one used for Argentina (see above) However it is not clear that the preliminary selection of beneficiaries will not be correlated with the outcomes intended by the project and the evaluation does not discuss extensively the arguments supporting the use of this variable.
Colombia	2005	Hogares Comunitarios	Distance of the household to the nearest Hogar Comunitario and average distance of the village.	The distance to a health centers, financial institutions or in this case Hogares Comunitarios has been used often as an instrumental variable in various studies. The authors of the paper made an extra effort using qualitative information that seems to validate the use of this information as an instrument (i.e. the exogeneity in relationship to the use of Hogares comunitarios) for the use of hogares comunitarios that is not related to studied outcomes (nutritional and educational achievement of children).
Colombia	2005	Subsidized health insurance program	Health Center in the Community existence of government sponsored grassroots organizations Municipal living standards index	Methodology is used as a secondary technique to test for robustness of results. Authors argue that the IV variables used will be correlated with participation into the subsidized program but unrelated to the use of medical services. Success of the strategy depend on whether the availability of Health center in the community is unrelated to use of medical services which may not be true.
Ecuador	2004	Bono Solidario	Randomized allocation to treatment and control groups	In this case the IV is used as a secondary technique to test for robustness of results and fix potential control group contamination and "less than perfect take-up" among selected beneficiaries. Being a random variable it is unlikely that there is a relationship with the outcome except through the participation in the program.
México	1999	CICAT(PROB ECAT)	Availability of the program measured as number of beneficiaries divided by population.	The document does not discuss in detail the use of this variable as an instrument, results depend on if the availability of the program was truly exogenous and was not affected by for example ex-ante expectations about the demand for the program in different regions. A good justification for the use of this type of instrument is presented for the FONCODES evaluation (see below)
Peru	1999	FONCODES	Funds allocated by district	The allocation of funds by district was used as an instrument because it was done based on formula that used data from the 1981 and 1993 censuses. It seems very plausible that the instrument is truly exogenous of the changes in the outcome variable in the period 1994-97 which is studied in the document.
Perú	2003	Vaso de Leche	Index of unmet basic needs	The instrument used in this case is practically the same as the one used in the FONCODES evaluation because it is calculated based on the 1993 census. The assumptions are that the index is correlated with Vaso de Leche expenditures but unrelated to the outcome variable, which measures nutritional level of children from health surveys that took place in 1996 and 2000.
Argentina	2004	Land Titling	Intention to treat. The variable for households that were offered title was used as instrument for the variable "have title"	If being offered a title is a variable that is completely exogenous to characteristics of the family then the instrument would adequately fix the problem of non-compliers. This problem originates when people who are offered a title do not receive it, this could be related to unobservable characteristics and bias results from an evaluation.

Between PSM and IV there is no consensus about a dominant methodology, in most cases the quality of the methodology used will depend on the actual instrumental variable used and the characteristics used to match beneficiaries and controls.

*Regression analysis* is an alternative way to control for observables in an impact evaluation. Running an ordinary least squares regression may help to adjust for differences in observable variables between control and treatment group. Many of the evaluations that are based on natural experiments use this methodology to adjust for any observable characteristics that may be affecting the data and to test for robustness in the results.

All the evaluations reviewed in this paper include a control group and use the methodologies mentioned above or variations of them in order to solve the biases generated by the differences in observed and unobserved characteristics between the treatment and control groups.

## **IMPLEMENTING SYSTEMATIC EVALUATION OF SOCIAL POLICY**

While it is true that in many cases presented in this study, data was readily available to perform impact evaluations, impact evaluations are in general expensive, and policy should not depend on the evaluations that happen to be feasible, to inform policy a more systematic approach is needed. A government interested in evidence based social policy and policy based evidence should have a systematic way to measure and improve the results of its programs. This requires the institutionalization of monitoring evaluation systems at the national level.

Monitoring and Evaluation Systems should be able to do three things i) identify those evaluations that will have the largest returns in terms of improving policy and assign fund to evaluate them, ii) Certify the quality of the impact evaluation being performed (through for example an independent board of specialists and academics) and iii) Devise mechanisms to disseminate the results of the evaluation in a way that will maximize the likelihood of recommendations being implemented.

Many countries in the region have started implementing systems with different variants of the characteristics listed above. One of the success stories of evaluation systems is Chile's System for Public Management Monitoring and Performance Budget (System de Control de Gestación y Presupuestos – SCG) of the Budget Office of the Minister of Finance (Dirección de Presupuestos – DIPRES). The program was created responding to the need from congress of having better quality information for budgeting and policy making and all except for one of the evaluations for Chile in this study come from their database. Many evaluations have been done through this program, all are publicly available and all include a letter of response from the government stating what recommendations were followed which ones were not and why.

### III. SYSTEMATIC REVIEW METHODOLOGY

A systematic review, as defined by the Centre for Reviews and Dissemination is “[a] review of the evidence on a clearly formulated question that uses systematic and explicit methods to identify, select and critically appraise relevant primary research, and to extract and analyze data from the studies that are included in the review.” Under this definition, the systematic review is a step over a regular review in the sense that it uses an explicit methodology to select and appraise primary research, but it does not go as far as a meta-analysis of studies because it does not employ any statistical techniques to construct a summary measure to answer a particular question.

In analyzing the relevance of a systematic review of results from impact evaluations of social programs, we made an effort to look for previous work done in this area. Systematic reviews of the type presented in this study have been made for special categories of projects such as conditional cash transfers (see Rawlings, 2003), active labor market programs (Betcherman et al. 2004) and social investment funds (see Rawlings, 2004) or specific countries (for Peru, see Yamada and Perez, 2005). The only meta analysis available at the date of publication of this study was done for employment programs in Chile (See Universidad de Chile. 2006b)

The aim of this systematic review is to collect a sample of impact evaluations performed in the region by accessing all of the sources cited above, and complementing the evaluation search by canvassing the bibliographies of the main studies. In addition to the systematic reviews mentioned above, databases of impact evaluations have been collected for all types of social projects by the World Bank,<sup>2</sup> for evaluations in Chile by the Chilean “Ministerio de Hacienda”,<sup>3</sup> and for social projects related to labor markets by the International Labor Organization.<sup>4</sup> An additional source of impact evaluations is the International Food Policy Research Institute ([www.ifpri.org](http://www.ifpri.org)), which performed many of the evaluations listed in this paper, Office of Evaluation and Oversight of the Inter-American Development Bank<sup>5</sup> and the Q-squared initiative website ([www.q-squared.ca](http://www.q-squared.ca)). Additional studies were collected from the agendas of the yearly meetings of the Latin American and Caribbean Economic Association (LACEA) (<http://www.lacea.org/>) and in the case of youth training programs from a summary provided in Ñopo and Saavedra, 2003. Internet searches and consultations with specialists for each topic were also carried out. A list of projects and a review of their methodology can be found in the Appendix I. Many of the raw databases and questionnaires used for the evaluations included in the review can be accessed online.

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<sup>2</sup> The database can be accessed at:

<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPOVERTY/EXTISPM/0,,menuPK:384336~pagePK:149018~piPK:149093~theSitePK:384329,00.html>

<sup>3</sup> [http://geminis.dipres.cl/virlib/fr\\_dinamico.aspx?Parametro1=http://geminis.dipres.cl/virlib/menu\\_sup\\_principal.html&Parametro2=http://geminis.dipres.cl/virlib/Matriz1.aspx@Sistema\\*-1|Instrumento\\*5&Parametro3=http://geminis.dipres.cl/virlib/inferior.html](http://geminis.dipres.cl/virlib/fr_dinamico.aspx?Parametro1=http://geminis.dipres.cl/virlib/menu_sup_principal.html&Parametro2=http://geminis.dipres.cl/virlib/Matriz1.aspx@Sistema*-1|Instrumento*5&Parametro3=http://geminis.dipres.cl/virlib/inferior.html)

<sup>4</sup> <http://www.cinterfor.org.uy/public/spanish/region/ampro/cinterfor/temas/youth/eval/index.htm>

<sup>5</sup> Visit: <http://www.iadb.org/ove/DefaultNoCache.aspx?Action=WUCPublications@ImpactEvaluations>



The selection criteria for the studies included that the evaluations have a control group and use the statistical methodologies described in section II (randomization or experimental design, propensity score matching, and instrumental variables) or variations of them in order to solve the biases generated by the differences in observed and unobserved characteristics between the treatment and control groups. The problem of biases generated by language barriers (due to evaluations being written in languages not understood by the authors) was minimal because of the regional nature of the review. However it is important to note that the results of the review may be affected by two potential biases, the first related to the omission of programs with unfavorable results that may not be disseminated by program directors and governments and the second related to the omission of social programs with serious deficiencies in implementation or in their production of outputs, for which an impact evaluation was planned but never undertaken (see Pritchett, 2003). With these caveats, the final pool of evaluations includes 76 studies from 70 social programs.<sup>6</sup> These programs were then classified by type of program (14 categories) and by overarching objective (programs to enhance the capabilities of the poor and programs to enhance the economic opportunities of the poor). Box 1 presents a summary of the programs and categories considered. Annex 1 lists the evaluations included by country, type of project, data used and methodology.

<b>Box 1: Programs Evaluated by Type of Intervention</b>	
<b>Programs to Increase the Capabilities of the Poor</b>	
<ul style="list-style-type: none"> <li>Conditional transfers (9 programs in 7 countries)</li> </ul>	Brazil: <i>Bolsa Alimentação, Bolsa Escola</i> and <i>PETI</i> ; Colombia: <i>Familias en Acción</i> ; Costa Rica: <i>Superémonos</i> ; Ecuador: <i>Bono Solidario</i> ; Honduras: <i>PRAF</i> ; México: <i>PROGRESA/Oportunidades</i> , and Nicaragua: <i>Red de Protección Social</i>
<ul style="list-style-type: none"> <li>Early childhood development programs (4 programs in 3 countries)</li> </ul>	Bolivia: <i>PIDI</i> ; Guatemala: <i>Instituto de Nutrición de Centro América y Panama program</i> and <i>Hogares Comunitarios</i> , and Colombia: <i>Hogares Comunarios de Bienestar Familiar</i>
<ul style="list-style-type: none"> <li>Social investment funds (5 programs in 5 countries)</li> </ul>	Bolivia: <i>Social Investment Fund-FIS</i> ; Honduras: <i>Honduran Social Investment Fund-FHIS</i> ; Nicaragua: <i>Emergency Social Investment Fund-FISE</i> ; Panama <i>Fondo de Inversion Social –FIS</i> , and Peru: <i>Compensation and Social Development Fund-FONCODES</i>
<ul style="list-style-type: none"> <li>Health (5 programs in 4 countries)</li> </ul>	Peru: <i>Maternal and child health insurance and Expansion of Primary Health Service Infrastructure</i> ; Colombia: <i>Subsidized Health Insurance</i> ; Bolivia: <i>Seguro Básico de Salud</i> ; Guatemala: <i>Distance Education Program</i> .
<ul style="list-style-type: none"> <li>Nutrition (7 programs in 4 countries)</li> </ul>	Jamaica: <i>Nutritional supplementation program</i> ; Guatemala: <i>Nutritional supplement experiment</i> ; Colombia: <i>Nutritional Supplement Experiment</i> ; Peru: <i>Programa de Desayunos Escolares</i> and <i>Vaso de Leche</i>
<ul style="list-style-type: none"> <li>Education (8 programs in 5 countries)</li> </ul>	Argentina: <i>National Student Grants Program PNBE</i> and <i>Program for the Expansion of Preschool Infrastructure</i> ; Brazil: <i>FUNDEF</i> ; Colombia: <i>PACES</i> , and Mexico: <i>CONAFE</i>

<sup>6</sup> For the PROGRESA/OPORTUNIDADES program there are several additional impact evaluations that were not listed in this study; however, their conclusions were included as part of the more comprehensive reports that were used.

<ul style="list-style-type: none"> <li>• Training programs for the unskilled youth (6 programs in 6 countries)</li> </ul>	Argentina: <i>Proyecto Joven</i> ; Chile: <i>Chile Joven</i> , Panamá: <i>PROCAJOVEN</i> Peru: <i>ProJoven</i> , Dominican Republic <i>Jovenes y Empleo</i> and Uruguay: <i>Opcion Joven and Projojen</i>
<ul style="list-style-type: none"> <li>• Comprehensive urban development programs (1 program in 1 country)</li> </ul>	Brazil: <i>Favela Barrio</i>
<ul style="list-style-type: none"> <li>• Water and sanitation programs (4 programs in 4 countries)</li> </ul>	Quito: <i>Water and Sewerage Expansion Project</i> . Privatization of water services in Argentina, Brazil and Bolivia
<b>Programs to Increase the Economic Opportunities of the Poor</b>	
<ul style="list-style-type: none"> <li>• Active labor market programs (11 programs in 6 countries)</li> </ul>	Argentina: <i>Trabajar</i> and <i>Jefes y Jefas</i> ; Chile: Proempleo, CONAF, FOSAC, Mejoramiento Urbano, SENCE, FOSIS; Colombia: <i>Empleo en Acción</i> ; México: <i>PROBECAT/SICAT</i> , Peru: <i>A Trabajar Urbano</i> , and Colombia: <i>SENA job training program</i>
<ul style="list-style-type: none"> <li>• Microfinance and support to micro enterprises (3 programs in 2 countries)</li> </ul>	Bolivia: <i>CRECER</i> , and Perú: <i>Mibanco</i> and <i>Promuc</i> . Aggregate impact of microfinance in Chile and Brazil.
<ul style="list-style-type: none"> <li>• Road Rehabilitation (1 program in 1 country)</li> </ul>	Perú: <i>Programa de Caminos Rurales</i>
<ul style="list-style-type: none"> <li>• Training programs for small and medium enterprises (2 programs in 1 country)</li> </ul>	Perú: “Proyecto Formación Empresarial de la Juventud” and “Colectivo Integral de Desarrollo”
<ul style="list-style-type: none"> <li>• Land titling (4 programs in 4 countries)</li> </ul>	Land titling programs in Argentina, Nicaragua, Perú and Ecuador

## IV. PROGRAMS TO INCREASE THE CAPABILITIES OF THE POOR

This section reviews a set of programs intended to improve the capability (human capital) of the poor, focusing on conditional transfers, early childhood development, social investment funds, and health and education programs, among others. Given that labor is the main productive factor of the poor, a critical element in the fight against poverty and inequality is strengthening investments in human capital, from early childhood through adulthood. Access to quality education and health services should be a chief priority of social policy and reform agendas. It is essential that social policies and programs *go beyond average indicators* of access to services, and monitor to what extent the poor are benefiting from efforts in these areas.

Social spending has increased substantially in the region during the last 15 years. This has been accompanied by a substantial increase in the number and resources geared toward social assistance programs. ECLAC data (ECLAC, 2005b) show that social spending as a percentage of GDP rose from 12.8 in 1990-1991 to 15.1 percent in 2002-2003. The increase was concentrated in spending on education (which rose to 4.1 percent of GDP in 2002-2003, an absolute increase of 0.8 percentage points with respect to 1990-1991) and social security and social assistance (which rose to 7.1 percent of GDP in 2002-2003, an absolute increase of 1.9 percentage points with respect to 1990-1991). Health and other types of social spending decreased slightly (reaching 2.9 and 0.9 percent of GDP in 2002-2003, respectively). Unfortunately these averages hide a strong disparity among the countries of the region. Spending varies from around 20 percent of GDP in Argentina, Brazil and Uruguay, to less than 7 percent of GDP in Ecuador, Guatemala and Trinidad and Tobago. Public social spending in Honduras, Mexico, Paraguay, Peru and Dominican Republic is less than 10 percent of GDP.

Efforts have to be made to improve the effectiveness and progressivity of the increased public social spending and, in many countries, its insufficient level. According to ECLAC, only spending on primary education and social assistance are clearly progressive in the region. Public spending on tertiary education follows closely the distribution of income. With the exception of Argentina, Brazil and Costa Rica (which direct a large portion of GDP to public social spending), most social spending in the region has low redistributive impact due to its insufficient level and lack of targeting. Scaling up well-targeted programs is key to improving the distributive impact of spending.

Increased social spending has contributed to reducing poverty in the region. The total poverty incidence decreased from 48.3 to 40.6 percent, while extreme poverty declined from 22.5 to 16.8 percent between 1990 and 2005 (according to ECLAC projections). Even though this progress is encouraging, it is still below what would be required to meet the Millennium Development Goal of reducing extreme poverty by half between 1990 and 2015.

Increased social spending on education has contributed to significant progress toward achieving universal primary education enrollment, but progress in completing five years of primary education has been slower, and few countries can boast universal net enrollment for the entire primary cycle. By 2001, only 12 out of 29 countries in the region had rates of fifth grade completion higher than 90 percent, and 10 had rates below 80 percent (ECLAC, 2005). In many countries, only a third or less of children of secondary school age actually enroll in secondary

school. Levels fall precipitously in rural areas, rarely exceeding 10 percent. Despite steady increases in academic achievement, a third or less of the urban workforce has completed the 12 years of schooling deemed necessary to guarantee a decent standard of living and keep pace with the demands and challenges of an increasingly global economy. It is important to note also that national averages hide drastic disparities among the poor and non poor. The Inter-American Development Bank's EQxIS system of social indicators<sup>7</sup>, which provides estimates based on recent household survey data (circa 2004), shows that the illiteracy rate of the 15 to 24-year-old population, considering a functional definition of this indicator (whether a person has completed 5 or more years of schooling), is nearly 12 percent. However, there is a marked difference in this indicator between the poorest (25 percent illiteracy) and richest (3 percent illiteracy) quintiles of the population. Likewise, while the net attendance ratio for secondary education is estimated at 69 percent, the figure among the poorest quintile is 52 percent compared to 86 percent for the richest quintile (table 2).

It is important to note also that equity gaps in education in the region go beyond access. Poor children have weaker academic performance and lower skills because of the inferior quality of the education they receive at school and the low educational background of their parents, which affects what they learn at home. Indicators on repetition rates for the poor are substantially higher than the population average. Thus, students from poor families have a harder time finishing primary school, and their learning levels put them at a clear disadvantage to access and complete secondary school or go on to higher education. The inadequate quality of instruction, its limited relevance to the work place, and its unsuitability to a culturally diverse population become core obstacles that prevent the poor from accruing any of the high returns of quality education or better employment opportunities, severely limiting the potential contribution of education to social mobility in many of the region's countries.

Malnutrition remains a serious health problem for Latin America and the Caribbean, but not as prevalent as in other developing world regions. Obesity and diet related non-communicable diseases are increasingly prevalent in the region. Child nutrition programs have important development impacts, related not only to the increase in well being associated with better nutrition, but also to the prevention of the irreversible effects that fetal and infant malnutrition has on morbidity (vulnerability to infectious diseases and potential higher incidence of chronic diseases), cognitive development, schooling, physical capacity and ultimately, productivity (see World Bank 2006 and Behrman, Alderman and Hoddinott 2004 for reviews on the long term effects of low birth weight and infant malnutrition). Increased spending has also contributed to reduce malnutrition. According to ECLAC, the percentage of Latin American and Caribbean children under 5 years of age who are underweight declined from 10.3 to 7.2 percent between 1990 and 2002. This rate of improvement surpassed the progress required to achieve the Millennium Development Goal of reducing this indicator to 5.2 percent by 2015. However, these aggregate figures hide the region's heterogeneity. The undernourished population ranges from around 2 percent in Argentina to almost 50 percent in Haiti. Poor nutrition during the fetal stage retards growth and increases infant mortality. Since catch-up potential after age 2 is limited, malnourished children have weaker cognitive skills that, in turn, minimize their prospects for human capital accumulation and their productivity as adults.

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<sup>7</sup> EQxIS is the *System of Information of Social Indicators and Equity*, accessible from [www.iadb.org/xindicators](http://www.iadb.org/xindicators).

**Table 2. Selected Social Indicators (circa 2004)**  
Latin America and the Caribbean <sup>(1)</sup>

SECTOR/ Indicators	Average <sup>(2)</sup>	Population quintiles <sup>(3)</sup>	
		Poorest 20%	Richest 20%
<b>EDUCATION</b>			
Net attendance ratio in primary education (%)	91.2	88.8	93.0
Net attendance ratio in secondary education (%)	68.5	52.4	86.0
Literacy rate of 15-24-year-olds (%) <sup>(4)</sup>	88.4	75.4	97.4
<b>HOUSING</b>			
% of population using solid fuels	16.5	41.7	2.2
% of pop. with sustainable access to an improved water source	92.5	83.3	98.3
% of population with access to improved sanitation facilities	71.7	46.1	92.3
% of population with access to secure tenure	65.7	39.7	87.8
<b>EMPLOYMENT</b>			
Unemployment rate of 15-24 year-olds (%)	17.4	25.6	10.7
Share of women in wage employ.in the non-agric.sector (%) <sup>(5)</sup>	38	28.0	45.6
<b>INFORMATION AND COMMUNICATION</b>			
Personal computers in use per 100 population	15	1.6	44.4
Internet users per 100 population	8.2	0.6	28.9
Telephone lines and cellular subscribers per 100 population	56.7	24.1	88.0
<sup>(1)</sup> Includes Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, México, Nicaragua, Panama, Paraguay, Perú, Uruguay and Venezuela. Representing approximately 97% of the entire population of Latin American and the Caribbean. <sup>(2)</sup> Average weighted by population. <sup>(3)</sup> Average of national quintiles weighted by population. <sup>(4)</sup> 5 or more years of schooling completed. <sup>(5)</sup> Excludes domestic work. <b>Source:</b> IDB. EQxIS. "Sistema de Información de Equidad e Indicadores Sociales." Poverty and Inequality Unit. MECOVI. Access from <a href="http://www.iadb.org/xindicators">www.iadb.org/xindicators</a> on February 1, 2006			

Health indicators for the countries of Latin America and the Caribbean remain at critical levels, especially those that can be improved or controlled through public health measures, such as efforts to reduce infant mortality among the poor and indigenous children living in rural areas, as well as efforts to reduce maternal mortality and transmissible diseases. Even though most countries in the region have made substantial progress in reducing infant mortality, high heterogeneity persists across them and across sub national regions and income and ethnic groups. While countries like Uruguay and Costa Rica achieved infant mortality rates below 15 deaths per 1,000 live births, Haiti and Bolivia have rates above 50 per 1,000 live births (PAHO, 2005). Infants born into the poorest families, those born in rural areas and those from indigenous descent also show mortality rates significantly higher than non-poor infants and those born in urban areas or who are of non-indigenous descent. For example, mortality rates for infants born in the poorest income quintile of Bolivia are more than four times those of infants born in the richest quintile; mortality rates for infants born in rural Peru are twice as high as those for infants born in urban areas; and mortality rates for indigenous infants born in rural Bolivia are twice those of non indigenous babies born in urban areas (ECLAC, 2005). The most recent data show an average maternal mortality rate of approximately 95 deaths per 100,000 live births in the

region (PAHO, 2005). This is considered high given the average per capita income levels of the region's countries. Rates vary substantially, from less than 15 deaths per 100,000 births in Chile to more than 200 in Bolivia and Haiti.

As seen, spending and programs should place more emphasis on improving the transition and successful completion of secondary schooling. Solid empirical evidence indicates that public policy in education has the most potential for reducing poverty and inequality (see Bourgignon, Ferreira and Lustig, 2005 and IDB, 1998). Returns to education in the region have increased, reflecting the stronger demand for workers with post-secondary schooling, and investment in education by the poor is limited because of insufficient and inadequate supply, insufficient savings, child labor, and/or because of credit market constraints. The result is higher inequality in labor income and a stronger need to improve access to post-secondary schooling to overcome poverty.

Programs should also focus on improving child health and nutrition and reducing maternal mortality, especially in the poorest areas. Human potential and skills are developed largely in early childhood and are significantly affected by the learning environment at home, at school and in the local community. The rest of this section presents results for a sample of programs focused on these objectives, among others, with lessons for its dissemination and scaling up throughout the region. Most of the programs reviewed focus on improving the infrastructure of public services or the demand for human capital accumulation for the poor. More supply-side interventions with adequate impact evaluations are needed to address supply-side deficiencies in the provision of these services.

## **EARLY CHILDHOOD DEVELOPMENT PROGRAMS**

Human potential and skills are largely developed in early childhood and are significantly affected by the learning environment at home, at care centers and in the local community. Early childhood development programs (ECDP) have been present in the region for decades. By using longitudinal data with information for beneficiaries decades after the initial treatment, a series of recent evaluations has made it possible to measure the impact that these programs are having even into adulthood.

### **Daycare Centers**

Daycare center programs are usually based on networks of health care providers who receive subsidies from the government or other donors in order to provide adequate health care to children in poor areas. In general some funding is supplied to the day care provider in order to finance the necessary infrastructure for the day care center and training and didactic materials are provided for the cognitive development of children. The payment families make to providers and the age range of beneficiary children varies by country. Evaluations of this type of program are available for the PIDI program in Bolivia, the Hogares Comunitarios de Bienestar Familiar program in Colombia, and the Hogares Comunitarios program in Guatemala.

## Program Design

The PIDI program in Bolivia provided nutritional and educational services to families with children between the ages of 6 and 72 months who live in poor predominantly urban areas (see Behrman et al., 2004). A pilot stage of the program began operations in 1992. It was put into full operation in mid-1994 with support from various multilateral organizations. The program grants of up to US\$500 to women who live in poor areas to upgrade their home so that they can serve as full-time daycare centers. It also provides childcare training to the women. The estimated cost of the program is US\$43 per person per month. The evaluation was based on approximately four thousand households half of which were neighbors of beneficiaries with similar characteristics that were used as controls.

The program Hogares Comunitarios de Bienestar Familiar in Colombia started during the mid-1980s, and preceded Bolivia's PIDI. Selected mothers act as daycare providers for up to 15 children between the ages of 0 and 6 (see Attanazio and Hernandez, 2004). Participating parents pay a monthly fee that is roughly equivalent to US\$4 and in return receive daycare services and food (including nutritional supplements). However, the average fee actually paid is US\$2 and in some cases caretakers do not even charge a fee. The program currently is the largest welfare program in the country, benefiting over one million children and accounting for 0.2 percent of GDP. The design of the Guatemalan Hogares Comunitarios, program is similar to Hogares Comunitarios de Bienestar Familiar in Colombia and the PIDI in Bolivia. The program was established in 1991 in Guatemala city and provides approximately US\$0.60 per child per day to the caretaker for food, fuel and educational material, plus US\$3 per child per month and a fee of US\$5 per child paid by the parents, the program accepts all children under 7 years of age (see Ruel et al., 2002). The evaluation used a sample of households with similar characteristics but did not use other matching techniques, sample size was 514.

**Table 3**  
**Summary of the Early Childhood Development Programs Evaluated**

Country	Program	Year of inception	Budget	Budget (US\$ mill)	Monthly Fee (US\$)	Beneficiaries	Period Covered by Evaluation	Cost per beneficiary
Bolivia	PIDI	1992		140			1995-98	2.15
Colombia	Hogares Comunitarios	1984-86	250mill 0.2% of GDP	250	US\$4/month	80000 hogares comunitarios	2002-03	0.58
Guatemala	Hogares Comunitarios	1991			US\$5/month	1200 hogares comunitarios	1998	1.38

**Sources:** For Bolivia, Behrman, J., C. Yingmei and T. Petra. 2004. Evaluating Preschool Programs When Length of Exposure to the Program Varies: A Nonparametric Approach. *The Review of Economics and Statistics*, Vol. 86.: 108-132, MIT Press. For Colombia, Attanasio, O. and M. Vera-Hernandez. 2004. Medium and Long Run Effects of Nutrition and Child Care: Evaluation of a Community Nursery Program in Rural Colombia. Institute for Fiscal Studies Working Paper, EWP04/06. London: Institute of Fiscal Studies. For Guatemala, Maluccio, J.A.; J. Hoddinott, J.R. Behrman, A. Quisumbing, R. Martorell and A.D. Stein, 2005. The Impact of an Experimental Nutritional Intervention on Education into Adulthood in Rural Guatemala. Philadelphia-Washington D.C-Atlanta: University of Pennsylvania, IFPRI, Emory, processed.

### *Evaluation Methodology and data*

Data from Guatemala was collected from a sample of 1,208 children on weight and height from birth to 7 years of age. The evaluation in Bolivia collected data from participants (1198 for baseline, 2420 for follow-up and 364 in both), eligible children from communities in which the PIDI had not yet been implemented (558 for baseline, 987 for follow-up and 415 for both) and eligible children from communities in which the PIDI was active but chose not to participate (333 in baseline, 963 in follow-up and 247 in both). Information was collected between 1995 and 1996 for the baseline and from 1997 to 1998 for the follow-up. Bolivia's PIDI and Guatemala's Hogares Comunitarios used propensity score matching techniques for the evaluation and both programs commissioned specific program surveys to undertake the evaluation. In the case of Colombia's Hogares Comunitarios the evaluation used the information from the control group created for the evaluation of the Familias en Acción program (see below, on Conditional Cash Transfer Section), which allowed the creation of treatment and a control group for the program. The data for the Familias en Acción baseline included the distance between the households and the nearest healthcare center, which was used as an instrument variable to determine participation in the program. Data is longitudinal but is analyzed as a pooled cross section because the effects of the program are expected to take time to become evident. The sample included data on 4,147 households. The Colombian evaluation argues that potential biases can arise from unobservable in matching methodologies that do not use instrumental variables.

This group of evaluations also show some interesting features that are worth highlighting. For example the PIDI evaluation is one of the few cases in which the evaluation measured treatment as a binary variable as well as a continuous one (Thus, it was possible to estimate the marginal effects on the beneficiaries of an additional month of treatment), and also one of the few that attempted to do a cost benefit analysis of an intervention.<sup>8</sup> Additionally the evaluation of the Hogares Comunitarios in Guatemala included a qualitative evaluation section that was well coordinated with the quantitative section. This type of analysis is valuable at the moment of interpretation of the econometric results and would have added value to the interpretation of results for the mostly quantitative PIDI evaluation.

### *Targeting*

The evaluations in general do not analyze targeting of the programs thoroughly. In the case of the PIDI the evaluation finds that mean household per capita income of participants is US\$185 while the urban poverty line stood at US\$309 in 1997, this suggests that at least when looking at averages the program was well targeted. The Hogares Comunitarios Program in Colombia utilizes proxy means test targeting (SISBEN index - basically households in the levels 1 to 3 of SISBEN qualify for the program). The Hogares Comunitarios Program in Guatemala compared beneficiaries with a random sample, finding that beneficiaries of the program had lower indicators of education and wealth; however they had higher labor income. The program also

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<sup>8</sup> The evaluation compares the cost of the program with benefits in terms of increased earnings due to variables associated with the program such as height and cognitive skills. The fact that they have to use rates of return to such characteristics from studies in other countries or regions (e.g. Pakistan) shows the difficulty of undertaking cost-benefit analyses of social programs.



only covered 3 percent of the households that would qualify for the benefit. and many beneficiaries (in contrast with Colombia) paid higher fees than what the program required.<sup>9</sup>

### *Program impacts*

The evaluations find positive impacts in terms of outcomes linked to test scores and future school performance. Positive effects are found in terms of nutritional indicators (intake of nutrients), but mixed results are found in terms of anthropometric measures. This mixed outcomes may be explained by methodological problems in the construction of the control group for the Bolivian case (lack of instruments to control for non observable characteristics).

The effects of the PIDI program on test scores are positive for children between 37 and 58 months old, who increased test scores by 3 to 4 percent (anthropometric measures were not precisely estimated). Disaggregating by the length of participation in the program it becomes clear that the effects on test scores are positive for all groups that participated for more than 7 to 13 months, independent on the comparison group used for the evaluation.<sup>10</sup> In the case of the Hogares Comunitarios Program in Colombia, positive effects in school attendance and progress were also found for former beneficiary children aged 13 to 17 (For example a child who attended Hogares Comunitarios had 20 percentage points higher probability of attendance to school). In addition, positive effects were found in mothers' working hours and employment rates.

**Table 4: Summary of Evaluation results, data and methodology – Early Childhood Development**

Program	Data	Evaluation Methodology	Targeting	Impacts test scores school	Impacts nutritional indicators
Bolivia	Program	Propensity score	Seems well		
	Data	Matching	targeted	Positive	No impact
Colombia	Program	Instrumental			
	Data	Variables	n.m.	Positive	Positive
Guatemala	Program		Mixed targeting		
	Data	Propensity score	outcome	n.m.	Positive

Sources: For Bolivia: Behrman et. al. 2004, for Colombia: Attanasio and Vera-Hernandez 2004, for Guatemala: Maluccio et. al. 2005.  
n.m: not measured

In terms of anthropometric measures, (i.e. height-for-age and weight-for-age) the PIDI evaluation found no significant impact and the analysis found negative impacts for short periods of exposure to the intervention (Behrman et al., 2004). Results for the Colombian Hogares Comunitarios program show that it has positive effects that would be overlooked if the methodology did not control for endogeneity in treatment selection (i.e. when not using instrumental variables). Specifically, the study found that 72-month-old children who received

<sup>9</sup> This was also the consequence of extended hours in the provision of day care services requested by parents.

<sup>10</sup> Two comparison groups were used. The first consisted of children living in areas in which the program had been implemented but who had not participated in the program. The second group was made up of families that would qualify for the program, but lived in areas where it had not been implemented.

program treatment since birth were approximately 3.8 centimeters taller than control group children, but no effects were found in the weight-for-age indicator. Effects of the program were also found to be heterogeneous with larger effects for poor and low educated mothers. An important factor highlighted in the evaluations is the need to take into account the endogeneity of treatment in order to avoid biases in the results. The Colombia Hogares Comunitarios evaluation attempted an exercise using similar matching techniques as the ones used in the evaluation of the PIDI in Bolivia, finding that positive effects vanished using the PIDI evaluation approach. This might be one of the reasons behind the lack of evidence on the nutritional effects of the PIDI in Bolivia. The Hogares Comunitarios Program in Guatemala had a positive impact on the intake of calories, iron, vitamins and proteins by beneficiary children compared to their control group. However, it does not compare other indicators such as height-for-age or weight-for-age scores.

The marginal effects analysis of the PIDI used only the participants' sample and looked at the effect of an extra month of intervention. Results are consistent with the previous ones in that the effects seem to be positive for test scores but insignificant for anthropometric measures. Marginal effects on test scores seem to be increasing with the duration of exposure to the program. The cost benefit analysis found a cost-benefit ratio (defined as the gains in the present discounted value of earnings divided by the cost of three years of participation in the program) between 1.7 and 3.7 depending on the assumptions used in the calculation. The effects of the program on earnings seem to justify implementation of this type of intervention as an effective tool for reducing poverty; however, it is worrisome that the nutritional indicators did not improve using a range of different methodologies. This is an issue that should be further looked into and improved in the future. To answer this type of questions qualitative components of the evaluations as in the case of Guatemala can be useful. For example monitors saw that daycare providers had no time to implement the educational activities that were required in the program or that some of them left the children alone for periods of time.

More information about efforts to combine quantitative and qualitative methodologies The combination of quantitative and qualitative analysis has been recognized as a powerful tool in the analysis of social policy moreover the q squared initiative housed at the Centre for International Studies, University of Toronto is a program destined to provide support to these kind of efforts (more information can be obtained at ([www.q-squared.ca/index.html](http://www.q-squared.ca/index.html))).

## **NUTRITION PROGRAMS**

The World Bank estimates that the productivity losses of malnutrition for individuals can be more than 10 percent of lifetime earnings (World Bank 2006). Malnutrition has a variety of causes that include low income, food insecurity, inappropriate infant feeding and care practices, poor access to health services, and poor access to water and sanitation. The nutrition programs in this section focus on health, hygiene, and nutritional education and micronutrient fortification and supplementation. Water and sanitation interventions and other more comprehensive interventions with nutrition and health components (conditional cash transfers) are reviewed in other parts of the document. Evaluations in this section include a nutritional intervention in four villages of Guatemala from the late 1960s that were reevaluated in 2002-2003, four evaluations of similar programs in Jamaica and Colombia from the late 1980s and early 1990s, and four

evaluations from the more recent and larger “Programa de Desayunos Escolares” and “Vaso de Leche” in Perú.

### *Program Design*

The first group of evaluations in this section was based mostly on small experiments whose impact was evaluated (especially in central America and Caribbean countries) as early as the late sixties. They appeared in the medical journals and are the earliest examples we could find of impact evaluations of social programs. The focus of these programs was mostly on the first three years of life (in one case supplements were provided from early stages of pregnancy). The small scale of programs made it easy to provide treatment (supplements) in a controlled hygienic environment. For this reason results of these experiments may not apply to large-scale programs. Although small in scale most of these interventions were able to select beneficiaries randomly from a pool of eligible beneficiaries. It is important to highlight that in the case of Guatemala a follow up was possible almost 30 years after intervention!

**Table 5. Summary of Nutrition supplement programs evaluated**

	follow-up (months)	Sample size (Includes control)	Net intake	beneficiaries length minus control length	beneficiaries weight minus control length
Colombia	birth	456	178	0.1	68
	3			0.5	197
	6			0.9	376
	9			1.1	372
	12			1.4	422
	24			1.9	519
	36			2.2	476
Jamaica	6	162	106	1.0	350
	12			0.9	380
Guatemala*	12	1388	83	0.6	233
	24		129	1.5	260
	36		132	1.9	n.m.

Source: Mora et al. 1981, for Colombia, Schroeder et al. 1995 for Guatemala, Walker et al. for Jamaica.

Net intakes from Caulfield et al. 1999

\*Estimates calculated by the authors based on the coefficients found in Schroeder et al. 2003

Programs of this type were implemented and evaluated in Guatemala, Colombia and Jamaica. The Guatemala program was implemented by the Instituto de Nutrición de Centroamérica y Panamá in four rural villages from 1969 to 1977 (see Maluccio, Hoddinott, Behrman, Quisumbing, Martorell and Stein, 2005). Two of the four villages were randomly selected to receive the dietary supplement *atole* (which has a high protein content) and the other two received a drink called *fresco*, which contained no protein, and fewer calories but similar micronutrients. Participation in the program was voluntary and children were monitored until they reached 7 years of age. The evaluation from Jamaica took place in 1991. It was performed on a group of 162 children from poor households between 9 and 24 months of age (Walker, Powell, Grantham-McGregor, Himes and Chang, 1991). The program focused mainly on stunted

children<sup>11</sup> and the sample only included 32 non-stunted children to compare the results. The evaluations in Colombia correspond to a nutritional program that took place in the late 70s early 80s (Mora et al. 1981). Based on data from this program, two evaluations were made on the impact of supplemental nutrition in Bogotá. The supplement consisted on vitamins for the mother and child, whole powdered milk, a commercial high protein vegetable mixture for children from 3 to 12 months and dry skim milk, enriched bread and vegetable oil for members over one year of age, treatment continued until children reached 3 years of age. In the case of mothers, the supplement amounted to 155 cal and 20g of protein. To be eligible for the program the mother had to be in the first semester of pregnancy and at least 50% of those under age 5 in the family had to be less than 85% in weight for age of the corresponding age/sex Colombian Standards at the time of the baseline survey. Using these criteria, 456 low-income families were selected as beneficiaries of the program.

The second group of evaluations correspond to school breakfast programs. These are usually larger scale programs that consist in providing a balanced breakfast to children in low-income households and who usually need to travel long distances to reach their schools. The programs were designed to provide a nutritional supplement in order to improve learning in public schools and to improve school attendance. Since these are large-scale programs and heterogeneous we analyze the results separately in the rest of the section.

In the 1998 Jamaican experiment (Grantham-McGregor et al. 1998) 100 undernourished children from 3<sup>rd</sup> and 4<sup>th</sup> grade were selected from four rural primary schools and were matched with 100 adequately nourished children. They were randomly selected into two groups to receive breakfast or a placebo. The children were monitored for a week and then the groups were switched to receive a placebo and breakfast respectively. The “Programa de Desayunos Escolares” in Peru started in 1993 and is focused on children from 4 to 13 years of age in rural areas and who for the most part have to walk long distances to get to their schools. The program provided a drink similar to milk and a solid component, which were designed to cover most of the need of the children in terms of vitamins and minerals. The “Vaso de leche” program was started in 1984 as a pilot in Lima. By 1998 it was estimated that the program had reached 44% of households with children aged 3 to 11, and by 2001 the size of the program amounted to US\$91 million. The program consists on a monthly transfer to municipalities, which is used to distribute milk, and in some cases milk substitutes and/or cereal or other commodities.

### *Evaluation Methodology and Data*

The first evaluation from Guatemala was performed using the original data collected in the 1960s for 664 beneficiaries and 724 controls (see Schroeder Kaplowitz and Matorel 1993) and the second one made use of additional follow-up information that was collected for 1,447 members of the original sample in 2002-2003 in order to measure the effects of the supplement during adulthood (see Maluccio et al. 2005), for the more recent evaluation, individual characteristics were matched to construct a better control group. In the case of Jamaica, eligible beneficiaries were randomly selected to be part of four groups, one control group, one group that received

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<sup>11</sup> Defined by length smaller than 2 standard deviations of the National Center for Health Statistics reference, birth weight above 1.8Kg, Weight for length below the NCHS median, no mental or physical handicap and maternal education and housing below certain levels.

only psychological stimulation (in the form of developmental toys), one group that received nutritional supplements, and one group that received both, all groups received free medical care. Each group consisted of approximately the same number of children (between 30 and 32). Results measured the effects after 6 and 12 months of treatment in length, weight, head circumference (HC), midupper arm circumference (MUAC), triceps (TSF), and subcapular skinfold thicknesses (SSF) of children.

In the Colombian program, beneficiaries were randomly selected into six groups, each one of approximately 90 observations (A, A1, B, C, D and D1, the groups with a number one correspond to those who also received psychological stimulation) with different levels of treatment, all of them received health care but varied in the level of food supplementation, group A received no supplementation and group D received supplementation from 6 months of pregnancy to the first three years of life. For the second evaluation a sub sample of households were selected (groups A and D), the sample size for each group was 82 and 90 observations respectively.

The first impact evaluation of the “Desayunos Escolares” program took place in the city of Huaraz, two different randomized experiments were performed in the city and in the rural periphery (See Pollit, Jacoby and Cueto, 1996). In the first case a sample of 83 children was separated into children at risk (malnourished) and without risk (adequately nourished), In the second case 10 schools were randomly assigned for treatment and control. Effects are measured by single differences of both samples. The second evaluation sample corresponds to 300 children in fourth grade of primary education in treatment areas and 290 children in control areas (See Cueto and Chinen, 2001). The control group was selected from areas in which the program had not yet started operating, there was only baseline data for certain indicators (enrollment rate, desertion rate, time spent by teacher in the classroom) and data used for the evaluation corresponds to the year 1998. The evaluation utilized a 2-stage regression technique (Hierarchical Linear Model) to measure the effects of the program. Various outcome indicators were measured in three categories: nutrition (z-score, weight for age, hemoglobin), cognitive improvement (reading and math tests, intelligence scale, and short term memory), and attendance to school (enrollment rates, desertion rates and time spent in class).

Two evaluations are also available for the “Vaso de leche” program in Peru. The first evaluation utilized propensity score matching and a sample of 1,848 observations for the year 2000 (See Gajate and Iturritegui, 2003) from the ENNIV survey. This evaluation focused only on nutritional indicators as measured by the z score. The second evaluation of the program (See Stifel and Alderman, 2003) made use of instrumental variables to measure targeting and impact of the program data comes from the ENNIV and ENAHO surveys for various years, which add up to a sample of almost 20,000 households.

### *Targeting*

In the first group the smaller scale of the programs made it possible to pretty much hand pick beneficiaries. In the case of Guatemala four poor villages were selected to participate and participation was voluntary. The Jamaican experiment selected stunted children defined by length smaller than 2 standard deviations of the National Center for Health Statistics reference,

birth weight above 1.8Kg, Weight for length below the NCHS median, no mental or physical handicap and maternal education and housing below certain levels. The Colombian experiment selected. To be eligible for the program the mother was in the first semester of pregnancy and at least 50% of those under age 5 in the family were less than 85% in weight for age of the corresponding age/sex Colombian Standards at the time of the baseline survey.

The second evaluation of the Vaso de leche did find that the program does have some targeting towards the poor (as of 2000 62% of poor households were beneficiaries compared to 27% of non-poor households, the poverty headcount ratio in Perú is 48%). However being large-scale programs there have been many other studies that have analyzed their targeting in more detail (Se Valdivia, 2005). These studies argue that somewhere between 40 and 50% of program beneficiaries may not be eligible for the program either because they are non-poor or because they are not in the age range, this may also be biasing down the effects of the program on poor and undernourished children.

### *Impact of the programs*

Results from the evaluations show that these interventions had in general a positive effect on nutritional indicators and body length in the first months of life and in cognitive abilities for children of school age that are undernourished (this latter effect was only studied in Jamaica), effects on growth for older children or on cognitive abilities for well nourished children were not statistically significant. Specifically, the effects of the programs in Guatemala, Colombia and Jamaica show that during childhood the supplement had the largest effect on weight during the first 6-9 months of life (See table 4). In terms of length, the program meant a net gain of 1.9cm in length in Guatemala and 2.2cm in Colombia in the first three years and an extra centimeter in Jamaica in the first year (results were not measured after that). For weight during the first 2 years of life for Guatemala the specific effect of the supplement was 493g<sup>12</sup> and for Colombia, the first 3 years of treatment meant an extra 476g and the effect during the first year in Jamaica was 380g. In the 1991 Jamaican experiment, the effects were positive and significant for most of the indicators used (weight, HC, MUAC and TSF) for the first six months of the study, in the following months the gains in these indicators were maintained but no further progress was made compared to the control group which is similar to the result for Colombia where the benefits in weight peaked at 9 months (See Table 5) and were maintained constant after that. Although the positive effects on growth were significant in all programs for the cases of Colombia and Jamaica it was found that effects were not enough for the supplemented group to catch up with Colombian or Jamaican standards (the comparison was not done in Guatemala). The effects during adulthood for Guatemala show that women posted increased grade attainment resulting from the higher likelihood that they would attend school and complete at least some secondary school. Another result was that women made speedier grade progressions and had higher scores on cognitive tests, and that men had higher scores on educational achievement tests.

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<sup>12</sup> The effect was calculated based on the aggregate effect of an extra 100kcal/d calculated in the paper and the net intake by age group.

**Table 6: Summary of Evaluation results, data and methodology - Nutrition**

Country	Program	Data	Methodology	Targeting	Nutrition	Impact Cognitive abilities	Attendance
Guatemala	Nutritional supplement	Project Surveys	Regression Analysis		Positive	Positive	
Colombia	Nutritional supplement	Project Surveys	Experimental		Positive	n.m.	
Jamaica	Nutritional supplement	Project Surveys	Experimental		Positive	n.m.	
Jamaica	School Breakfast	Project Surveys	Experimental		Positive	positive (for stunted children)	Positive
Perú	Desayunos Escolares	Project Surveys	Regression Analysis	Negative	None		
Peru	Vaso de Leche	ENNIV ENAHQ surveys census data	Propensity Score Matching Instrumental Variables	Negative	Negative		

Source: Schroeder Kilowatts and Maturely 1993 and Maluccio et al. 2005 for Guatemala, Walker et al. 1991 and Grantham-McGregor et al. 1998 for Jamaica, Mora et al. 1981 for Colombia, Pollit, Jacoby and Cueto, 1996 and Cueto and Chinen, 2001 for Desayunos Escolares in Peru and Gajate and Iturritegui, 2003 and Stifel and Alderman, 2003 for Vaso de Leche in Peru.

Since the supplement in the case of Colombia was provided since early pregnancy, one of the evaluations measured the impact of the intervention on birth weight. Results of this evaluation show that there were effects on both weight of mothers and birth weight of children. However results also show that the effect was limited to mothers expecting boys and birth weight of boys. Specifically, mothers of boys who received the full supplement gave birth to boys who weighted 105g more than those in the control group, while there were no statistically significant differences between females and their controls or between unsupplemented males and females. The down side is that other indicators of malnutrition showed very small improvement between control and treatment groups, no effects were found in the duration of morbidity between treatment and control groups.

Results from the Jamaican school breakfast program show that the treatment had a positive effect in cognitive tests only for the undernourished population, there was no effect for the adequately nourished children. Authors of this evaluation note that children in the undernourished sample were only slightly undernourished, effects of breakfast might be larger in more extreme cases.

The first evaluation of the Desayunos Escolares found that there was no impact of the supplement on nourished children, however the impact on children at risk was positive both in nutritional and cognitive tests.

Results from the second evaluation show a large impact in school attendance and nutrition (as measured by caloric intake), however the effects in cognitive tests were not significant. Results show positive effects of the program only for a limited number of indicators, in the case of nutrition there are significant effects in one of three indicators studied (the level of hemoglobin), in the cognitive group one out of four indicators showed a positive impact (the short term memory test) and in assistance to school two out of three indicators show positive effects (attendance to school and lower desertion rates). Authors argue that lack of effect in nutritional indicators is due to the late stage in life at which the children are receiving the supplement, they also argue that cognitive indicators may be downward biased because of increased attendance in

treatment schools.<sup>13</sup> Results for those indicators that do not have a baseline however should be taken with caution since there may have been important differences between treatment and control groups before the program.

The two evaluations of the Vaso de Leche program performed in 2003 find that the nutritional indicators (measured by the z-scores) do not show that the program had a statistically significant impact. In fact one of the evaluations finds negative effects of participation in the program on the z score of children.

## **HEALTH PROGRAMS**

In the area of health we review three evaluations of health insurance programs implemented by the governments of Peru, Bolivia and Colombia, an evaluation of a health infrastructure expansion program in Peru and an evaluation of a personnel-training program in Guatemala.

### **Health Insurance Programs**

Evaluations of health insurance programs are complicated because they are either universal or cover all members of a group with certain characteristics. For this reason it is difficult to construct an adequate control group, however the evaluations summarized in this section are a useful example of the use of propensity score matching or instrumental variables methods to evaluate universal access programs. This section reviews the Bolivia Seguro Basico de Salud (SBS), Colombia Seguro de Salud (SS) and Peru Seguro Escolar Gratuito (SEG) and Seguro Materno Infantil (SMI).

#### *Program Design*

Bolivia SBS began its operations in 1998 as a substitute to a previous insurance program (the Seguro Nacional de Maternidad y Niñez SNMN). The SBS is a program with universal coverage and that gives priority to women and children (see Vidal Fuertes, 2003) The significance of the creation of the SBS was the expansion in the package of types of services provided by the SNMN from 32 to 72 in 1998 and to 92 in 2002. This expansion in services provided meant that 67% of the health causes of mortality of children under 5 were covered.

Colombia's SS was the result of a series of reforms that started to take effect in 1995. The Colombian program consists on the operation of insurers contracted by the state and autonomous not-for profit health care providers known as ESS (Empresas Solidarias de Salud). Part of the reform consisted in the separation of the operation of the insurance companies and health care providers. Elected officials at the municipal level are in charge of enrolling beneficiaries into insurance companies known as ARS (Administradoras del Regimen Subsidiado).

The objective of the Maternal and Child Health Insurance Programs in Peru is to lower maternal and perinatal morbidity and mortality. The program provides technical cooperation to implement

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<sup>13</sup> This would keep in the treatment sample children who would have dropped out of school in the absence of the program



a mother and child health insurance plan to spur the use of medical services by providing a full subsidy for pregnancy and maternity centers for women living in the country's eight poorest departments. The program also provides essential pediatric care for their children up to the age of five. Technical cooperation was also provided to improve quality and effectiveness, including changes to improve socio cultural acceptance of the services provided. About 356,630 women and children were registered for the insurance in 2001.

### *Evaluation Methodology and data*

Bolivia SBS applied the concept of instrumental variables using data from administrative records, census data and national household surveys data. The universal nature of the Bolivia SBS made the creation of a control group difficult, for this reason the heterogeneity in the availability of personnel was used as an instrument, however while it is the best available it may not be the optimal instrument for this type of study, this factor should be considered when weighting the results of the evaluation.<sup>14</sup> Colombia SS applied a Propensity Score Matching methodology using national household survey data (Encuesta de Niveles de Vida 1997) which included questions on usage of health services during the 12 months prior to the interview (Trujillo, Portillo, and Vernon, 2005). Finally, Peru SEG and SMI used National Household Survey (ENNIV) and Health and Demographic Survey (ENDES) data with regression analysis.

**Table 7: Summary of Health Insurance Programs evaluated**

Country	Year of Inception	Name of the Insurance	Subsidy (partial/total)	Total cost per beneficiary	Births assisted by professional staff (percentage)
Colombia	2003	Seguro de Salud	Partial	Between 5% and 30%, depending on the household's income.	87
Bolivia	2003	Seguro Básico de Salud	Partial	US\$ 0.7- 1.0	52
Peru	2004	Seguro Escolar Gratuito	Total	0	-
Perú	2004	Seguro Materno Infantil	Partial	5 soles per mother y 10 per child. (US\$ 1.7 and US\$ 3.4 respectively)	55

Sources: Altas de Salud en las Americas (PAHO); Trujillo, Portillo and Vernon, 2005 for Colombia; Jaramillo and Parodi (2004) for Perú; fuertes 2003 for Bolivia.

### *Targeting*

Even though Peru SEG and SMI were initially conceived as a targeted program, targeting results were unsatisfactory. In the case of the SEG the targeting mechanism was to exclude children from private schools from the benefits of the program, in the case of the SMI every woman who does not have any other type of insurance is eligible until 42 days after giving birth and children are eligible until 4 years of age or until they qualify for the SEG. In the case of the SMI, coverage was extended beyond the initial seven poorest departments to include other less poor

<sup>14</sup> The possible result of this strategy would be to overestimate the benefit of the program because there will be more doctors per capita (i.e. higher probability of being "treated")

departments, however the estimates using data for the first seven departments shows that the SMI has a very low coverage of target population (78.4 of eligible beneficiaries are not covered) and both, the SMI and the SEG show high filtration rates (30% of beneficiaries are non-poor)

The SBS in Bolivia in principle is not a targeted program, however by design it is intended to attend problems faced by the poor especially in rural areas, one indication of the success in targeting is that the rate of attended births by the poor increased dramatically since its inception compared to use by the non-poor.

The subsidized insurance system in Colombia is targeted towards the lowest two levels of the SISBEN and the third level depending on availability of resources, the program also gives priority to rural and indigenous populations, pregnant women, children under five, handicapped individuals, and female headed households. While the evaluation does not analyze targeting of the program in detail, there are recent estimates that 19.7% of households who benefit from the program are non-poor (See Nuñez and Espinosa, 2005).

### *Program Impacts*

The three programs evaluated show positive impacts, unfortunately comparison of program relative effectiveness is difficult since the three evaluations use different outcome variables. In the case of the impacts of Bolivia SBS, even though the use of instrument of the evaluation may be questioned, as noted above, the evaluation results seem to be robust to different specifications. In the period under analysis, the country has been experiencing increasing trends in terms of use of professional medical personnel for childbirth (from 41% in 1999 to 53% in 2002 for the poor). The measured effects of the SBS are to increase the likelihood of having a delivery assisted by professional medical personnel by approximately 15 percentage points.

**Table 8: Summary of Evaluation results, data and methodology –  
Health Insurance Programs**

Country	Program	Data	Evaluation Methodology	Targeting	Satisfaction and waiting time	Births attended by skilled personnel	Usage
Bolivia	Seguro Básico de Salud (SBS)	Encuesta Continua de Hogares Administrative data, Census.	Instrumental Variables (not standard 2 stage IV estimate)	Universal	n.m.	Positive	n.m.
Colombia	Seguro de Salud (SS)	Encuesta de Calidad de Vida 1997	Propensity Score Matching Instrumental Variables	Well targeted	n.m.	n.m.	Positive
Perú	Seguro Escolar Gratuito (SEG) Seguro Materno Infantil (SMI)	ENNIV ENDES	Regression Analysis	Poor targeting	Positive	n.m.	Positive
Sources: Altas de Salud en las Americas (PAHO); Trujillo, Portillo and Vernon, 2005 for Colombia; Jaramillo and Parodi (2004) for Perú; fuertes 2003 for Bolivia.							

Three outcomes were measured in the evaluation of the Colombian SS: the effect of the subsidized insurance program on usage of preventive care, hospital care and outpatient care. Results are positive in general. The evaluation concludes that the program increased usage of health services in most of the groups being evaluated (age cohorts were constructed for the groups between 0 to 4, 5 to 15, 16 to 59 and 60 to 98 years of age, the 16 to 59 group was also

split by gender). Specifically the largest effects<sup>15</sup> in terms of preventive health care are for the 0 to 4 years of age cohort, beneficiaries showed approximately seven percentage points higher usage than the control group. For outpatient care and hospitalization, the largest benefits were those of the 60 to 98 group who showed approximately 10 percentage points higher usage for the former and between 3,6 and 7 percentage points of higher usage for the latter compared to their control counterparts. All cohorts showed positive effects for at least one PSM technique used in the estimation and in no cases were negative effects found.

The results of the evaluation of the Peru SEG and SMI point to higher levels of satisfaction with the services received and shorter waiting lists for beneficiaries of the insurance (see Jaramillo and Parodi, 2004). There was also evidence of increased savings due to the decline in the direct costs of medical care for the poorest households. However, the opportunity costs associated with seeking care continue to be high (transportation, absence from work, etc.). Use of services increased for prenatal and pediatric care but did not change for maternity care, perhaps as a result of the lack of stress placed on the component to reduce socio cultural barriers to health care. As a result of the 2003 evaluation changes were made to the programs to sharpen its targeting and lower socio cultural barriers to access health care services. A final evaluation will determine the program's impact on mother and child morbidity and mortality.

### **Health Infrastructure - Peru**

Peru's Health Infrastructure program focuses on expanding the health service infrastructure to provide preventative and primary health care. In the 1990s, economic growth led to a significant increase in health infrastructure, particularly in poor areas of the country. The evaluation of the effects of this expansion in health services (see Valdivia, 2004) used cross sectional data from the 1992, 1996 and 2000 demographic health surveys and from the 1992, 1996 and 2000 health infrastructure census, the final sample included more than 25,000 households. Results from the evaluation support the idea that increased health infrastructure will improve child health; however, the coefficient is only marginally significant for the specification that controls for district fixed effects in urban areas. This indicates that an increase of 1 standard deviation in the infrastructure index will increase height by 1 standard deviation. However small, the effects seem to be greater for low-income groups in urban areas, which highlights the pro-poor tendency of these investments.

### **Health Personnel Training - Guatemala**

In the area of personnel training we included an evaluation of a program implemented by the Institute of Nutrition for Central America and Panama (INCAP) in 1994 in El Salvador, Guatemala, Honduras and Nicaragua (Flores, Robles, and Burkhalter, 2002). Data for the evaluation was collected only in Guatemala for a group of beneficiaries and non-beneficiaries prior and after the course. The program consisted on a series of materials (self evaluation exercises, videotapes, slides, bibliography) sent to the participants every month for 10 months to the students and monitoring, evaluation and a mid course training session in the areas of diarrhea case management. All these activities were supervised by tutors that were assigned to each student and were in charge of conducting the surveys used for the evaluation (participants and

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<sup>15</sup> Significant at the 10 percent level

the control group were surveyed two months prior to the beginning of the program and two months after the end of the program.

Five indicators were used to measure outcomes of the project (in the areas of assessment, diagnosis, planning and counseling), two quality indicators defined by the Pan-American health Organization (PAHO) and three were based of the surveyors observation of how the procedures were carried out. Both the treatment and control group were selected from a sample who expressed a desire to take the course, however the treatment sample does not include participants enrolled but did not take the course (78 out of 158) and those who did not finish the course (14 out of 80) whereas the control sample includes all those who if given the chance may not have ended up taking the course and those who may have failed the course, so the impact of the project may be overestimated. Of the five difference in difference estimators only three are significant (those related to assessment and diagnosis) and all of them are positive ranging from 24 to 27 percentage points of net gain from training compared to the control group, the other indicators are not statistically significant (negative in the planning indicator).

## **EDUCATION PROGRAMS**

As seen in section II, the role of education as a way out of poverty has only increased in recent years. This section reviews education programs in two groups, those that increase the demand for education in the form of scholarships to students that go regularly to school and show good performance and those that improve the supply of education through distance education, financing reform and infrastructure.

### **Demand Driven Programs –**

#### ***Scholarships***

The impact evaluations included in the review for programs to improve the demand for education include, a project in Argentina to support the national student grants program (Programa Nacional de Becas Escolares - PNBE), three scholarship programs in Chile (Beca Presidente de la Republica –BPR, Beca Indigena – BI and Beca Liceo Para Todos - BLPT) and a program in Colombia to provide school vouchers so that poor students can attend private schools (PACES).

#### ***Program design***

The PNBE program in Argentina provides annual scholarships of 400 pesos to families with total incomes of less than 500 pesos per month who have children between the ages 13 to 19 years. A condition of the scholarships is that the children attend school and progress through the grades in a satisfactory manner. The program's target population during the 2003-2004 school year was 350,000 students and it had an estimated cost of US\$46 million for 2003. Two evaluations were made of this program

Chile has implemented several scholarship programs to promote primary and secondary schooling among poor and excluded children. In 2005, 5 scholarship programs were in place in

the country, Beca Pension Alimentacion (BPA, started in 1961), Beca Presidente de la Republica (BPR, started in 1981), Beca Primera Dama (BPD, started in 1988), Beca Indigena (BI, started in 1991) and Beca Liceo Para Todos (BLPT, started in 2000). Three of these scholarship programs, BPR, BI, BLPT, were evaluated using control groups in 2006 as part of the System for Public Management Monitoring and Performance Budget (Sistema de Control de Gestión y Presupuesto por Resultados – SCG) of Ministry of Finance (Universidad de Chile, 2006). All three programs give a cash transfer to the students and their families to promote school attendance and performance. The BPR had 26,424 beneficiaries as of 2005, the program rewards successful poor students from low income households, the BI had 28,000 beneficiaries as of 2005 and aims to reward successful students of indigenous ascendance, however the lack of a clear cut definition of who qualifies as indigenous is cause of concern in the selection of beneficiaries, the BLPT had a total of 16,057 beneficiaries as of 2004 and targets transfers to secondary level students at risk of dropping out of school. The two programs not included in the impact evaluation focused on providing support to students in isolated areas with inadequate school supply to transfer to other school districts in order to continue their schooling. The amount of the transfer varies slightly in the three programs evaluated, the highest transfer, relative to the average per capita income of the lowest quintile, is given by BPR (95.6%) and the lowest by BLPT (77.5%).

The PACES in Colombia was established in 1991 in Colombia's largest cities. The program offered vouchers to children under 15 years of age for private secondary school attendance who lived in low-income neighborhoods. The vouchers were continued based on school performance. PACES vouchers were worth US\$190 dollars, more than half average monthly spending in schools attended by applicants. One hundred and fifty thousand students participated in the program in the mid-1990s. When demand for the vouchers exceeded supply the vouchers were assigned based on a randomized lottery.

#### *Evaluation methodology and data*

The evaluation of the PNBE program in Argentina took advantage of the fact that the program first selected a group of eligible students and from this group it selected a subset who would get the scholarship, this was done due to quota restrictions on the program. The evaluation used project surveys that included 2,497 beneficiaries and 993 controls for students that were entering the 8<sup>th</sup> grade at the time of the collection of baseline data and the last survey was collected four years later. Propensity score matching is used for the evaluation.

The programs in Chile were evaluated with a representative beneficiary survey and a control group. In the case of BPR the control group was based on students that applied but didn't receive the scholarship, the sample consisted on 296 beneficiaries and 190 controls. For the other two programs control groups were constructed with information from the CASEN 2003 survey. In the case of the BI the sample consisted on 371 beneficiaries and 107 controls and for the BLPT the sample consisted on 246 beneficiaries (not reported how many controls were used from CASEN) controls. Control groups for all cases were created using PSM. The impact evaluation looks at three objectives of the programs: school performance, desertion, and school attendance.

In the case of the PACES program, the fact that in some places selection of beneficiaries was randomized is used to build a control group for the program. The evaluation uses data for the cohorts that registered for the program in 1995 and 1997 in Bogotá and 1993 in Jamundi. In the first evaluation, the researchers also performed a telephone survey of beneficiaries, the final sample size is 2400 (See Angrist et al, 2002). The second evaluation uses the administrative data on students who took the college admissions test as a proxy for graduation from secondary school (only for the Bogotá 1995 cohort), the final sample has 4,044 observations (See Angrist et al. 2004).

### *Targeting*

The PNBE seems to be well targeted, according to Ravela, 2000, 73% of program applicants are below the indigence line. However a more recent evaluation (see Heinrich and Cabrol, 2002) using data from 1999 to 2004 showed mixed results with respect to targeting: children from lower income families were significantly less likely to benefit from the program, but children who scored higher on the index of precariousness (i.e. at greater risk for not completing school) were significantly more likely to participate in the program.<sup>16</sup> The targeting of the PACES program is not formally discussed in the study.

A targeting analysis of the Chilean programs shows that in the BI between 28% to 37% of program beneficiaries belong to the richest 40% of the population. In the case of the BPR the document asserts that close to 100% of beneficiaries can be found in the two lowest quintiles of the population. For the cases of the BLPT targeting was evaluated by the level of education of the mother for lack of a better indicator, in this case the percentage of beneficiaries whose mothers have at most primary education complete is 58%.

### *Program impacts*

Impact evaluations of these programs show poor results for the traditional scholarship programs implemented in Chile. The scholarships program in Argentina shows important positive effects on attendance, but not on performance, and, the evaluation of Colombia PACES provides an example of the effectiveness of programs that provide incentives through school vouchers to promote greater school attendance, attainment and other positive outcomes.

An early analysis of Argentina's PNBE program (see Ravela, 2000), which relied on secondary sources of information, found that the PNBE resulted in a significant increase in the number of youths between 13 and 19 years of age, in the lowest income quintile, who attended middle school in most urban areas. The impact evaluation found that the program had a significant impact on school attendance, specifically (Heinrich and Cabrol, 2004) it shows that attendance increased the longer beneficiaries participated in the program. Students receiving the scholarship for 3 or more years attended school for nearly three-quarters of a year longer than those who did not receive a scholarship. The PNBE program showed no statistically significant effect on students' performance as measured by their average course grades. There was also no effect on the time devoted to work outside the home.

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<sup>16</sup> Survey sponsored under the activities of the IDB loan to support Argentina's priority social programs during the recent crisis.

The evaluation of the PACES program in Colombia also showed positive results (see Angrist et al., 2002). The program resulted in a 10 percent higher probability that participants would complete grade 8. In addition, they repeated fewer grades, obtained better marks and completed 0.1 more years than non-participants. There is also evidence that participants were less likely to be working children, get married or cohabit. Also, PACES participants increased their spending on education up to the equivalent of 70 percent of the grant. A more recent evaluation (see Angrist et al., 2004) of the cohort exposed to the program shows that the probability that beneficiaries finished secondary school and registered to take the mandatory college entrance exam (ICFES) increased by 5 to 7 percentage points. Participants also increased their test scores in the entrance exam by around 2 percentage points. These results suggest that the program was a cost-effective intervention.

The evaluation of the Chilean programs found no effect of any of the scholarship programs in the outcome variables. Even more, in the case of BI, recipients of the scholarships negative impact on school performance and in the BLPT, scholarship recipients show higher desertion rates than the control group. In the case of the BPR, even the justification of the intervention is under question, since the desertion rates of students that are good performers in middle school is very low. This may also explain the lack of effects of the intervention. Evaluators, however, justify the continuation of the intervention as a rewards to good low-income students. Lack of results of the BI highlight the fact that school desertion is not associated with ethnicity for the case of Chile. The results of the BLPT seem more puzzling for the evaluators.

### **Supply Driven Programs-**

This section reviews evaluations of a distance education program in Mexico, evaluation of financing reform in Brazil and the evaluation of expansion in infrastructure in Argentina. As discussed below, evaluations of school financing reforms show that they can be effective in improving enrollment and school outcomes for disadvantaged students and students living in isolated or poor areas (by increasing funding for distance schooling and bilingual education). However, the studies also found that the success of reforms may vary depending on the context of each school, a point that is sometimes overlooked by policymakers who fail to take into account the impact of large differences in context at the local level. Finally, an evaluation of a project in Argentina shows that investments in preschool infrastructure may increase enrollment rates, but have no effects on female labor force participation if they are not accompanied by complementary policies and services.

### ***Distance Education***

This section reviews the evaluation of the CONAFE program in Mexico. In the Mexican government undertook an important effort to improve distance education and expand access to school for underprivileged rural children. The CONAFE program provides extra resources to schools that enroll disadvantaged students, including all indigenous schools and schools in isolated rural areas. The program currently supports around 4 million preschool and primary students and around 300,000 students in distance secondary schools (*seculars telesecundarias*).

A 2004 World Bank evaluation that covered 1998 to 2002 (see Shapiro and Trevino, 2004) used a rich database of student's yearly test scores for approximately 45,000 students from 3,000 schools from 1998 to 2002 (not the same students for every year) and used PSM to match similar CONAFE and non-CONAFE students.

Results of this evaluation show that the program is well targeted and that primary schools participating in it increased math scores by 4.8 to 5.6 points compared to nonparticipating schools (around 12 percent of the annual average difference in scores between participants and nonparticipants). Moreover, test scores for indigenous students were slightly higher. Math scores at the secondary school level increased by 0.02 to 1.4 points per year (around 15 percent of the difference in scores) for *telesecundaria* students compared to students in nonparticipating schools. Spanish language test scores in the primary grades did not show the same improvement. Participating school students had similar or slightly lower scores than nonparticipating school students. However, language test scores did rise for students at the secondary level, where scores increased by 0.8 to 3.4 points (around 25 percent of the difference in scores). Students at both participating and nonparticipating schools reduced their repetition and failure rates, but participating schools outperformed nonparticipating schools in the case of the failure rates of less disadvantaged students and in the case of repetition rates for less disadvantage and mid-range students.

### **Financing Reform**

This section reviews the evaluation of Brazil's FUNDEF program. Brazil's FUNDEF program (Fundo para Manutenção e Desenvolvimento do Ensino Fundamental e Valorização do Magistério) redirected resources to basic education, redistributed education resources according to the number of children enrolled in basic education in each state and municipality, and increased the portion of resources allocated to paying the wages of public school teachers.

The impact evaluation of the program used data from the SAEB (Sistema de Avaliação de Ensino Básico) surveys, which include test scores from students in public and private schools in 1997 and 1999. They compare differences in expected wages on teachers in the public and private systems and the performance of students in the 8<sup>th</sup> grade in the two years. The final sample has approximately 30,000 students for each year. Results show that the gap in performance between public and private schools is diminished by the FUNDEF program and that the improvement in public school performance can be associated with improvements in the wages of teachers and principals (see Menezes-Filho and Pazello, 2004).

### **Infrastructure expansion and upgrading**

This section reviews the evaluation of a school infrastructure expansion program in Argentina. The program was designed to expand school attendance for children between the ages of 3 and 5 in Argentina. Between 1994 and 2000 the program created 176,550 school places at an estimated cost of US\$53 million. Preschool attendance rates for 1991 were 49 percent. The impact evaluation for this program used data from repeated cross sections between 1994 and 2000 from the Encuesta Permanente de Hogares of Argentina. The unit of analysis in this case is the



household and the final sample had 36,000 observations (see Berlinski and Galiani, 2004). Regression analysis and instrumental variables are used for the evaluation. The objective of the evaluation was to measure the effect of the intervention on pre-primary school attendance and labor supply of mothers. Results for this evaluation show that the program was successful in increasing preschool attendance (estimated impact of 6.1 percentage points), but it shows little effect on mothers labor force participation. An important policy conclusion is that longer school days may be required to have stronger effects on female labor force participation.

## **CONDITIONAL TRANSFER PROGRAMS**

One of the most effective solutions to improve human capital accumulation of the poor in recent years have been Conditional Cash Transfers (CCT). Conditional Cash Transfers (CCT) that provide incentives for families to invest in the human capital of their children have been implemented in 14 countries of the region: Argentina (Plan Familias), Brazil (Bolsa Familia), Chile (Chile Solidario), Colombia (Familias en Acción), Costa Rica (Supermonos), the Dominican Republic (Solidaridad), Ecuador (Bono de Desarrollo Humano), Honduras (PRAF), Jamaica (PATH), Mexico (PROGRESA/Oportunidades), Nicaragua (Red de Protección Social), Peru (Juntos), El Salvador (Red Solidaria), and Uruguay (PANES). The largest programs are Plan Familias in Argentina, Bolsa Familia in Brazil, and Oportunidades in Mexico, which together benefit more than 14 million poor families. This section briefly reviews the evidence of impact evaluation results from 8 evaluations of CCT in Brazil, Colombia, Costa Rica, Ecuador, Honduras, Jamaica, Mexico and Nicaragua.

### *Program design*

Conditional transfer programs are part of a new generation of programs that center on giving greater decision-making power to the poor through the application of market mechanisms. These new programs intervene on the demand side by providing direct support (in most cases in the form of monetary allowances) to beneficiaries, contingent on a particular behavior (generally investments in human capital, such as sending their children to school or taking them to health centers at given intervals). The immediate objective of these programs is to increase food consumption, school attendance and preventive health care among the poor and extremely poor as a means of breaking the vicious circle of poverty. This would result in eventual improvements in returns in labor markets and the productivity of the economy as a whole.

**Table 9. Summary of Cash Transfer Programs Evaluated**

Country	Program	Year of inception	Budget (circa 2002)	Beneficiaries	Average Transfer	Period Covered by Evaluation
Brazil	(Bolsa Alimentacao, PETI, Bolsa Escola)	1995	2,000	8.7 million	6.25-18.70US\$ per month per beneficiary (Bolsa Escola) US\$11-17 per child per month (PETI) US\$6.3 (R\$15) per child per month (Bolsa Escola)	1999, 2000, 2002
	PETI	1996			US\$11-17 per child per month	1999
	Bolsa Escola	1995			US\$6.3 (R\$15) per child per month	2000
Colombia	Familias en Accion	2000	US\$95mill/year (.12%GDP)	362 thousand households	5-17US\$ per month per hh	2002-2003
Ecuador	Bono Solidario	1998	US\$127.6/Year (.9% of GDP)	1.2 mill households	15.1US\$ per mother per month	1988-1999
Honduras	PRAF (Fase II)	1998	50 million/ 3 Years	47800 rural households	US\$18 per capita per year	2000-2002
Nicaragua	Red de Proteccion Social	2000	US\$7.3mill/year (.2%GDP)	10 thousand households	Per hh per month Education: US\$11.08 Nutrition:US\$18.6	2000-2002
Costa Rica	Superemonos	2000/01	US\$3.4mill/Year (.02%GDP)	12.2 thousand households	US\$30 per household per month	2002
México	PROGRESA/Oportunidades	1997	US\$2.1b/Year (.4% GDP)	5 mill. Households	US\$50 per month per household	1997-2003
<b>Sources:</b> For Brazil, Cardoso, E. and A.P. Souza. 2003. For Colombia, Econometría Consultores. 2004. For Ecuador, Leon, M. and S. Younger. 2006. For Honduras and Nicaragua, International Food Policy and Research Institute. 2004. For Costa Rica, Duryea, S. and A. Morrison. 2004. For México, Rodríguez, E. and S. Levy. 2004.						

CCT programs began a decade ago with the Bolsa Escola program in the outskirts of Brasilia. The first Bolsa Escola programs were implemented at the municipal level in 1995, and then at the federal level in 2001 (see Cardoso and Portela Souza, 2003). The program transferred R\$15 (approx US\$6.3) per child per month for each child between the ages of 6 and 15 years (for up to 3 children per household) conditional on school attendance. By 2002 there were approximately 5.6 million households that were beneficiaries of the program. Bolsa Alimentacao provided cash transfers to families with pregnant mothers or with children up to 6 years old. Beneficiaries had to make a commitment to meet certain requirements, such as attending prenatal care, growth monitoring, vaccinations and health and nutrition education. The program benefited approximately 800,000 mothers and 2,700,000 children in 2002 (see Olinto, et al. 2004 and Morris et al.). The PETI program, which started in 1996, provides cash transfers to families with children between the ages of 7 and 14. The condition for the transfers was that children attend 80 percent of the required number of hours of school and after school programs. By 1999 the program had provided assistance to more than 131,000 children. In 2003, the Brazilian government began the consolidation of many of its cash transfer programs that included conditionality on participant behavior (Bolsa Escola, Bolsa Alimentacao, and PETI, among others) into one conditional cash transfer program called Bolsa Familia, which currently benefits around 8.7 million families.

PROGRESA/Oportunidades, the second largest conditional cash transfer program in the region, began in 1997 in Mexico. The program has three components: education, health and nutrition and transfers are given to the mothers since they show a higher probability of spending the money on improving the welfare of children. At the beginning of 2000, the program covered close to 2.6 million families in 72,345 localities in the country's 31 states. That number accounts for about 40 percent of rural families and one ninth of all Mexican families (see Caldés et al., 2004). In 2004, the figure was around 5 million families with a total annual budget of about US\$2.5 billion, equivalent to 0.4 percent of GDP.

In education, poor households with children who attend school from grade three to grade nine (that is, to the third year of secondary school) are eligible to receive financial support every two months conditional on school attendance. The schools provide the program an attendance report every two months to monitor compliance with the conditionalities. The level of support is determined by taking into account what a child would earn by working or contributing to family production, among other factors.<sup>17</sup> The educational support provided is slightly higher for girls who attend secondary school, given their high propensity to leave school at an early age.

PROGRESA/Oportunidades provides basic health care to children under five, pregnant women and women with newborns through dietary supplements, courses on hygiene and nutrition or money to buy food. Dietary supplements are given to children between four months and two years of age and to pregnant women and women with newborns. Where there is evidence of malnutrition among children between the ages of 2 and 5, food supplements are delivered to the home. The cash transfers and dietary supplements are conditional on the beneficiaries receiving care in public clinics, where nutritional status of the beneficiaries is monitored. The appointments and medical consultations take place periodically and a doctor or nurse checks attendance and adherence to the program. Every two months a certificate stating that the beneficiary kept the appointments is submitted by the physician to PROGRESA/Oportunidades and the cash transfer to buy food is paid.

The Familias en Accion program in Colombia also has a nutrition, health and education components. The nutrition component provides a monetary supplement that is given to all beneficiary families with children under 7 years of age. The health component consists on a vaccination, growth and development checks for children and courses on nutrition, hygiene and contraception for their mothers. Participation in this part of the program is necessary in order to receive the nutritional supplement. For the education component, mothers are given grants if they keep their children in schools for a minimum amount of time. At the time of the evaluation in 2002 the program had 362,000 families as beneficiaries.

The PRAF in Honduras is one of the largest social investments in the history of the country, it provided transfers to poor households with pregnant women, children younger than three years or children between 6 and 12 years who had not completed the fourth grade in primary education. Transfers were provided with the condition that beneficiaries attend to school and make use of preventive health services. At the time of the evaluation 47,800 households benefited from the program. Supermonos in Costa Rica is a CCT that provided a monthly food coupon to poor families on the condition that all children between the ages of 6 and 18 attend school, coupons

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<sup>17</sup> For a detailed description of Progres/Oportunidades See Levy, S and Rodriguez, E. (2004).

were worth approximately US\$30 and were provided during the 10 months of the school year. In 2001, 12,234 families participated in the program. Finally, the RPS in Nicaragua consists on a transfer to households every other month conditional on attendance to training courses (on nutrition, reproductive health, breastfeeding, etc.) and on bringing children under 5 to health care appointments, children under 2 are seen monthly and those between 2 and 5 every other month. The education component of the RPS consists on a transfer every two months conditional on school attendance of children between 7 and 13 years of age who have not completed the fourth grade. The transfer is fixed independently on the number of children but there is an extra amount destined to cover the cost of school supplies that is given for every child in the household. At the time of the evaluation the RPS had 22,500 households as beneficiaries.

Important lessons for future design and improvement of the programs may be learned from the increasing number of impact evaluations available. However, it is important to note that the programs reviewed in this section have some differences in their design, especially in terms of the education transfer. As seen, Mexico's PROGRESA/Oportunidades has an increasing transfer according to school grade that is differentiated across genders, while Colombia's Familias en Acción (see Econometría Consultores, 2004) has a differentiated transfer for the primary and secondary cycles (14,000 vs. 28,000 Colombian pesos, respectively). Both programs have a cap on the number of children that can receive support. Nicaragua's Red de Protección Social has a flat education subsidy per family independent of the number of children, grade in which they are enrolled or gender (see IFPRI, 2004). More importantly, estimates of the transfer per child or per family varies significantly from one program to the other, and there seems to be no specific methodology for how it is established. Theoretically, the amount of the transfer should be enough to cover the opportunity cost of the child in the labor market versus going to school, while the nutrition and health components should be sufficient to enable increased food consumption to decrease malnutrition and stunting. These two considerations should be weighed against the objective of covering the maximum number of families in need under usually tight fiscal constraints.

### *Evaluation methodology and data*

Conditional cash transfers were among the first programs to use large-scale experimental methodologies for evaluation. The evaluation of PROGRESA/Oportunidades randomly selected a group of households to receive the benefits from the program at a later date, these households were used as controls for the program. The evaluation sample for PROGRESA/Oportunidades consisted on 24,000 households out of which approximately 15000 were beneficiaries of the program. The scale and nature of the evaluation generated a wealth of interest and studies in evaluation of social programs especially using data for the PROGRESA/Oportunidades. The PRAF program in Honduras is also an experimental evaluation. However in this case there were 5683 households divided into four different groups selected, the sample for the evaluation includes one group of beneficiaries received both demand and supply side benefits (8797 persons) while the other groups received either only the supply side component (4197 persons) or the demand side component (8823 persons), the last group did not receive any of the benefits and was used as a control for the evaluation (8749 persons). The "Red de Protección Social" in Nicaragua was also an experimental evaluation from which the control group was integrated to the group of beneficiaries at a later stage, the sample in this case consisted on 688 households in

the treatment group and 615 in the control group, an additional control group of 700 households that was not selected randomly was added to the sample two years after the first evaluation.

The evaluation of the PETI included used survey data for 2,864 households from 18 municipalities (9 treatment and 9 control municipalities), data are analyzed using econometric techniques to control for characteristics of the households. A second evaluation of the PETI compares a panel of municipalities, the control group is constructed by propensity score matching using data from household surveys, this study suffers from a small sample problem, as in the best case the treatment and control groups are 34 and 38 municipalities respectively. The evaluation of Bolsa Alimentacao benefited from administrative errors that caused a quasi-random exclusion of some eligible beneficiaries (for example beneficiaries with names that included the characters é, ô or ç were excluded from the program). 1005 households were surveyed from which 696 were beneficiaries of the program. The evaluation of the effects of social transfers on child labor in Brazil makes use of census data and ends up with a sample of approximately half a million observations (children between the ages of 10 to 15) which are then matched using propensity scores in order to construct a control group. The Supermonos program in Costa Rica was based on a special survey of 746 participating families and 1042 non-participating families, the survey was implemented after the beginning of the program and propensity score matching was used to construct a control group.

The evaluation of Familias en Accion in Colombia uses project surveys collected in 2002. selected a sample of approximately 11,000 households for the evaluation, out of these 6,700 were beneficiaries and the rest were part of the control group, propensity score matching was used to select similar households from the control group.

### *Targeting*

Conditional cash transfer programs seem to be well targeted, measures of targeting have been calculated either by coverage/leakage rates or by percent of budget allocated to poor households. Not all studies, however specifically analyzed targeting of the programs. The index used by PROGRESA/Oportunidades for targeting is based on information about income household and community characteristics. An evaluation of the targeting of the program found that the program is adequately targeted, specifically it found that the program had a leakage of 16% (Skoufias, Davis and Vega, 1999) in rural areas and 22.2% in rural areas, and a recent study found that approximately 70% of the project's budget is transferred to the poorest 40% of the population (Regalia and Robles, 2006). The Red de Proteccion Social in Nicaragua was found to be well targeted, particularly given that it was a pilot program and limited in coverage. It was estimated that 42% of the transfers were given to households below the extreme poverty line and 80% to households below the poverty line, which represents 17% and 31% of national population classified as extreme poor or poor respectively. The PRAF in Honduras appears also to be well targeted, the percentage of people who qualified for the program and received the benefits was close to 80% in all cases, the rate of leakage was always below 5% for the health and education transfers and member of the control group that benefited from the program were around 1%. For the Familias en Accion Program data shows that 73% of beneficiaries are poor according to unsatisfied basic needs and as much as 97.3% according to poverty lines (See IFS, 2004).

More comparable findings in terms of targeting come from a recent study by the World Bank using household surveys and comparisons between bottom and top income quintiles in the country. The study confirms that this type of programs are fairly well targeted compared to other programs in the region specifically the Chile Solidario, Bolsa Escola, Oportunidades and Jefes y Jefas were highlighted as having particularly good targeting. Other programs such as PROCAMPO were found to be regressive (See Lindert, Skoufias, and Shapiro).

### *Program Impacts*

Evaluations of the impacts of these programs show that they can be very effective tools for reducing poverty and inequality in the long term and for alleviating poverty in the short term. For example, the various evaluations and studies of the PROGRESA/Oportunidades program, (see Levy and Rodriguez, 2004; Rawlings and Rubio, 2003; and Skoufias and McClafferty, 2001, among others show that it has had a substantial positive effect in education and health. For example, children 9 to 12 enrolled in school with adequate school progress increased from 30% to 64% and a 61% increase in births with adequate prenatal care in rural areas.<sup>18</sup>

The impacts of the program are sustained and increased with greater exposure to the interventions. The impacts of the Red de Protección Social in Nicaragua show a 22% increase in attendance rates to school in communities in the treatment group and 18% points increase in children 12 to 23 months old with complete and adequate immunizations. The Costa Rica Supermonos program shows a 8.7 percentage points increase in school attendance for children 13 to 16 years old. The PRAF in Honduras shows no impact on enrollment for the average population, and a 4.3 to 4.6 percentage point increase in school attendance, also 7 to 10.9 percentage points in children that receive DTP vaccinations on time, however effects have not been found in areas such as diarrhea of children, anemia, immunization in pregnant mothers and food consumption. The Familias en Acción program found a 2.9% increase in school attendance for children 8 to 11 years old in rural areas and no effect in urban areas and a 3.5 to 10.4 increase for children 12 to 17 years old. Bolsa Escola shows a 3-percentage point increase in school attendance, Bolsa Alimentacao shows a 9% increase in food consumption and dietary diversity, and the PETI shows a 10.8 percentage point drop in child labor.

Differences in the impact of the programs may come from idiosyncratic sources. Two evaluations of the Bolsa Alimentacao program in Brazil for example (See Morris et al. 2004 and Olinto et al. 2004) concluded that the program had a positive effect in the availability of nutritious food in the household, however the effects of the program on nutrition of children in the Northeast was negative and increasing through time. While this result may be counterintuitive a plausible explanation for the effect is the presence of an earlier program to which many families were also beneficiaries, the *Incentivo Para o Combate de Carencias Nutricionais*. An explicit rule of the program was that if the child ceased to be malnourished then the household would stop receiving the benefits from it. While evidence is anecdotal it seems that this condition may have caused mothers to keep their children malnourished to keep receiving the benefits, mothers participating in Bolsa Alimentacao may have adopted a similar behavior erroneously assuming a similar rule in this program.

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<sup>18</sup> For a summary of the impact evaluation results of Conditional Transfer Programs please see annex 2.

One of the lessons of the first phase of the PROGRESA/Oportunidades program is that, even though it was successful in increasing the number of children who transition to secondary schooling, after the program benefits ended in the third grade of secondary schooling there was a sharp decrease in continuation rates in both PROGRESA/Oportunidades and in control villages. Continuation rates declined from 100 percent in the third grade to around 43 percent in the fourth grade (see de Janvry and Sadoulet, 2004). The second phase of the program, which started in 2002, expanded benefits to all secondary grades as well as to urban areas.

The unsatisfactory results of the impact evaluation of the PRAF program in Honduras highlight the importance of having adequate levels of transfer to significantly improve food consumption and nutrition. The PRAF transfer was only US\$18 per capita per year, or 3.6 percent of the total annual expenditures of the targeted population. In comparison, transfers under Mexico's PROGRESA/Oportunidades program are equivalent to around 20 of total annual family expenditures (see IFPRI, 2003), and Colombia's Familias en Acción transfers 17.7 percent in rural areas and 13.4 in urban areas (see Econometría Consultores, 2004). The PRAF evaluation also highlights the importance of complementary supply-side interventions<sup>19</sup> for this type of programs. Part of the lackluster impacts of PRAF transfers may be attributed to the inadequate supply of health and education services. PRAF contemplated a strong component for supply-side interventions to accompany the cash transfers, the design of the impact evaluation took this component into account to measure the differential impacts of demand and supply interventions as well as their synergies (see Glewwe and Olinto, 2004).

Unfortunately, the implementation of PRAF's supply-side component was unsuccessful. In terms of health, only 17 percent of the planned transfers to health provided materialized and only 11 to 22 percent of a component for providing comprehensive health care for children was implemented. On the education side, 74 percent of the teacher-training component was implemented, but only 7 percent of the cash transfers to schools were actually made and parents associations were not put in place in the participating schools. These poor results reduced the impact of the demand-side interventions and demonstrate the importance of taking into account institutional shortcomings in line ministers when designing this type of programs. In the case of Mexico, the supply-side complement of the PROGRESA/Oportunidades program has not been carefully analyzed or incorporated into the evaluation. One effect that could be attributed to the supply side is that there is evidence of a crowding out effect in the use of health services non beneficiaries, that is, when the number of beneficiaries is increased the new households increase their use of health centers, but non beneficiary households decrease usage of these services (See Bautista et al. 2006). However, anecdotal evidence suggests a strong supply-side response to the increase demand for public services generated by the program.

Evaluations of the effect on child labor tend to show that for the cash transfer and educational conditionality of the interventions to have a significant impact, they require complementary activities such as after-school programs. This is apparent in the impact evaluations of Mexico's PROGRESA/Oportunidades program and Brazil's PETI program (see Orazem, Sedlacek and Yap, 2002; and Pianto and Soares, 2004). In the case of other programs without these components, such as Supermonos in Costa Rica, the impact is much lower (see Duryea and Morrison, 2004). The programs show little negative effects on the labor force participation of adults in beneficiary households. In the case of Colombia, for example, household income

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<sup>19</sup> Filmer, D. (2004) also discusses the synergies between supply- and demand-side interventions.

increased in direct proportion to the transfers, this in a context of decreased hours worked by children and lower labor force participation rates by children in rural areas.

An evaluation of the first stage of the Bono Solidario program in Ecuador (see León and Younger, 2004) shows that an unconditional cash transfer had an impact of around 11 percent of monthly household expenditures for program beneficiaries in 1999 (similar to the PROGRESA/Oportunidades nutrition component). The program was widespread in Ecuador, covering 45 percent of households at a cost of around 1 percent of GDP. The evaluation shows that the Bono had a small statistically significant effect on height-for-age. In contrast, PROGRESA/Oportunidades shows a much higher effect on height-for-age (around six times higher). Even if the total transfer of the Bono equaled the transfer of PROGRESA/Oportunidades (including the education component), the effect would still be less than one-third that of PROGRESA/Oportunidades. While it should be taken into account that the effects of PROGRESA on health indicators may be high because this program had a well-designed dietary supplement distributed, and nutrition education, results for this specific case may also point to the value added of conditionality to increase the desired impacts of cash transfers.

Another study that evaluates the relative effectiveness of conditional transfers compares the effects of PROGRESA/Oportunidades on poverty, consumption and investment to those of Mexico's Procampo program (see Davis et al., 2002). The latter program is a cash transfer conditional on land use in Mexico. The analysis of Procampo places the focus on the effects of transfers on the shorter-term productive capacity of recipient households by using transfers to encourage investment. One argument for this approach is that productive investments may lead to higher income in the medium term and reduce poverty more quickly than long-term investment in human capital. The results of the analysis suggest that both programs boost total expenditures on consumption and food and yield no evident differences between the two programs for these outcomes. This is an important result: two cash transfer programs, with different conditionality requirements have the same impact on total short-run household welfare. In terms of human capital investment, the study shows that Procampo households have significantly lower outcomes than PROGRESA households (school enrolment rates for Procampo households are approximately 6 percentage points lower for children between the ages 10 and 15). On the other hand, Procampo leads to a significant increase in agricultural spending relative to PROGRESA. While this is a positive result, it is not clear if Procampo conditionality leads to overinvestment in agricultural production. PROGRESA leads to a significant increase in nonagricultural investment, but not nearly to the degree that Procampo increases productive spending. These results suggest that tying transfers to schooling and health outcomes leads to greater investment for long-term gains, while tying them to productive assets appears to enhance investment for medium-term benefits. An alternative to conditionality for promoting productive investment may be complementary actions that improve business climate and productive opportunities. Even without conditionality related to productive activity, PROGRESA/Oportunidades has led to an increase in nonagricultural investment. This effect may be enhanced if investment conditions are improved.

Finally, a key research and evaluation question that needs to be answered about these interventions is their cost effectiveness with regard to other programs, especially transfer programs with more emphasis on productive investments and unconditional transfers. In most



cases, it is believed that conditional transfers have stronger development impacts than alternative social programs such as unconditional cash transfers, in-kind transfers and food price or energy subsidies. Conditionality comes at a cost because of the need to monitor the actions of the recipient population. Additionally, conditions may lead to limited responses by recipients and even unintended consequences. Even if conditions alter recipient behavior in a positive manner, the question remains of which are the “best” conditions to place on recipients (taking into account the particular objectives of the transfer scheme, as well as assumptions about the best ways to meet those objectives and the predicted response of recipients).

## **SOCIAL INVESTMENT FUNDS**

Social Investment Funds (SIFs) were initially conceived and established in many countries as a response to the macroeconomic adjustment programs implemented at the end of the 1980s and early 1990s. They were an attractive instrument for governments because they had the potential of compensating for spending cuts and the negative impact of the reforms. The central objective of the traditional SIF is financing and, in certain cases, the provision of social and economic infrastructure on a small scale in rural areas and low-income urban areas. Some last-generation SIFs have expanded their portfolio of interventions to include pilot social programs using cutting edge technology (FOSIS in Chile) or programs to support productive activities (tourism, agriculture and livestock, agro industry, etc.).

SIFs have been generally perceived by governments and the international community as effective channels for providing assistance to the poorest communities. This was demonstrated by the ability of SIFs to attract financial support from a wide range of bilateral and multilateral sources. In many countries, social investment funds are playing a new role as part of comprehensive strategies to enhance human capital among the poor. They also became key supply-side elements of nascent human capital strategies providing direct cash transfer incentives to poor families.

Five impact evaluations are available for social investment funds in the region: Bolivia (Social Investment Fund-FIS), Honduras (Honduran Social Investment Fund-FHIS), Nicaragua (Emergency Social Investment Fund-FISE), Panama (Social Investment Fund-FIS) and Peru (Compensation and Social Development Fund-FONCODES). These social investment funds have invested in large numbers of generally well designed and adequately concluded projects, mainly primary schools, sanitation, potable water and health centers. An additional study that is worth mentioning is the study of the SIF in Jamaica (See Rao and Ibanez, 2003) which compared data from 500 households in beneficiary and non beneficiary communities using propensity score matching and qualitative analysis, this study found high levels of satisfaction and is a good example of quantitative/qualitative methods, however, since the study focuses more on community dynamics than impact on welfare we do not review it in detail in this document.

### *Program design*

The traditional social investment fund focuses on providing infrastructure to support the delivery of basic social services (education, health, water and sanitation) or basic infrastructure for productive activities (irrigation canals, rural electrification or rural roads). The objectives of

these interventions was to increase school attendance and the human capital accumulation of poor families, reduce the prevalence of infectious diseases, boost productivity and family income and increase the well-being of beneficiary communities.

SIFs were believed to enjoy three key institutional advantages compared to traditional government agencies: innovative procurement, better-paid and motivated staff, and high quality information systems. The funds were said to be “demand driven” in that projects were financed in response to community requests rather than in accordance with an investment plan. From the beginning they had multiple objectives. In some cases, the principal objective was the provision of employment to people made unemployed by the adjustment programs; in others, the delivery of infrastructure services to the poor was given priority. In most cases the funds were set up as nonpermanent entities that would either disappear once the initial crisis had abated, or be absorbed by line agencies once the institutional efficiencies had been more widely adopted.

SIFs normally defined eligible investments ex-ante as a way of prioritizing social infrastructure (health centers, primary schools, latrines and potable water) as well as local roads and markets, improved stoves, reforestation and micro-irrigation, among others.

A key element in the design of social investment funds was ensuring the adequate participation of women in all stages of the project cycle. Recent studies have documented insufficient and unequal participation by women in a number of the funds in the region (See ). These problems have been identified from the preparatory stages where the communities decide on which projects they are going to present to the fund, up to the impact evaluation studies at the end of the projects. There are many reasons for the lower participation by women in decision-making processes. For instance, they may not be invited to the meetings; it may be assumed that the husband’s opinion is shared by his family and, therefore, his vote alone is sufficient; or, in many communities, (particularly rural ones) women lack the authority for proposing and defending the projects they consider to be top priorities.

### *Evaluation methodology and data*

In the evaluation of the effect of the Bolivian SIF (See Newman et al., 2002), a randomized experiment was possible for the case of education in the Chaco region. Specifically, 200 schools with poor quality in the Chaco area were initially classified as eligible, from these, only 86 were finally selected randomly to receive support from the fund. For other sectors and other rural areas, the evaluation used propensity score matching to create a comparable group of schools that were not selected to receive support from the SIF. Results are based on surveys from approximately 7,000 households, 130 schools and 150 health centers. The evaluation of the Nicaragua FIS (See World Bank, 2000) combined the 1998 LSMS data with a household survey designed for the evaluation, the sample sizes are 4,040, and 1312 respectively, the specific number of treatment and control observations used varies according to the topic being analyzed in the evaluation. The evaluation of the Honduran Social Investment Fund (See Walker, et al. 1999) made use of a household survey applied to 2,600 households in the area of influence of 96 projects funded by the SIF, 48 of these projects were still in the pipeline for investment and were used as controls. The evaluation of the FIS in Panama used the National Household Survey and propensity score matching to construct a control group at the district level, the sample includes

54 districts between beneficiaries and non-beneficiaries. Finally, the evaluation of the Social Investment Fund in Perú made use of the 1994, and 1997 LSMS and a household survey conducted by the Peruvian National Statistics Institute in 1996, the study used instrumental variables (See Table 10 for details) and a sample of approximately 4,000 households.

**Table 10. Summary of the Social Investment Funds Evaluated**

Country	Inception	Period evaluated	Average annual investment (for period)	Average annual investment per capita	Average number of community projects financed in a year
Bolivia (FIS)	1991	1993	35	5.8	439(1991-00)
Honduras (FHIS)	1990	1990-1997	30	6	1500 (1990-00)
Nicaragua (FISE)	1990	1994-1997	24	6	752(1991-98)
Panamá (FIS)	1990	1997-2001	n.m	n.m	n.m.
Perú (FONCODES)	1991	1994-1997	124	5	4514(1991-99)
<b>Sources:</b> Rawlings et al. 2004, Marciano, 2004.					

### *Targeting Performance*

The evaluations show that social investment funds are successful (except for the case of Panama in using geographic targeting to identify and provide benefits to poor households. The amount of resources allocated by the funds to the districts or municipalities in the lowest three income deciles is, on average, twice as high as the funds allocated to the three highest income deciles in Bolivia, Honduras and Nicaragua, and 11 times higher in the case of Peru (see Rawlings et al., 2004). The results are also satisfactory at the household level, when targeting is examined using poverty lines, but they vary by type of project. Projects dealing with education, health and latrines usually show adequate levels of targeting, but those that provided water and sanitation show inadequate targeting. In the countries analyzed, social investment funds show better targeting than other poverty alleviation programs (Bolivia and Peru) and than general spending on education and health (Nicaragua). Notwithstanding these positive results in targeting, in some cases, beneficiary communities and local actors (municipalities) have been excluded from the project cycle and were not responsible for project operations and maintenance.

### *Impacts on Well-being Indicators*

Social investment funds have been shown to be successful in building or rehabilitating schools in the communities covered. Schools in program communities report better physical conditions (including drinking water and sanitation) than in communities not covered by the program. In most cases, there were complementary efforts to improve the supply of educational materials and human resources as well. Unfortunately, significant gains in the supply of education services were not matched with significant increase the demand and thus there were not significant increases in the school enrolment rate in most of the countries. Only in Nicaragua was there a significant rise in school enrollment in communities that received assistance compared to communities that did not. In Peru, a significant rise is observed only in communities living in extreme poverty. These results suggest that there are factors other than the quality of infrastructure and materials that affect school attendance in the assisted communities.

The improvements in the supply of education brought about by the social investment funds had positive impacts on school performance indicators in all the cases studied (with the exception of Bolivia). In Honduras and Nicaragua, positive impacts were reported on indicators for grade by age. In Peru, positive impacts were reported on children years of education in households that benefited from FONCODES investments and in absenteeism due to illness. However, these improvements were not found in indigenous communities, which suggest the need for specific interventions for these groups (improvements in bilingual education, adaptation of the curricula to specific ethnic conditions). In the case of Bolivia, standardized tests did not report differences in student performance between beneficiary and non-beneficiary schools.

In the area of health care, the SIFs were successful in rehabilitating health posts in the communities that received assistance. The improvements in infrastructure included better equipment in newly built or rehabilitated centers in Bolivia and Nicaragua, but not in Honduras. In general, most of the communities whose health centers were rehabilitated with financing from a social investment fund have better use indicators than centers that did not receive this assistance (with the exception of prenatal care in Nicaragua). In Bolivia, the only country for which information on mortality rates is available, the communities with FIS-assisted health centers experienced a significant drop in mortality rates (from 61 in 1993 to 31 per 1,000 in 1997, compared to the change from 60 in 1993 to 67 per 1,000 in control communities).

Investments in water and latrine systems were successful in increasing connections and access to these systems, with important positive effects in the incidence of diarrhea and other health indicators. Consistent with international evidence, investments in water led to better health indicators, except in the case of Honduras. In Peru, the incidence of diarrhea was reduced by 3 percent for children under 10 and infant mortality among children under 5 was 33 per 1,000 in beneficiary households compared to 60 per 1,000 in control households. It should be stressed that in Peru, the intervention was accompanied by training for families in the use of water and hygiene. Investments in sewer systems did not lead to improvements in family health; however, given the low percentages of residential connections, this is consistent with international experience. SIF financing for sewer systems is limited to the main system. Households are required to pay for connections and internal systems.

The impact evaluation shows the importance of training and maintenance to ensure the sustainability of investments. In Honduras water production in systems rehabilitated or constructed by the FHIS was significantly lower than in the comparator systems, these production shortages are explained by shortcomings in maintenance (defective filters, excess pressure, defective tanks). In Bolivia, the only country where studies on water quality were conducted, significant improvements in water quality were only reported in communities with projects that included training components.

Only one SIF impact evaluation in the region, the recent evaluation of the Panama FIS sponsored by the Bank's Evaluation Department (Marcano, 2004), assesses the impact of SIF investments on household poverty levels. The evaluation finds a reduction in poverty and extreme poverty levels of 3.5 and 1-percentage points respectively in communities that benefited from the program relative to control communities between 1997 and 2001. This relatively smaller impact of the fund on extreme poverty may imply the importance of combining supply-side

interventions with specific interventions at the household level targeted to extremely poor families in order to maximize the benefits of these investments on reducing extreme poverty.

The evaluations show the importance of the Funds of having inter-institutional agreements established with line ministries and local governments to define Operation and Maintenance (O&M) responsibilities for its investments. Emphasis on infrastructure was not matched by similar concern with the quality of services, facilities often lacked staffing for adequate operation, operational and maintenance arrangements failed - projects financed under previous operations coming back to the SIF for repair.

As seen social investment funds play an important role in the provision of basic infrastructure and access to basic health and education for poor families living in poor rural areas. In many countries SIFs remain the only mechanism for providing small local infrastructure for the poor. Most SIFs have improved their development effectiveness over time and have overcome many of the shortcomings of their initial phases. Some important lessons have been learned from their implementation over more than 15 years in the region, the main lessons include: (i) the importance of community participation and community strengthening, which are key elements for success at all stages of execution, from the identification of needs and investments to project preparation and monitoring/supervision of execution; (ii) the need to place greater emphasis on integrated investments at the community level in order to maximize their impact; (iii) the need to take into account inter-institutional coordination with line ministries and national agencies (generally education, health, public works), clearly defining the role of the social investment fund vis-à-vis other government agencies with respect to responsibilities for defining critical policy areas for both poverty strategy and infrastructure provision; (iv) the need to focus on decentralization and coordination with local governments, including mechanisms for sharing financial responsibilities and delegating project cycle actions (preparation, implementation, maintenance, etc.); (v) the importance of updating and maintaining databases and information systems to monitor implementation and impact evaluation.

## **TRAINING PROGRAMS FOR YOUTH AT RISK**

The structural reforms and investment flows of the 1990s created a growing demand for skilled labor in Latin America's new industries. This change in demand resulted in a widening of wage gaps and an increase in income inequality in the region. To address this problem, training programs for youth at risk have become a very important tool for boosting the average productivity of the workforce and increasing the likelihood that vulnerable and poor groups can find jobs.

### *Project Design*

The objective of these type of programs is to provide training for young people who do not have the resources necessary to obtain an adequate education, and to boost the productivity and competitiveness of micro enterprises. Six programs in the region are worth highlighting, Chile Joven in Chile, Proyecto Joven in Argentina, PROCAJOVEN in Panama, Juventud y Empleo in Dominican Republic, Uruguay, ProJoven/Opcion Joven and ProJoven in Peru. Chile Joven was

the region's pioneer program. The first phase, which received IDB financing, began in 1991 and ended in 1995. The second phase began in 1996 and ended in 1999. The basic design of Chile Joven was used as a model for many other youth training programs carried out later in other countries.

**Table 11. Youth Training Programs Evaluated**

Youth Training Programs Evaluated					
Country	Project	Year of Inception	Period of Evaluation	Beneficiaries (per round)	Total cost per beneficiary (US\$)
Argentina	Proyecto Joven	1993-1999	1997	23501 (5th round)	1780.83
Chile	Chile Joven	1991	1997	23000*	750 -1450
Peru	ProJoven	1996	2000-20001	3296**	437-613
Uruguay	ProJoven/Opcion Joven	1996/1994	1996-97		
Dominican Republic	Juventud y Empleo	2001	2004		
Panama	PROCAJOVEN	2003	2004	821.5***	375-611
*Estimate based on goal of the program					
**Average from all rounds.					
***Average of beneficiaries per year					
Sources: For Peru, Chacaltana, J and Saavedra, J. 2002. Exclución y Oportunidad. Jovenes urbanos y su inserción en el mercado de trabajo y en el mercado de capacitación. Perú: Grupo de Análisis para el Desarrollo. For Chile, Santiago Consultores Asociados. 1999. Evaluacion Ex-Post Chile Joven Fase II. Preliminary Final Report presented at the international seminar: Modelos de Evaluacion para Programas de Capacitacion de Jovenes. Medellin, Colombia, July 17 and 18, 2000. OIT-CINTERFOR. For Argentina, Cossa, R., D. Bravo, F. Ruiz Nuñez, and D. Bravo. 2004. An Econometric Cost-Benefit Analysis of Argentina's Youth Training Program. Research Network Working Paper R-482. Inter-American Development Bank: Washington, D.C. and Aedo, C. and S. Nuñez, 2001. The Impact of Training Politics in Latin America and the Caribbean: The Case of "Programa Joven." Washington DC: ILADES/Georgetown University.					

One of the key features of this type of program is that the training is based on the labor demand of specific companies, which ensures that young people will be trained in areas where there already is a market demand. Suppliers interested in offering the courses must enter a public competition; they are evaluated based on the number and quality of practical training slots they can offer to students in the different training areas for which there is a demand from participating companies. These programs provide additional incentives for the participation of low-income youths by paying them a stipend to cover transportation, food and accident insurance. Many programs give priority to women and in some cases mothers with young children receive an additional subsidy to cover the cost of day care. One of the goals of the youth training project in Argentina was that women make up 47 percent of the beneficiaries. The program trained women in nontraditional occupations as a way of combating job segregation.

In its first phase, Chile Joven reached 120,000 people at an approximate cost of between US\$750 and US\$1,450 per participant (See Santiago Consultores Asociados, 1999). The objective of the second phase was to reach 70,000 beneficiaries in three years. The countries that implemented programs along the lines of the Chile Joven model included Argentina, Uruguay and Peru. Proyecto Joven (youth training project) in Argentina began in 1993, with support from the IDB and UNDP. It was led by the Ministry of Labor, and its objective was to train 200,000 youths (see CINTERFOR, 1998,). The Opcion Joven Program in Uruguay started operating in 1994 with the support of the IDB, the program was a pilot that set the stage for the creation of the larger program Projoven (See Naranjo, 2002), this pilot had four modules only one of which was

similar to the Chile Joven model<sup>20</sup>, however even in this module the articulation with the human resources demands of the private sector had to be improved when the larger Projoven program was created. The program in Peru began in 1996 on the initiative of the Ministry of Labor and Social Promotion, with support from the IDB, and was intended to train youths with low levels of education and few economic resources and help them find jobs (see Chacaltana, 2003a; Ñopo et al., 2002; and Ñopo et al., 2004). All these programs have low-income youths as their target population, with some stressing training for women. The PROCAJOVEN in Panama which besides the training and internship components included a transfer of US\$255 to beneficiaries, the program had two components, one similar to the traditional Chile Joven approach and a transition component targeted to youths just finishing secondary education focused on assisting on the transition from school to work, this component included lengthier internships than the first one. The Jovenes y Empleo in Dominican Republic was started in 2001 and was targeted to young people with less than secondary education, particularly women.

### *Data and Methodology*

The second round of ChileJoven uses data from project surveys from those beneficiaries that graduated during 1997, for the control group neighbors of beneficiaries who would qualify for the program were selected and interviewed. The final sample for the evaluation consisted of 1,904 individuals, from which 1,246 are beneficiaries and the rest are part of the control group.

The evaluations of Proyecto Joven correspond to the fifth calling, which took place in 1998 and had 23,500 participants. In all cases the sample of beneficiaries was matched with those who were accepted into the program but did not take any courses and the impact was measured one year after completion of the course evaluations only differed in the technique of matching used. Beneficiaries were paired with controls with similar characteristics and the final sample had 3,340 observations, half of which were controls. We review 4 evaluations of the Projoven experience, evaluations correspond to the 2nd (Burga, 2003) and 6<sup>th</sup> callings (see Chacaltana, 2003a; Ñopo et al., 2002; and Ñopo et al., 2004). The sample size for the evaluation of the second and sixth callings is 654 and 1684 respectively, half of each sample corresponds to the control group. To create a control group, persons who would be eligible for the program and with similar characteristics were surveyed in the neighborhoods of beneficiaries. Follow up measurements were made 12 months (for the 2nd calling) and 6 months (for the 6th calling) after finishing the courses.

The evaluation of PROCAJOVEN in Panama (See IADB, 2006) took advantage of two courses that were cancelled in 2004, the cancellation of the courses was exogenous to the participants so they were good candidates for a control group. The sample for the evaluation consisted of 295 non-beneficiaries and 471 beneficiaries, besides simple comparisons of indicators the study adjusts for observable differences using regression techniques and non-parametric procedures. For the evaluation of the Juventud y Empleo project (See Card, et al. 2006) in Dominican Republic a sample of 8,391 applicants was initially selected and randomly assigned into a group of beneficiaries and a group of non-beneficiaries, baseline data was collected for 5,757

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<sup>20</sup> The other three modules of the program included a course of general formal workplace culture without internship (this was eliminated), a module that consisted in a subsidized internship without technical training (also eliminated), and technical training without internship (this module was included in Projoven).

beneficiaries and 1,623 non-beneficiaries, however follow-up data was collected only for a final sample of 563 controls and 786 treatments. Data was collected at an average of 13 months after completion of the courses.

### *Program Impact*

The impact evaluations of the interventions show important benefits, but there is heterogeneity in the results. Chile Joven, for example consisted of three different subprograms that varied in design and affected different groups to different magnitudes (the effect being negative in some cases). ChileJoven was well targeted, 64% of participants came from the two lowest income quintiles. In terms of income, the impact of Chile Joven is mixed, being negative for some groups and modalities, the program benefited informal sector workers more strongly. In terms of employability, effects are positive, 29.9, 43, y 38 percentage points higher probability of being employed depending on the modality of the program, those with higher levels of education benefited the most.

The various evaluations of Proyecto Joven, ProJoven and PROCAJOVEN are consistent in that they show greater impact on female than male trainees. The first evaluation (CINTERFOR, 1998) of Proyecto Joven shows that the largest impact on employment was on males with no work experience and females with some labor experience, no analysis of significance is done in this case. The second evaluation (Aedo et al., 2001) shows that the program had a positive and significant effect on earnings for young men and adult women ( and employability for adult women, the third (Cossa et al., 2004) evaluation finds positive effects on income (the largest effect being for women) and no effects on employability.

The different evaluations of ProJoven showed a positive impact in total monthly earnings and employability for all groups (although when effects were separately calculated by gender they were larger for women), in the second calling the effect of the program took place more through increased labor than through any effect on hourly income (effects on income were not significant), the effects of the 6th calling were positive in total earnings, employability and hourly earnings. The reason for the disparities in the impact of the program on men and women is that it increased employment rates for females by more than males (the effect on hourly earnings is similar for both groups). It is argued that the employment rate increased more for females because the practical training requirement gave incentives for employers to consider hiring women in occupations that were traditionally held by men, thus reducing segregation in the labor market. It is not clear that this argument would be valid for the case of Proyecto Joven in Argentina since the main effect seems to have been through income and not employment. The effects of the more recent programs are less satisfactory than earlier ones, problems in the implementation phase are cited as one of the potential reasons. In the case of Juventud y Empleo no effect could be found in terms of employability for beneficiaries of the program but there was an increase in hourly wages of 10%, when separating by gender the effects are not significant, however the coefficient for women is much smaller than that for males. In the case of PROCAJOVEN the effects on employability were only significant for women (employment rates for this group were 14 percentage points higher), and there were no effects on income.

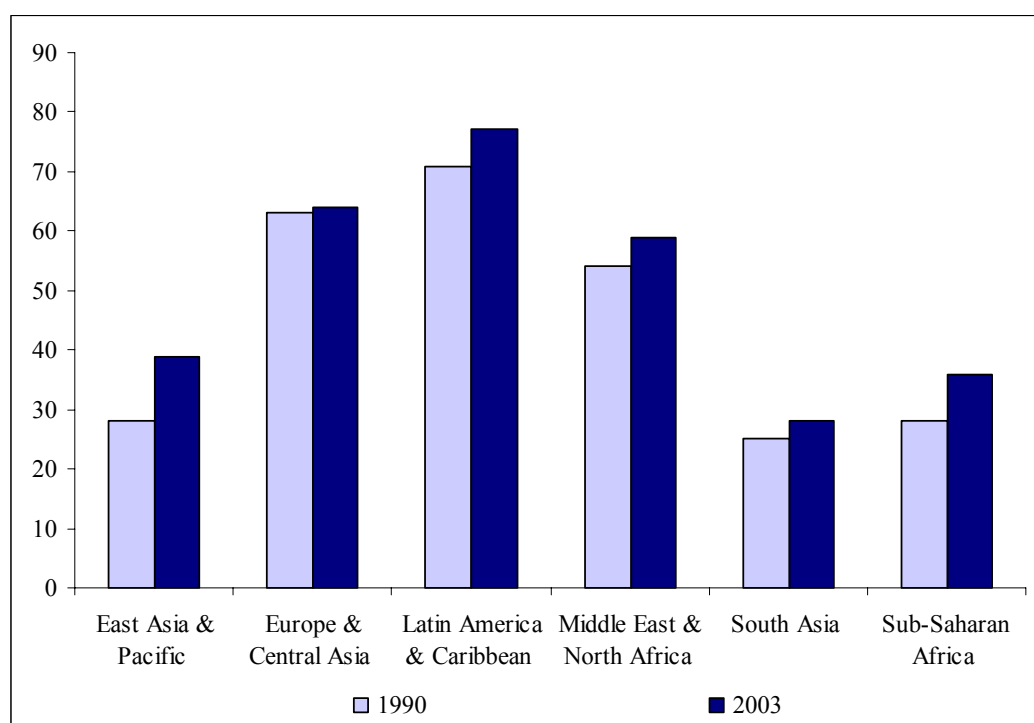


The cost analysis for Juventud y Empleo shows that the cost of the program is recovered after two years of graduation, in the case of PROCAJOVEN it shows that the cost of the program is recovered in 12.6 months in average and in three months for women in the transition modality

## COMPREHENSIVE URBAN DEVELOPMENT PROGRAMS FOR MARGINALIZED NEIGHBORHOODS

Latin America differs from the rest of the developing world in many aspects, one of them is its high level of urbanization. The region has gone through a gradual process of urbanization during the past decades, resulting in an increase in urban population from 50 percent in 1960 to 77 percent in 2003, making it the most urbanized region in the developing world.<sup>21</sup> While poverty rates tend to be higher in rural areas, the high degree of urbanization makes reducing urban poverty an important part of the fight against poverty. For example, in Chile and Brazil 84 percent and 70 percent of the poor, respectively, live in urban areas.<sup>22</sup> Given the different nature of urban poverty it is necessary to customize programs to the specific needs and risks faced by the urban poor. Urban Development programs for marginalized neighborhoods are one of the solutions being implemented in the region to solve the problem of urban poverty and lack of access to basic services.

**Figure 2. Urbanization in different regions of the world**



Source: World Development Indicators, 2005.

<sup>21</sup> Although it has been suggested that one factor behind this might be a lax definition of what is urban that is particular to Latin America and the Caribbean.

<sup>22</sup> Dercon, 2004.

One of the best known urban development projects is Favela Barrio in Brazil. Favela Barrio was conceptualized by the municipality of Rio de Janeiro and partly financed by the IDB through two investment loans approved in 1995 and 2000. Favela Barrio symbolizes a change in focus by the government from eradication to development and inclusion of the *favelas* into the city. The program is a mix of infrastructure, land tenure and social development components. The infrastructure component provided water, gutters, sewerage and lighting hardware as well as road improvements; the social component included the construction of early child care centers. In the first phase of the program a total of two hundred and eighty-four public works were executed in the targeted *favelas*.<sup>23</sup>

A recent evaluation of Favela Barrio (see Soares, 2004) found that the neediest households were not always beneficiaries of the program. However, when they were selected to participate in the program, neediest households were given priority. The evaluation measured three output indicators (water access, sewer and rubbish collection) and three outcome indicators (illiteracy, income and population). There is significant evidence that the program had an impact on water and sewer access.<sup>24</sup>

Mortality rates in the favelas fell between 1995 and 2001. Given that access to water and sewerage is generally thought to reduce diseases and therefore mortality rates, it is somewhat puzzling that statistical evidence does not reveal any direct effect of the proxy for participation in Favela Barrio on disease-induced infant mortality rates, however as a reviewer to this document suggested it is possible that water borne disease is was not a major cause of infant mortality in Rio de Janeiro which would explain the lack of effects in this indicator.

## **WATER AND SANITATION PROGRAMS**

Evaluations in the area of water and sanitation are available for a project to expand provision of water and sewerage in Quito, Ecuador, and for the effects of the privatization of water services in Argentina, Brazil and Bolivia. The evaluations yield positive results and highlight the importance of access to water and sewerage for reducing child mortality (both show a decline of close to 10 percent in child mortality). In addition, they show that an effort to perform high quality evaluations is crucial to avoid large biases (either way) in estimated impact. For example, in the case of Quito, the evaluation without matching the control group based on observables overestimated the impact of the program by around 100 percent.

The water and sewerage project in Quito, which was started in 1994, provided almost 20,000 household water connections and installed approximately 300 Kms. of sewers in 22 neighborhoods (see Galdo and Briceño, 2004). It yielded a reduction in child mortality of between 7.2 and 9 percent. It also showed that, while the effects seemed to be stronger for high-income beneficiaries, the determining factor was education (that is, mothers with relatively higher education benefited equally regardless of their level of income). A complementary education component could potentially increase the impact of these types of programs.

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<sup>23</sup> Only *favelas* of between 500 and 2500 households are eligible for the program, however other programs were implemented for *favelas* outside of this range.

<sup>24</sup> While not robust to different specifications, it should be noted that some results indicate that the program may have had a negative impact on household income.

Unfortunately, the secondary databases used for the evaluation did not include data on diarrheal morbidity, which is the variable usually used to measure the health impacts of water and sanitation investments. This shortcoming also prevents benchmarking with available international evidence on the impacts of water and sanitation investments (see Cairncross and Valdmanis, 2004).

In the 1990s, many countries in the region embarked in the large-scale privatization of state-owned companies. While there is no consensus about the impact of the privatization of water services on household welfare, there is some evidence that it helped to improve the welfare of the poor or, at the least, that it did not hurt them.<sup>25</sup> Two recent impact evaluations (one for Argentina and the other for Argentina, Bolivia and Brazil) attempt to measure the effects of privatization on welfare, particularly the welfare of the poor.

Between 1991 and 1999, public water companies in Argentina were transferred to private control.<sup>26</sup> An evaluation of the effects of this process on child health found that privatization reduced child mortality resulting from infectious diseases and, on average, contributed to a decrease in child mortality of between 4.8 and 6.7 percent, regardless of the methodology used (see Galiani et al., 2005). This effect is significantly larger for municipalities with high levels of poverty.<sup>27</sup> When disaggregating by cause of death, mortality rates fell only for the causes of death more closely related to access to water. This means that the possibility of biases caused by omitted variables correlated with privatization and mortality are eliminated. The results of the regional evaluation of privatization of water services are less conclusive (see Clarke et al., 2004) and show little evidence one way or the other regarding coverage and sewerage connection. However, this may be due to the small sample used and lack of control for municipality-specific characteristics.

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<sup>25</sup> It should be remembered also that the Favela Barrio evaluation found that access to sewerage decreases child mortality.

<sup>26</sup> The public companies provided service to one-third of the nation's municipalities, covering 60 percent of the nation's population.

<sup>27</sup> The estimated impact of privatization on Child mortality is -10.7 percent for poor municipalities and -23.4 percent for extremely poor municipalities.

## V. SCALING UP PROGRAMS TO INCREASE THE ECONOMIC OPPORTUNITIES OF THE POOR

A comprehensive approach to poverty reduction should not only increase the productive capacity of the poor, but also give them the opportunities to turn that capacity into an improved standard of living. Providing the poor with access to markets (goods and services, financial and labor markets) plays a key role in enabling them to share in the benefits of growth and protect themselves from falling into poverty traps during recessions. A broad set of policies is required to enhance employment and business opportunities for the poor. These include providing support to active labor market programs, microfinance and enterprise development, private sector incentives, and the efficient provision of infrastructure services such as energy, roads, ports and airports. In addition, access to markets for the poor should take advantage of value chain opportunities that integrate poor rural producers and small urban entrepreneurs into domestic or international markets.

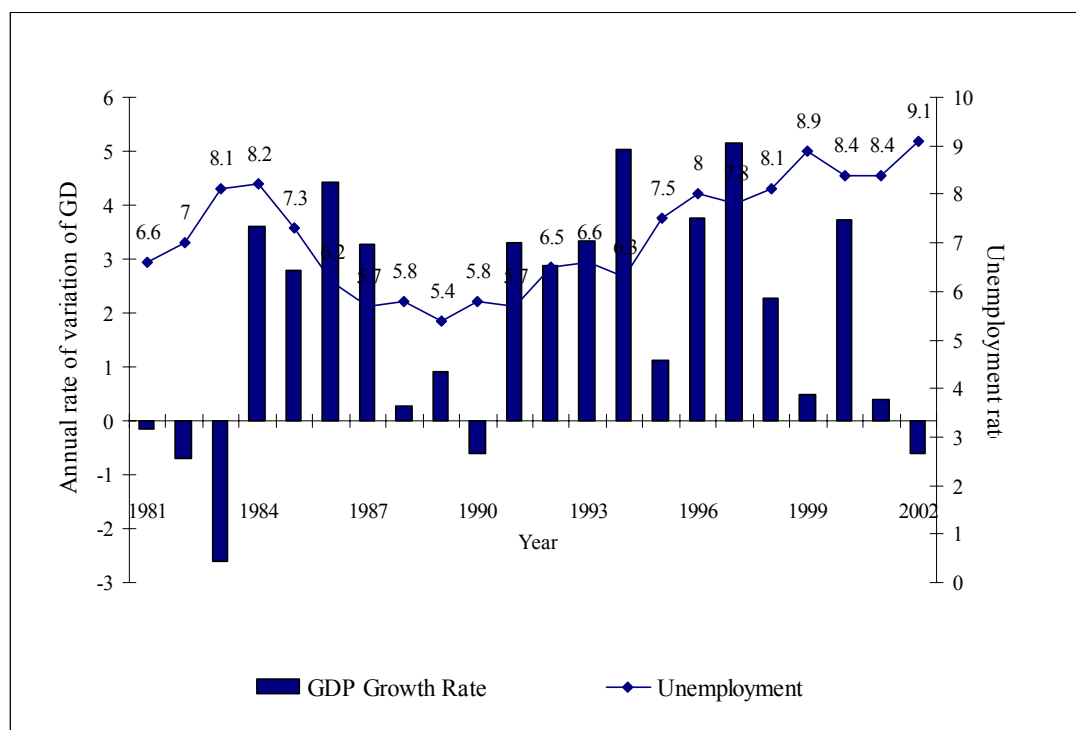
The creation of economic opportunities for the poor during the last decades has been disappointing in the region. Pro-poor growth has been scant in most countries and labor markets have failed to produce enough high quality jobs for unskilled workers. Although the structural reforms in the 1990s had a positive effect on economic efficiency, some groups experienced a negative impact, either because of income instability or because of loss of work. As Figure 3 shows, unemployment rates have not improved even during the growth spell of the early nineties. This situation has been worsened by the recent crisis that affected most countries in the region. Additionally, unemployment rates measured by official statistics are just the tip of the iceberg. Underneath lies a huge informal labor market, where many low skilled workers are employed.

Youth unemployment is one of the urgent challenges faced by the region. The average unemployment rate of persons between the ages of 15 and 29 jumped from 12.8 percent in the beginning of the 1990s to 16.1 percent during the first years of the current decade. Another facet of youth unemployment in the region is the fact that it affects different groups differently. The unemployment rate is higher for poor and unskilled youths, reaching 28.1 percent in 2002 for the poorest youth quintile, compared to 8.7 percent for the richest youth quintile. Young women face higher unemployment rates than young men, especially in the poorest groups.

The micro enterprise sector has become a key provider of employment and opportunities for the poor. Seventy percent of poor earners in Latin America and the Caribbean either own a micro enterprise or are employed in one (Westley, 2001). Thus, the well-being of the poor is very closely associated with the success (or failure) of these business initiatives. After a decade of reforms, most of which included the deep liberalization of financial markets, the region must still find a way to give small businesses and the poor better access to saving and credit markets. Access to financial services (credit, savings or micro-insurance) for the poor has proven to be essential for productive investments—including the increasing flow of remittances—that help them escape poverty and provides them with a low cost risk management tool to cope with negative economic shocks. While there have been significant advances in increasing the access

of low-income populations to financial services, aggregate figures show that there is still a long way to go.

**Figure 3. Latin America: Economic Growth Fluctuations and Increasing Unemployment Rates in the 1980's and 1990's**



Source: ECLAC 2005

Large deficits in access to these services are evident, especially in rural areas where transaction costs are higher. In recent years there have been increased efforts to measure the depth of financial services provided to the poor and the impact of programs to support the creation of micro enterprises. Recent estimates for twelve countries in the region show that only 20 percent of households have savings in the formal sector (8.9 percent of poor households) compared to almost 90 percent in developed countries (Tejerina and Westley, 2005). While microfinance and micro enterprise activities have made great advances in the region, enhancing the impact of these activities on reducing poverty requires greater efforts to promote them.

## ROAD REHABILITATION

Public goods in general are hard to evaluate. Road rehabilitation is a particularly difficult example because it will be hard to exclude a control group from using for example a bridge financed by a public program, alternatively it will be hard to find a village that is similar enough to the one receiving treatment so as to serve as a control group. The first reason makes it almost impossible to create a randomized experiment in order to do an impact evaluation. The second problem makes quasi experimental evaluations difficult, however a recent attempt to solve these issues was done in a rural rehabilitation program in Peru.

The program is called the “Programa de Caminos Rurales” and was started in 1996 as part of the strategy to eliminate poverty in the rural population of Perú. The strategy of the evaluation was to select villages that had access to roads that had been rehabilitated by the program and villages that had comparable observable characteristics and that did not have access to any roads that had been rehabilitated by this or any other program in the past. There was no baseline for the evaluation and there is little detail about how beneficiaries were selected in the first place. This two problems may bias the results, however results of the evaluation are positive, and show that beneficiary communities have incomes that are 35% larger than the control group. A potential problem in this evaluation is that if the selection was made based on those villages that were most in need of the roads results may be biased downward, however if the selection was done based on villages with the best opportunity for profit results may be biased upward.

## **ACTIVE LABOR MARKET PROGRAMS**

The region has a great need for programs to help people who are temporarily unemployed to maintain a minimum income level and improve their employability. The programs carried out in the 1980s were heavily criticized because of the negative experiences with programs such as the minimum employment program (PEM) and the employment program for heads of households (POJH) in Chile and the labor intensive investment program (PAIT) in Peru (see Márquez, 1999). However, during the 1990s, there were better experiences with programs such as Trabajar in Argentina and Proempleo in Chile. In this section we include evaluations from eleven programs in Argentina, Chile, Colombia, Mexico and Perú.

### *Program design*

There are two main types of programs that have been implemented recently to help families that suffer from drops in their income owing to the temporary loss of work by the head of the household. Programs that provide emergency employment through financing of public works that are intensive in low skilled labor and programs that provide training to improve the employability of individuals looking for work. The first model provides emergency employment such as the Trabajar program in Argentina, which was established in response to growing unemployment in the mid-1990s. The objective was to provide temporary work for poor families with unemployed members on account of the crisis. Employment was provided in projects to improve local infrastructure. The community, the municipalities and NGOs identified projects together, and the program pays the wages of unskilled workers. This program was replaced in 2002 by the Jefes y Jefas” program, which was much larger in scale and implemented in response to the Argentine crisis that year. Work requirements for this program were not as strict as for Trabajar. The Colombian government in 2001 also implemented a similar workfare called “Empleo en Accion” for people affected by unemployment in the lowest two levels of the SISBEN. The program made unskilled jobs available in basic infrastructure projects for approximately 200,000 persons between 2001 and 2003. Communities were encouraged to identify projects and each project was expected to last for five months. Since 2002, the Peruvian government has also implemented a workfare program similar to Trabajar to help the poorest workers cope with the effects of the latest recession, this program is called A Trabajar Urbano, the program financed works that were intensive in low skilled labor, specifically 75% of

project's cost had to be for wages to low skilled workers. During its first year the program created 125 thousand jobs. Jobs lasted four months.

Chile has 6 programs that promote employment for poor workers, all of them were evaluated as part of its System for Public Management Monitoring and Performance Budget. 4 of these programs provide direct employment, and the reminder 2 provide employment through wage subsidies for private firms and support for self employment and productive activities. The programs reach a significant coverage of the unemployed population (9,7%) and especially of unemployed heads of households (30,3%).

The direct employment programs in Chile are Proempleo - Subsecretaría del Trabajo; Programa de Emergencia de Empleo - CONAF; Programa de Empleo del Fondo de Absorción de Cesantía (FOSAC)- Subsecretaría del Interior; Programa de Mejoramiento Urbano (PMU)- Subsecretaría de Desarrollo Regional. The Proempleo program has a workfare component and a training component, however only the workfare component was evaluated , this component finances labor intensive infrastructure projects in low income areas and projects that last between 2 and 4 months, works can be implemented through private contractors or NGOs. The CONAF selects and executes all of its projects based on the needs of the communities, it has a bigger presence in rural areas and targets mainly heads of household between 18 and 30 years of age. The FOSAC selects labor intensive projects from proposals presented by NGO, municipalities or province governors, financing for selected projects is forwarded to Fund Administrator Units which can subcontract project execution, municipalities and provinces can also execute projects which should last a maximum of three months. Finally the PMU is an urban development program that targets poor and unemployed heads of household, in this case funds are transferred to municipalities, which are also in charge of the execution, and private participation is not permitted.

The other two programs are the Programa de Bonificación a la Contratación de Mano de Obra (SENCE) and the Programa de Reinserción Laboral y Empleo – FOSIS. The SENCE provides subsidies to the private sector for hiring unemployed workers, the subsidy covers a fixed amount for training expenses and up to 40% of a minimum wage for a maximum of four months and through. The FOSIS provides services to the unemployed such as training programs, subsidies for companies that hire the unemployed, and technical support and financing for productive investments.

The second type of program consists in providing training grants to the unemployed to improve their future income and employability, Proempleo and the FOSIS in Chile have components of this type (not included in the evaluation). In some cases (Mexico's PROBECAT for example) beneficiaries are paid a wage while in training that permits them to maintain a minimum standard of living. Government employment offices provide participants with job placement services. SICAT (former PROBECAT), the job training program in Mexico, which has received IDB support since 1997, is an example. The program was launched in 1984 in response to growing unemployment caused by the 1982 crisis. In its early years, the program covered 50,000 people a year; today it covers an estimated 1.2 million it has two modalities, one in which only training is provided and one in which on the job training with probability of being hired is offered. A similar program of this type is the job training program of the "Servicio Nacional de

Aprendizaje” (SENA) in Colombia. The SENA was created in 1957 and the Job training program, which helps job searchers in the identification of their specific needs for job training and provides them with the respective training, while everyone is in theory eligible for the program, the objective is to target the poor and socioeconomic status is determined prior to being accepted into the program. The program, at the time of the evaluation had approximately one million beneficiaries between long and short courses offered.

**Table 12 Active Labor Market Programs**

Country	Program	Year Implemented	Beneficiaries	Type
Argentina	Trabajar	1996	65000 between may 1997 and January 1998	Public works
	Proempleo	1998	848 in total	Public works+subsidies for private employers
Chile	Jefes y Jefas	2002	1600000 as of 2002	Public works
	Direct Employment (4 programs)	1987-2001	21450 per year	Public works+subsidies for private employers
	Indirect employment	2000/2001	27240 per year	Training+subsidies for private employers
Colombia	Empleo en Accion	2000	200000 between 2001 and 2003	Public works
México	PROBECAT/SICAT	1984	550000 per year between 1996-98	Training+subsidies for private employers
Perú	A Trabajar Urbano	2002	125000 in 2002	Public works
Colombia	SENA	1957	2000000 in 2003	Training
Source: Jefes y Jefas: Tcherneva and Wray, 2005; Probecat: Wodon and Minowa, 1999;				

### *Evaluation methodology and data*

The evaluation of the Trabajar program (See Jalan and Ravallion, 2000) utilizes data from a survey of participants and the Encuesta de Desarrollo Social done in 1997 for the creation of a control group and propensity score matching, the final sample has 2,802 participants and one or five controls for each beneficiary depending on the methodology. The evaluation of the proempleo experiment (See Galasso, Ravallion and Salvia, 2001) took 848 households and randomly assigned them to the group that received the voucher (267 participants) voucher plus training (267 participants) and a control group (281 participants) the experiment was not publicly announced and measures were taken so that members of one group did not learn that the other two groups existed, in this case an instrumental variable approach is also used (to control for selective take-up of the program) with assignment into a group as an instrument for being a beneficiary of the program. The evaluation of the Jefes y Jefas program (See Galasso and Ravallion, 2003) used data from participants surveys and those who applied for the program but had not received it at the time of the survey, the evaluation is done using propensity score matching, the sample consists on 3,092 beneficiaries of the program and 1,713 controls.

In Colombia the evaluation of the Empleo en Acción program used project surveys for 5,428 individuals, out of which 3,200 were beneficiaries of the program. The surveys took place between 2002 and 2003 for the baseline and 2003 and 2004 for the follow-up data. The



evaluation was originally designed to be experimental, however problems in the implementation phase hampered the random selection of beneficiaries (such as lack of applicants in some places and delays in the beginning of works which caused people to drop out).

The Chilean evaluation is the only meta evaluation of employment programs in this document (See Universidad de Chile. 2006b). It used data on 1,513 beneficiaries from program records and a control group of 1,307 non-beneficiaries that were selected using propensity score matching from the 2000 CASEN survey, the evaluation team reinterviewed those households selected as controls to gather the follow-up information. In the evaluation, the direct employment creation programs are treated as one group and the FOSIS and SENCE are treated individually. The evaluation also makes a cost benefit analysis of the interventions comparing expenditures per job created with the estimated overall impacts of the interventions. This simulation assumes that the positive impacts of the interventions are sustained for 5 and 15 years and that workers earn minimum wages.

The Probecat/SICAT program in Mexico has been evaluated repeatedly all of these evaluations build a control group from the Encuesta Nacional de Empleo Urbano (ENEU) at different points in time, this survey has a panel component that makes it attractive for the evaluation. The first, from 1994 uses data from (Revenga, Riboud and Tan, 1994) a survey of beneficiaries administered in 1992 to the 1990 cohort they discard individuals with low probability of participating in the program are then discarded in order to construct a control group, their sample consists on 1,726 beneficiaries and 560 non beneficiaries, a second (Ministry of Labor) and a third one (Wodon, and Minowa, 1999) use data from a survey of trainees from 1993-94. the methodology used in the 1999 evaluation is instrumental variables, using availability of the program (See Table 12) as an instrument, they analyze a sample of 2,160 males and 947 females separately. The first 2002 evaluation (See Calderon Madrid and Trejo, 2002) uses a survey of the cohort that begun participating in the program in 1993 and were interviewed in 1994, the sample consists on 2,748 beneficiaries (1971 male and 777 female) and 584 non-beneficiaries (316 male and 232 female), the study uses propensity score matching for the construction of the control group. The second 2002 evaluation (See Grupo de Economistas Asociados, 2002) uses a survey of 3,617 beneficiaries applied in 2001 and propensity score matching methods, it also includes a cost benefit analysis of the program.

Finally, the evaluation of the SENA program (Medina and Nuñez, 2001) makes use of the 1997 “Encuesta de Calidad de Vida” (ECV) and uses propensity score matching to obtain a control group. It also compares public job training with private job training programs and does a cost-benefit analysis of the program The sample size is approximately 5,000 individuals from which approximately 240 were SENA beneficiaries. In Perú, the evaluation of the A Trabajar Urbano Program makes use of the Encuesta Nacional de Hogares (ENAHOG) household survey of 2002 and project surveys of 1,500 beneficiaries that were implemented simultaneously, the evaluation uses propensity score matching for the creation of the control group and the size of the control group varies from one per beneficiary to five per beneficiary depending on the methodology used.

## Targeting

From the studies that do analyze targeting of the programs it seems that they are successful in targeting poor workers, although some further improvements in design is needed to avoid benefiting persons not in the labor force or persons who are not necessarily unemployed. In the case of Trabajar (and the Proempleo experiment) and Jefes y Jefas, the programs did a good job in targeting the poor, around 80% of Trabajar beneficiaries came from the poorest 20% of the population, Jefes y Jefas (which was much larger in scale) had 40% of its beneficiaries in the poorest 20% and 90% in the poorest 60% (at a time when the poverty rate was close to 60%) however the evaluations show that many beneficiaries were not unemployed or were persons not in the labor force. For example, the net effect on income from Trabajar was of approximately US\$100 each, or about half the wage paid to them. The A Trabajar Urbano Program seems to have been effectively targeted, since 75 percent of beneficiaries belonged to the poorest 40 percent of the sample (see Chacaltana, 2003b). The net income gain from the program was 61 soles out of the 300 given by the program. This signals that while poverty targeting was effective, the program found difficulties similar to those of the Jefes program in targeting the unemployed. In Chile (See Table #13), Around 64% of programs beneficiaries are poor, and around 31% extreme poor, with the direct employment programs having slightly better targeting than the indirect ones.

The evaluation of SENA does not discuss targeting in detail and the program is not explicitly targeted towards the poor, however it is clear that labor income of participants is significantly smaller than that of participants in other (private) institutions.

**Table 13**  
**Summary of Employment Programs in Chile**

	Direct Employment Creation				Wage subsidies for private firms	Support to Self Employment and Productive Activities	All Programs
	Pro empleo	CONAF	FOSAC	Mejoramiento Urbano	SENCE	FOSIS	
Annual job creation (2003)	7,549	2,293	2,587	9,021	15,417	11,823	48,690
Job duration (months)							
Reported by beneficiaries	8.3	7.8	5.9	5	5.6	3.7	5.6
Program records	5.6	6.8	n.a.	n.a.	2.9	n.a	n.a.
Coverage							
Unemployed	1.5	0.5	0.5	1.8	3.1	2.4	9.8
Unemployed head of household	4.7	1.4	1.6	5.6	9.6	7.4	30.3
Targeting							
Extreme poor beneficiaries	35.2	39.6	44.2	27	n.a	28	31.4
Moderate Poor Beneficiaries	33.3	32.1	25.7	35	n.a.	32.4	32.8
Total (poor)	68.5	71.7	69.9	62	n.a.	60.4	64.2
Relative Costs							
Expenditure per job created (All programs = 100)	104.2	93.0	86.1	180.8	60.3	75.8	100.0
% Administrative costs	12	20.8	20.3	15.4	4.8	10.4	13.95

Source: Informe de Síntesis-Evaluación de Impacto de Programas de Empleo con Apoyo Fiscal. DIPRES, Ministerio de Hacienda, Chile. 2005.

## *Program Impacts*

The evaluations of these programs show that they can be effective in protecting the income of poor households against economic downturns and idiosyncratic shocks. An interesting result in terms of employability comes from the evaluation of a subprogram of Trabajar, which selected a subset of beneficiaries to receive coupons that committed the government to pay part of the workers' wages (this subprogram was called Proempleo), on the condition that the employer register them in the social security system. It was found that despite the fact that some employers did not take the subsidies, the percentage of employed workers was significantly higher than in the control group (see Galasso, Ravallion and Salvia, 2003).<sup>28</sup> The evaluation of the Jefes y Jefas program shows that, on average, participants increased their weekly hours worked by about ten hours, and that the income of participants dropped by 100 pesos less than that of non participants, preventing 10 percent of participants from falling into poverty (see Galasso and Ravallion, 2003). Initial impact evaluation results for the Empleo en Acción program in Colombia indicate that hours worked by participants increased by 36 percent and monthly income increased by 39 percent, the impact seems to have been larger for women than for men. Household consumption increased by 9 percent, which though significant, falls short of the original goals set by the program (see Econometría Consultores, 2004).

Although the results of the first impact evaluations (see Revenga et al., 2000; and Minowa and Wodon, 1999) indicated that the benefits of this type of program should be classified as unemployment insurance (i.e. they had no effect on human capital accumulation), more recent evaluations find that programs of this kind have effects on employability and on the expected income of workers (Calderón et al., 2002). In the case of the a Trabajar Urbano program, the net income gain for beneficiaries was 61 soles out of the 300 given by the program. This signals that while poverty targeting was effective, the program found difficulties similar to those of the Jefes program in targeting the unemployed. The cost benefit analysis concluded that

The Chilean evaluation shows volatile results depending on the cohort of trainees being evaluated. The evaluation results of the short term impact of the programs (using baseline data for 2000 and follow-up data for the year they received the benefits) show that, with the exception of FOSIS, they have a consistent positive short term impact on the employment of beneficiaries. For 2003, beneficiaries of direct employment programs had a 38 percentage point higher probability of being employed than non beneficiaries, positive effects were also found for 2001 and 2002. 2002 beneficiaries of SENCE had a 12 percentage point higher probability of being employed during that year, positive effects were also found for 2001. FOSIS showed a positive impact for 2001 but not for 2002 or 2003. The medium term evaluation (using baseline data for 2000 and follow-up data for 2004) of direct employment programs, measured as probability of employment in 2004 (one, two and three years after being enrolled in the programs, depending on the year of enrollment) is positive only for those that received benefits during 2002 or 2003 (11 and 12 percentage points higher respectively). No effect was found for those enrolled in 2001. FOSIS beneficiaries show similar results, with 10 and 14 percentage point higher

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<sup>28</sup> One of the explanations is that the unemployed are often stigmatized by their communities and a document that shows that the government is willing to hire them can send a positive signal about prospective workers.

<sup>29</sup> One of the explanations is that the unemployed are often stigmatized by their communities and a document that shows that the government is willing to hire them can send a positive signal about prospective workers.

employment for 2002 and 2003 beneficiaries but no effect for 2001 beneficiaries. SENCE beneficiaries show positive impacts for those that received benefits in 2001, but not for those that receive them during 2002. The evaluation also shows positive impacts of the direct employment programs on the probability of being employed in the formal sector only for those who received benefits during 2003, but not for those who benefit from the programs in 2001 or 2002. FOSIS and SENCE show no impact on formal employment. All programs had a medium term positive impact on income.

The effects this evaluation finds are that positive and significant effects of SENA could only be found for adult females, the effects for males were negative and those for young females were not different from zero. On the other hand effects found for private institutes were always positive and largest for adult females (95% higher than control group) and young males (71% higher than control group). The evaluation however lacks baseline data, and although results seem to be robust to various matching techniques, they cannot be taken as conclusive on the impact of the program.

The cost benefit analysis of the Chilean programs concludes that under the most optimistic assumptions shows a 18% return on investment for FOSIS, 8% for SENCE and 4% for direct employment programs. Under the less optimistic scenario profitability remains positive and the relative order of effectiveness across programs remains the same. The evaluation ends up making the recommendation that resources for direct employment programs be redirected towards more cost effective indirect programs.

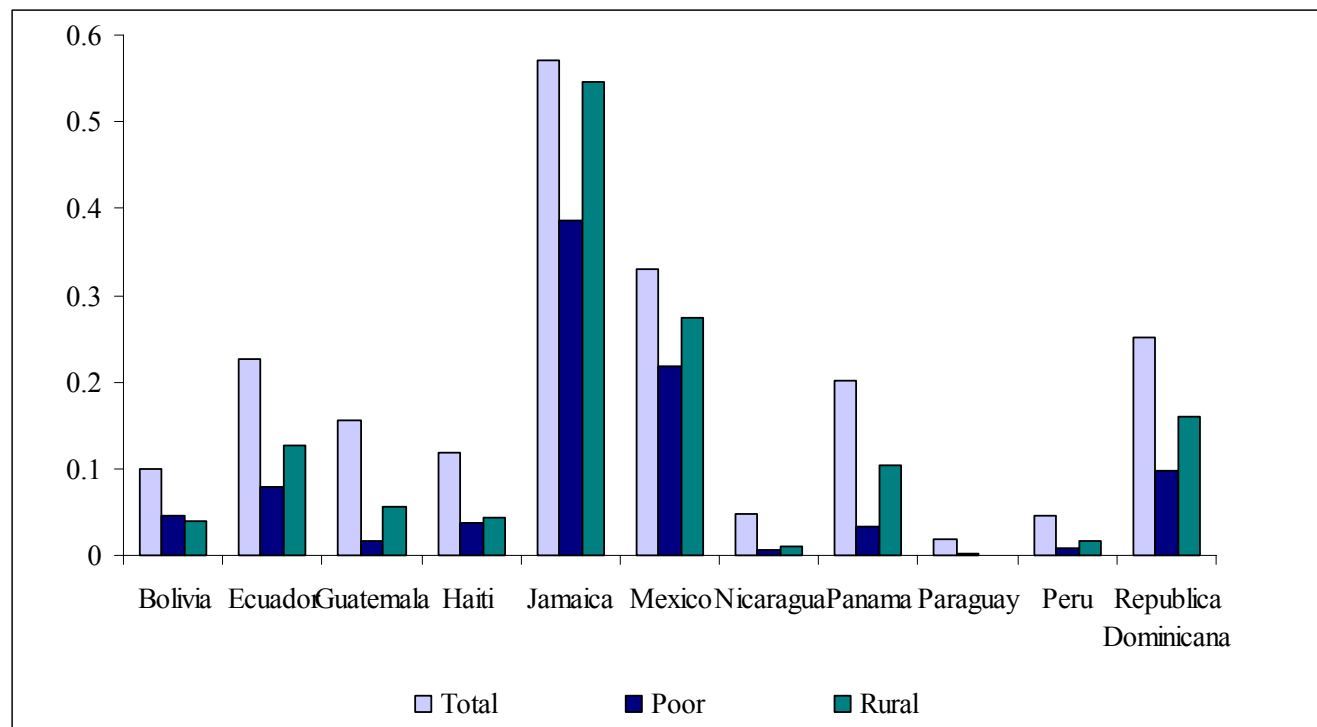
## **MICROFINANCE AND MICRO ENTERPRISE PROGRAMS**

Given that micro enterprises and small businesses (which are the main clients for micro credit) employ about 70 percent of the working poor in the region (Westley, 2001), the sector has significant potential for poverty reduction and the promotion of equality in the region. The provision of financial services for smaller companies (i.e. microfinance) and low-income households helps to reduce poverty and inequality through four main channels: increases in income as a result of using credit for productive activities; increases in the stock of assets through the use of noncredit financial services, particularly savings; benefits from the reduction in the volatility of consumption, thanks to access to financial services; and indirect impacts caused by the expansion of the economic activities of micro enterprises (increases in employment, for example). While there have been advances in the region, wide gaps remain in the use of formal or informal financial services between poor and non-poor households (see figure 4).

Probably the most difficult topic to evaluate is the impact of projects that support microfinance and micro enterprise. Self-selection makes it very hard to find a control group that is comparable to the treatment group. Because people self-select to participate in a program, they cannot be compared to people who choose not to participate because they will have different observed and unobserved characteristics. Even a randomized allocation of credit would have to be careful to draw treatment and control groups from those who would choose to apply and qualify for a loan. Despite these issues some efforts have been made in the region to overcome the inherent

difficulties in this area. Although there are no impact evaluations for the Bank's individual projects in the area of microfinance or micro enterprise, there is available evidence from a series of evaluations attempting to solve the problems mentioned above. Evidence is available from evaluations of Mibanco, and Promuc<sup>30</sup> in Peru and from CRECER<sup>31</sup> in Bolivia, and for the aggregate impact of microfinance in Chile and Brazil. Results in this area should be taken with caution, given the heterogeneity of programs and the mentioned difficulties in evaluating them.

**Figure 4. Percentage of households with access to savings from formal institutions in various countries of the region.**



**Note:** The figures do not always refer to the same type or origin of funds.

**Source:** Authors' calculations.

Promuc is a partnership of NGOs formed in 1994 and dedicated to the promotion of micro-enterprise, the empowerment of women and poverty reduction. When the evaluation was carried out, 12 NGOs were members of Promuc. In terms of targeting, 34.7 percent of the sample's clients lived below the poverty line, compared to a national average of 54.8 percent. The impact evaluation found that participating in Promuc increased individual monthly income by around 190 soles more than non client monthly income (see Copestake et al., 2005). The results are robust to different specifications and present somewhat larger effects among men and the richer half of the sample (the increase for women is 162 soles a month, and that for the richer half of the sample, 247 soles per month).

<sup>30</sup> Promuc is a Peruvian network that offers support to 11 microfinance institutions that implement a community bank program; as well as to 1,352 rural and urban community banks.

<sup>31</sup> CRECER is a nonprofit organization started in 1990 with the purpose of providing credit with education about health and business practices.

Mibanco achieved formal bank status in 1998 after 25 years of operating as a microfinance institution (Acción Comunitaria of Peru and becoming the leading microfinance institution in the country). It had approximately 58,000 clients and an operational sufficiency ratio of 116.5 percent at the time of the evaluation.<sup>32</sup> The data for Mibanco indicates that 25 percent of program beneficiaries were living below the poverty line at the time of the evaluation, compared to 35.5 percent for the country as a whole showing that there is a bias toward the non poor (see Dunn and Arbuckle, 2001). In the case of Mibanco, the entrepreneurs who obtained credit (with average loans of US\$586 for 3.4 months), reported annual profits that were about US\$1,000 higher than those of the control group.<sup>33</sup> Primary micro enterprise assets increased by about US\$500 and beneficiary enterprises provided 3.26 additional days of employment per month. The effects of access to financial services on risk management and spending on education at the household level in the Mibanco evaluation are negative. On the one hand, access to financial services appears to have contributed to better production risk management in poor beneficiary households, who report more diversified sources of income than the control group. However, beneficiary households that suffered negative income shocks, particularly the very poor, were forced to sell assets to cover drops in income to a greater degree than non beneficiary households.

CRECER is an unregulated nonprofit institution established in 1990 that provides credit with education services to women in Bolivia (see McNelly and Dunford, 1999). At the time of the evaluation it had a financial operational sufficiency ratio of 83.2 percent and approximately 20,000 borrowers. The results of the CRECER evaluation are ambiguous. Median monthly non farm profits were two and a half times more than those earned by non participants and more than five times the income earned by residents in control communities.<sup>34</sup> However, results vary depending on the specification of income used and seem to be negative in some cases. The evaluation found no effect on the nutritional status of clients and their children (which was the main objective of the program) even though nutritional status does seem to be positively correlated with the quality of education that participants receive.

In Chile, the results of changes in income were not robust for commercial bank clients and were negative for NGO clients. In the case of Brazil, the impact of access to financial services was positive for program beneficiaries. Employers and self-employed workers with access to micro credit from banks reported monthly household income that was higher than the control group by 1,494 reais.

Impact evaluations for entrepreneurship programs are scarce in the region, in this review we include the evaluation for the “Proyecto Formación Empresarial de la Juventud-JUMP” and the one for “Colectivo Integral de Desarrollo (CID) both of them in Peru. The JUMP program was implemented by CARE-Peru from 1999 to 2001 and was focused on youth between 18 and 25

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<sup>32</sup> The operational sufficiency ratio is defined as: Financial Revenue (Total)/ (Financial Expense + Loan Loss Provision Expense + Operating Expense). For further information about microfinance institutions visit [www.mixmarket.org](http://www.mixmarket.org)

<sup>33</sup> The families of the beneficiary micro entrepreneurs, in turn, reported household income of US\$1,200 more than the control group (US\$266 in per capita terms), which is 20 percent higher than average per capita income in the sample.

<sup>34</sup> Non participants are residents of villages that benefited from the program but did not receive credit, and control communities are those where the program was not introduced until after the evaluation

years of age (and later 30 years of age) with at least three years of secondary education, some labor experience and an interest in entrepreneurial activities. The program consisted in a four week course at the end of which the participants had to present a business plan. Participants with the best plans were selected to receive credit to start their enterprises and received assessment during the first months of the implementations of their plans. The program had over 7,000 beneficiaries around the country, The control group in this case was selected from among applicants who qualified for the program but did not participate for some reason. Results from the evaluation are not robust so it is not clear what the effect of the program is, moreover the selection of a control group is problematic because the reason for not attending the program may have been related to the variable utilized as outcome (the probability of starting an enterprise after the program).

The CID program began operating since 1992, however the evaluation of the program corresponds to two specific courses: the “Programa de calificación de jóvenes creadores de microempresas” which was implemented in 1999 and the “Formación de Líderes Empresariales”, implemented between 2002 and 2005. The objective of the first program was to provide young entrepreneurs with the abilities to increase the survival rate of their businesses. The course consisted in a call for proposals for the creation of small businesses, the best projects were selected and additional beneficiaries were selected from a group of applicants who had recently started a business. Project beneficiaries received 12 hours of assessment for the implementation of their plans, 36 hours of training in business management (accounting, marketing, finance, etc) and 170 hours of participation in an internship provided by the program. The selection of the control group is similar as the one for the JUMP program and therefore has the same problems, however results are robust and positive but they seem to be related more to the access to credit component of the program than to the technical assistance provided. Specifically participation in the program increased the likelihood that a business will still be existing a year from the baseline period by 40 percentage points compared to the control group.

The “Formación de Líderes Empresariales” program is the only one that performed a randomized evaluation of this type of programs. The program consisted in the random selection of a group of beneficiaries from a sub sample of individuals who applied and would qualify as beneficiaries to the program, from this final group of 196 individuals 60% was selected randomly to participate in the program and the rest was selected to be the control group (with the guarantee that they would receive the training in the future). The only risk in the selection of the control group in this type of evaluation comes if the control group would change its behavior due to the expectation of future participation into the program. Impact of the program after adjusting for desertion was found to be positive, but no calculation was done to see if the impact was statistically significant or not. Follow up data captured four months after completion of the program found that the probability of having a business increased by 8 percentage points when compared to the control group and monthly income was higher than that of the control group by 7.7% (there was no data on income from the baseline survey).<sup>35</sup>

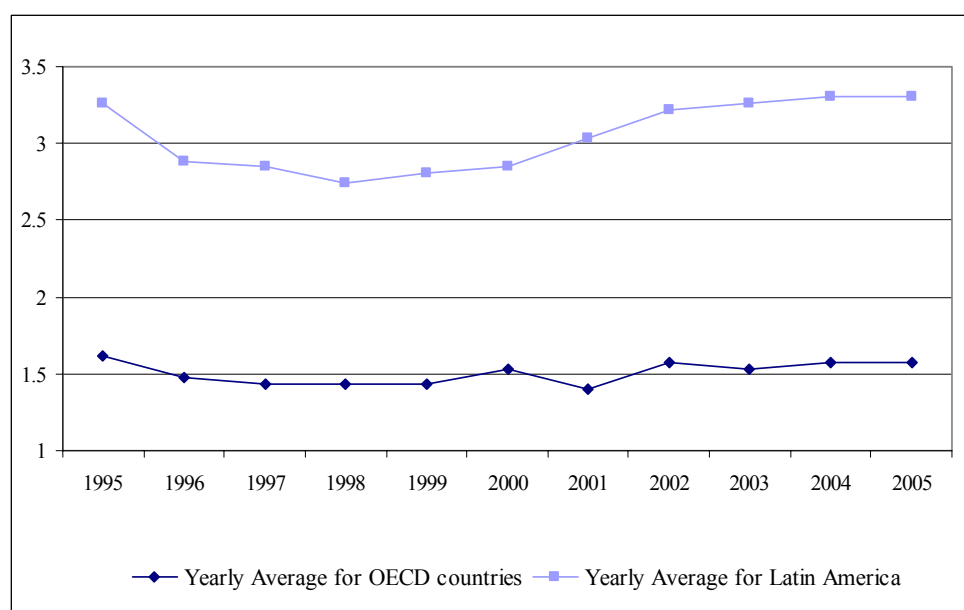
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<sup>35</sup> The adjustment used comes from Heckman et al. 1998. However that paper clearly stated that it is not clear that the estimator obtained using this adjustment is the only parameter of interest. It is also likely that the adjustment presents an upper bound of the impact that can be assigned to the program, the effect on income without the adjustment would be closer to 5 percent.

## LAND TITLING PROGRAMS

While property rights in Latin America are not particularly weak in comparison with other developing regions, there is a significant gap between the region and developed countries, and the situation has worsened in recent years. The property rights index published by the Heritage Foundation as part of the Index of Economic Freedom gives Latin America an average value of 3.4 compared to 1.57 for OECD countries<sup>36</sup> (See figure 5. The general assumption of land titling programs is that increased property rights will increase the ability (through access to credit) and willingness to invest in productive activities, therefore increasing income and the quality of life of the owner.

**Figure 5. Property Persistent Deficit of Property Rights in LAC**  
From 0 (best) to 5 (worst)



Source: Heritage Foundation, Index of Economic Freedom

Measuring the impact of a land titling project is a difficult task, the creation of a counterfactual presents many problems and groups of beneficiaries may have unobserved characteristics that generate biases in the estimated impact. Moreover the impact of land titling programs on the many components of poverty may be less direct than with other programs. Recent efforts to evaluate land titling programs in Argentina, Nicaragua and Ecuador present innovative ways to solve some of the methodological problems associated with assessing the impacts of this type of interventions.

The results of the impact evaluation in Argentina come from a government land titling project in the mid-1980s in which landowners were offered monetary compensation for their land and squatters who occupied the land since 1982 were given formal titles (see Galiani and

<sup>36</sup> The index varies from 0 to 5 with 5 being the lowest level of property right enforcement.



Schargrotsky, 2004).<sup>37</sup> One group of squatters received titles in the 1989-91 period and the second one received titles in the 1997-98 period. The evaluation focused on health effects of enhanced property rights, for this reason anthropometric data was collected from all children under 12 years of age in both treatment and control groups. Findings indicate that land titling has a positive effect on child health (one of the links might be that households are more willing to invest in things like improved sanitation in the house) as measured by weight-for-height scores, and a negative effect on the rate of teenage pregnancy rates (which suggests that there might be positive indirect effects that need to be taken into consideration when weighting the benefits of land titling projects). A latter study by the same authors (Galiani and Schargrotsky, 2006) using the same data analyzes the effect of titling on several other variables. This study finds positive effects of titling on land investment (for example the proportion of houses with good quality walls rises by 40% under land titling), households size (titled households have on average 0.95 members less than their counterparts), and school performance (a reduction of 0.4 days a week missed from school). More interestingly however is that there were no effects of titling on non-mortgage credit markets and a very small effect on mortgage loans.

The evaluation study for Perú is an evaluation of a national land titling program which started operations in 1996. The program was focused on the regularization of urban squatters which took place for the most part between 1998 and 2000. By 2002 1.64 million lots had been formalized and the process affected 6.3 million individuals (See Field and Torero, 2006). To be eligible for the program the applicant was asked to verify pre 1995 residency through bills or informal property documents and registries. The evaluation makes use of the group that had not yet received title but would receive it eventually as the control group and propensity score matching techniques. Results from the evaluation show interestingly that the program increased the likelihood of receiving credit from the public-sector materials Bank, which provides in kind credit for home improvements. Titling, however did not have any measurable effect on access to credit from formal sources, the benefit on titling seems to have been a reduction in price (that is the interest rate) of approximately 10 percentage points.

The Nicaragua study evaluates a land titling program (which received support from the World Bank) that started in 1992 and at the time of the evaluation had over 40,000 beneficiaries (see Deininger and Chamorro, 2001). Data shows that the program was effective in targeting poor households: household income for the group of beneficiaries is less than half of the income for the total sample. The results for Nicaragua also show that beneficiaries of the land titling program saw an increase of 30 percent in the value of their property when the land was titled and registered. Additionally, productive investments associated with land use increased by 8 to 9 percent. These investments increased more than those in moveable assets or live stock. The returns of land infrastructure investments were also higher (29 percent) than those of moveable assets or live stock (3 and 11 percent, respectively). In this case, as well, the effect is only significant when the land is titled and registered. The evaluation presents positive evidence of the effects of these type of programs when full title and registration are given to beneficiaries.

Evidence from Ecuador comes from a survey of 20 communities with different levels of property rights for their land. Land titling took place in the mid-1990s (see Lanjouw and Levy, 2002).

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<sup>37</sup> Some landowners accepted the offer and some did not, which generates a natural counterfactual for impact measurement.

While the case of Ecuador should be taken only as indicative given the size of the sample (51 observations) and the nature of the control group, it suggests that the value of the property may increase by as much as 23 percent (the cost of titling was found to be around 6 percent of property value) on average with larger effects for more recent settlers.

## VI. CONCLUSIONS

While impact evaluations of similar projects in different countries (or regions) are not generally expected<sup>38</sup> to yield the same results, the mounting evidence increasingly allows us to infer some important lessons to design and improve social programs in the region. The results presented in this review show a mostly positive picture of the average impact of the programs evaluated. Results of the evaluations have also proven to be useful, not only for measuring impacts, but also for identifying program weaknesses (e.g. problems with targeting mechanisms or groups that are not reaping the full benefits of the program) and induce the adjustments necessary to increase program effectiveness. The evaluation results and the experience in implementing these programs also raise various issues for the reform of social and fiscal policies in order to make public social expenditure more effective, pro-poor, and fiscally sustainable. This section discusses those general lessons.

*The need to design social programs as harmonious components of extreme poverty eradication policies and social protection systems, taking advantage of instrument complementary.*

A general policy recommendation is that comprehensive programs that complement supply-side interventions with demand-side components and vice-versa, seem to have greater impact and contribute to the sustainability of benefits beyond program completion. The evaluations show that the synergies between supply and demand interventions are especially relevant for programs in the areas of health and education and to make gains sustainable once transfers are terminated.

The relevance of complementary policies is also evident when considering access to credit. While there is evidence that micro-credit increases the income flows of borrowers, there is also evidence that complementary components, such as training, are needed for this effect to translate into better socioeconomic indicators. Even when credit programs have been targeted to the poor, the increase in income generated by the use of credit translated in better socioeconomic indicators (such as improvements in mother and child malnutrition rates) only when high quality training and education programs were in place. While the relationship between secure property rights and access to credit has appeared repeatedly in economic theory, impact evaluations have not generally found that land titling programs alone enable poor people to gain access to credit and make productive investments. Improved institutional arrangements and complementary components such as financial education seem to be possible answers to this puzzle.

Thus, special focus should be placed on strategies that integrate supply- with demand-side interventions, take advantage of comprehensive (vs. isolated and sector specific) interventions, and include complementary interventions to address some specific policy objectives (for example, after school programs to reduce child labor in conditional cash transfer interventions or interventions that promote increased school enrollment), among others.

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<sup>38</sup> Even when the same data is used in different evaluations the evaluation approach may vary and different results may be found.

*The advantages of cash transfers and the need to include conditionality in program design.*

The evaluations of the programs, especially of conditional cash transfer interventions, also highlight the relative effectiveness of cash transfers versus in-kind transfers and subsidies and the effectiveness of conditionality in the achievement of social policy goals. Results also show that the design of the conditionality and the transfer matters. That is, it is important to carefully design the conditions attached to a program in order to avoid unintended results (e.g. increasing fertility rates of the poor) and have an adequate level of transfers to ensure impacts in consumption.

*The need to include strong components for beneficiary training and monitoring of beneficiary responses in some interventions.*

The qualitative analysis of an early childhood development program in Guatemala suggests that the low impact on nutritional indicators might be due to an inadequate amount assigned to food purchases or to the use of the program transfer to feed family members that are not under nutritional risk. Closer attention and supervision of this component might improve the effects of this type of programs on nutrition. Training is also important to ensure the effectiveness of water and sanitation interventions.

*The need to ensure an institutional environment that is conducive to program sustainability.*

This is especially important for interventions to improve the supply of basic services at the local level, such as social investment funds, urban development programs, and water and sanitation programs. There are six main lessons from the impact evaluation of these programs. The first relates to the need to include community participation and community strengthening as key elements of success at all stages of execution, from the identification of needs and investments, to project preparation and monitoring/supervision of execution. The second is the need to include training components and institutional arrangements to ensure that communities and local governments are involved in the management and maintenance of investments and ensure sustainability. The third is the need to place greater emphasis on integrated investments at the community level in order to maximize the impact of investments. The fourth lesson relates to the need to take into account inter-institutional coordination with line ministries and national agencies (generally, education, health and public works), clearly defining the role of social investment funds vis-à-vis that of other government agencies with respect to responsibilities in defining critical policy areas for the poverty strategy and building infrastructure. The fifth lessons deals with the need to focus on decentralization and coordination with local governments, including mechanisms for sharing financial responsibilities with and delegating the project cycle to local governments (preparation, implementation, maintenance, etc.). Finally, there is a need to place attention on updating and maintaining databases and information systems for monitoring implementation.

*The need to go beyond increased access to improve the quality of services provided.*

Issues of quality in the provision of services, especially in health and education, continue to assume considerable importance throughout the region. Although more children are being

educated, the quality of the education they receive leaves much to be desired. This is an unavoidable issue in this discussion. The fact that most countries in Latin America and the Caribbean do not yet participate in international standardized tests makes it difficult to draw comparisons with other regions. However, available national and international evaluations show that student learning remains deficient and well below world averages, with countries in the region ranking near the bottom of the sample. The region has implemented a series of very innovative programs in recent years to improve the demand for basic education and health, more efforts to implement and evaluate successful supply-side interventions are needed to address supply-side deficiencies in the provision of the services.

*The need to respond to political and fiscal questioning of interventions with demonstrated cost effectiveness.*

Programs should explicitly acknowledge and gather evidence to justify interventions in the face of political and fiscal trade-offs associated with the need to extend the duration of benefits to guarantee effectiveness versus the desirability of short-term interventions that allow more extended coverage. Programs should also avoid long-term fiscal entitlements by ensuring clear exit criteria. Impact evaluations for PROGRESA/Oportunidades suggest the advantages of accompanying beneficiaries through the schooling cycle in order to ensure the effects of the program on human capital accumulation, but their record in establishing and enforcing exit rules is weaker. Complementary interventions may be needed to ease the transition of households exiting the programs. Impact evaluations of education scholarships and of early childhood interventions also show the higher benefits of longer program participation.

*The need to ensure cost-effective targeting*

The evaluations show the need to take into account the cost-effectiveness and political feasibility of trade-offs among different types of targeting (including means-testing, geographic, by category, and self-targeting) and the political and fiscal dilemmas associated with targeting versus universal provision in the context of the type of intervention being implemented. Most of the programs evaluated seem to have been effective in terms of targeting a high percentage of poor households; however, it is less clear that the programs are targeting the neediest among the poor. Even if the program is well designed it is important to consider verifying the selection of beneficiaries at the moment of implementation, and when necessary, to complement geographic targeting with other targeting criteria to identify the poorest households.

*The need to identify and respond quickly to opportunities for policy reform*

The experience in implementing and evaluating social programs in the region also shows the importance of impact evaluation and monitoring systems in identifying areas for reform, taking into account the affordability and cost-effectiveness of interventions. The success and resource needs of new approaches in a context of fiscal constraints highlight the need to reform redundant and/or inequitable social policies and programs that create a potentially unsustainable fiscal situation. An area that has not received much attention in this literature is cost effectiveness. While recognizing the difficulty in quantifying returns from different social interventions, comparative studies about cost effectiveness of programs such as conditional cash transfers

versus other types of programs would be useful in identifying when these programs will have the highest relative returns and which are the priority areas for reform.

*The need to institutionalize monitoring and evaluation systems in the region*

Evaluation of social programs has difficulties that go beyond the financial aspects of their implementation. In order to make a system for monitoring and evaluation relevant governments should prioritize the programs to be evaluated. The use of scarce resources for evaluation will benefit from a methodology to select projects that can gain the most from an evaluation (i.e. projects that have not been evaluated in the past or that are being expanded in the country), the creation of institutions oriented to control the technical quality of the evaluations being performed (e.g. technical committees with members from the academia and the private sector) and the creation of delivery systems in order to disseminate the results to policymakers in a way that the main message of the evaluations is translated into policy decisions. In order to clearly identify the problems and solutions to social programs the combination of qualitative and quantitative methodologies (preferably both performed by the same group) has proven to be a powerful tool and is recommended whenever it can be implemented. Also evaluation should make an effort to go beyond the average impact and disaggregate impact measurement by gender, race income level and geographic area, it should also have clear benchmark indicators against which empirical results should be compared in order to have an idea of what is exactly considered a good impact and what not.

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## ANNEX 1: IMPACT EVALUATIONS INCLUDED IN THE REVIEW

Country	Year	Type	Project	Data	Methodology
Argentina	2001	Youth training Program	Proyecto Joven	Project Survey	Propensity Score Matching
Argentina	2004	Youth training Program	Proyecto Joven	Project Survey	Propensity Score Matching
Argentina	2000	Emergency Employment	Trabajar	Project Survey Encuesta de Desarrollo Social	Propensity Score Matching
Argentina	2002	Youth training Program	Proempleo	Project Survey	Randomization Instrumental variables
Argentina	2003		Jefes y Jefas	Encuesta Permanente de Hogares	Propensity Score Matching
Argentina	2004	Land Titling	Land Titling	Project Surveys	Instrumental Variables
Argentina	2004		PNBE	Project Survey Administrative records	Propensity Score Matching
Argentina	2004	Infrastructure	School Construction Program	Encuesta Permanente de Hogares	Difference in Difference
Argentina	2002		Privatization of water companies	Administrative data	Propensity score matching Instrumental variables
Argentina Bolivia Chile	2004		Privatization of water companies	National household surveys for each country	Multivariate regression
Bolivia	2004	Early Child Development	PIDI	Project surveys	Propensity Score Matching
Bolivia	1999	Microfinance	CRECER	Project Surveys	Randomization
Bolivia	1998	Social Investment Fund	SIF	Project Surveys	Instrumental Variables
Bolivia	2003	Health	Seguro Basico de Salud	Encuesta Continua de Hogares. Administrative data. Census.	Instrumental Variables (not standard 2 stage IV estimate)

Brazil	2004	Urban Development	Favela Barrio	Census data	Kernel Matching
Brazil	2002		PETI	Project Surveys	Regression Analysis
Brazil	2004		PETI	Pesquisa Nacional por Amostra de Domicilios	Propensity Score Matching
Brazil	2004		FUNDEF	Sistema de Avaliacao do Ensino Basico	Difference in Difference
Brazil	2004	Conditional Transfers	Cash Bolsa Alimentacao	Project Surveys	<u>Randomized beneficiaries</u> [1]
Brazil	2004	Conditional Transfers	Cash All income transfers	Census data	Propensity Score Matching
Brazil	2002	Microfinance	Various microfinance institutions	Project Surveys	Propensity Score Matching
Chile				PNAD CASEN	
Chile	1999	Youth training Program	Chile Joven	Project Survey	<u>Difference in Difference</u> [2]
Colombia	2004	Youth training Program	Empleo en Accion	Project Surveys	
Colombia	2005		Hogares Comunitarios	Project surveys for the Familias en Accion Program	Instrumental Variables
Colombia	2005	Conditional Transfers	Cash Familias en Accion	Project Surveys	Randomization
Colombia	2005	Health	Subsidized health insurance program	Encuesta de Calidad de Vida 1997	Propensity Score Matching Instrumental Variables
Colombia	1981	Nutrition	Nutritional Supplement Program	Project Surveys	Randomization
Costa Rica	2004		Superémonos	Custom Survey	Regression Analysis Propensity Score Matching
Ecuador	2002		Land Titling	Project Surveys Encuesta de Condiciones de Vida	Hedonic price regressions

Ecuador	2004		Bono Solidario	Encuesta de Condiciones de Vida	Instrumental Variables
Guatemala	2005	Early Child Development	Dietary Supplement Program	Project surveys	Matched control group
Guatemala	2002	Early Child Development	Hogares Comunitarios	Project Surveys	Matched control group
					(Based on matched individual characteristics)
Honduras	2004		PRAF	Project Surveys	Difference in Difference
Honduras	1999	Social Investment Fund	FISE	Project Surveys	Multivariate regression
Jamaica	2001	Social Investment Fund	SIF	Project Surveys	Propensity Score Matching
Jamaica	1991	Nutrition	Nutritional Supplement Program	Project Surveys	Randomization
Mexico	2002	Emergency Employment	CICAT(PROBECAT)	Project Survey Nacional employment survey	Propensity Score Matching
Mexico	1999	Emergency Employment	CICAT(PROBECAT)	Project Survey Nacional employment survey	Instrumental variables
Mexico	2002	Emergency Employment	CICAT(PROBECAT)	Project Survey Nacional employment survey	Propensity Score Matching
Mexico	1999-04	Conditional Cash Transfers	Oportunidades	Project Surveys	Randomization
Mexico	2002	Conditional Cash Transfers	PROCAMPO/	ENCASEH	Randomization
		Conditional Cash Transfers	PROGRESA	Project Surveys	
Mexico	2004		CONAFE	“Estandares Nacionales” Survey	Propensity Score Matching
Nicaragua	2002	Land Titling	Land Titling	Project Surveys	Difference in Difference
Nicaragua	2004		RPS	Project Surveys	Randomization

Nicaragua	2000	Social Investment Fund	FISE	LSMS	Propensity Score Matching
				Project Surveys	
Panama	2004	Social Investment Fund	FIS	Administrative registries	Propensity Score Matching
				National Household Survey data	
Peru	2003	Youth training Program	ProJoven	Project Survey	Propensity Score Matching
Peru	2004	Youth training Program	ProJoven	Project Survey	Two Step Propensity Score Matching
Perú	2003	Emergency Employment	A Trabajar Urbano	Encuesta Nacional de Hogares (ENAH0)	Propensity Score Matching
				Project Survey	
Peru	2005	Microfinance	Promuc	Project Surveys	Difference in Difference
Peru	2001	Microfinance	Mibanco	Project Surveys	ANCOVA
Peru	2004	Health	Maternal Insurance	ENNIV ENDES	Regression Analysis
Peru	2004	Health Infrastructure	Health infrastructure program	Demographic and Health Survey (DHS)	Regression Analysis
Peru	1999		FONCODES	LSMS and INEI household survey	Difference in Difference Instrumental Variables

## ANNEX 2: SUMMARY OF IMPACT EVALUATION RESULTS FROM CONDITIONAL CASH TRANSFER PROGRAMS

	<b>Brazil – Bolsa Alimentacion, Bolsa Escola and PETI</b>	<b>Colombia – Familias en Accion</b>	<b>Honduras - PRAF</b>
Education	Bolsa Escola 3 % point increase in school attendance.	No effect in school attendance for children 8 to 11 in urban areas. 2.9 % point increase for 8 to 11 years old in rural areas. 3.5 to 10.4 % increase in school attendance rates for children 12 to 17 years old (5.1 to 11.1 % increase for 14 to 17 years old).	17 percent increase of children 5 to 12 that were out of school in 2000 to enroll or re enroll in school in 2001. No impacts on enrollment for the average population. 4.3 to 4.6 % points (1 extra day per month) increase in school attendance. 2.4 to 7 % decrease in desertion during the school year. 4.6 % point reduction in repetition rates in grades 1 to 4. Most of the effect is concentrated in grade 3.
Health			<ul style="list-style-type: none"> <li>• 7 – 10 % points increase in children that receive DTP vaccinations on time.</li> <li>• No effect on diarrhea on children younger than 3.</li> <li>• No impact on iron deficiency anemia.</li> <li>• Increased fertility among beneficiaries.</li> <li>• Weight height control in last 30 days 17-22 percentage points higher</li> <li>• No impact on measles, tetanus immunization in pregnant mothers</li> </ul>
Nutrition	<i>Bolsa Alimentacion</i> <ul style="list-style-type: none"> <li>• 9% increase in food expenditures.</li> <li>• 9% increase in dietary diversity.</li> <li>• 6% increase in per car capita caloric availability.</li> <li>• 31g less gain per month compared to control groups</li> </ul>	<ul style="list-style-type: none"> <li>• Consumption increased by around 15 percent, in particular spending on high protein foods, such as meat.</li> <li>• Increased height for age (0.78 and 0.62 cms. for children under 24 months and 48 to 84 months). Positive impacts in duration of breastfeeding and consumption of high-protein foods. Levels of compliance with growth monitoring and vaccination protocols are substantial.</li> </ul>	<ul style="list-style-type: none"> <li>• No impact on food consumption.</li> <li>• No impact on height for age indicators.</li> </ul>
Child labor	<i>PETI</i> <ul style="list-style-type: none"> <li>• 10.8 % points decrease in overall child labor.</li> <li>• 4 % points decrease in targeted child labor.</li> </ul> <i>Bolsa Escola</i>	<ul style="list-style-type: none"> <li>• Reduction in hours worked for almost all children (excluding rural children 14 to 17 years old) but reduction in labor force participation only significant for children 10 to 13 in rural areas (2.99 % points).</li> <li>• Increased adult labor participation among</li> </ul>	

	<ul style="list-style-type: none"> <li>No effect.</li> </ul>	women in urban areas and men in rural areas.	
Beneficiaries and total budget	<ul style="list-style-type: none"> <li>8.7 million families, US\$2 billion.</li> </ul>	<ul style="list-style-type: none"> <li>The program covers approximately 362,403 beneficiary families.</li> </ul>	

	<b>Mexico – PROGRESA/OPORTUNIDADES</b>		<b>Nicaragua: Red de Apoyo Social</b>
Targeting	<b>Urban areas</b> <ul style="list-style-type: none"> <li>Adequate targeting rates: under coverage rates of 23.8% and leakage rates of 22.2%, 88% more benefits reaching the poor than random assignment.</li> </ul>	<b>Rural areas</b> <ul style="list-style-type: none"> <li>Better results than in urban areas: 16% of under coverage and leakage rates, 100% more benefits reaching the poor than random assignment.</li> </ul>	<ul style="list-style-type: none"> <li>42 percent of transfers allocated to families living in extreme poverty and 38% to families living in poverty. 17 of families in extreme poverty and 31 of families living in poverty are program beneficiaries.</li> </ul>
Education	<i>Short term urban evaluation:</i> <ul style="list-style-type: none"> <li>Increased enrollment rates for some age groups (e.g. 10 % points for boys at age 6).</li> <li>Increased rates of school progress (7 to 15 % points) for all ages (excluding girls 15 to 18).</li> </ul>	<i>Medium term rural evaluation:</i> <ul style="list-style-type: none"> <li>Increased years of schooling completed by most children 9 to 13 enrolled in school in 1997 (0.69 to 1.31 grades).</li> <li>Increased percentage of most children 9 to 12 enrolled in school in 1997 with adequate school progress (30.4% to 63.6%).</li> </ul>	<ul style="list-style-type: none"> <li>22 % points increase in school attendance rates in communities in the treatment group (30 % points among the poorest households).</li> <li>8.5 % points increase in passing/retention rates in communities in the treatment group (9.3 % points among the poorest households, higher impact in higher grades – 12 % points from grade four to five).</li> </ul>
Health	<i>Short term urban evaluation:</i> <ul style="list-style-type: none"> <li>16% increased in consultations children 0-5 (last 6 months).</li> <li>4% decrease in hospitalizations people older than 50 (last 12 months)</li> <li>46% decrease in anemia prevalence (children 6 to 23 months).</li> <li>32% increase in births with adequate prenatal care.</li> </ul>	<i>Medium term rural evaluation:</i> <ul style="list-style-type: none"> <li>12% increased in consultations children 0-5 (last 6 months).</li> <li>22% decrease in hospitalizations people older than 50 (last 12 months).</li> <li>Reduction in maternal and infant mortality (15% and 6%) in municipalities with more than 35% of population participating.</li> <li>26.1% decrease in anemia in girls 3 – 6 (none in boys).</li> <li>61% increase in births with adequate prenatal care</li> </ul>	<ul style="list-style-type: none"> <li>29 % points increase in children less than three years old participating in growth monitoring.</li> <li>18 % points increase in children 12 to 23 months old with complete and adequate immunizations.</li> </ul>
Nutrition	<i>Short term urban evaluation:</i> <ul style="list-style-type: none"> <li>No effect in stunting.</li> <li>7.5% increase in food consumption (7.9 in vegetable consumption).</li> </ul>	<i>Medium term rural evaluation:</i> <ul style="list-style-type: none"> <li>Decreased stunting among 2 to 6 month old babies (39.3% for females and 19.4% for males).</li> </ul>	<ul style="list-style-type: none"> <li>8 % increase in per capita annual food expenditures of beneficiary household (vs. a decrease of around 19 % for the control group).</li> </ul>
Child labor	<i>Short term urban evaluation:</i> <ul style="list-style-type: none"> <li>Decreased labor rates for half age groups (5 to 25 % points).</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	
Beneficiaries and total budget	<ul style="list-style-type: none"> <li>5 million families</li> <li>Annual budget around 2.5 billion dollars</li> </ul>		



	<b>Costa Rica - Superemonos</b>		
Education	<ul style="list-style-type: none"> <li>• 8.7 % points increase in school attendance for children 13 to 16 years old.</li> <li>• 4.8 % points increase in students passing the school year in 2001 for children 12 to 15 years old.</li> </ul>		
Beneficiaries and total budget	<ul style="list-style-type: none"> <li>• 12,234 families</li> </ul>		