

Development Effectiveness Overview 2010



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In 2010, the Governors of the Inter-American Development Bank approved the terms of the largest capital increase in the Bank's history (IDB-9), with a mandate to work more effectively in order to enhance our support to our clients in reducing poverty and inequality, and achieving sustainable growth. The IDB-9 agreement will enable us to strengthen the Bank's lending capacity, has renewed our strategic vision, and defined a comprehensive program of reforms that, together with those already being implemented, will help us to grow stronger, more effective, and more efficient as an institution. The Governors' mandates represent recognition of our work and a challenging but exciting opportunity for all of us at the IDB.

While our capacity to provide value to our clients was recognized, Governors also called for the need to further reforms aimed at enhancing the development effectiveness of our work. This means that the IDB needs to strength its capacity to provide evidence that we are doing things right and we are doing the right things to support the development efforts of Latin America and the Caribbean.

In the last five years the IDB has transformed itself to become a strategic development partner, and increasing the development effectiveness of our work has been a continuous motivation. In this spirit, I am pleased to present the 2010 Development Effectiveness Overview. The report shows the results of our efforts to devise and apply monitoring and evaluation instruments that ensure that our work is duly executed and the outputs and outcomes of our actions are materializing on the ground (that we are doing things right), as well as on how these actions contribute to achieving key development results in the Region (that we are doing the right things).

The 2010 DEO shows that the implementation of the Development Effectiveness Framework is yielding positive results: the *ex-ante* evaluability of projects has improved, and the number of projects with rigorous impact evaluations has also increased. In 2010 all of our work—loans plus country strategies and knowledge products—were assessed *ex-ante* in terms of evaluability and the monitoring of implementation and reporting of results has also progressed, with a focus on measuring the delivery of outputs and outcomes.

Besides financial resources, we generate and provide useful knowledge to our clients, as our work contributes to closing knowledge gaps on many of the key development challenges faced by the citizens of Latin America and the Caribbean. In the DEO we report a wide range of ongoing and completed evaluations that show in very concrete ways

the progress that we are making in learning about what works and how. We are learning how to better reach the rural poor to improve maternal and child health outcomes in Central America, and how to better teach math and science to young children in Argentina. We are measuring the impacts of supporting hydroelectric plants in the region, as well as the benefits of rural roads in El Salvador. We supported Barbados to test and expand alternatives within its Sustainable Energy Framework, and we are evaluating alternatives to strengthen citizen security in Belize and Costa Rica. In the Dominican Republic we are enhancing a technology transfer program to increase productivity in Agriculture, and throughout the Region we are supporting programs to make SMEs more productive. In short, we are working harder than ever with our development partners to achieve lasting results, making sure that we measure them appropriately and that we learn from our experience. That is development effectiveness in action at the IDB.

Today the challenges that the mandates of IDB-9 aim to address call on us to be not only a bigger Bank, but to be a better Bank. Our increased ability to finance development projects is accompanied by the commitment to ensure that the resources entrusted to us are used in ways that make an effective contribution to sustainable and equitable growth in the region.

Luis Alberto Moreno

President

Washington, March 2011

The *Development Effectiveness Overview* is the IDB's corporate report that accounts for the effectiveness of its work. It reports on the progress made in the Development Effectiveness agenda of the Bank and on the results of our interventions. With the approval of the Ninth General Capital Increase (IDB-9), the Bank's Governors adopted specific lending targets, a corporate Results Framework and five sector institutional priorities. The DEO reports on how the Bank is working to meet this mandate. The DEO shows that the Bank follows a results-based framework from programming to project design, monitoring and implementation. Also, the DEO describes the substantial work of the Bank to measure the results of our work in order to learn from our development work and close knowledge gaps.

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Koldo Echebarría
General Manager & Chief of Development Effectiveness
Washington, D.C., March 15, 2011



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ABBREVIATIONS

ABR	Annual Business Review
ADB	Asian Development Bank
CIDA	Canadian International Development Agency
CPD	Country Program Document
CPI	Cost Performance Index
CS	Country Strategies
DEF	Development Effectiveness Framework
DEM	Development Effectiveness Matrix
DEM-CS	DEM for Country Strategies
DEM-SCF	DEM Structured and Corporate Finance Department
DEO	Development Effectiveness Overview
DFID	Department for International Development
ECG	Evaluation Cooperation Group
ECG-GPS	Good Practice Standards of the MDB Evaluation Coordination Group
ECG-MDB	Evaluation Cooperation Group of the Multilateral Development Banks
ERR	Economic Rate of Return
EVM	Earned Value Method
FMM	Urban and Municipal Development Division
FSO	Fund for Special Operations
GDP	Gross Domestic Product
GNI	Gross National Income
GPS	Good Practice Standards
IDA	International Development Association
IDB-8	Eighth General Capital Increase in the Resources of the Inter-American Development Bank
IDB-9	Ninth General Capital Increase of the Inter-American Development Bank
IIC	Inter-American Investment Corporation
KCP	Knowledge and Capacity Building Products
KNL	Knowledge and Learning Sector
LAC	Latin American and the Caribbean Countries
LMK	Labor Markets Unit
M&E	Monitoring and Evaluation
MDB'S	Multilateral Development Banks
MDGS	Millennium Development Goals
MIF	Multilateral Investment Fund
NPC	New Project Cycle

NSG	Non-Sovereign Guaranteed Operations
OECD-DAC	Organization for Economic Cooperation and Development – Development Assistance Committee
OMJ	Opportunities for the Majority
OPC	Operational Policy Committee
OVE	Office of Evaluation and Oversight
PCD	Project Concept Document
PCRS	Project Completion Reports
PI	Project Performance Index
PMR	Progress Monitoring Report
PPMR	Project Performance Monitoring Report
PSR	Project Supervision Report
QBR	Quarterly Business Reviews
RBB	Results Based Budgeting
RF	Results Framework
ROIC	Return on Invested Capital
SCF	Structured and Corporate Financing Operations
SG	Sovereign Guaranteed Operations
SME	Small and Medium Enterprise
SPD	Office of Strategic Planning and Development Effectiveness
SPI	Schedule Performance Index
VPC	Vice Presidency for Countries
VPS	Vice Presidency for Sectors and Knowledge
WB	World Bank
XPMR	Expanding Performance Monitoring Report
XPSR	Expanded Project Supervision Report



The 2010 Development Effectiveness Overview (DEO) is the second yearly corporate report on effectiveness at the IDB since the realignment took place in 2007. It shows that the implementation of our development effectiveness agenda is producing encouraging results. We aim to do the right things and to do them right in order to contribute to the achievement of sustainable and equitable growth in Latin America and the Caribbean. This entails organizing ourselves as a results-based organization, where the effectiveness of our work—at all stages and in all products—is measured, monitored and reported. This provides accountability of our work and an opportunity to learn about how to improve.

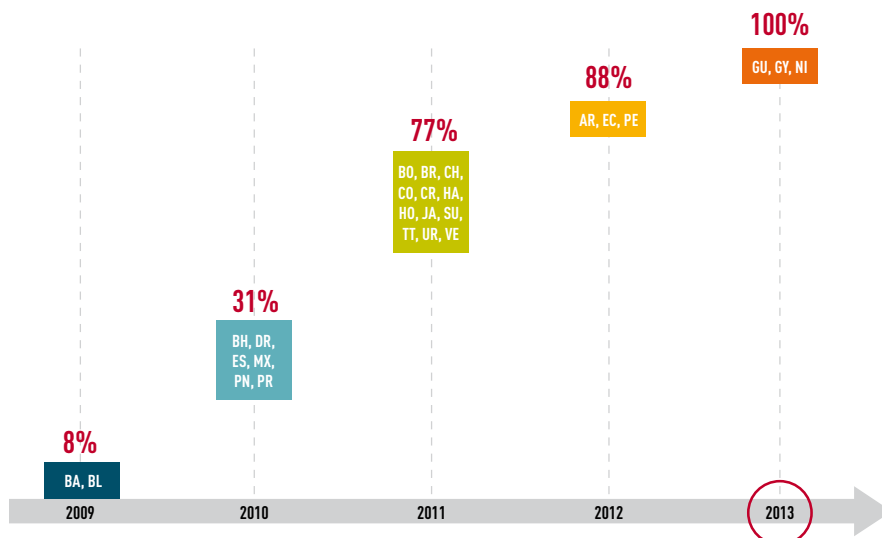
Last year's DEO assessed the progress made in increasing the accountability of the Bank's work and presented evidence on the effectiveness of the type of programs financed by the Bank in 2008-09. During this period, all loans incorporated at-entry evaluability rating to assure that results at completion are verifiable, and a shift from tracking project's inputs and activities to monitoring their outputs and outcomes took place. The report identified important challenges, including the need to sharpen the strategic focus of our programming, to increase our monitoring of outputs and reported outcomes at completion, and to advance the generation of knowledge about "what works".

These challenges increased their relevance in 2010, when the IDB became a larger and more strategically focused Bank. In the 2010 Annual Assembly in Cancun, the Board of Governors agreed to increase the ordinary capital of the Bank and the Fund for Special Operations. In addition, the Board of Governors approved an unprecedented financial support program for Haiti, canceling the country's outstanding debt and providing long-term and substantial financial resources. This greater lending capacity came hand in hand with a strong strategic focus based on the adoption of an overarching Results Framework that monitors, through quantitative and qualitative measures, our progress on reaching the expected results of the Ninth General Capital Increase Agreement (IDB-9).

In 2010 programming at the IDB followed a results-based approach. In order to define the areas in which the Bank works with partner countries in the region, a strategic planning exercise identifies which development challenges could benefit significantly from the IDB's financial and technical support. It is at this programming stage that the selection of sectors, instruments and policies takes place. Programming has two main elements, the multi-year Country Strategy (CS) and the annual Country Program Document (CPD). Since 2009, both elements are designed with a results-based perspective, in order to provide an accountable framework for the work of the Bank in each country. **In 2010 six-results based CSs**

were approved and all of them included empirically sustained sector work that justifies the areas where the Bank and the countries agreed to work on. Also, specific, measurable, achievable, relevant and time bound indicators were selected to measure the results of our work. Given that Country Strategies are agreed upon with countries periodically, the Bank aims to achieve full implementation of a results-based approach by 2013.

Results-based Country Strategies. Timeline for Full Implementation

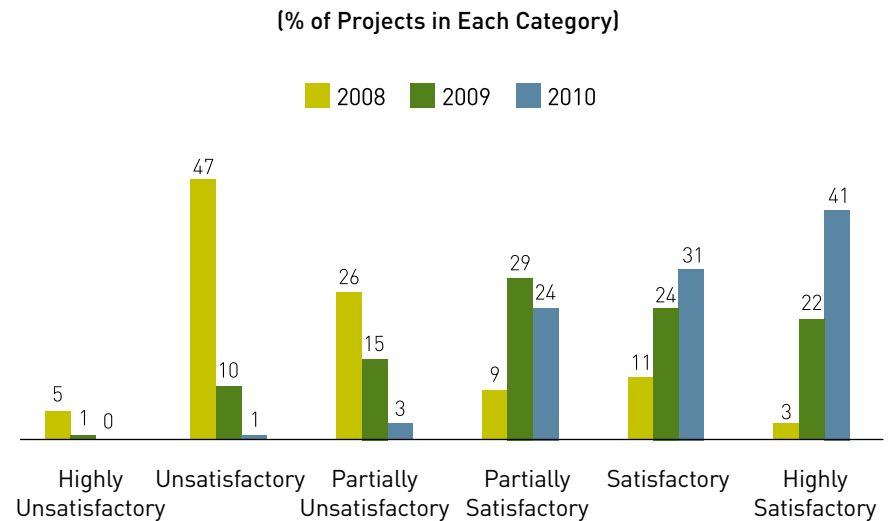


AR Argentina · BA Barbados · BH Bahamas · BL Belize · BO Bolivia · BR Brazil · CH Chile · CO Colombia · CR Costa Rica · DR Dominican Republic · EC Ecuador · ES El Salvador · GU Guatemala · GY Guyana · HA Haiti · HO Honduras · JA Jamaica · MX Mexico · NI Nicaragua · PE Peru · PN Panama · PR Paraguay · SU Suriname · TT Trinidad and Tobago · UR Uruguay · VE Venezuela

Some examples of country-level results depicted in our approved country strategies are:

- in Bahamas by 2014 at least 10 percent of the country's energy matrix should come from renewable energy sources;
- in El Salvador 2,5 million people should get health care coverage through a new model in the Integrated Health Care Services and Primary Care Services Networks by 2014; and
- in Mexico, 2 million beneficiary families of social protection programs should be receiving transfers through bank accounts, increasing their saving capacity.

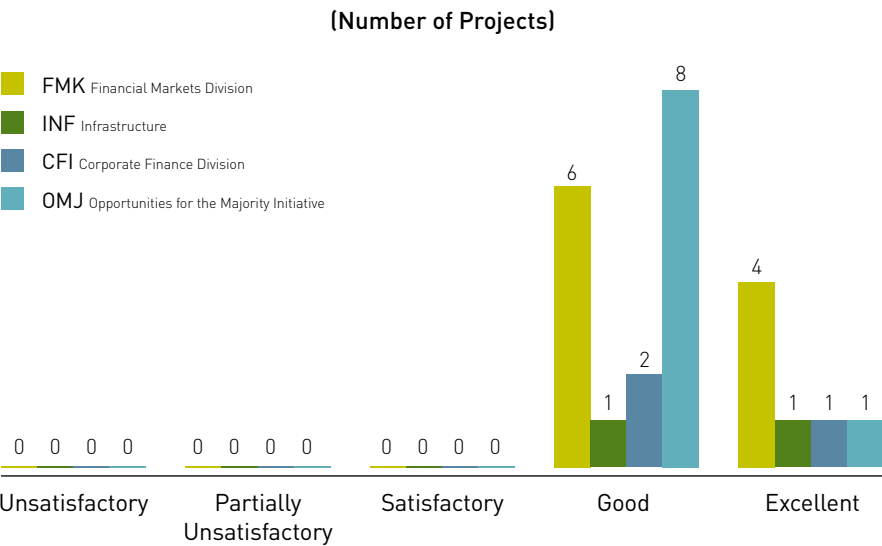
Evaluability Levels Overtime



The evaluability of SG projects has increased substantially. The percentage of projects that met the minimum levels set by IDB-9 increased from 23 percent in 2008 to 75 percent in 2009, and to 96 percent in 2010. With these results, we are on track to meet the requirement of 100 percent of our projects meeting the evaluability threshold approved in IDB-9. Results-based programming is followed by the preparation, approval and implementation of development projects. To assure that we do things right, all projects are prepared with a special focus on their evaluability, which is the ability to show credible and reliable results at completion. In order to ascertain their evaluability proposals are reviewed to ensure the diagnostic and proposed solution is empirically supported, to be certain that provisions exist for a proper monitoring of the project's implementation (the production of outputs as planned in terms of time, cost and quality) and to perform valid evaluations at project completion. Evaluability at-entry is measured with the Development Effectiveness Matrix, an innovative tool used by teams and validated in the project preparation process to produce an evaluability score.

The extent to which an operation can be evaluated credibly also applies to our non-sovereign guaranteed projects. NSG projects are rated for evaluability which focuses on the assessment of development impact. In 2010, all of NSG projects achieved good or excellent levels of evaluability. Also in 2010, the third benchmarking exercise for the Evaluation Cooperation Group (ECG)-Good Practice Standards for Private Sector Investment Operations was carried out. In the ECG report, **the IDB was**

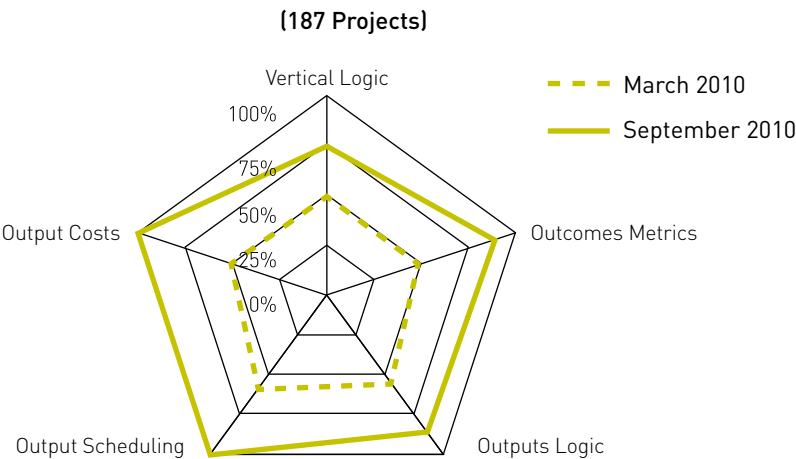
2010 DEM Rating for NSG by Sector



cited for making the most improvements of all MDBs in terms of ECG compliance from the previous benchmarking exercise, having improved from 8 percent in 2004 to 89 percent in 2010.

The Project Monitoring Reports (PMRs) tracks the implementation of a project’s results, where the key indicators to assess the implementation and results of a project are defined. Monitoring progress in the PMR includes comparing planned versus actual time and planned versus

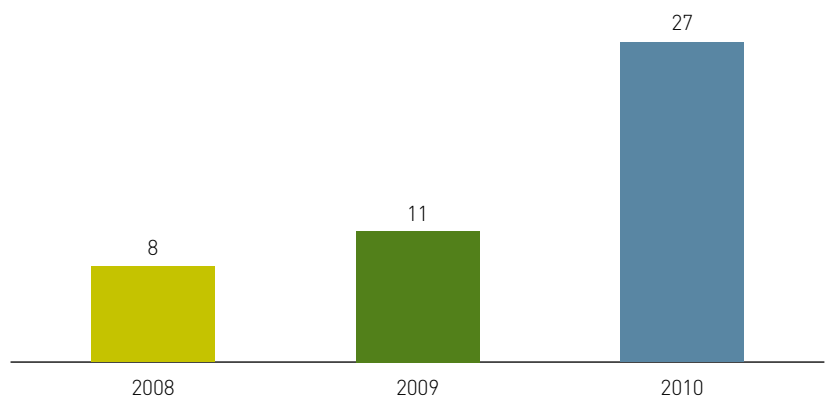
Total Reviewed PMRs



actual cost for the delivery of outputs twice a year. In 2010, projects were reviewed in March and September. **The share of all reviewed projects with sufficient information for an adequate monitoring of outputs reached 87 percent in September 2010 compared to 53 percent in March 2010.** Based on our monitoring system, we know that, in 2010, 1.5 million students and 80 thousand teachers benefited by education projects; that 154,700 individuals participated in programs to promote higher labor market productivity; that 43,785 households had access to upgraded water supply; that 1,418 kilometers of electricity transmission and distribution lines were installed or upgraded; that 92,471 small or medium firms received financing, and that 5 cities benefited from citizen security projects.

In order to verify that we achieve the intended development outcomes from the outputs we produce, planning impact evaluations from the early stages of the project cycle is necessary. Impact evaluations allow us to credibly measure results at project completion, to demonstrate the project's effectiveness, and to learn from its implementation. **The number of projects with rigorous impact evaluations at project design observed in 2009 continued to grow in 2010, reaching close to 30 percent of all sovereign projects approved during 2010.** As part of its commitment to development effectiveness, the Bank is generating knowledge to promote learning about which policies work best in fulfilling the Bank's purpose, to accelerate the process of economic and social development of the regional developing member countries. The 2010 DEO reports on key strategic areas where the Bank is investing resources to close knowledge gaps, through rigorous impact evaluations or other analytical products.

Percentage of SG Projects with Impact Evaluations



The designs of these studies are presented below grouped around the five institutional priorities defined by the Bank's Governors as part of IDB-9: (1) Social Policy for Equity and Productivity; (2) Infrastructure for Competitiveness and Social Welfare; (3) Institutions for Growth and Social Welfare; (4) Competitive Regional and Global International Integration, and (5) Protecting the Environment, Responding to Climate Change, Promoting Renewable Energy, and Ensuring Food Security.

On ***Social Policy for Equity and Productivity***, the 2010 DEO reports the results of an experimental evaluation that tested three innovative approaches to improve learning in mathematics and science in elementary schools in Argentina. The pilot tested the effectiveness of three innovative inquiry-based models introduced in two Argentine provinces during the 2009 academic year. The evaluation was an inherent part of the project, and included an experimental design in which schools were randomly assigned to the different pedagogical approaches. **Children are learning more math and science in Argentina where the average test score increased by 44 points (close to half a standard deviation) compared to 19 points (a fifth of a standard deviation) among students who received the traditional curriculum.** The impact was particularly strong in Buenos Aires, where the difference between the two groups was 34 points, or a third of a standard deviation. The *Math for All (Matemáticas para Todos)* program was scaled up given its positive results.

Combating urban poverty with strategic investments in infrastructure through neighborhood improvement programs is an example of our work on ***Infrastructure for Competitiveness and Social Welfare***. The DEO highlights the partnership of the Bank with Mexico's Ministry of Social Development and the National Evaluation Council to conduct the first evaluation of this type of projects using random assignment. While the project was evaluated in 2006 and found some impacts on access to quality sewage services, **the ongoing evaluation will estimate the effect of the program on access to, and availability of, basic services, infrastructure, and equipment, including water, sewerage, road paving, street lighting, and electricity.** In addition, it will determine whether the program has an impact on the real-estate value of properties and whether it increases social capital among inhabitants of the beneficiary areas. Similarly, in Paraguay the IDB is supporting the design and implementation of an impact evaluation to determine the causal effect of rural water supply and sanitation interventions on health (especially children's health) and on time allocation by adults and children. The main indicators regarding health are those related to diarrheal illnesses and child morbidity.

Projects to increase access to financial services for SMEs in the region are an example of our work on ***Institutions for Growth and Social Welfare***. The Bank's interventions in this sector have focused on mitigating the impact of information asymmetries in markets that constrain firm financing and can ultimately affect their progress. For instance, the Bank is undertaking a study to produce evidence on the effectiveness of public-credit policies in Brazil. Based on existing historical data on firms, the study compares the performance of firms that had access, to public credit *vis-à-vis* similar firms that did not have such access to produce evidence on the effectiveness of the credit policies implemented. Preliminary results show that **public-credit policies in Brazil have a positive impact of about 24 percent on employment and 40 percent on exports**. Furthermore, the study supports the hypothesis that the effect on exports is almost entirely driven by the increase in export volumes among exporting firms, while not affecting the probability of becoming an exporter.

Fostering science, innovation and technology adoption is a key element to promote ***Competitive Regional and Global International Integration***. The DEO reports on the results from an IDB-led study on the long-run dynamic effects of a matching-grant program managed by the Colombian agency COLCIENCIAS. The study was designed to take advantage of the available historical data to detect long-run effects of the program. Results show that COLCIENCIAS funding not only had a positive impact on firms' investment in Research and Development, but also had a significant impact on their performance. In particular, over the period 1995-2007 **COLCIENCIAS funding had an average impact on introduction of new products and labor productivity of around 12 percent and 15 percent respectively, with these effects becoming more significant between three to five years after the firms started the program**. These findings imply not only that beneficiary firms become more efficient, but that they grow more and gain a greater market share than the control group. The consequence is that economic resources are being reallocated towards more productive firms, hence impacting also productivity "in the aggregate". In other words, the study finds evidence that technological development funds are effective not only in promoting R&D investments, but also in boosting firms' performance in the long run.

The DEO reports that IDB's work on ***Protecting the Environment, Responding to Climate Change, Promoting Renewable Energy, and Ensuring Food Security***, focuses on projects that will enable rigorous impact evaluations and hence will contribute to greater development effectiveness. For agricultural development and food security, two projects are being evaluated: one the one hand, a project of agricultural

technology transfers in the Dominican Republic (PATCA) and on the other hand, income transfers to farmers in Mexico (PROCAMPO). **These evaluations will provide answers to key questions about how to promote productivity improvements in agriculture.** The PATCA evaluation will be based on random assignment and will explore desirable spillover effects. Another set of projects highlight a range of activities to assess the role of tourism projects in addressing poverty. The data collection and simulations models included as part of a number of tourism projects will be used to determine the conditions under which tourism is most likely to reduce poverty. There is a third set of projects that highlight the strong links between food security, environmental protection and climate-change adaptation; and in one case, climate-change mitigation as well. For instance, **in the Nicaraguan Environmental Program for Disaster Risk and Climate Change Management, the goal is to reduce the vulnerability of rural populations and infrastructure to climate-related disasters, in an upper and lower watershed.** The timing of program implementation will enable researchers to establish treatment and control groups using a “randomized phase-in” technique, allowing the team to evaluate both environmental conservation and agricultural productivity gains due to the project.

On January 12, 2010 an earthquake devastated Haiti’s capital, Port-au-Prince, and its immediate surroundings. By striking at the heart of the country’s economic and administrative centers, the earthquake had a severe effect on human and institutional capacities. Nonetheless, **the Haitian people’s resilience and determination to build a better future endures, and the IDB is taking significant steps to support these efforts. As the largest donor in Haiti, in 2010 the IDB mobilized almost US\$3 billion for the next decade.** The Bank plays the leading role in the efforts to build back a better Haiti, by combining innovative ways of doing our work with a solid strategic focus marked the ability to design comprehensive policies and adapt to a rapidly evolving context. The last chapter of the DEO describes the challenge created by the earthquake that hit Haiti, the key features of our leading role in Haiti and the outputs we accomplished in 2010. It shows how our work in Haiti in 2010 and the years to come, combines our commitment to development effectiveness with a focus on where the needs are greatest.

Outlook for 2011. Developing effectiveness is a dynamic feature of our work, so even though we have achieved significant improvements, we have learned that the path to success is not linear and that there is much to improve. Some of the key challenges that we face to increase the effectiveness of our organization in 2011 are: (1) to consolidate our programming through results-based country strategies; (2) to

implement the IDB-9 mandate for all SG and NSG operations in order to meet a minimum evaluability threshold; (3) to expand our results-based approach to technical assistance and knowledge products; (4) to increase the number of completed projects that credibly demonstrate satisfactory results at completion, and (5) to use the knowledge gained on effectiveness to feed back into better loan and technical assistance to the region. The next DEO will report on the progress made to meet these challenges and on the continued implementation of our development effectiveness agenda. As a result of the work done so far, we will be able to report the outputs tracked through our monitoring system, our alignment to IDB-9 mandates, and the results of the many impact evaluations we are conducting.



The DEO 2010 reports on the progress made in 2010 towards increasing the effectiveness of the Bank's work, from the approval of its corporate Results Framework to the implementation of results-based programming and the incorporation of metrics in the design and implementation of our projects.



The Development Effectiveness Overview 2010 (DEO, 2010) is the second corporate report on the effectiveness of the Inter-American Development Bank's work in Latin America and the Caribbean. Its purpose is two-fold. First, to establish accountability for the effectiveness of the Bank's work during 2010. Second, to report on what the Bank is learning works best in the region by evaluating its interventions in the most rigorous manner possible.

Demonstrating the effectiveness of our work becomes even more relevant given that today the IDB is larger than ever before. In the 2010 Annual Assembly in Cancun, the Board of Governors agreed to increase the ordinary capital of the Bank and the Fund for Special Operations. The Board of Governors also approved an unprecedented financial-support program to Haiti, canceling the country's outstanding debt and providing a substantial long-term financial commitment of up to US\$200 million annually in transfers of Ordinary Capital (OC) income to the IDB Grant Facility through 2020, subject to annual approvals by the Board of Governors and the fulfillment of the respective requirements of the Bank's Charter.

Not only has the IDB expanded financially: it also has become more strategically focused. The Ninth General Capital Increase Agreement (IDB-9) mandates that within the next five years, at least, 35 percent of its lending must go towards the smaller and more vulnerable countries of the region; 50 percent of total lending must be targeted at poverty-reducing and equity-enhancing areas and programs; 25 percent of lending should be directed toward climate change, renewable-energy and environmental-sustainability programs; and 15 percent of lending should go towards supporting integration and regional cooperation.

In addition to this lending focus, the Board of Governors approved the following five institutional priorities to sharpen our effectiveness as a development partner in the region: (1) Social Policy for Equity and Productivity, (2) Infrastructure for Competitiveness and Social Welfare, (3) Institutions for Growth and Social Welfare, (4) Competitive Regional and Global International Integration, and (5) Protecting the Environment, Respond to Climate Change, Promote Renewable Energy, and Ensuring Food Security.

To reflect this greater lending capacity and strategic focus, the Bank has adopted an overarching Results Framework that monitors, through quantitative and qualitative measures, the progress on reaching the expected results agreed upon by its Governors during the process of IDB-9.

The DEO 2010 reports on the progress made in 2010 towards increasing the effectiveness of the Bank's work, from the approval of its corporate Results Framework to the implementation of results-based programming and the incorporation of metrics in the design and implementation of our projects. It also reports on "what works", or the knowledge being generated by the Bank in each of the five institutional priorities.

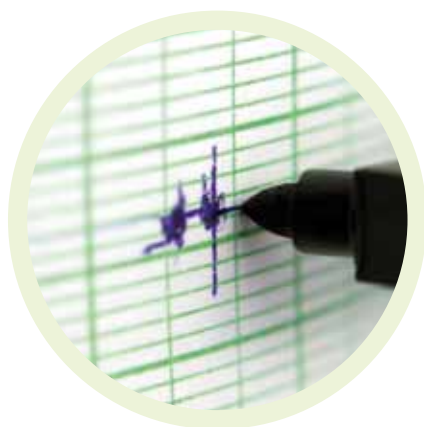
Part I, *Results on the Effectiveness of our Work*, tracks the Bank's performance using our accountability measures for each development product (i.e., country strategy, programming processes and our lending programs) at entry, implementation, and exit. The results are indeed encouraging: in 2010 (the first year of full implementation) 87 percent of Country Strategies Results Matrices were satisfactory or highly satisfactory, while the percentage of sovereign guaranteed (SG) operations that had satisfactory or higher evaluability increased from 75 percent in 2009 to 87 percent in 2010. The share of SG projects with the required information for an output-based monitoring through the Project Monitoring Report (PMR) increased from 50 percent to 89 percent. All Non-SG (NSG) operations achieved good or excellent marks in evaluability.

Moving forward, the Board of Governors agreed on a minimum threshold for evaluability, meaning that in the coming year, 100 percent of operations must be evaluable at entry. The Bank has already moved in this direction as the percentage of SG projects that meet the threshold has increased from 74 percent in 2009 to 96 percent in 2010.

Planning impact evaluations from the early stages of the project cycle is necessary in order to measure results credibly at project completion, to demonstrate the project's effectiveness, and to learn from its implementation. The number of projects with rigorous impact evaluations at project design observed in 2009 continued to grow in 2010, reaching close to 30 percent of all sovereign projects approved during 2010. Efforts to build the evaluation capacity of the Bank's staff through training in impact-evaluation methods were maintained and extended to partners in countries which recognized the leadership and added value from the Bank in terms of rigorous evaluation methodologies.

The year 2010 also saw a full rollout of results-based Country Strategies and programming. All six country strategies approved during the year had greater strategic focus, included outcome results for each area of proposed Bank intervention and allowed greater coherence between the strategic areas of engagement and the specific programming of operations and technical assistance. The appropriate measures of evaluability for

The number of projects with rigorous impact evaluations at project design observed in 2009 continued to grow in 2010, reaching close to 30 percent of all sovereign projects approved during 2010.



As the largest donor in Haiti, the IDB mobilized almost US\$3 billion for the next decade (including grants, debt relief and the conversion of loans to grants). The Bank is playing the leading role in the efforts to build back a better Haiti.

technical assistance will be defined as part of the ongoing full internal review of the Bank's instruments and financing of technical cooperation.

In order to report on the efficiency of our work, the Annual Business Review (ABR) for 2010, which is a year-end compilation of the business reports prepared by management on a quarterly basis to monitor internal performance, is included as appendix 3 to complement this accountability exercise.

Part II, *Learning about the Development Effectiveness of the IDB's Program*, reports on key strategic areas where the Bank is investing resources to close knowledge gaps, through rigorous impact evaluations or other analytical products. Topics were selected strategically to illustrate how the Bank and its partners in the region are learning about development effectiveness. The purpose is not to provide a description of the evaluations done by the Bank*, but rather to give an account of how we are contributing to fill strategic knowledge gaps in the region.

The Bank's commitment to development effectiveness involves measuring and reporting to provide accountability for our work. But the process also aims to generate knowledge and to promote learning about which policies work best in fulfilling the Bank's purpose. This will help to accelerate the process of economic and social development of the regional developing member countries, both individually and collectively. In 2010 the Bank designed strategic impact evaluations to close the gap on "what works best", in areas such as maternal and neonatal health in Central America, citizen security in Costa Rica and Belize, and agricultural-technology support in the Dominican Republic, among others.

DEO 2010 presents a special chapter about our work in Haiti during 2010. As the largest donor in Haiti, the IDB mobilized almost US\$3 billion for the next decade (including grants, debt relief and the conversion of loans to grants). The Bank is playing the leading role in the efforts to build back a better Haiti. It is doing so by combining innovative ways of doing its work with a solid strategic focus and with the ability to design comprehensive policies and adapt to a rapidly evolving context. Our work in Haiti in 2010 and the years to come combines our commitment to development effectiveness with a focus on where the needs are greatest.

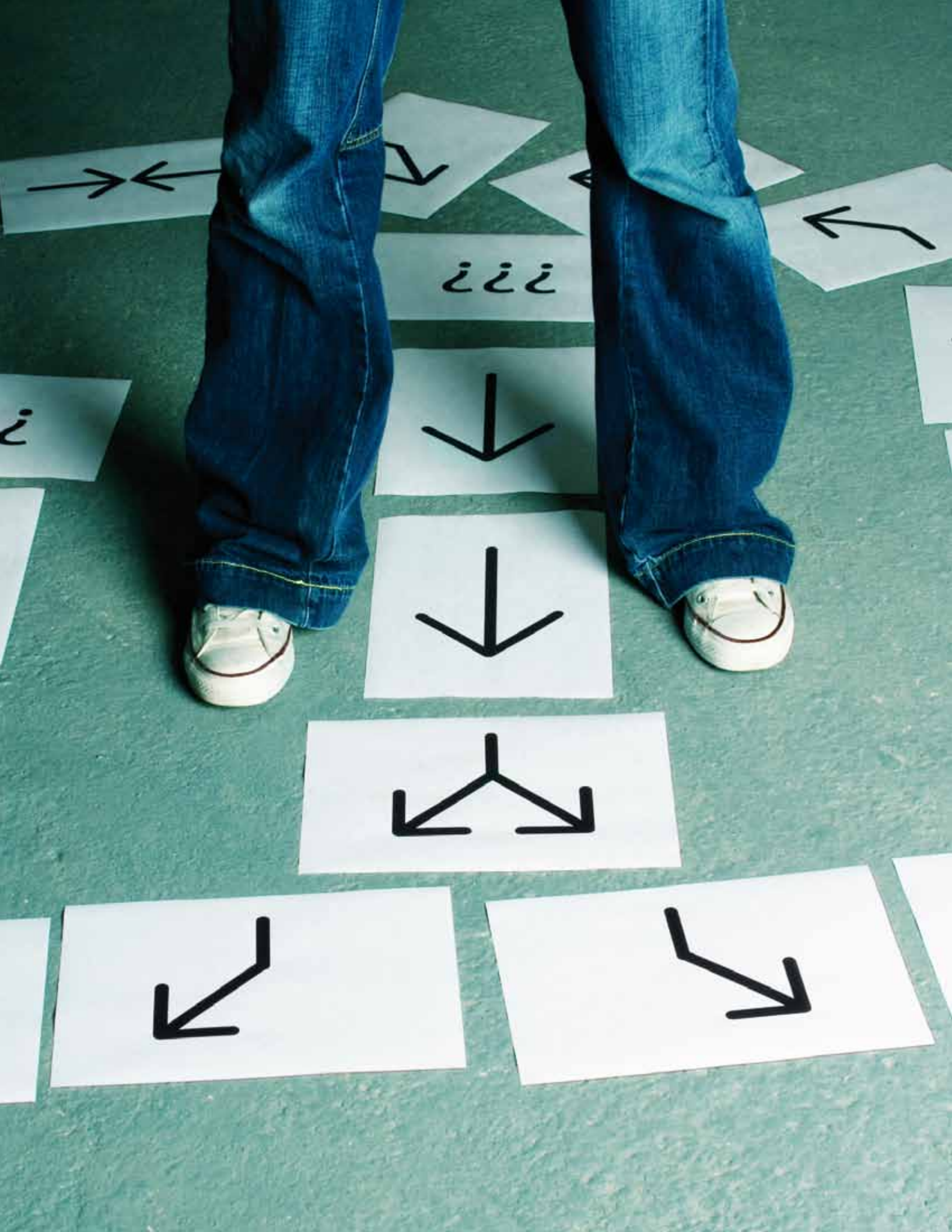
* This information is reported in our webpage <http://www.iadb.org/en/topics/development-effectiveness/development-effectiveness,1222.html>



PART I



RESULTS ON THE EFFECTIVENESS OF OUR WORK





DEMONSTRATING
RESULTS FROM OUR
STRATEGIC FOCUS

The IDB Results Framework (RF) is an integral part of the Bank's results-based management efforts and was designed to guide the Bank's work up to 2015. As a framework it defines the main indicators that the Bank will monitor when reporting on progress achieved towards IDB-9 goals. Ultimately, the development effectiveness agenda at the Bank means improvements in attaining relevant regional goals. Sustainable improvements on the ground heighten the need for the Bank to enhance its support to countries in the region and ensure that the outputs generated by its interventions contribute to the selected regional goals.

The IDB's renewed strategic focus is clearly represented in the RF by its four components. First, the indicators which are part of the Regional Development Goals provide metrics for each of the five selected institutional priorities. Second, the RF introduces the selected output indicators from the Bank's programs that contribute to those goals. Third, the Bank's Governors agreement requires it to focus lending on four specific targets. Finally, the fourth component will be used to report on internal effectiveness and efficiency metrics guiding the decision making at the Bank throughout the year. **The RF is included in Annex II, with targets estimated to be reached during 2012-15.**

Annual progress of the RF commitments will be reported in this publication and an evaluation will be carried out at the end of the four year implementation period which will coincide with the evaluation of the Bank's institutional strategy. The RF also adopts all five principles of **the Paris Declaration. The Bank will report annually on progress on these indicators which are included for the first time in Annex III of this report.**

In 2010, the Bank started adapting already existing instruments, procedures and systems to facilitate the way information is collected for the RF. Some of the adjustments carried out include:

- a. The new Results-based Country Strategy and Country Programming Documents were

adjusted to report on selected sectors and programmed operations including RF indicators.

- b. All sovereign-guaranteed (SG) and non-sovereign (NSG) operations need to report if they contribute to one or more of the RF's lending targets. Also, operations must report whether their expected results contribute to regional goals and outputs from the RF.
- c. Specific guidelines to ensure consistent and correct classification of operations in the RF indicators are under preparation. The guidelines include responsibility for classification and quality control mechanisms.
- d. The Bank's operations monitoring system was modified to include a preset menu of the RF regional goals and outputs at the project level to facilitate their registry.

A. LENDING PROGRAMS INDICATORS

Our increased lending capacity will have greater strategic focus through its four targets: (1) supporting development in small and vulnerable countries; (2) helping countries reduce poverty and enhance equity; (3) assisting borrowers in dealing with climate change, renewable energy, and environmental sustainability; and (4) increasing regional cooperation and integration. The targets include both SG and NSG operations and are expressed as a percentage of total lending. Baselines represent the Bank's historic average lending volumes for the 2006-09 period. Loans might qualify for one or more categories and therefore the lending estimate percentages do not add up to 100 percent. The estimated lending volume goals for each of the lending categories are set to be met by the end of the 2012-15 period.

B. REGIONAL DEVELOPMENT GOALS

The RF included regional goals to be tracked throughout the period, enabling longer-term development



progress in the region to be measured. The criteria used to select these goals are: (1) relevance to the Bank's priorities; (2) whether they are a Millennium Development Goal (MDGs) or have links to MDG; (3) the Bank's comparative advantage and future areas of expansion; and (4) whether it is included in other Multilateral Development Banks (MDBs) results frameworks or used by other international cooperation agencies. Out of the 23 selected, 19 are either MDGs or used by other international organizations. For 2010, the Bank was able to report on 12 of the 23 regional goals.

C. OUTPUTS CONTRIBUTION TO REGIONAL GOALS

Selected outputs aim to measure the direct contribution of the Bank to Regional Development Goals. These outputs are representative of the Bank's interventions, and reflect its institutional priorities, but are not to be considered exhaustive, as Bank operations will generate other outputs as well. Outputs take into account a sustained flow of existing resources in the active portfolio as well as new resources to be available through IDB-9. Both SG and NSG operations contribute to the RF outputs. While some NSG output contributions are still under calculation, overall, NSG operations contributed to 18 of the 27 outputs in 2010. Additionally, it is interesting to mention that out of the total RF 27 outputs, 19 are also measured by other international organizations.

Some projects that have RF outcomes and outputs are already being implemented. As a first step, the

Bank identified which projects in the portfolio have RF outputs planned for delivery in 2010. Although data for this report was collected manually, it was possible to collect preliminary data for 18 outputs out of a total of 27. There are seven outputs still under calculation and two for which information was not possible to collect. While it was not possible to collect data for the disaggregated outputs in 2010, the Bank expects to be able to do so during 2011.

D. OPERATIONAL EFFECTIVENESS AND EFFICIENCY

Delivering results on the ground requires the Bank to step up its "results-based" management, by tracking its performance periodically through a comprehensive set of indicators of operational effectiveness and efficiency. These indicators include measuring "client satisfaction" by tapping the Bank's partners' perception of its delivery of services in order to make the necessary adjustments to be better placed to meet client's needs.

The following chapter elaborates on recent levels and trends of metrics for the effectiveness of our development products. These trends are reported separately for each stage of the project cycle, namely, at entry, implementation and exit. **Annex I presents the full set of efficiency indicators that Management utilizes in its internal Quarterly Business Reviews to manage by results throughout each fiscal year.**





MEASURING THE EFFECTIVENESS OF OUR PRODUCTS

By measuring the effectiveness of its products, the Bank can ensure that it is doing the right things and doing them right. Doing the right things entails prioritizing well and effectively and clearly demonstrating the reasons for that prioritization. The Results Framework (RF) of the IDB-9 is the most aggregate prioritization for the institution; the second is the adoption of results-based Country Strategies and programming. This requires an approach by country and sector, based on a common understanding of how development comes about, and how the Bank can support the countries as a development partner. Once those results-based strategic frameworks are in place (RF and CS), the emphasis of our work shifts to doing things right. In essence, this involves managing, monitoring and evaluating projects to ensure that the intended impact and value is realized on the ground.

The Bank tracks two measures of performance for its development products. On the one hand, we measure how we are maintaining our strategic focus: from the IDB-9, to country dialogue, to the delivery of specific operations. We achieve this by measuring the alignment of each product with the previous level. We also measure results achieved at each level. This ensures that we not only measure outputs delivered but also outcomes and in some cases the longer-term impact of each intervention.

A. DOING THE RIGHT THINGS: RESULTS-BASED COUNTRY STRATEGIES AND COUNTRY PROGRAMS

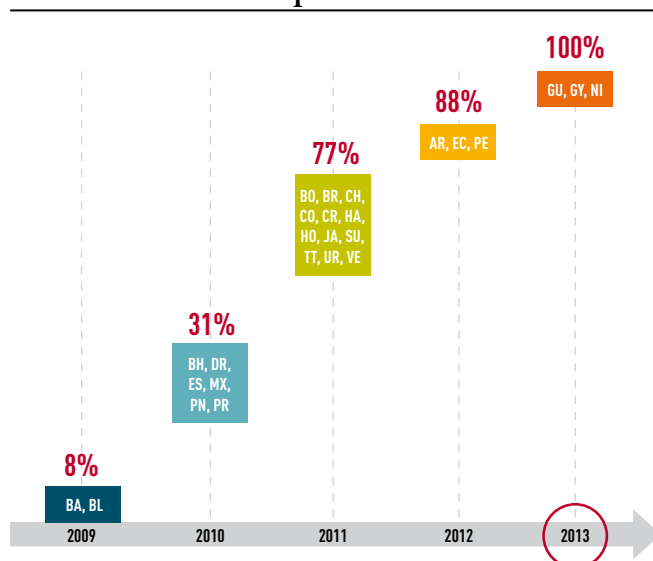
In order to define the areas in which the Bank will work with partner countries in the region, a strategic planning exercise is carried out to identify which development challenges could benefit significantly from the IDB's financial and technical support. An adequate selection of sectors, instruments and policies is vital, and this takes place at the programming stage. Programming has two elements, the multi-year Country Strategy (CS) and the annual Country Program Document (CPD). Both are designed with a results-based perspective, in order to provide a framework for the work of the Bank in each country.

1. Evaluability of Country Strategies 2010

Six results-based country strategies were approved by the Board during 2010: Bahamas, Dominican Republic, El Salvador, Mexico, Panama and Paraguay. All six were assessed for their degree of evaluability at entry, or the extent to which their proposed results-based approach could demonstrate its results in a credible and reliable fashion at completion.

The evaluability measures that the Bank uses include the following core standards: (1) relevance (to measure the degree to which the CS is consistent with the needs of the country and with the government's plans and priorities); (2) effectiveness (to examine the extent to which the CS is likely to achieve its development objectives); and (3) risk (to identify issues that may negatively affect CS results).

FIG. 1
**Results-based Country Strategies.
Timeline for Full Implementation**

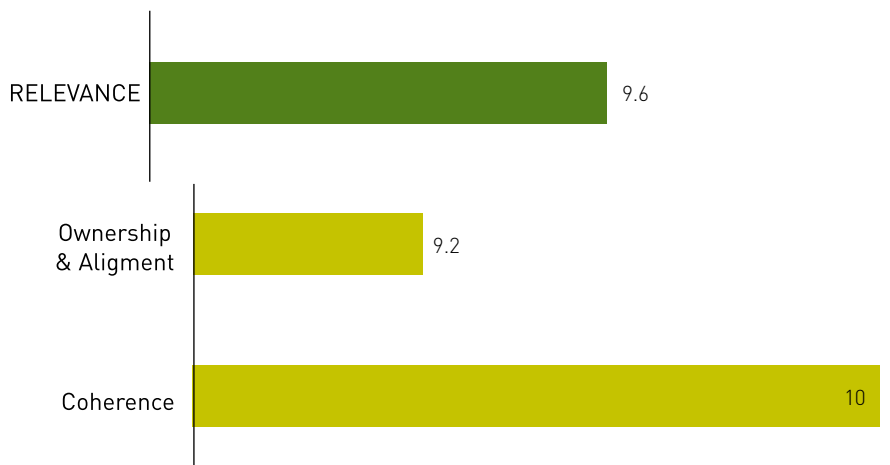


AR Argentina · BA Barbados · BH Bahamas · BL Belize · BO Bolivia · BR Brazil · CH Chile · CO Colombia · CR Costa Rica · DR Dominican Republic · EC Ecuador · ES El Salvador · GU Guatemala · GY Guyana · HA Haiti · HO Honduras · JA Jamaica · MX Mexico · NI Nicaragua · PE Peru · PN Panama · PR Paraguay · SU Suriname · TT Trinidad and Tobago · UR Uruguay · VE Venezuela

According to the ECG-GPS, evaluability at country level is a measure of how well a proposed strategy or program sets out criteria and metrics to be used in a subsequent evaluation.¹ Country-level evaluations in turn seek to answer whether the Bank did the right things by examining whether the design and implementation of a country strategy and program were right for the circumstances of the country. Recognizing that formal attribution is extremely difficult to establish in a country strategy or program evaluation given the multiplicity of factors that affect development outcomes and impacts at the country level, the ECG-GPS focuses rather on establishing the contribution of the CS to key results or outcomes.

Evaluability reviews entail an in-depth analysis of three key areas: (1) the quality of the country and sector diagnostics; (2) the link between diagnostics and strategic objectives; and (3) the quality of the country-strategy results framework, to determine whether indicators that will be used for monitoring and evaluation are specific, measurable, achievable, relevant and timely (SMART).

FIG. 2
Country Strategies Relevance. 2010 Average Score



2. Country Strategies 2010 – Evaluability Findings

Relevance. Two subcriteria constitute relevance: (1) ownership and alignment, which measure the consistency of CS objectives with the country’s needs and with the government’s plans and priorities; and (2) coherence, that measures the extent to which the CS was selective and focused, whether it provides a suitable mix of Bank instruments to achieve strategic priorities, and whether it takes into account other development

partners’ interventions to ensure a suitable division of labor.

As shown in figure 2, the relevance of results-based CSs was high during 2010. On a scale of 1 to 10, three CSs achieved an overall average score of 9.6, indicating high consistency of CS with Bank clients’ needs and priorities; all six results-based CSs received the highest score for coherence, indicating that the expected results of Bank-country partnerships are clearly identified and supported by an indicative mix of products.

¹ ECG-Good Practice Standards, Country Strategy and Program Evaluations, 2008, page 13.

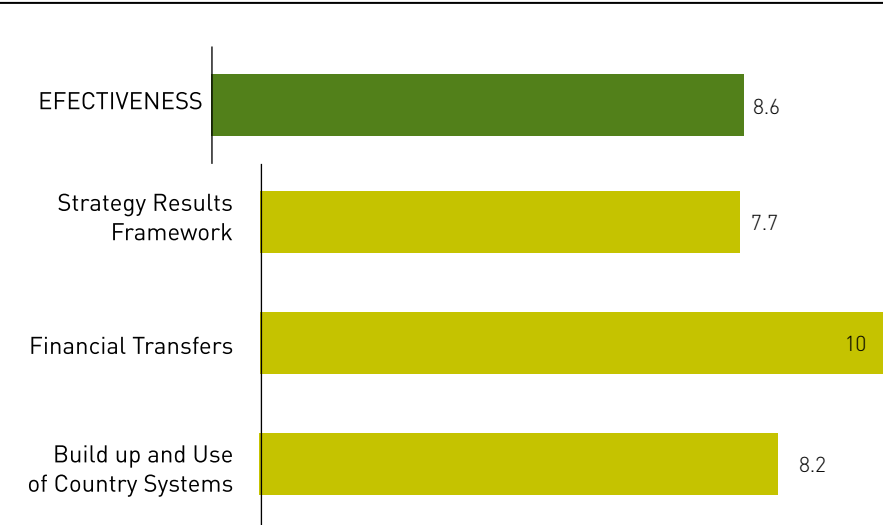
Effectiveness is measured by the quality of the results framework (whether an evidence-based diagnosis supports each area of Bank intervention and whether expected results and indicators are well defined); by the definition of financial transfers (financing envelope estimations including high- and low-case scenarios and annual financial flows); and by the use and build-up of country systems.

The results frameworks of all CS's have improved substantially through the implementation of the new results-based CS model. As a result, three out of six country strategies were close to meeting all expectations in terms of including evidence-based sector diagnoses to support the selection of the Bank's areas of interventions, clear and specific expected results and SMART indicators for monitoring and evaluation.

The build up and use of country-systems section of the DEM-CS highlighted the Bank's focus first on supporting mostly two out of five country systems, namely financial management and procurement (fiduciary systems) over the other five country systems defined by the Paris Declaration on Aid Effectiveness.

Risk is measured by the identification of factors that are expected to have a high probability of occu-

FIG. 3
Country Strategies Effectiveness. 2010 Average Score



ring, affecting implementation, as well as the identification of actions to mitigate identified risks and the proper monitoring of those factors during the CS period. In 2010, all approved country strategies identified risk factors and recommended actions to mitigate them. However, only four of these country strategies have clear monitoring instruments.

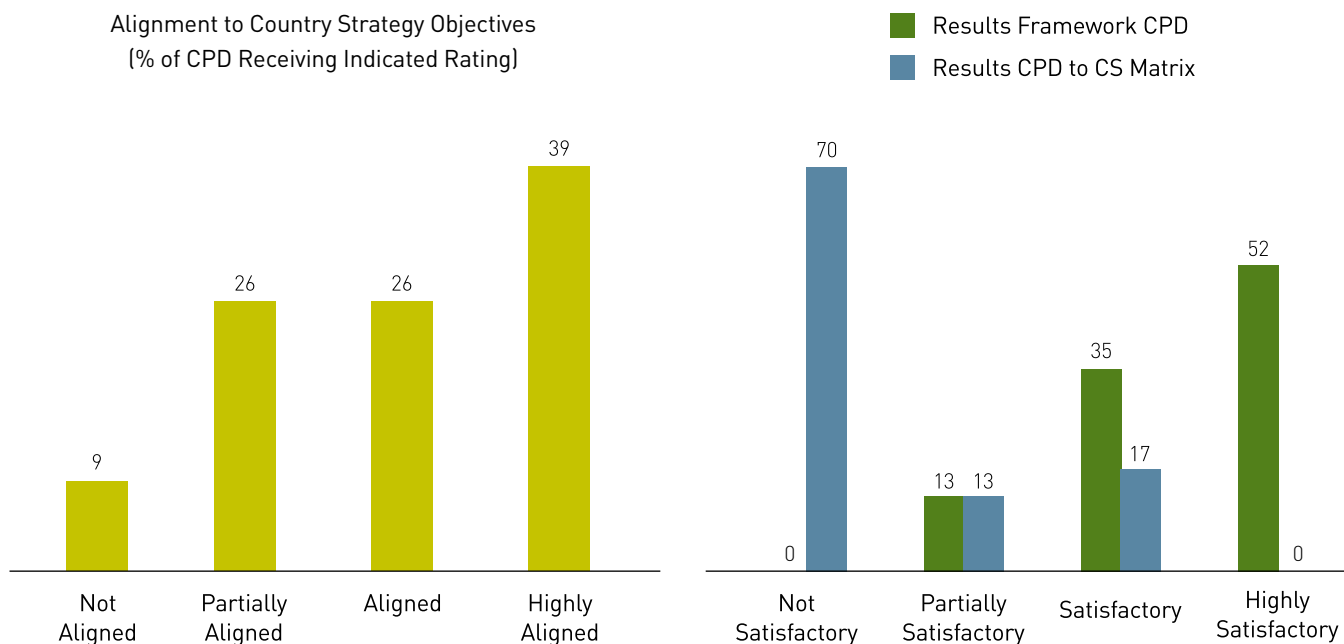
3. Results-based Country Programs

The first fully fledged country-program exercise occurred in 2010. Country Program Documents (CPDs) were prepared for 23 out

of 26 countries.² CPDs translate CS objectives into programming decisions. As such, the CPD is expected to maintain a vertical logic with the CS; while the CS presents higher-order development objectives and outcomes, the CPD provides specificity to CS objectives by linking them to operational decisions. Thus, CPDs are expected to include a list of interventions slated for approval during the year; a mix of products (loans, knowledge products, and grants) to support the selected pipeline; a results matrix containing clearly defined, measurable indicators and targets; and efficiency indicators related to the use of Bank financial resources.

² El Salvador, Haiti and Dominican Republic were scheduled to prepare their country strategies during 2010 and therefore were not required to submit a CPD until later in the year.

FIG. 4

Assessment of 2010 CPDs by Evaluability Criteria

The CPDs were reviewed applying three key criteria: (1) the degree of alignment of the country program with CS objectives; (2) the quality of the results framework (whether the CPD results matrix provided clearly defined, measurable, time-bound output or outcome indicators); and (3) the extent of the link between CPD targets and CS indicators.³ Most CPDs were well aligned with CS objectives; in particular the strategies that were prepared under the results-based framework have higher alignment than those that are not results-based. In the cases where no alignment existed, a justification for the relevance of the intervention was presented.

The Results Matrices included for each CPD showed that 87 percent of CPDs had ratings of “Highly Satisfactory” or “Satisfactory”, clearly defined expected results as well as concrete indicators to track progress and targets. Finally, the link between CPD targets and CS indicators was only available in 30 of CPDs. These final results can be expected given that only eight country strategies out of a total of 26 are results based and thus have clearly defined outcome-level results.

³ Efficiency indicators to establish the estimated cost of delivering the country program were included on a pilot basis.

B. DOING THINGS RIGHT: SOVEREIGN GUARANTEED OPERATIONS

Results-based programming is followed by the preparation, approval and implementation of development projects. In the case of sovereign-guaranteed operations (SG), the IDB partners with governments to prepare projects that propose concrete solutions to address development challenges identified during the programming phase. Having agreed with the countries where to work, the challenge is to prepare sound projects, to implement them efficiently and to measure their results.

The performance of SGs is tracked from project design to project completion. At entry, operations at the Bank are assessed for their degree of evaluability, or the “extent to which an operation can be evaluated in a reliable and credible fashion.”⁴ In order to ascertain their evaluability, proposals are reviewed to ensure the diagnostic and proposed solution are empirically supported; to be certain that provisions exist for a proper monitoring of the project’s implementation (the production of outputs as planned in terms of time, cost and quality), and to perform valid evaluations at project completion. The Development Effectiveness Matrix (DEM) is the Bank’s evaluability tool at entry, the Project Monitoring Report (PMR) is the tool that tracks project performance and focuses on outputs and efficiency delivery, while the Project Completion Report (PCR) is the self-reporting tool on the achievement of results, which is subsequently validated by the Bank’s independent Office of Evaluation and Oversight (OVE).

1. Ensuring Operations are Evaluable at-entry

Sovereign-guaranteed operations have been rated by the Bank’s Management for evaluability since the

beginning of 2009. Projects approved in 2008 were scored for evaluability *ex-post*, in order to have a baseline of how project proposals would be like in the absence of the evaluability tool and process. The IDB distinguishes itself by incorporating in the project cycle provisions to ensure that projects are evaluable. In this sense, the use of the DEM by project teams has been mainstreamed into the processes for SG operations in order to ensure that at completion the Bank and its partners in the region will be able to measure the results of its projects.

Two years into the full roll out of the new effectiveness measures, evaluability continued to improve in 2010. Highly satisfactory operations rose to 41 percent in 2010 compared to only 22 percent in 2009 and 3 percent in 2008 (the baseline year).⁵

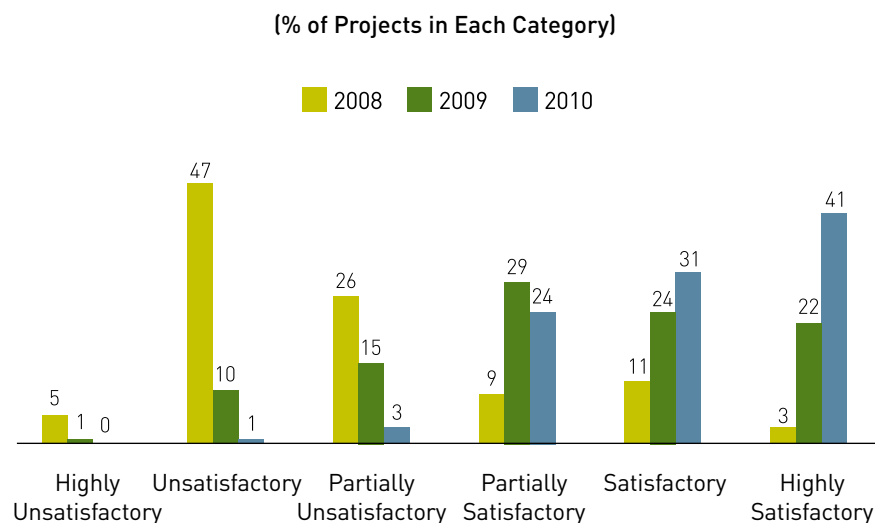
IDB-9 establishes that a minimum evaluability score of partially satisfactory would be required in order for projects to be submitted for approval to the Bank’s Board of Directors. As shown in figure 5, the percentage of projects above that threshold (partially satisfactory or higher) for 2010 reached 96 percent of all projects approved that year. This positive trend demonstrates that the Bank is well advanced in meeting the challenge of a partially satisfactory threshold requested by the IDB Governors. The trends also show that there is no sign of projects bunching around the threshold but rather a significant across-the-board improvement in results-based operations being prepared and approved in the region.

Overall improvements in evaluability levels have come about from significant improvements in all four components, namely: project logic, evaluation and monitoring, risk management and economic performance. Scoring for each of the core evaluability components can reach a maximum of ten. As can be seen in figure

⁴ OECD-DAC, 2002. *Glossary of Key Terms in Evaluation and Results-Based Management*.

⁵ Each dimension is rated on a 1 to 10 scale. Values of 7 or more are highly satisfactory, 6.0-6.9 are satisfactory, 5.0-5.9 partially satisfactory, 4.0-4.9 partially unsatisfactory, 2.0-3.9 unsatisfactory, and 1.9 or less highly unsatisfactory.

FIG. 5
Evaluability Levels Overtime



6 average scores increased most dramatically in the risk-management scores and in the percentage of project that included an *ex-ante* analysis of economic performance. The other two dimensions of evaluability showed more moderate improvements. Of particular concern are the average scores for evaluation and monitoring. Low scores in this dimension may be signaling that some projects have not fully designed their monitoring and evaluations plans and this may have compromised their ability to demonstrate results on completion or track results accurately during implementation. The Bank needs to redouble its effort to improve proposals in this dimension during 2011 and beyond.

FIG. 6
DEM Ratings. Evaluability by Component

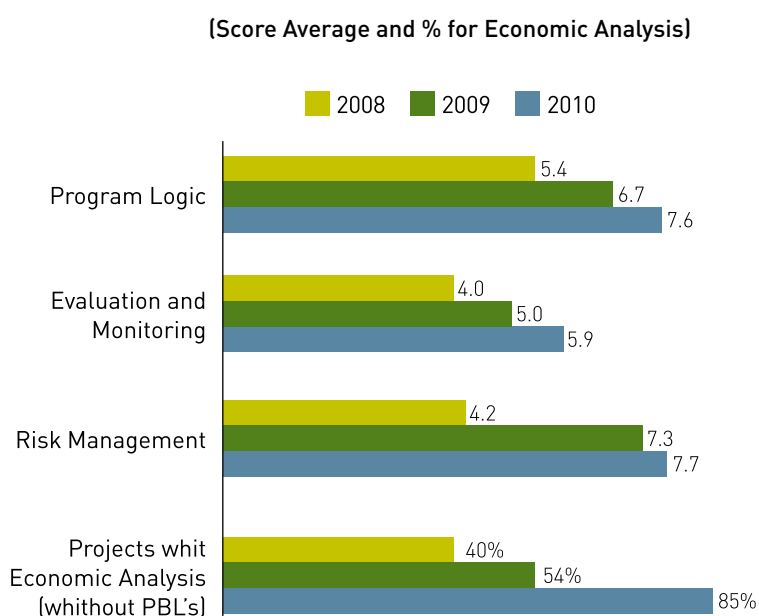
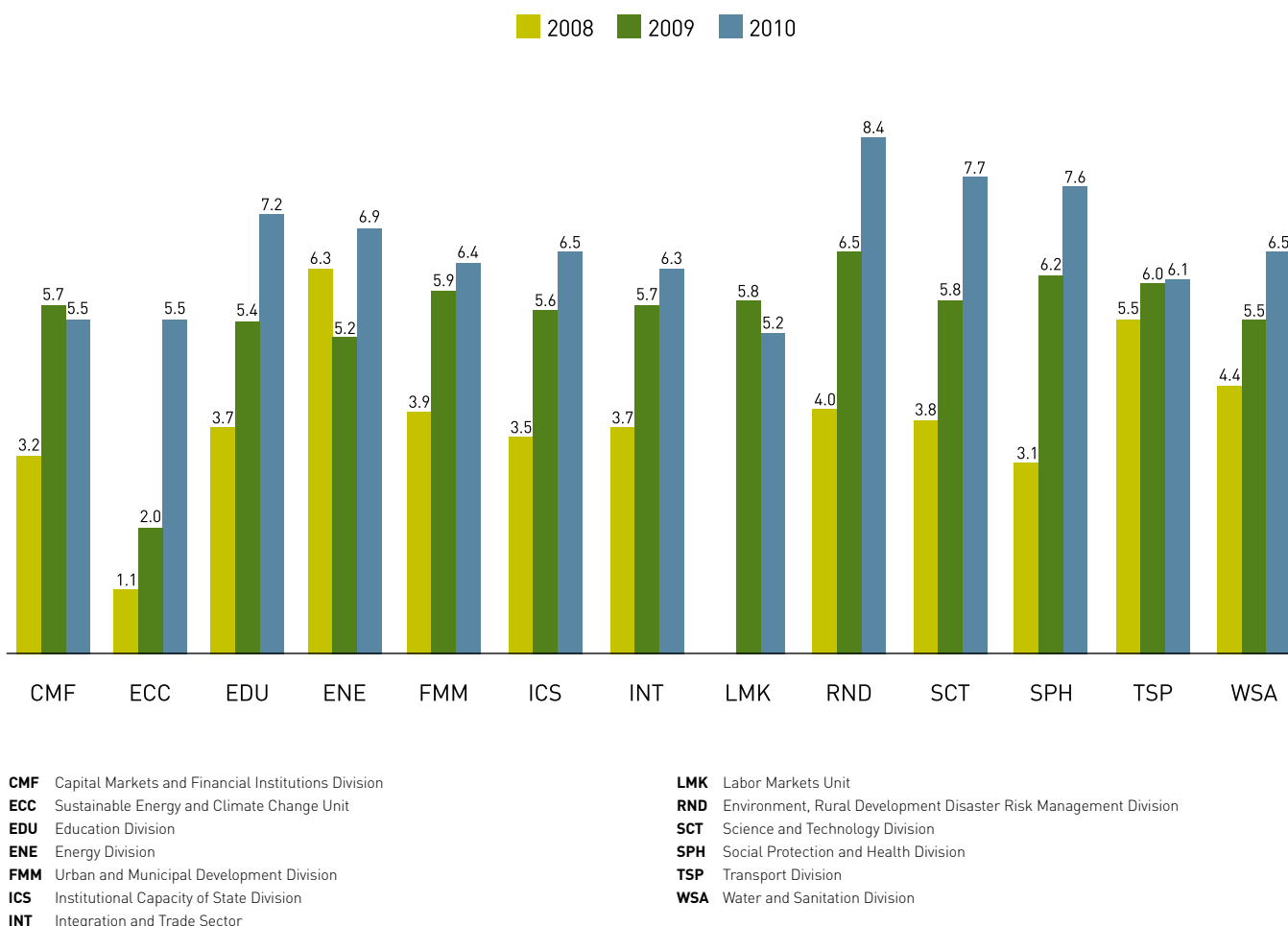


FIG. 7
SG Evaluability Levels by Sector



Improvements in evaluability levels across sectors were most significant for the natural resources and environment group, followed by science and technology projects, health and social protection and education projects. Energy, modernization of the state and citizen security, water and sanitation, housing and fiscal management, and integration projects showed

moderate improvements. While newer areas for the Bank, such as climate change may still show lower average levels of evaluability, it is the area where the greatest change occurred since the baseline year (2008) showing that this sector has made the largest effort in improving how it monitors and evaluates the results of its interventions.

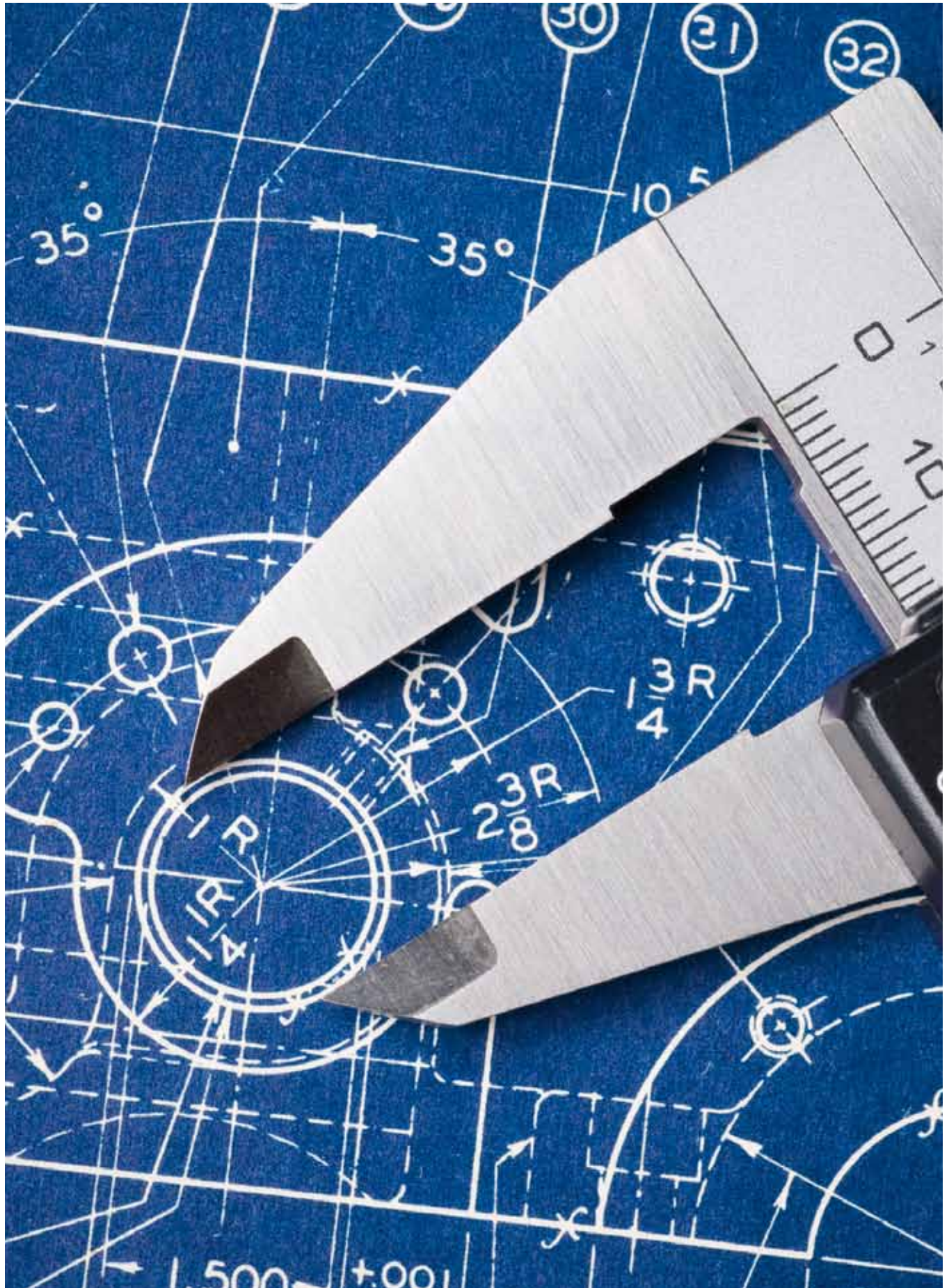
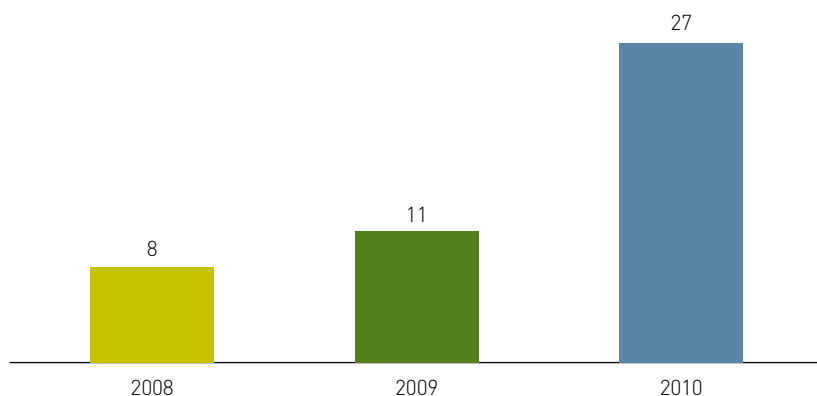


FIG. 8

Percentage of SG Projects with Impact Evaluations



The results-based agenda at the Bank has brought about a dramatic increase in the utilization of rigorous methods for evaluating our interventions. For example, the increase in the number of projects that are trying to ascertain their effectiveness by using impact-evaluation methods (which establish counterfactuals and thus net effects or results) has increased from 8 percent to 27 percent of all operations approved in just three years. The increase in projects that are using cost-benefit or cost effectiveness analyses to demonstrate their results at exit have also increased dra-

matically to 57 percent. The use of *ex-post* cost-benefit analyses is concentrated in infrastructure projects, be they energy, water, urban development or housing. These are important results that show encouraging trends, given that the completion reports of sovereign operations still lack solid empirical grounds in the demonstration of their reported results. By focusing on evaluability early in the project cycle, the Bank will ensure that operations approved from 2009 onwards have solid information to track implementation and report on results at completion.

Box 1

What is an Impact Evaluation?*

In order to learn about the development impact of our work, the key methodological question to answer is: What would have happened in the absence of the project? This without-project scenario is referred to as the counterfactual, and the most challenging task in any impact evaluation is on finding an appropriate one. The ideal evaluation would compare the situation of project beneficiaries with the project and those same beneficiaries without the project at the same point in time. However it is impossible to observe the same group, at the same time, with and without the program. A reasonable substitute must be found.

The counterfactual may be constructed in different ways. One option is to use the situation before the program. However, this before-after comparison does not take into consideration other factors besides the program that might have changed over time and affected the outcome of interest. A possible alternative is to use non-beneficiaries after the program as a counterfactual. This is problematic as we do not know if non-beneficiaries were different to beneficiaries before the program, so differences between beneficiaries and non-beneficiaries may be due to inherent differences in characteristics rather than to the program. Finally, the counterfactual may be constructed by assigning the program randomly among a group of interested and eligible potential beneficiaries. This is the ideal counterfactual since it guarantees that both groups are on average the same before the program and that any difference after the program will have been caused by the program. Although it is not always possible to randomly assign individuals to a program, every effort must be made to come as close as possible.

Once a counterfactual is defined, the most common method to compute the impact of a project is the difference-in-differences (DD) methodology. This method compares the difference between beneficiaries and nonbeneficiaries (first difference) before and after the program (second difference); that is, it compares the trends in the outcome across the beneficiaries and non-beneficiaries. This technique is able to identify and estimate the correct impact of the program as long as in the absence of the program, beneficiaries and non-beneficiaries would have had the same trend in outcome variables. Nevertheless, it is often the case that trends of the outcome variables differ significantly between beneficiaries and non-beneficiaries. To tackle this problem, special attention is given to identifying a subset of non-beneficiaries with similar characteristics to beneficiaries. This is usually done through propensity score matching, which selects as members of the comparison group those non-beneficiaries that are similar to the beneficiaries in the sense of having a high probability of participating in the program.

Another method commonly used in impact evaluation is regression-discontinuity design (RDD). When participation depends on a known variable or index so that those above a threshold are beneficiaries and those below the threshold are non-beneficiaries, RDD compares the situation after the project of those just above the threshold with those just below the threshold. Individuals just above and just below a threshold are likely to be very similar. If there are differences in the outcome but not in other relevant variables for these two groups, it is reasonable to assume that the difference is caused by the program.

The best method to use depends on the project and the available data. An appropriate method is one in which the evaluator has a high level of confidence that the estimate of program impact is a true estimate and not biased by any confounding factors.

* A Glossary of Impact Evaluation Terms, based on Gertler et al. (2010), is included in DEO 2010, starting at page 255. Also, see the "Publications" section at <http://www.iadb.org/en/topics/development-effectiveness/development-effectiveness,1222.html> for more material on this topic.

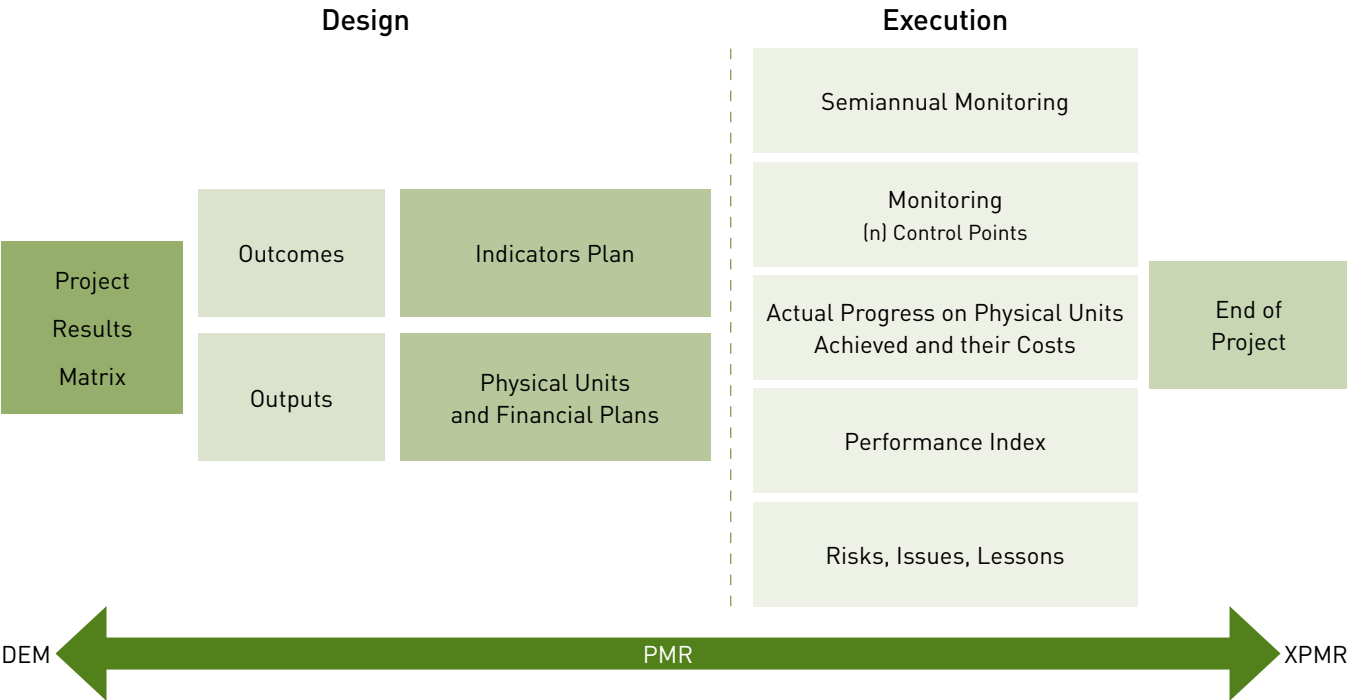
2. Project Monitoring Report (PMR):
Tracking Project Implementation

PMR was launched in 2009 as one of the Development Effectiveness Framework’s results-based tools and is the principle tool for collecting information to report on progress towards achieving the goals of the IDB-9 as presented in the Results Framework. The PMR monitors the implementation of a project’s results matrix. It provides quantitative and qualitative information about project progress on the delivery of outputs in the short term and outcomes in the long term. Monitoring progress in the PMR includes comparing planned versus actual time and planned versus actual cost for the delivery of outputs twice a year. The methodology

identifies delays early in project implementation and the implications for achieving project outcomes. Information collected during project design and scored at-entry is used to monitor performance during execution through the PMR. (Figure 9).

Based on the project’s planned and actual data, the PMR system uses the Earned Value Method (EVM) to calculate a Performance Index (PI) which measures the relationship between physical outputs and the real cost of delivering them. The PI provides quantitative information which is cumulative for each project and allows for comparable data at portfolio level. (See box 2 to understand how the PI is calculated).

FIG. 9
Tracking Project Implementation



Box 2

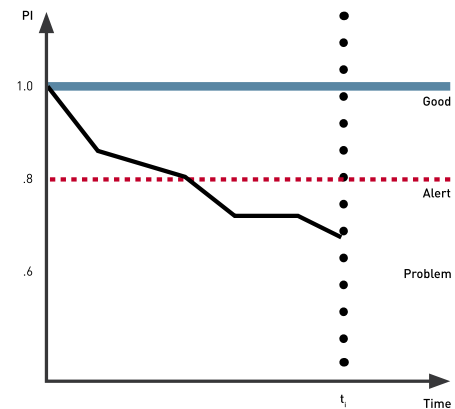
Performance Index (PI) Calculation

The PI methodology applies the concept of Earned Value (EV) which provides an accurate, timely and consistent tool to evaluate both project and portfolio performance. The EV methodology compares achieved outputs and actual expenses in relation to initial planning. The expected plan and actual progress for each output during project execution is shown below.

The PI is a cumulative indicator representing the relation between completed physical outputs and the actual costs incurred by the team to achieve those outputs. It provides a holistic picture of both physical and financial project progress. The following figure displays an example of a project PI index.

Outputs	Cost	Planned and Actual Progress							
		Y1		Y2		Y3		Y4	
		1	2	1	2	1	2	1	2
Output 1	US\$								
Output 2	US\$								
Output 3	US\$								
Output 4	US\$								
Output 5	US\$								
Output 6	US\$								
Total	US\$								

Planned Value
Actual Value



The project PI is a tri-dimensional measure of project progress (scope, cost and schedule) calculated based on two indexes: the Cost Performance Index (CPI) and the Schedule Performance Index (SPI) where $PI = CPI \times SPI$. The PI provides an index to classify projects in three areas based on performance: Good (PI = 1), Alert (PI between 0.8 and 1) and Problem (PI below 0.8).

The PI Index will be monitored through a dashboard aimed at providing early warning to specialists and team leaders when actions need to be taken during execution. When a project $PI < 1$, a list of outputs with low performance shall be identified along with an explanation indicating the reasons behind delays. Then a plan of action shall be prepared listing actions to be taken, their corresponding resources allocated to implement those actions as well as the person(s) responsible and the timeframe. When $PI = 1$, no further action is required as the index indicates the project is on track.

The PI combined with the project's disbursement level will be used to classify projects "on Track" in "Alert" or "Problem." Projects "on Track" have a PI of 1.0 or above (under budget or ahead of schedule); projects with PI values between 1.0 and 0.8 and with less than 60 percent disbursements have mild implementation issues and are considered to be on "Alert"; and projects with PI values below 0.8 regardless of disbursement levels or whose PI is less than 1.0 and with 60 percent disbursed have "Problem" status.

Below we present a case study on the La Paz storm-drainage program (B00223). It provides preliminary progress on information captured by the system in outcomes and outputs as well as performance graphs. As part of the preparation of this example, the executing agency identified delays over which immediate action was taken in December. Therefore the project's PI is expected to be higher once the final data is reported by March 2011. (See box 3).

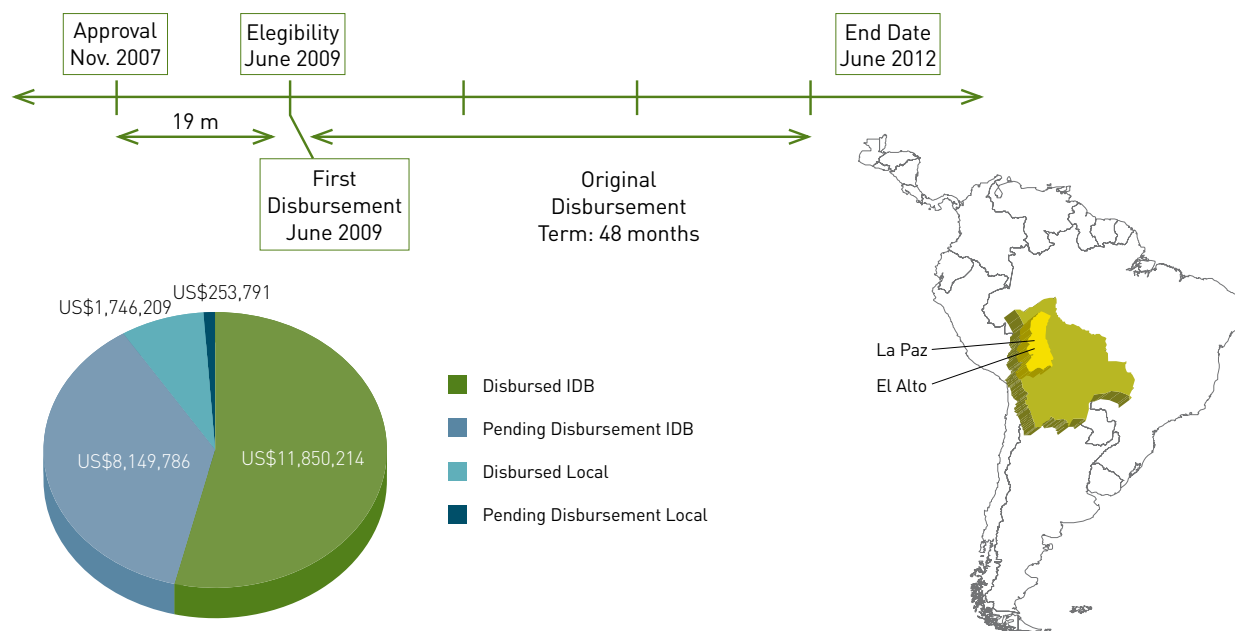
Box 3

Case Study. La Paz Storm Drainage Program (BO0223)

The La Paz Storm Drainage Program's B00223 (1926/BL-B0) purpose is to "reduce the incidence of human loss and property damage caused by extreme hydro-meteorological events". The project total amount is US\$22 million out of which US\$20 million is IDB financing and US\$2 million is co-financed by the country. It constitutes the first group of interventions in the La Paz Storm Drainage Master Plan. A related operation, "Drainage in the Municipalities of La Paz and El Alto" (BO-L1028), was approved in November 2010.

The project is currently on its second year of execution. To date, it has disbursed 59 percent of the programmed IDB funds and 87 percent of programmed local funds. (See figure 1).

Figure 1. Timeline and Disbursement Profile



The project's main outcome will be measured by the reduction of the number of people affected by extreme hydro-meteorological events and the reduction in the hours of use of channel relief machinery during the rainy season, which is utilized as a proxy for property damage. For instance, the project is expected to contribute to a reduction of 19 percent in the number of people dying, losing their homes or suffering mayor losses as a result of hydro-meteorological events by 2012. (See table 1).

Table 1. Project Outcomes

Outcome - Indicator	Baseline (2007)	End of Project (EOP) (2012)
Human loss and property damage caused by extreme hydrometeorological events reduced		
People annually affected by extreme hydrometeorological events	9,882	8,000
Hours/equipment used to maintain the channels	29,044	25,400

The project has four main outputs in order to achieve the outcome: The canalization of the Huayñajahuira River, the construction of a vaulted sewer canal parallel

to the existing one on the Choqueyapu River, the repair and reconstruction of the vaulted sewer canal on the San Pedro river and erosion-control works for the Jake Jake and Charapaya river basins. These four outputs represent a US\$16 million investment in over 4 kilometers of La Paz's primary drainage systems. The project also executes works including 23 high-capacity drains and the strategic placement of waste bins around the cities to prevent blockage of the sewage sumps near the city markets. (See table 2).

Other project outputs include studies needed for the management of La Paz Drainage rainwater master system and the necessary design studies for several works to be executed by a second operation, BO-L1028 approved in 2010.

In addition, the project strengthens the planning capacity of the municipal government by implementing a Drainage Geographic Information System. It also promotes citizen awareness on the care of drainage systems.

Table 2. Outputs and Associated Costs

Output	Unit	Physical					Financial (US\$)				
		2009	2010	2011	2012	Total	2009	2010	2011	2012	Total
1. Vaulted sewer canal for the Choqueyapu River constructed	Meter	Planned Actual	61 61	700 700	454	1215	3,684,568 3,684,568	2,629,571 2,205,000	2,677,664		8,991,803 5,889,568
2. Canalization of the Huayñajahuira River completed	Meter	Planned Actual	1271 970	318 970		1589 970	18,509 18,509	1,638,284 1,455,000	364,072		2,020,865 1,473,509
3. Vaulted sewer canal for the San Pedro River reconstructed and repaired	Meter	Planned Actual	964 725	241		1205 725	0 0	1,133,426 1,019,000	809,522		1,942,948 1,019,000
4. Final design studies elaborated	Document	Planned Actual	1 1	2 2	4	7 3	1,000 1,000	86,098 86,098	413,902		501,000 87,098
5. Studies for Sewer and Basin Management completed	Document	Planned Actual		2		2 2	0 0	0 0	412,118		412,018 0
6. Disaster Risk Prevention Plan completed	Document	Planned Actual		1		1 1	0 0	0 0	60,500 5,000		65,500 0
7. Studies for the Jilulusaya River Basin completed	Document	Planned Actual		1		1 1	0 0	0 0	90,000		90,000 0
8. High Capacity drains constructed	Sewer	Planned Actual	6 6	17		23 6	0 0	157,713 160,000	200,725		358,438 160,000
9. Erosion-control works in the Jake Jake and Charapaya river basins completed	Work	Planned Actual		2		2 2	0 0	0 0	3,512,185		3,512,185 0
10. High-capacity waste bin constructed and installed	Waste Bin	Planned Actual		16		16 16	0 0	0 0	60,000		60,000 0
11. Environmental Education & Citizen Participation Program diffused in schools	School	Planned Actual		150		150 150	102,325 29,254	132,057 13,000	237,556		471,938 42,254
12. Strengthening plan for the Offices of Environmental Quality and Risk Management implemented	Office	Planned Actual	1 1	1		2 1	6,879 6,877	228,930 154,000	440,074		675,883 160,877
13. Geographic Drainage Information System implemented	System	Planned Actual			1	1 1		25,174 0	309,726		334,900 0

Project cumulative progress, as observed in *table 3*, shows that three of the eight outputs with planned delivery for 2010 are delayed. While 1,271 meters of **output 2**, canalization of the Huayñajahuira River were expected to be completed by 2010, only 970 meters have been delivered. The estimated planned cost was US\$1,656 million, with an actual cost of US\$1,473 million. Although the accumulated Planned Value is 82.0 percent of the total for the End of Project, the accumulated Earned Value is 62.8 percent (see *table 3*).

Output 3, reconstruction and repair of the vaulted sewer canal for the San Pedro River showed progress totaling 725 meters, while 964 had been programmed. The estimated planned cost for this output was US\$1,133 million and the actual cost was US\$1,019 million. The accumulated Planned Value is 58.3 percent of the total for the End of Project and the accumulated Earned Value is 43.9 percent (see *table 3*).

In the case of **output 11**, Environmental Education & Citizen Participation Program to be disseminated in schools, a deliverable was not planned for the current period, but advances were expected related to contracting. Progress can be measured through the associated costs where instead of the estimated US\$234 thousand budgeted, only US\$42 thousand was executed. Thus the accumulated Planned Value for the period is 49.7 percent of the total for the End of Project and the accumulated Earned Value is 9 percent. (See *table 3*).

Figure 3 shows the **Planned Value (PV)**, **Actual Cost (AC)** and **Earned Value (EV)** of the entire project. As shown, the accumulated Earned Value is slightly under target. Such variation is explained by the delays on the outputs previously mentioned. Yet the cumulative **Earned Value** is mainly driven by the delays in the canalization and the construction of the Vault, given the larger budget associated with this output (see *table 3*).

The current project **Performance Index (PI)** is 0.93, below the expected threshold of 1 (see *figure 4*). *Figure 5* shows the overall project performance by displaying the percentage of disbursement and mapping the project PI on a yearly basis. (PI calculations are explained in the box in the previous page).

Conclusions:

Project B00223 is fairly on track. Despite delays, cumulative progress up to 2010 has been close to the project's planning. The delayed outputs merit special efforts.

More information on the project is available at <http://www.iadb.org/en/projects/project,1303.html?id=B00223>

Figure 3. Earned Value (US\$ per year)

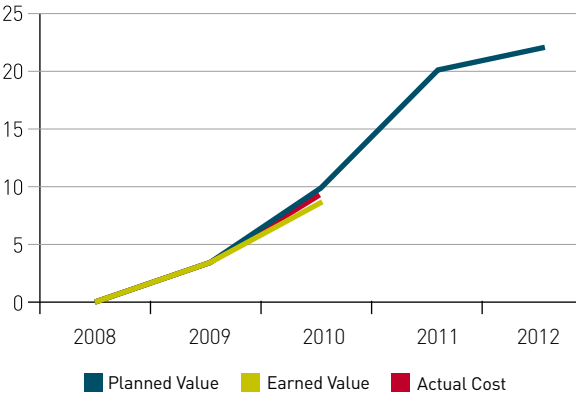


Figure 4. Performance Index (per year)

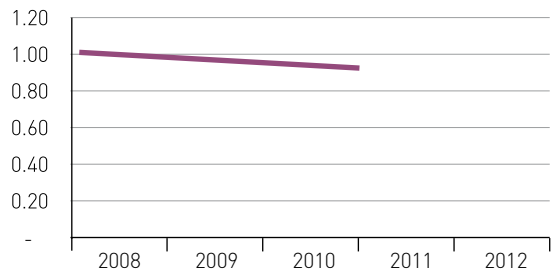


Figure 5. Performance Index and Disbursement Percentage

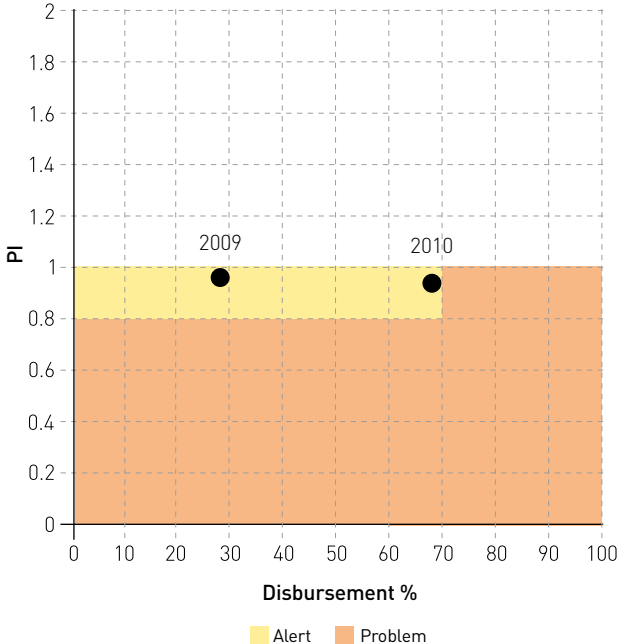


Table 3. Project Performance Analysis Earned Value

Output	Unit	Planned	Cumulative 2010 Physical	Cumulative 2010 Financial (US\$)	Planned Value EOP (US\$)	Planned Value Accumulated (US\$)	Earned Value Accumulated (US\$)	Planned and Earned Value Accumulated Percent (2010)
1.	Meter	Planned Actual	761 761	6,314,139 5,899,568	8,991,803	6,314,139	6,314,139	70.2% 70.2%
2.	Meter	Planned Actual	1,271 970	1,656,793 1,473,509	2,020,865	1,656,793	1,268,812	82.0% 62.8%
3.	Meter	Planned Actual	964 725	1,133,426 1,019,000	1,942,948	1,133,426	\$852,421	58.3% 43.9%
4.	Study	Planned Actual	2 2	87,098 87,098	501,000	87,098	87,098	17.4% 17.2%
5.	Study	Planned Actual	0 0		412,118	0	0	
6.	Study	Planned Actual	0 0		65,500	0	0	
7.	Study	Planned Actual	0 0		90,000	0	0	
8.	Drain	Planned Actual	6 6	157,713 160,000	358,438	157,713	157,713	44.0% 44.0%
9.	Work	Planned Actual	0 0		3,512,185	0	0	
10.	Container	Planned Actual	0 0		60,000	0	0	
11.	Program	Planned Actual	0 0	234,382 42,254	471,938	234,382	42,254	49.7% 9%
12.	Plan	Planned Actual	1 1	235,809 160,877	675,883	235,809	235,807	34.2% 34.2%
13.	System	Planned Actual	0 0	25,174	394,900	25,174	0	6.4%

Since the PMR uses a new methodology (and system) to monitor projects, in 2010 the greatest emphasis was placed on helping teams to transition to the new tool so that the information necessary for calculating the PI would be entered. The support to teams included: (1) training, (2) review of a group of projects, and (3) one-on-one support. The Bank reviewed 187 projects in the Sovereign Guaranteed (SG) portfolio. Projects selected were those that had less than 10 percent disbursement at the end of 2009 because these “new” projects are likely to remain in the portfolio for several years. For the percentage and number of projects reviewed in each department see figure 10.

The objective of the review was to analyze the completeness and accuracy of the information entered in all the fields in the PMR system. The generated score measures the completeness of the content of the “planned” information in the PMR and should not be misinterpreted as a measure of project performance or quality. Incomplete sections in the PMR prevent the PI from being calculated, particularly in the outputs section.

Projects were reviewed twice, in March and September (spring- and fall-validation cycles). Team leaders received their corresponding checklist project scores as well as getting one-on-one support to improve the content of their PMRs until the fall cycle.

The median checklist score of all reviewed projects reached 87 percent in the fall compared to 53 percent in the spring. The average score in the five categories of the

checklist improved to 89 percent from 50 percent in the previous cycle. Figure 11 shows the percentage obtained in the five categories analyzed.

FIG. 10
PMRs Reviewed by Department

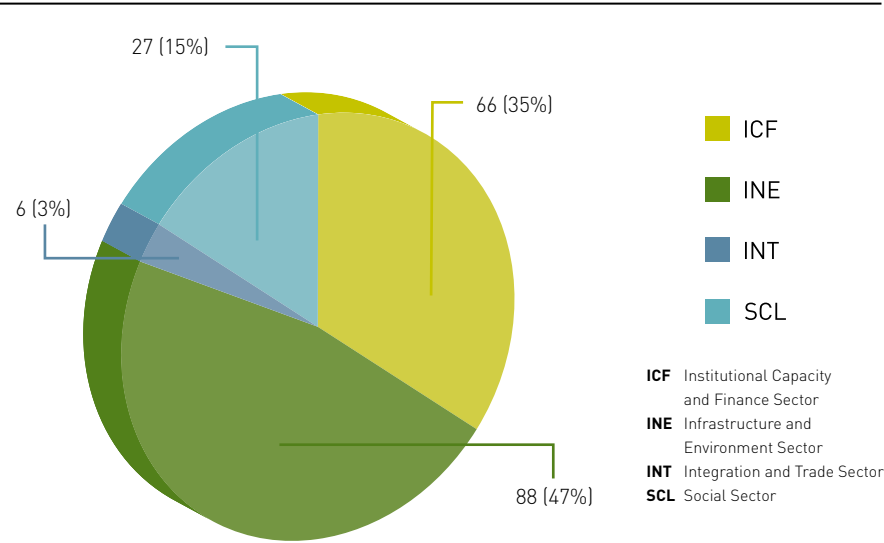


FIG. 11
Total Reviewed PMRs

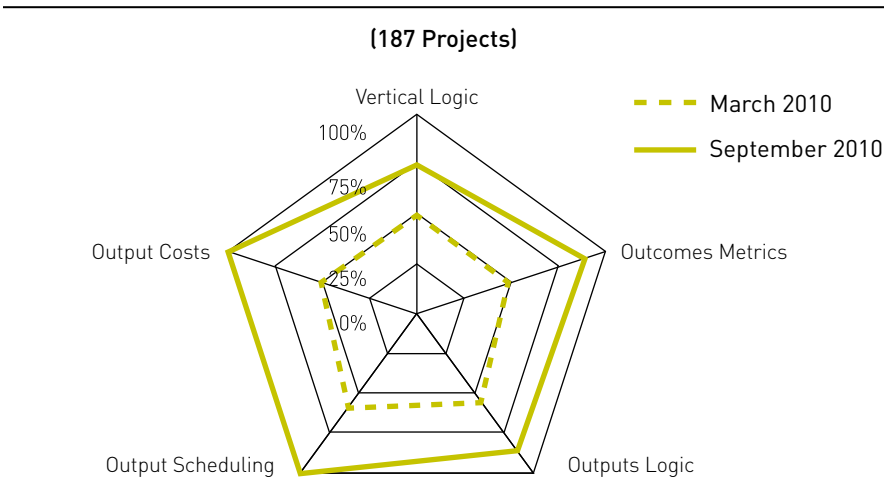
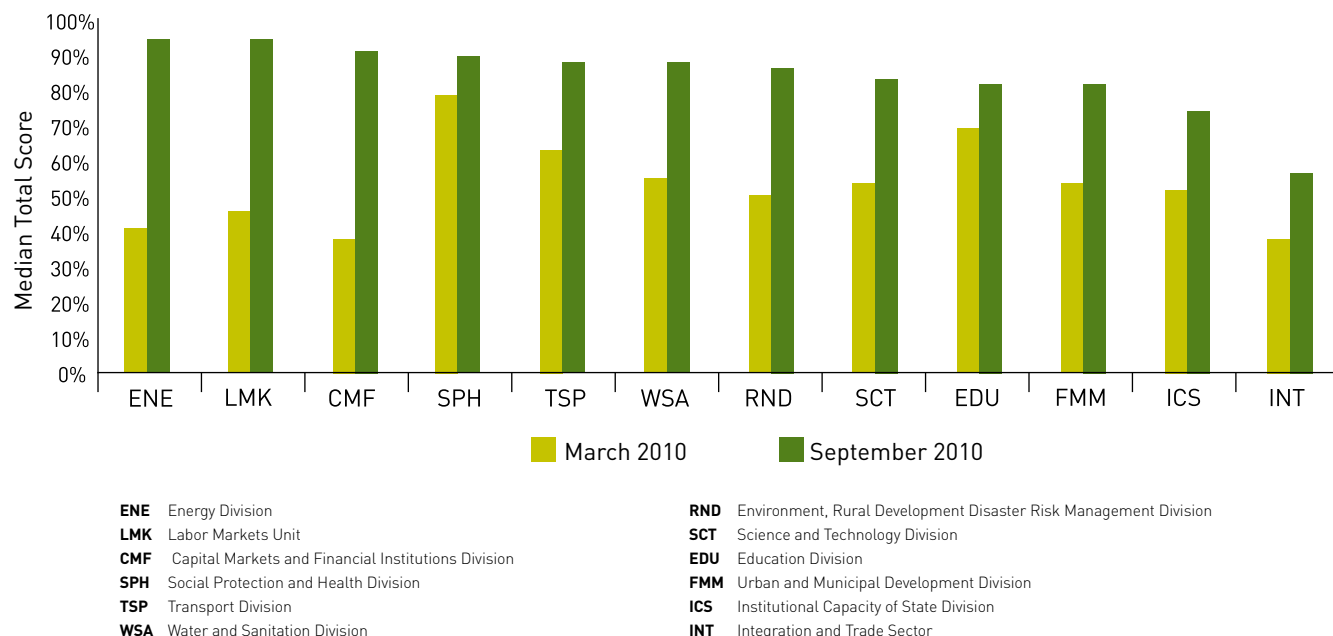


FIG. 12
PMR Checklist Median Score by Sector



The improvement to the comprehensiveness of information between cycles was possible in part because there was information available in project documents which had not yet been entered in the system or because the information had been entered in a different field. The review also found that the higher the DEM score (particularly in the results-matrix and monitoring sections), the easier it was to improve the content of the reviewed project's PMR. As seen in figure 12, all divisions were able to improve their checklist median scores between cycles.

3. Project Completion Reports: Measuring and Reporting the Results of Our Work

Following the ECG's Good Practice Standards for evaluation, a key step in the IDB's evaluation system

is when the administration produces self-evaluation reports at project completion, validated by OVE. Under the implementation of the DEF, the timely production of PCRs rose substantially: 83 percent of projects closing in 2008 produced a report on time, and 85 percent of projects closing in 2009.

Management's Self-Evaluation. PCRs look at three core dimensions: the likelihood that the project will meet its development objectives (DO, with ratings of unlikely, low, medium or high probability of achieving the objectives); the sustainability of the project (that can be very unsustainable, unsustainable, sustainable, or highly sustainable), and project implementation (IP). As shown in figure 13, according to Management's self-assessment, the mode defined by the third highest rating, which means that it is probable

FIG. 13

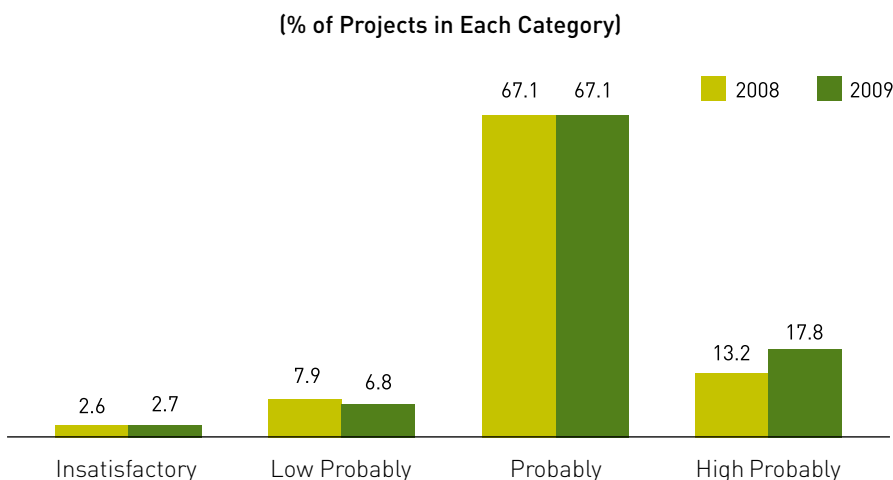
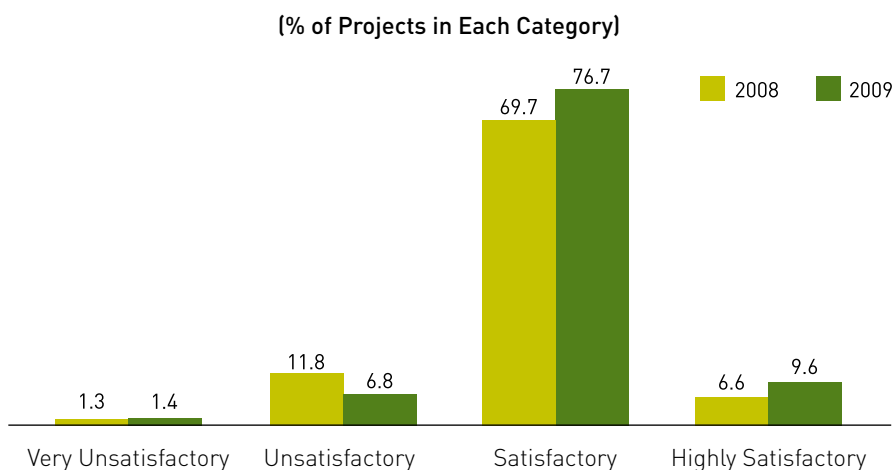
Development Objectives

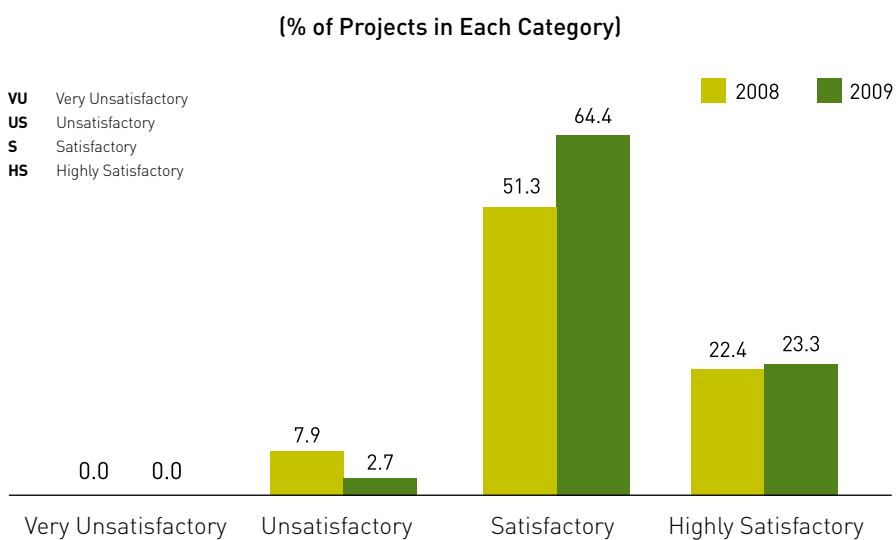
FIG. 13A

Sustainability

that the development objectives will be met and that the prospects of sustainability are satisfactory. The same is true for progress in implementation.

PCRs also include information completed by the borrower in which they report on the Bank's performance as very unsatisfactory, unsatisfactory, satisfactory or highly satisfactory. As seen in figure 14., the Bank's performance is generally satisfactory or better, and has increased slightly for projects closing in 2009 relative to those that closed in 2008.

FIG. 14

Bank Performance

OVE's Validation. Following the DEF and ECG-GPS, OVE validated the projects that were completed in 2008 and whose completion reports were produced by June 2009.⁶ As noted in the 2008-09 DEO, management "expected that the results of OVE's validation of completion reports will be low given that the majority of projects that were completed in 2008 were not designed or implemented with strong monitoring and evaluation frameworks".

OVE randomly selected 20 of the 55 projects and through a desk review it followed a two step process:

- First, it analyzed the results for each project. This was carried out at outcome and output levels using a tool called Results Achieved Analysis (RAA). The RAA systematically records how much outcome evidence the PCR presents in order to document the project's achievement of its original objectives. The RAA answers the following questions: What are the objectives of the project? Is each of these objectives tracked by at least one outcome indicator? Are these indicators defined and measured? Do these indicators have baselines, targets and end data? The answers to these questions are aggregated into a (completeness-index) score from 0 (no evidence presented) to 1 (fully evaluable). The RAA index for each project was used for the validation. The implication of a low RAA index is the lack of evidence constraining OVE's ability to validate the PCR rating.
- Next, the panel reviewed the projects' PCRs to determine their compliance with evaluation criteria and the quality of information produced. To that end, based on the PCR content and on the corresponding result framework, for each of the three overall dimensions of DO, IP and

SU, OVE wrote a summary paragraph, highlighting the most important issues, and then recorded its findings regarding the adequacy of each of the PCR ratings.

OVE found that "PCRs' results frameworks continued improving at the output levels but are still inadequate at the outcome level... Using Results Achieved Analysis (RAA)... on average PCRs contained 33 percent of the metrics required to fully document the achievement of each project's development objectives." OVE also reports that "Objectives are asserted as achieved without presenting measured evidence, [or] the supporting data does not corroborate the assertion... [Also, the] metrics for outcome indicators are not always available". OVE concludes that "the RAA Scores improved but are still not satisfactory".

The lack of information available in PCRs was documented by OVE, as it was only able to validate the empirical adequacy of one PCR regarding the likelihood of meeting its DO, and concluded that DO "scores are assigned independent of the presence or absence of evidence".⁷ In terms of IP ratings, OVE was able to validate ratings for 12 of the 20 projects, pointing out that information was insufficient particularly regarding quality and costs. In terms of SU, OVE pointed out that "If the PCR does not present evidence that certain outcomes or benefits were achieved, it cannot then rate the likelihood that these achievements will be sustained."

The results of OVE's validation serve as a baseline for improving the type and quality of information in completion reports. OVE's validation results reinforce the importance of properly implementing the DEF, in order to ensure that projects are designed to meet adequate evaluability standards, and so that results may be validated on completion. The results reported in

⁶ OVE's preliminary report was shared with Management on December 28, 2010.

⁷ OVE mentions that "a possible explanation for lack of consistency and progress in this area is that the DO section of the PCR (section 2.1.2) attempts to focus on project likelihood to achieve outcomes thus not entailing a real requirement for actual end-data and complete RRA".

terms of DEMs and PMRs suggest that the quality of information available for the production of PCRs will increase substantially in the following years, and so will knowledge about the development effectiveness of the Bank's products.

C. DOING THINGS RIGHT: NON-SOVEREIGN GUARANTEED OPERATIONS

The Structured and Corporate Finance Department (SCF). In 2008, the SCF overhauled its Development Effectiveness Framework by aligning assessment of development impact and additionality of projects at entry and monitoring to ECG-GPS. For its implementation, a DEM has been incorporated in the Project Profile (PP) and Loan/Guarantee Proposals (LGPs). In 2010, the DEM for the SCF was used 51 times for project reviews, including 36 PCDs and 15 LGPs.

As a part of the DEM, sector-specific performance indicators have been identified and included for each project under the performance area "Project contribution to Company Business Performance" and "Project Contribution to Economic Development". Such sector specific indicators intend to capture the full range of potential development outcomes of projects in a wide range of very distinct sectors, while allowing the Bank to aggregate some of the results in order to assess its contributions in the portfolio level.

Opportunities for the Majority (OMJ). The OMJ initiative has as its mandate to support market-based solutions to low-income populations across Latin America and the Caribbean. To measure and learn about the effectiveness of its work, OMJ employs its own DEM on all of its projects, which creates *ex-ante* ratings for the indicators and is a useful tool to track the expected outcomes. OMJ's DEM is based on the most recent Good Practice Standards of Private Sector Investment Operations of the ECG-MDBs and incorporates additional indicators that are specific to OMJ's mandate to identify business models that target low-income majority populations, use innovative approaches, and can be replicated or scaled up.



In 2010, OMJ launched a project to map out all of the DEM indicators it has used in its lending and guarantee operations to date, in order to have a better understanding of the types of metrics that were being used in each project, the information that was being collected and an assessment of the quality of these metrics. The conclusion was that there was an urgent need for a tool that would allow OMJ to track and collect information, and standardize its metrics across all of its projects in order to compare projects, regions and countries; moreover, it would allow OMJ to establish meaningful benchmarks to continue adapting and improving its deals in terms of impact and structure and to make strategic decisions concerning its portfolio, both in terms of socio-economic impact and financial performance.

Consequently, in Q4 2010, OMJ contracted the services of PULSE, a web-based reporting tool designed for impact investors, which leverages the Impact Reporting and Investment Standards (IRIS) metrics developed by the Global Impact Investor Network (GIIN). OMJ then translated its DEM indicators into IRIS metrics, in the process reducing the number of indicators it uses from 150 to approximately 50 selected from the IRIS list. This allows OMJ to have a standardized database of indicators that encompasses IDB

standards (both the DEM and IDB-9 frameworks) and is in accordance with ECG-MDBs Standards for Private Sector Operations, with the added benefit that the indicators were specifically designed for impact investors and comply with impact investment industry standards. These tools will allow OMJ to improve the quality of the indicators it uses, and above all to track

and maintain a live up-to-date database, which will be fed directly by OMJ's clients. The tool will be in use by mid 2011.

Ex-ante NSG DEM results. Table 1 summarizes the ratings of the NSG-DEM for projects approved in 2010 and for all projects approved since 2007.

TABLE 1
Ratings in Performance Areas. 2010 and Cumulative (%)

Performance Areas: 2010	Excellent	Good	Satisfactory	Partial Unsatisfactory	Unsatisfactory
Business Performance	39	61	0	0	0
Economic Development	42	58	0	0	0
Environmental and Social	33	33	33	0	0
Private Sector Development	58	38	4	0	0
IDB Strategic Objectives	50	50	0	0	0
Financial Additionality	29	71	0	0	0
Non Financial Additionality	13	63	25	0	0
Overall Rating	29	71	0	0	0
Performance Areas: Cumulative	Excellent	Good	Satisfactory	Partial Unsatisfactory	Unsatisfactory
Business Performance	23	61	14	2	0
Economic Development	34	57	8	1	0
Environmental and Social	41	36	22	1	0
Private Sector Development	45	49	5	0	0
IDB Strategic Objectives	41	48	9	0	1
Financial Additionality	29	66	4	0	0
Non Financial Additionality	24	46	30	0	0
Overall Rating	26	67	6	0	0

The DEM allows the analysis of expected development outcome and additionality of NSG projects based on sectors and country groups. The figures below show the distribution of the comprehensive ratings by SCF's three operational divisions and OMJ; however,

it should be noted that the number of projects included in these statistics is still too small to draw meaningful conclusions. It should be also noted that some of the indicators have different rating criteria between SCF and OMJ. (Figures 15 and 16).

FIG. 15
DEM Ratings for NSG by Sector

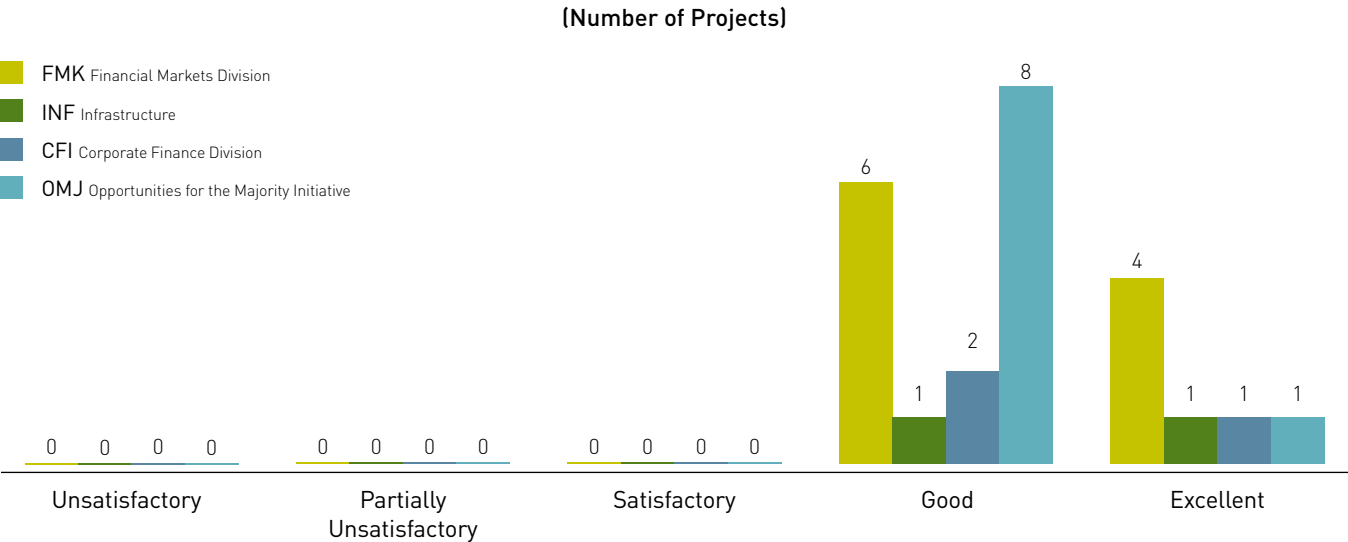
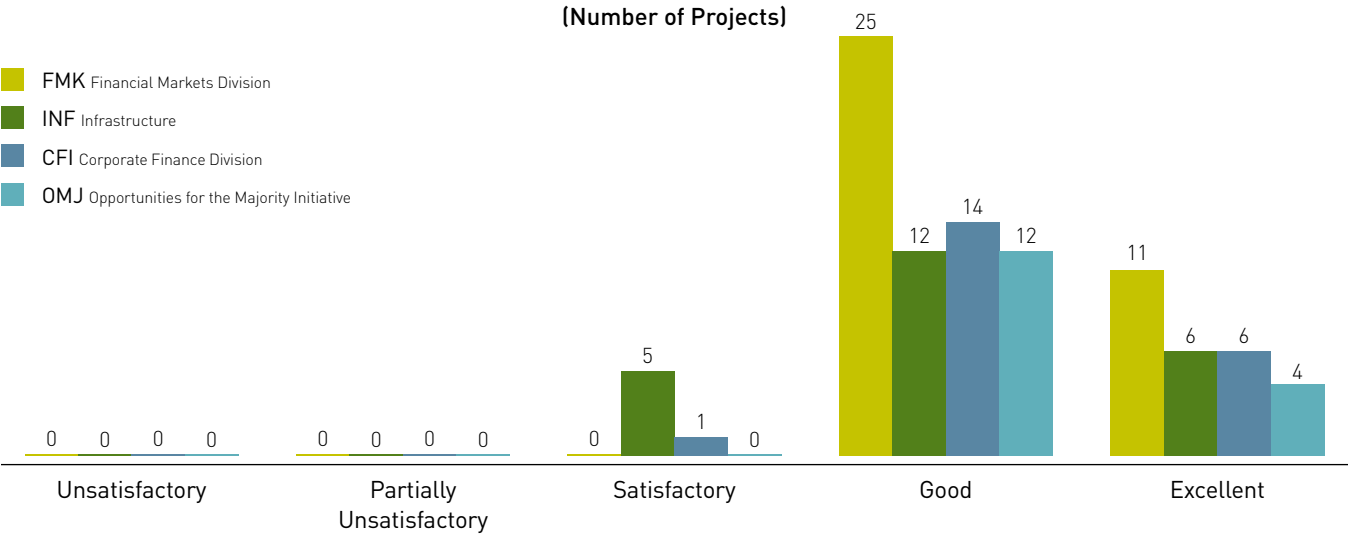


FIG. 16
Cumulative DEM Ratings for NSG by Sector





Monitoring Results. With the introduction of the new Development Effectiveness Framework for SCF projects, the expected development impact and additionality of projects (including those retrofitted to the new DEM) identified by the *ex-ante* DEM has been monitored annually as a part of preparation of the Project Supervision Report (PSR) by the Portfolio Management Unit (PMU) starting from 2010. The monitoring will continue to be made throughout the entire loan/guarantee life (even after the self-evaluation exercise). To facilitate the monitoring exercise, guidelines for the PSR-DEM had been prepared.

In accordance with the Guidelines, the PSR-DEM includes the same indicators used in the DEM at the time of project approval, but with three additional columns: (1) actual results, (2) comparison of the actual results with the original expectations, and (3) updated rating. The PSR-DEM will be prepared by the Portfolio Management Officer (PMO) and validated by the Development Effectiveness Officer. The PSR-DEM will be mostly completed using information from the PSR, including data provided by the company in accordance with the Annual Review of Operations⁸ as well as additional research conducted by the PMO. Some relevant information is taken from the Credit Risk Classification System (CRCS) exercise, which takes place at the time of PSR preparation.

To compare the actual results with original expectations, a four-scale classification is applied (surpassing, achieving, partially achieving and not achieving).⁹ All quantitative indicators are tracked each year as they change, taking into consideration the numeric criteria proposed to compare actual results and original expectations.¹⁰ As for qualitative indicators, when changes do occur in the performance of the company/project, judgment needs to be made for the comparison. To update the ratings of indicators, the *ex-ante* DEM Guidelines are used as the primary source of instruction. In addition, the results obtained from the comparisons are taken into consideration for the updated rating.

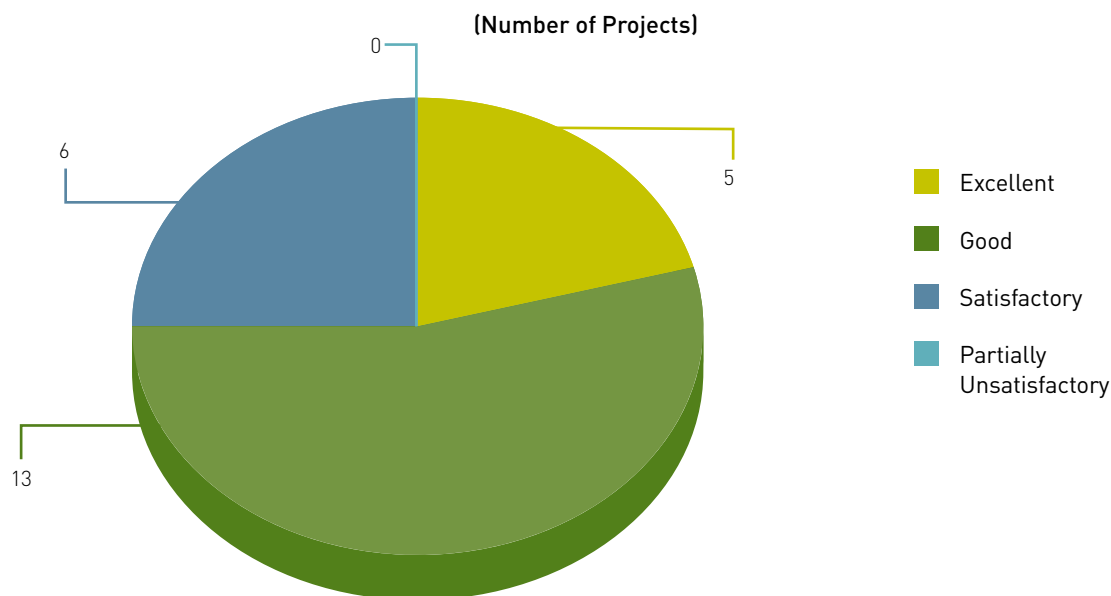
In 2010, the SCF's PMU started to include PSR-DEMs in the PPSRs for those projects in the portfolio with *ex-ante* DEMs. In addition, project monitoring exercises of some projects for the 2009 results used the previous monitoring framework, based on logical framework and Project Performance Monitoring Report (PPMR), but applying the DEM 5 point-scale rating. The assessment of the development outcomes of total 24 projects showed 5 projects had an overall Excellent rating, 13 projects had an overall Good rating and 6 projects had an overall Satisfactory rating. These results are shown in figure 17.

⁸ The Annual Review of Operations is submitted by the clients annually in accordance with the information covenants included in the IDB Loan Agreement.

⁹ As some non-quantitative indicators will not change from the original DEM, given that many describe permanent *ex-ante* facts and others describe facts that only change infrequently, a static comparator of "achieving" or "achieved" can be used.

¹⁰ FRR and ERR are recalculated only at the time of the XPSR self-evaluation exercise; however, the guidelines provided specific elements that should be considered to rate them.

FIG. 17
SCF's Project Development Outcomes (2010)



Expanded Project Supervision Report (XPSR). The XPSR is a self-evaluation conducted within the year the project reaches “early operating maturity”.¹¹ Every year, the self-evaluation is conducted by the SCF’s PMU based on a list of projects agreed by OVE and the SCF. The final results of the evaluation are discussed by senior management of OVE and the SCF in a “Management Review Meeting”. Based on the final results, OVE prepares the validation report which is sent to the Board together with a complementary note by Management.¹²

The Board has been provided with OVE’s validation report since 2007. For the 2008 and 2009 exercise,

XPSRs were prepared for 13 projects (nine for 2008 and four for 2009), which are composed of five projects in the area of financial markets and eight in infrastructure. The final results of the exercise are under review by senior management. For the 2010 exercise, evaluation of 17 projects is underway.

In 2010, the third benchmarking exercise for ECG-GPS for Private Sector Investment Operations was carried out. In the report, the Bank was cited for making the most improvements of all MDBs in terms of ECG compliance from the previous benchmarking exercise, having improved from 8 percent compliance in 2004 to 89 percent compliance in 2010.

¹¹ For a real sector projects, early operating maturity occurs when a) the project financed will have been substantially completed; b) the project financed will have generated at least 18 months of operating revenues for the company and c) the Bank has received at least one set of audited annual financial statements covering at least 12 months of operating revenues generated by the project. For financial market projects, early operating maturity occurs after the elapse of at least 30 months following the final material disbursement for sub-loans.

¹² With regards to the evaluation scope, the evaluation guidelines sets four major areas, which are (1) project development outcome, (2) the IDB’s operation profitability, (3) the IDB’s additionality, and (4) the IDB’s work quality. Each area contains several sub-performance areas and every area and sub-area is rated based on a four scale rating (Excellent, Satisfactory, Partially Unsatisfactory and Unsatisfactory). No overall comprehensive rating is provided.

Outlook for 2011. Developing effectiveness is a dynamic feature of our work, so even though we have achieved significant improvements, we have learned that the path to success is not linear and that there is much to improve. Some of the key challenges that we face to increase the effectiveness of our organization in 2011 are: (1) to consolidate our programming through results-based country strategies, (2) to implement the IDB-9 mandate for all SG and NSG operations to meet a minimum evaluability threshold, (3) to expand our results-based approach to technical assistance and knowledge products, (4)

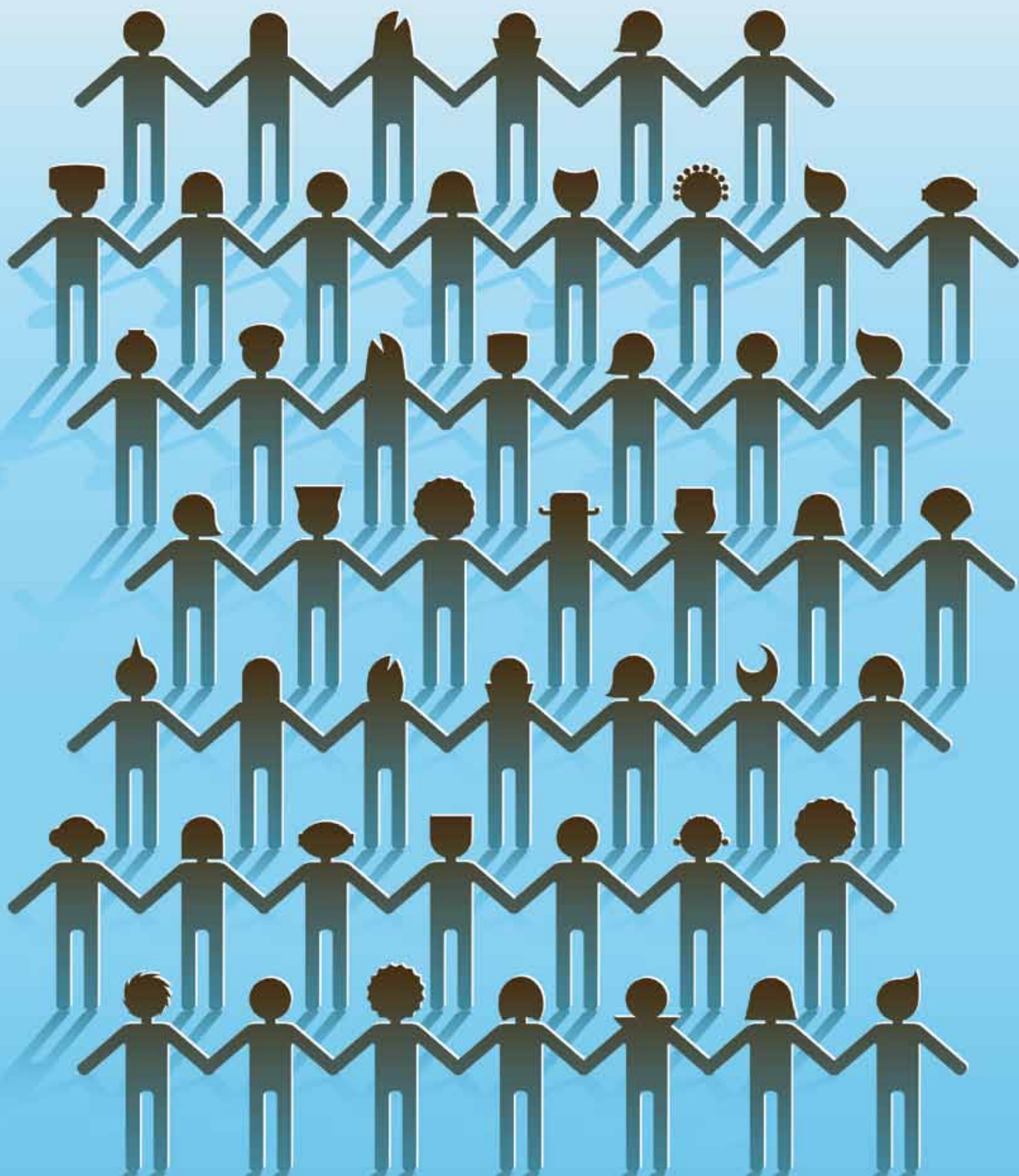
to increase the number of completed projects that credibly demonstrate satisfactory results at completion, and (5) to use the knowledge gained on effectiveness to feed back into better loan and technical assistance to the region. The next DEO will report on the progress made to meet these challenges and on the continued implementation of our development effectiveness agenda. As a result of the work done so far, we will be able to report the outputs tracked through our monitoring system, our alignment to IDB-9 mandates, and the results of the many impact evaluations we are conducting.

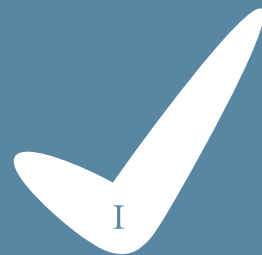


PART II

LEARNING ABOUT THE DEVELOPMENT EFFECTIVENESS OF THE IDB's PROGRAM







SOCIAL POLICY FOR EQUITY AND PRODUCTIVITY

The first sector priority established by IDB-9 is to work on social policies that promote equity and productivity. To this end, the Bank has developed a Strategy on Social Policy for Equity and Productivity that identifies high priority areas for action in this sector (IDB, 2011: OP-502-3). One of the strategy's main aims is to promote monitoring and evaluation of social programs, and to use the knowledge gained in the design of future country strategies and lending programs.

The strategy focuses on promoting higher levels of human capital by investing in people throughout their life cycle. While the Bank has drawn important lessons from its experience working on these issues, there are many knowledge gaps that need to be addressed. For example, we know that investments during pregnancy and in the early years are important, but there are still questions surrounding the best mechanism for providing health care to expectant mothers and young children. We know that early childhood development is crucial, but we need to find cost-effective, scalable interventions. We know that wide scale coverage does not imply quality, and improving the quality of health services and education is still a challenge. We also know that incentives are important for the provision of services, but how exactly to design incentives is not known. These questions, among others, are being examined by the IDB through a

wide range of impact evaluations and knowledge products.

The Strategy on Social Policy identifies seven priority areas. In this chapter we report on how the Bank is generating knowledge in five of them: (1) investing in early childhood (promoting maternal and neonatal health, as well as early childhood development interventions); (2) improving school quality (innovative models to teach math and science, outstanding university graduates teaching in disadvantaged schools, and furthering understanding of school-to-work transition); (3) improving the functioning of labor markets and extending the coverage of social security (demand-driven, job-training models); (4) fostering social inclusion (programs to stop violence against women and one that promotes female participa-

tion in the political cycle); and (5) addressing youth-at-risk (music school programs that aim at promoting self-control). The other two areas were either included in the previous DEO (improving conditional cash transfer programs and other poverty alleviation programs) or will be analyzed in future editions of the DEO (addressing the double burden of the health transition).

As shown in figures 18 and 19, the Bank has concentrated most of its projects in education, social safety nets and health. In terms of financing, social safety nets were the most important sector in 2010, followed by education. Finally, figure 20 shows the regional distribution of the projects, showing the Bank's work on Social Policy for Equity and Productivity has spanned the whole region.

FIG. 18
Social Policy for Equity and Productivity.
Total Financing by Sector

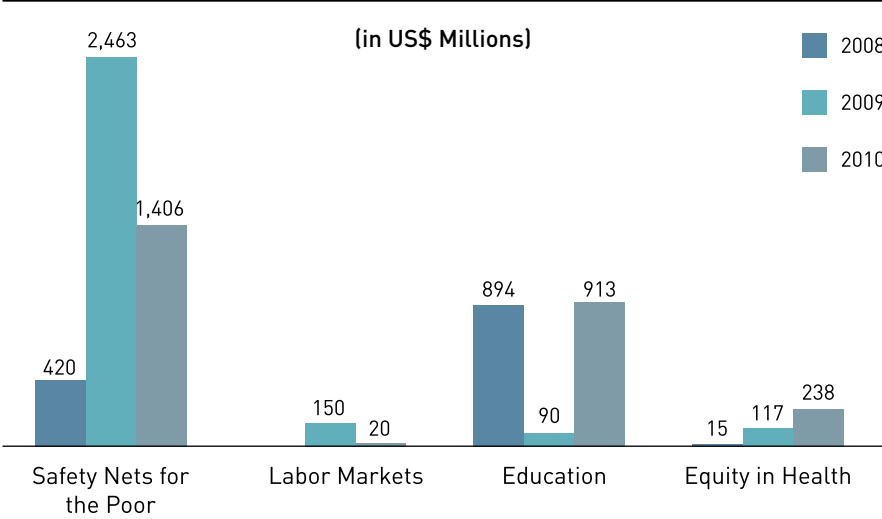


FIG. 19
Social Policy for Equity and Productivity.
Total Number of Projects by Sector

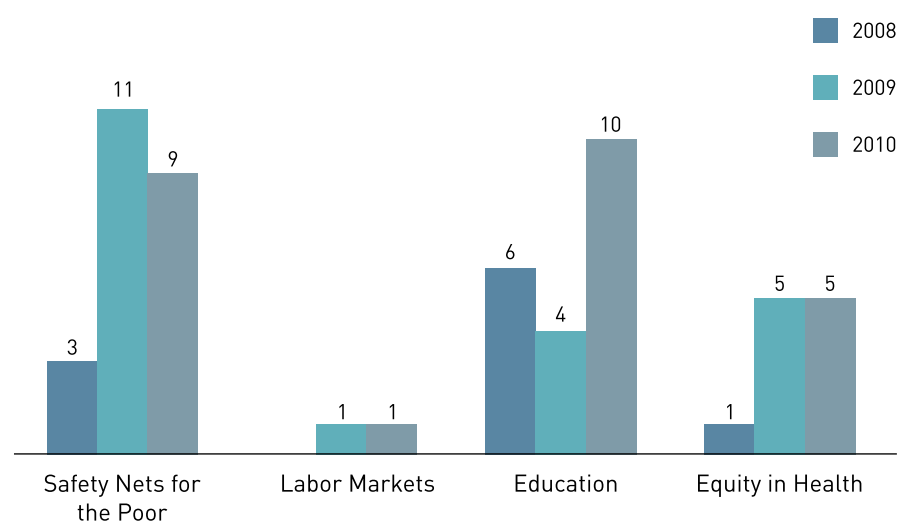
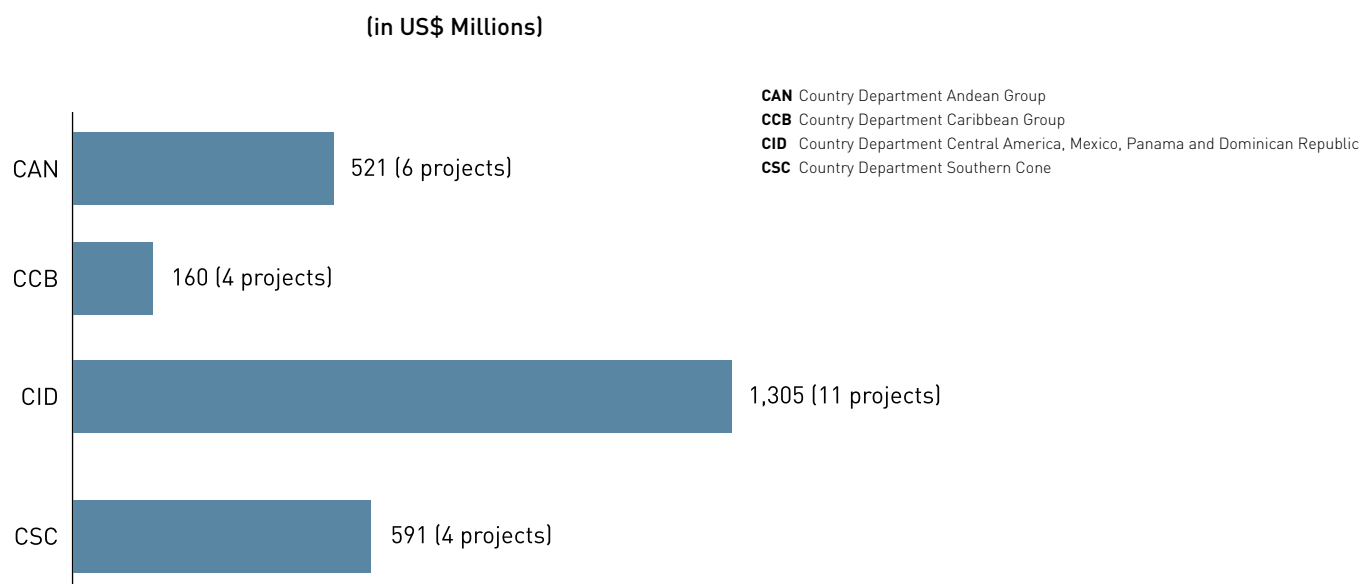


FIG. 20
Social Policy for Equity and Productivity.
Regional Distribution



A. INVESTING IN EARLY CHILDHOOD

Maternal and Child Healthcare Scientific evidence reveals that levels of cognitive and socio-emotional development not only go back to early childhood, but even relate to intrauterine growth and fetal development. There is ample research on the influence of the gestation period, the circumstances in which labor and childbirth take place, and the attention given to the newborn during its very first months of life on future intellectual and physical abilities. Regular health checkups during pregnancy allow for the identification and treatment of maternal health issues such as anemia that can affect the baby's health at birth; and exclusive breastfeeding during the first six months of life, if accompanied with healthy food preparation and hygiene practices and nutritional supplements when necessary, can reduce malnutrition and set a favorable path for early childhood development.

Providing quality health services to pregnant women and newborn children in rural areas is one of the greatest social policy challenges in the region. Despite some progress in recent years, many Latin American countries still face high maternal and child mortality rates, a low percentage of institutional deliveries, and high levels of malnutrition, anemia and iodine and zinc deficiency, particularly among the poor.¹³ With the support of the Bank, a number of governments in Central America are currently increasing their efforts to solve this situation through innovative approaches that will be rigorously tested, providing evidence on potential cost-effective alternatives to improve maternal- and child-health outcomes. Overall, in terms of reproductive, maternal and neonatal health (RMNH) the policy

question is not what to do, but how to do it: that is, how to extend adequate health services to the poor and how to promote healthy practices and behaviors.¹⁴

There are at least two areas in which further evidence is required regarding the provision and quality of health services for mothers and young children. First, there is a debate about whether interventions should focus on solely promoting better nutrition and child-bearing practices or on directly providing nutritional supplements. While recent research suggests that the former alternative seems to be more cost effective than the latter, evidence is still limited and additional analyses are needed. Secondly, there is great discussion regarding health-service delivery mechanisms, particularly in terms of the optimal level of decentralization and participation of the nonpublic sector. Here, some evidence indicates gains in terms of coverage and access from decentralization and public-private partnerships. Research is still needed on the impact on health outcomes.

At present, the Bank is supporting the design and implementation of several programs that focus on RMNH in the Region, including loans to El Salvador, Guatemala and Honduras, as well as the regional health initiative Salud Mesoamérica 2015.¹⁵ To illustrate this work, the sections below focus on two of these operations. In Guatemala, Phase I of the *Improved Access and Quality of Health and Nutrition Services* project will implement two educational interventions that will provide individual counseling and home visits, and preventive nutrition activities. In Honduras, the *Program to Strengthen Decentralized Management and Supply of Health Services* will use

¹³ Tristao (2010) provides recent and thorough health profiles for the Mesoamerican countries (Belize, Costa Rica, El Salvador, Guatemala, Honduras, the southern states of Mexico, Nicaragua and Panama), and shows marked inequities in access to health services and health outcomes. Adequate average values usually correspond to extremely low values for the bottom quintile.

¹⁴ Here the focus is on the rural poor as it is the most disadvantaged population group and a Bank priority. However, urban poverty is also a pressing challenge and the Bank is developing different alternatives to deal with it. How to efficiently reach the urban poor is also a key question.

¹⁵ For more information on Salud Mesoamérica 2015, see: <http://www.saludmesoamerica2015.org/index.php>. The initiative is an innovative partnership that aims to close the gap in access to quality health services for the poorest groups in the region, focusing on reproductive, maternal and neonatal care, nutrition, vaccination and vector control.



decentralized public-private and public-public delivery models to provide basic health-service packages to vulnerable populations. Both projects have rigorous experimental or quasi-experimental evaluations allowing a deeper understanding of the effectiveness of each intervention.

Guatemala: Improved Access and Quality of Health and Nutrition Services. The impact evaluation of this operation will focus on its two main interventions: the strengthening of the community program of integral attention to women and childhood (AINM-C) and the expansion of the institutional mobile groups (GMI) with an educational component to isolated rural communities.

The AINM-C program assigns three educators to each jurisdiction in which the program operates to extend coverage (PEC), to monitor the weight of children under two years old and provide personal guidance to mothers of underweight children. The intervention is expected to improve dietary, hygienic and child-bearing practices, and consequently to reduce chronic and global malnutrition levels. The impact of this intervention will be measured through an evaluation with experimental design.

PEC jurisdictions will be randomly assigned into two groups: the first will benefit from the intervention at the beginning of the loan's execution period, while the second will only receive the intervention starting in the fourth year of the loan's execution period. This randomized assignment will enable researchers to estimate the impact of the intervention by comparing the first and second group at the end of the third year. Data collection for the evaluation will take place at the individual, community and jurisdiction level. It includes a baseline before implementation, a follow up at the end of the first year in the first treatment group, and an end line after at least 30 months of execution.

The GMI intervention provides basic health-service packages to communities with insufficient access to the public health network through itinerant teams that travel to rural isolated communities at least once a month. In addition, the GMI teams will be accompanied by two educators that will carry out the activities of the AINM-C strategy. This delivery mechanism is expected to increase coverage of preventive health interventions that should lead to improvements in child-care habits, increases in preventive checkups and progress in maternal- and child-health outcomes.

Given that beneficiary municipalities were selected based on their poverty levels, randomized assignment is not possible. However, a quasi-experimental approach will be used to rigorously define an adequate comparison group. Propensity-score matching will be used to compare communities that will receive the intervention during the first half of the execution period with those that will receive it during the second half. The matching will be based on administrative data from the 2002 census and the conditional cash transfer program (MIFAPRO) census. Data will be collected on both groups before and after the intervention takes place (baseline, follow up for the first treatment group, and end line), so as to estimate the impact of the intervention by comparing outcome indicators at different points in time. Sensitivity analyses will also be conducted to assure the robustness of the identification strategy.

Together these two evaluations will contribute valuable knowledge on the effectiveness of interventions aimed at improving mothers' practices and behaviors during the gestation period and early childhood. They should determine the project's capacity to increase mothers' knowledge of good practices, improve nutrition and hygiene habits, and raise attendance at health checkups, which collectively should result in better health outcomes, as measured by anthropometric indices and prevalence of anemia.

Honduras: Program to Strengthen Decentralized Management and Supply of Health Services. The operation's impact evaluation will assess the effectiveness of a decentralized model for health-service provision that was put in place by the government in 2005 but that has not yet been rigorously evaluated. The delivery model mainly consists in the Ministry of Health partnering with social entities that provide health services to poor populations. The agreement establishes that social entities will receive a *per capita* payment based on the population of their catchment area, and in turn commit to offering a predetermined package of health services. Payment to social entities is results based, with an important proportion of the

transfer tied to attainment of specific goals, and bonuses and penalties given for adequate performance and nonperformance, respectively. While the initial delivery model only contemplates nonpublic sector entities, some public sector centers will be included as well, an innovation to the intervention.

The evaluation will be based on a quasi-experimental design that uses difference-in-differences with propensity-score matching. Matching will be done at the municipality level, so as to compare beneficiary and nonbeneficiary municipalities that have similar population structures, poverty levels, health indicators and epidemiologic profiles. Treatment groups will be created separately for municipalities in which the public-public decentralized partnerships will be piloted, and for the municipalities in which new public-social partnerships will be established. The main comparison group will comprise municipalities with centralized health provision. In addition, however, an alternative comparison group for the public-public treatment will be created with municipalities that already operated public-social partnerships before the project. Data collection will include a baseline before implementation begins and a follow up three years later.

The evaluation will provide evidence on the effectiveness of alternative delivery mechanisms with varying levels of decentralization and involvement of the non-public sector (including social organizations, partnerships of municipalities and NGOs). It will increase the existing understanding about the success of this delivery model not only as a way to increase coverage but also in terms of maternal- and child-health coverage and outcomes.

Early Childhood Development. Early childhood plays a crucial role in the development and wellbeing of individuals. The first five years of a child's life are a decisive period for brain development: the brain grows to 80 percent of its adult size by age three and to 90 percent by age five (Shonkoff and Phillips, 2000). The science of brain development shows that key neural connections develop during the first two years of life,



particularly during the first twelve months (Center on the Developing Child, 2008). Therefore, the quality of the care received by children and the environment to which children are exposed during this period, have important implications for their future levels of cognitive and socio-emotional competence.

Early childhood is also a determinative period for nutrition. Research shows that malnutrition not only impedes children's development in the short term, but also affects their cognitive abilities and productivity as adults. Most importantly, there is a short window of opportunity in which to address child nutritional needs in ways that result in healthy and productive adults: from conception through age two. After this period, the effects of malnutrition are largely irreversible (Ruel and Hoddinott, 2008).

The good news is that investments during early childhood have enormous payoffs.¹⁶ Although genetics play a role in child development, biology is not destiny. Evidence suggests that adverse family environments can be partially compensated for, eliminating gaps due to early disadvantage. The earlier the interventions take

place, the larger the gains in terms of cognitive and school achievement, motivation and social behavior. There is supporting evidence of effective interventions against child malnutrition that focus mainly on provision of food supplements, as well as on iodine and iron therapy.

Early Childhood Development in the Region: What We Know and What We Do Not Know. Data on children's performance in the different dimensions of early childhood development (ECD)—cognitive, socio-emotional, executive function, and motor skills—has not been systematically collected in the region. As a result, little is known about the distribution of deficits in ECD outcomes within countries (for example, boys versus girls, indigenous versus nonindigenous, children in poor versus less-poor households), or about how specific countries in the region perform relative to each other and to other countries in the world.

The scarce data available suggests that there are important ECD deficits in the region. For example, in Bolivia, Ecuador, El Salvador, Haiti, Honduras, and Peru, one-quarter to one-third of children are chronically

¹⁶ Nobel prize-winning economist James Heckman has argued that these investments generally have higher returns than any made later in the life cycle.

malnourished, with the proportion in Guatemala exceeding one-half. In Ecuador, five-year-old children in the lowest decile of wealth distribution are, on average, more than two standard deviations behind the norm on a test of vocabulary that is highly predictive of school performance (Schady, 2006). Also, the available evidence suggests that in Latin America and the Caribbean (as in other regions in the world) there is a high negative correlation between socioeconomic status and early childhood skills, which strengthens the importance of ECD interventions promoting equity.

In general, the little data available indicates that there are delays in different dimensions of ECD in the region, that there are socio-economic gradients in these delays, and that in at least some domains these gradients do not narrow once children enter school. However, there is not enough information on the most cost-effective ways of reaching all those in need through ECD interventions.

Many of the interventions that have proven successful in developed countries can be expensive to implement in developing countries. Likewise, high-quality assessment instruments for evaluating child developmental status remain quite expensive to administer. Both alternative scalable programs and simpler psychometric tests are increasingly being explored as mechanisms to deliver and evaluate early childhood assistance. Nonetheless, there is still very little evidence on the effectiveness of modified interventions or on the accuracy of simplified tests. Rigorous evaluation of these new mechanisms needs to be carried out in order to successfully assist a larger proportion of the population.

The Bank's Work on ECD. The Bank has a strategic and ambitious agenda regarding ECD, including a multiyear program of analytical work to substantially increase knowledge of ECD in the region, and to improve the Bank's ability to advise governments and

TABLE 2
Main Projects within the IDB's Analytic Agenda on ECD

Theme	Project
Measurement of ECD indicators	<ul style="list-style-type: none"> • Validation of ECD instruments in Colombia • Ecuador fourth round of panel data • Extension of Jamaica evaluation • Construction of regional indicators on ECD (PRIDI)
Center-based care	<ul style="list-style-type: none"> • Measuring education quality in Brazil • Evaluation of Jardines Sociales in Colombia • Evaluation of Hogares Comunitarios in urban Guatemala • Evaluation of crèche program in Rio de Janeiro
Parenting and home visits	<ul style="list-style-type: none"> • Evaluation of delivery of cognitive stimulation and parenting in rural Nicaragua • Evaluation of expansion of AINM-C in rural Guatemala
Noncognitive development	<ul style="list-style-type: none"> • Evaluation of aeioTU preschool on delayed gratification
See IDB (2010b) for details of these projects.	

others who work in this area. This agenda is centered on four main themes: (1) measurement of ECD indicators; (2) center-based care (daycare and preschool services); (3) other types of interventions (parenting, home visits, and CCTs); and (4) cross-cutting issues (noncognitive development and mother-and-child interactions). A distinctive feature of this program is that it will build knowledge on these themes through rigorous impact evaluations.

The sections below expand on two of these projects which the Bank hopes will help narrow the prevailing knowledge gap on the effectiveness of modified early childhood interventions and assessments. Through randomized control trials in Colombia, Nicaragua, Jamaica and Guyana, the Bank is expecting to generate credible information on the impact of interventions and assessments that are feasible at scale in developing countries. The results from these evaluations will help identify more cost-effective mechanisms of delivery and assessment for early childhood assistance.

Evaluation of Assessment Instruments in Colombia. Measuring ECD involves a number of challenges, particularly with children under three years of age. Several psychometric instruments have proven to be accurate in assessing cognitive, motor and socio-emotional domains, but they remain expensive to administer and unaffordable in many contexts in developing countries. The application of existing tests is particularly lengthy and requires highly trained personnel and specific conditions (location, material, time, and others). Although shorter and simpler instruments have been designed, they still need to be tested to determine their ability to predict future developmental achievements.

In conjunction with the Center for Evaluation of Development Policies in London, the Bank is supporting the evaluation of assessment instruments in Colombia through a study that compares an internationally recognized psychometric test with shorter and easier-to-apply examinations. The study will randomly select about 300 blocks defined by socio-economic

strata and age, and carry out door-to-door visits in the selected areas in order to identify the objective population: children aged between 6 to 42 months.

The Bayley Scales for Infant Development III, which constitute the standard reference in assessment instruments for children under three years old, will be applied to every single child in the study. In addition, one of two alternative packets will be administered to each participating child. The first packet includes assessments from Batelle and Ages & Stages, while the second includes assessments from Denver, McArthur, WHO Motor Milestones and Bayley's socioemotional scale. The tests will be applied on different days, by different personnel, within no more than a week. Anthropometric measurements will also be taken for all participating children, and a socioeconomic questionnaire with a module on child stimulation and time devoted to child care will be applied as well.

The results from this evaluation will produce reliable information on the validity of alternative low-cost assessments for ECD. Closing this knowledge gap will allow for more and better quality evaluations in the region. More affordable instruments will encourage the implementation of evaluations and enhance the quality of future ECD programs.

Evaluation of Home and Health-center Delivery Mechanisms in the Caribbean. Given that budgetary restrictions in developing countries often limit the implementation of effective ECD interventions, the Bank is supporting a pilot project in the Caribbean that explores innovative delivery mechanisms that are affordable and feasible at scale. By integrating two alternative delivery approaches into existing health services, the study attempts to generate evidence on effective low-cost means to reach children under two years old. The pilot will initially be carried out in Jamaica and Guyana, and will possibly be expanded to Santa Lucia and Antigua.

A health-center model and a home-visiting program will be implemented. The health center intervention



will show a child-development video in clinics administering immunizations to children under 18 months of age. A community health worker will be trained in each clinic to discuss the video with mothers. In the home-visiting intervention, trained community health workers will conduct mother-child play sessions with children between 6 and 18 months of age, and instruct mothers on ways to promote child development. This is a low-cost adaptation of an effective intervention previously implemented in Jamaica; visits are weekly rather than twice monthly and supervision provided by nurses instead of child-development specialists.

The pilot will evaluate these two approaches using a cluster-randomized design. In each country, 20 health centers will be randomly assigned to either the control group, the health-center intervention only, the home-visiting intervention only or both interventions. Each treatment and control group will have a total of five centers assigned per country. In all, approximately 1,000 children will participate in the study.

Given the experimental design of the pilot, analyses will be by intention to treat and will use random-effects regression models to take into account the cluster design. Baseline information of treatment and comparison groups will be collected in order to

check balance and control for any measures that differ among the groups. These analyses will be done for countries separately and combined. Further analysis will be carried out on the variation of impacts given maternal characteristics, income level and health service infrastructure, as well as on the channel through which impact takes place.

The evaluation is expected to generate credible evidence on the effects of the adapted home-visiting intervention and the new health-center-based approach on factors that influence ECD, such as maternal knowledge of child development, stimulation provided at home and maternal depressive symptoms, as well as on children's language and psychomotor development. The extent to which benefits from the two interventions are additive or complementary will also be determined, and whether impacts are influenced by factors such as the mother's education and child's nutritional status. In addition, the pilot should provide insights into factors determining the participation of mothers and their perception about the program. Staff views about the program and potential areas of improvement will also be gathered.

Overall this evaluation will constitute an important contribution to interventions feasible at scale in the

Caribbean and other developing countries with budgetary restrictions on social programs. By integrating early childhood interventions with existing health services, this pilot will provide evidence on an alternative mechanism for delivery, building on existing institutional capacity and infrastructure. This will result in especially valuable evidence, given the pressing need to identify low-cost, effective interventions.

B. IMPROVING SCHOOL QUALITY

The region has made substantial progress in terms of education in the last two decades. LAC countries now generally have primary school enrollment rates that are in line with those of other countries with similar income levels; the region has also seen a dramatic expansion in the mean years of schooling attained. Nevertheless, increasing the coverage of education services does not automatically result in improvements in final outcomes, the quality of such services is critical. To respond to the urgent need of improving the quality of the education in the region, the Bank is supporting the implementation of innovative projects that will shed light on the factors that have the potential of positively impacting educational results.

Learning to Inform Policy: Experimental Math and Science in Argentina. Given the consistently low performance of Latin America in international assessments of pupils' abilities, governments are looking for pedagogical models to help improve student learning. Even after controlling for *per capita* GDP, the region's students still perform below students in OECD and East Asian countries, particularly in the areas of mathematics and natural science.

In response to low achievement in science and mathematics in Argentina, the Ministry of Education and the Bank collaborated in the implementation of a pilot to generate knowledge about effective pedagogical approaches to teaching natural science and mathematics at the primary level. The evaluation was carried out by a team of external evaluators from the Catholic University of Uruguay (UCUDAL) and the International

Institute for Education Planning (IIPE). The pilot tested the effectiveness of three innovative inquiry-based models introduced in two Argentine provinces during the 2009 academic year. The models constitute a sharp departure from teacher-lead demonstrations and a simple transmission of concepts. They include two different pedagogical models—Science, Technology and Creativity (CTC) and the Scientific Literacy Program (PAC)—and a play-based mathematics approach called *Mathematics for All*.

The project was implemented in order to gather information about the pedagogical models and their effects on the learning process. Evaluation was an inherent part of the project and it produced a wealth of invaluable material that is being analyzed by the Argentinean authorities. The evaluation had both quantitative and qualitative components and considered a wide range of parameters including: (1) the effects on achievement; (2) the teaching environment, including classroom dynamics and gender relationships among student groups; (3) the teachers' subjective representations concerning the students' learning capacity; (4) the teachers' subject area and pedagogical knowledge and, (5) the models' sustainability in terms of the cost of expanding them to the national level and the durability of pedagogical inputs.

The three models were tested through an experimental evaluation in which schools were randomly assigned to either one of the treatment groups (PAC, CTC and *Math for All*) or to the control group that received the standard program in natural science and mathematics. The pilot covered over 18,100 fourth-grade students in 675 schools in the provinces of Tucumán and Buenos Aires. These two areas were selected based on disadvantaged socioeconomic characteristics and poor educational results.

The baseline information suggests that there are some differences between the groups, which could be due to the fact that random assignment was done with somewhat outdated school information from the year 2000. This shows the importance of having baseline

data, because the evaluation then focused on changes in the indicators during the year, and there was ample data to control for any observed differences between the groups. The quantitative evaluation consisted of a standardized test at the beginning of the school year in March 2009, before the initiation of the pilot, and again at the end of the pilot in December 2009. As the pre-pilot test could not be administered to the entire pilot population, an evaluation sample was formed from 56 randomly-selected schools. The total number of fourth-grade students in the sampled schools was 5,892.

The sample groups were compared along many dimensions, including the repetition rate of the schools in the group, their student-teacher ratio, the seniority of their teachers, the condition and characteristics of their infrastructure, and the availability of teaching materials, equipment, and support staff. On average the groups were fairly similar, but for individual indicators a small but statistically significant difference was detected in favor of the control group in the mathematics category. Following the second test application, these initial differences were controlled for statistically. The qualitative evaluation consisted of systematic observation of teaching practices and changes in pedagogy. Extensive information concerning characteristics of the schools, students, teachers, families and community contexts were collected through surveys, interviews and classroom observation.

Baseline information revealed some interesting information, particularly regarding characteristics of the pilot schools, content knowledge and attitudes of teachers and students, and parental involvement.¹⁷ Perhaps most importantly, teachers lacked content knowledge and interest in teaching both subjects. In mathematics, students are perceived to lack interest and to have problems focusing on tasks. In natural science, they are described as interested but unable to focus. Parents are perceived to lack interest in their children's education.

Already after one academic year, both qualitative and quantitative results are observable. The results of the qualitative evaluation reveal improvements in teachers' knowledge of curricular concepts, professional self-image, and beliefs about their students' ability in these subjects. The results of the quantitative evaluation indicate that all beneficiary students improved in their learning more than those in the control group. The mathematics model had the strongest effect on student learning, with the average test score increasing by 44 points (close to half a standard deviation) compared to 19 points (a quarter of a standard deviation) among students who received the traditional curriculum. The impact was particularly strong in Buenos Aires, where the difference between the two groups was 34 points, or a third of a standard deviation. In the case of the two science models the change was significantly different from the control group only in the province of Buenos Aires in the case of the CTC and only in Tucumán in the case of PAC. For all three models, the effect sizes varied by module, providing important information on what dimensions need strengthening. For example, in the *Math for All* program the greatest progress was observed in Arithmetic, which the qualitative and process evaluation suggest was the area that was better implemented.

The pilot provides valuable information on pedagogical approaches and curriculum materials that work in situations where teachers have important content and pedagogical gaps, and students come from socioeconomically disadvantaged backgrounds. Overall, learning increases as pedagogical models move away from the current practice of formula memorization. In all three models, students had the opportunity to pursue rich lines of inquiry under guidance from their teachers. It is important to acknowledge that many teachers felt uncertain about how to achieve this shift away from traditional teaching methods. The qualitative evaluation highlights that a key aspect in addressing this issue was the combination of the more

¹⁷ The evaluation reports under review by the Government contain substantial qualitative analysis that cannot be summarized here. That information is an integral part of the analysis and provides key insights that will properly contextualize the results and enable lessons to be drawn and policy recommendations made.

TABLE 3

Argentina: Standardized Changes in Learning between March and November 2009

		Math for All	Control		
Modules	Buenos Aires*	65	31		
	Tucuman	33	25		
	Arithmetic*	19	14		
	Geometry	12	12		
	Measurement	7	7		
	TOTAL*	44	25		
		CTC	Control	PAC	Control
Modules	Buenos Aires	66	43	54	43
	Tucuman	51	44	61	44
	Identification	19	15	18	15
	Explanation	12	12	18	17
	Functional Use*	23	16	21	16
	TOTAL	55	43	64	47

Source: IIPE/UCUDAL, 2009. *The difference between treatment and control is statistically significant.

traditional teacher training with continuous individual and group tutoring of teachers.

Based on the results of the economic analysis of the pilot, which revealed that PAC was more cost effective than CTC, PAC will be brought to a national scale through a Bank-financed operation. However, given the short timeframe of the pilot, the experimental application of the CTC model will be continued in 200 primary schools. Also *Math for All* will be scaled up to benefit students throughout the country.

Enseña Chile.¹⁸ While Chilean students have improved their performance in international evaluations and are generally among the top performers in Latin America, their achievement is well below the level of developed countries and low in absolute terms.¹⁹

Chile's poor learning outcomes are even more worrisome given that the country has one of the largest achievement gaps between high and low income students, and is among the countries with the highest between-school variation in student performance in PISA 2006, with most of this difference explained by the students' socioeconomic factors.

One way to improve the learning outcomes of Chilean students, especially in the most deprived areas of the country, is by improving teacher quality. While education policy cannot be expected to solve prevailing socioeconomic problems, evidence suggests that three consecutive years of high-quality teachers can help close the achievement gap associated with students' socioeconomic backgrounds (Hanushek, 2002; Hanushek et al. 2005). Given that teachers assigned

¹⁸ This section reports work on the teacher quality agenda of the Education Division. See Alfonso, Santiago and Bassi (2010) for details. See www.ensenachile.cl

¹⁹ Chile has participated in several international student assessments, including two rounds of the Program for International Student Assessment (PISA), one round of the Trends in International Mathematics and Science Study (TIMSS), and two rounds of the Latin American Laboratory of Assessment of the Quality of Education (LLECE). Chile ranks 39th in math and 37th in science out of 45 countries in TIMSS 2003; and 40th in science, 38th in reading and 47th in mathematics out of 57 countries in PISA, 2006.

TABLE 4

Enseña Chile: Sources and Instruments for Data Collection

Result	Source – Instrument
Student achievement	Standardized tests in mathematics and language for 7th, 8th and 9th grade students. These examinations are aligned with the national curriculum and allow progress in student performance to be estimated.
Cognitive and intrapersonal abilities	Self-reporting instruments for 9th to 12th grade students. For intellectual abilities this includes verbal and figural analogies. For socioemotional abilities, self-esteem, academic self-efficacy, social abilities and meta-cognitive abilities are measured.
Socioeconomic background	Student and parent questionnaires. Information collected also includes topics related to expectations, motivation, study habits, school attendance, and academic background.
Teacher characteristics	Teacher questionnaires on academic background, perceptions on the education center, and courses currently responsible for.

to the most deprived areas are generally the least qualified, deploying more qualified teachers to such areas would give much room for improvement.

Enseña Chile (ECh) places recent, outstanding university graduates as teachers in schools located in the most vulnerable rural and urban areas of the country. Based on the Teach for America (TFA) model, ECh's objective is to impact student academic achievement and aspirations.²⁰ The beneficiary schools were selected based on their commitment to ECh's mission, service to low income communities, underperformance in national learning assessments, agreement to periodic evaluations, teacher shortages, and geographical region.

The Bank has collaborated with ECh by supporting the design and implementation of a quasi-experimental evaluation of the program. The evaluation estimates the impact of ECh teachers compared with traditionally certified teachers in the following dimensions: stu-

dent achievement using value-added measures, student intellectual and intrapersonal abilities, student behavior, school organization, and teacher behavior.

The units of analysis for the evaluation are the classrooms to which ECh teachers are assigned. Comparison classrooms are selected from the same grade, section and concentration area as the corresponding treatment classroom.²¹ Data collection on treatment and comparison classrooms comprises diverse sources and instruments, as shown in table 4.

Although the evaluation is still underway, the baseline data and first follow-up provide some interesting results. For example, ECh teachers use slightly different pedagogical strategies to those used by comparison teachers, including when compared to novice teachers. ECh professionals tend to structure their class more often around questions and answers and make more use of computers in class.

²⁰ TFA has been in place for more than 20 years in USA. It recruits and trains outstanding university graduates from all professions to teach in the poorest areas of the country during a two-year period. TFA has been evaluated on several occasions with results indicating positive impacts in student academic achievement. TFA teachers are found to be more effective than traditional teachers in improving student performance in standardized examinations, especially in science and mathematics (Decker, Mayer and Glazerman, 2004; Kane, Rockoff and Staiger, 2006; Xu, Hannaway and Taylor, 2009).

²¹ Two types of comparison groups were used: external, based on academic grade and school characteristics, and internal, using untreated sections at the same grade level in the same schools where a teacher from ECh was placed.

At baseline, there are significant differences of perceptions between ECh and nonECh teachers about the likelihood that their students will graduate if they enter university, and the chances that their students will have access to student loans and/or scholarships, with ECh teachers being much more optimistic. At follow-up, ECh teachers still have higher expectations of their students, feel that a larger proportion of their students are eager to learn, and believe that they have less problematic students in their classrooms.

While it is still premature to speculate on the full effect of ECh teachers on student academic achievement and cognitive and noncognitive abilities, preliminary results seem to suggest that ECh-treated schools have made greater gains in Spanish and Mathematics test scores, as well as in noncognitive abilities such as self-esteem, self-efficacy, intellectual and meta-cognitive abilities. One could expect these effects to help improve performance in other subjects in the future. The forthcoming analysis will provide a fuller picture of the effect of ECh corps members on student achievement, cognitive and noncognitive abilities, and a wide array of other measures, as well as the heterogeneity of the impacts and their effect over time.

The Importance of First Experiences: Moving from School-to-Work. A key rationale for spending public resources on education, beyond its intrinsic value, is that it prepares students to enter the labor force and become citizens of the future. The initial transition from school to the labor market provides key information about the relevance of a young person's human capital in obtaining employment, and has lasting consequences on the career paths of those entering the labor market.²² The importance of this stage in the life cycle led the Bank to define School-to-Work Transition (STW) as one of the four pillars of the Bank's Education Initiative. There is little knowledge about STW in the region, about what affects entry into the

labor market, or about which skills are demanded by good employers at entry-level positions. The Bank has an ambitious and innovative research agenda on these issues. Here we report the salient findings on how cognitive and noncognitive skills affect labor-market performance in the first stages of the working life cycle, and how education is related to those skills in our region. We also include a box on new research about the sort of skills firms are looking for, from the forthcoming book *Skills for Good Jobs*.

Influence of Cognitive and Noncognitive Skills in School-to-Work Transitions.^{22a} Extensive international evidence shows that both cognitive and noncognitive skills affect the academic achievement and labor market development of individuals (Heckman, 2008; Urzúa, 2009). Almost no study, however, analyzes their incidence in the School-to-Work (STW) transition (Urzúa, 2009). For Latin America, the evidence is even more limited, little is known about which skills help young people get a good job after school or which skills are demanded by good employers in the region.

To contribute to closing this knowledge gap, the Bank developed the Employment Dynamics of Young People Survey (EDYPS) in Chile in 2008 and in Argentina in 2010. The survey targets 25 to 30-year-old youth and includes questions that allow the reconstruction of their entire educational and labor market trajectories. Most importantly, it also includes a battery of questions to measure four cognitive and noncognitive skills, singled out by the international literature as important for good labor-market performance.

Bassi and Galiani (2010) assess the incidence of cognitive and noncognitive skills on labor-market performance as measured by labor earnings using the data of Chile. When measures on cognitive and noncognitive skills are included in the earnings equations—without other control variables like education,

²² For a discussion on the importance of initial labor market experiences, in particular in a time of crisis, see Oreopoulos, von Wachter and Heisz (2008).

^{22a} This section is based on papers by Bassi and Galiani (2010) and Bassi and Urzúa (2010). Note also that the cognitive and noncognitive skills measured here are the same as the ones used in the evaluation of *Enseña Chile*, reported above.



parental background or socioeconomic class—the total effect of these skills can be assessed.²³ In men, auto-efficacy and social ability cause the greatest effects, suggesting a significant influence of noncognitive abilities. For women, auto-efficacy also produces the largest effect, with an increase of one unit raising wages by 10 percent. These results confirm the notable importance of noncognitive abilities in the Chilean youth labor market. When education is taken into account, the effects that remain statistically different from zero are those of noncognitive skills, particularly auto-efficacy (for both genders) and social ability (only for men), again pointing at the important role of socioemotional abilities.

With the same database, Bassi and Urzúa (2010) study the role of education in the formation of cognitive and noncognitive skills, estimating the production func-

tions of these skills. Preliminary results clearly show the importance of education in reporting higher levels of skills. In addition, vocational secondary education seems to be linked to higher noncognitive skills. The data also shows an interesting pattern for noncognitive skills, a jump around secondary education level, suggesting that secondary education plays a special role in the development of such skills. For cognitive skills, the jump appears among those with a university education.

Research on the Transition from School to Work in Latin America. The Bank is producing a book that it hopes will achieve better links between skills gained during school and college and employers' demands (Bassi et al. forthcoming). Here we report preliminary findings from a survey about what skills were considered most relevant by employers when hiring work-

²³ In other words, schooling is an endogenous variable that is also affected by the cognitive and noncognitive skills, so removing the conditioning on schooling would lead to estimates of the total effect of cognitive and noncognitive skills on wages (direct effect plus the indirect effect through schooling).

ers under 25 years of age for entry-level positions such as cashier, supermarket shelf stocker, and receptionist, among others. The Employers' Survey of Demand of Skills (ENEHD), conducted in Argentina, Chile, and the State of São Paulo in Brazil, includes a sample of over 1,100 establishments in the automotive, hotel, banking, large-scale retail food, and food-processing industries.

Several interesting patterns emerge from the data. The first has to do with the growing importance attributed by employers to noncognitive skills such as motivation and attitude toward work, accountability, and commitment. The second highlights a strong perception of huge gaps between the skills that employers are looking for and those offered by recently graduated job applicants.

Figures 21 and 22 show the demand for cognitive and noncognitive abilities by sector. Regarding the former, language and communication skills, and critical thinking are consistently ranked highest on the wish list by firms. Interestingly, mathematical skills are not ranked as high. As for noncognitive skills, the sectors which rely on direct contact with customers (retail, hotels and banks), unsurprisingly rank customer service the highest, with responsibility and commitment also showing up as very relevant.

FIG. 21
Demand for Cognitive. Abilities by Sector

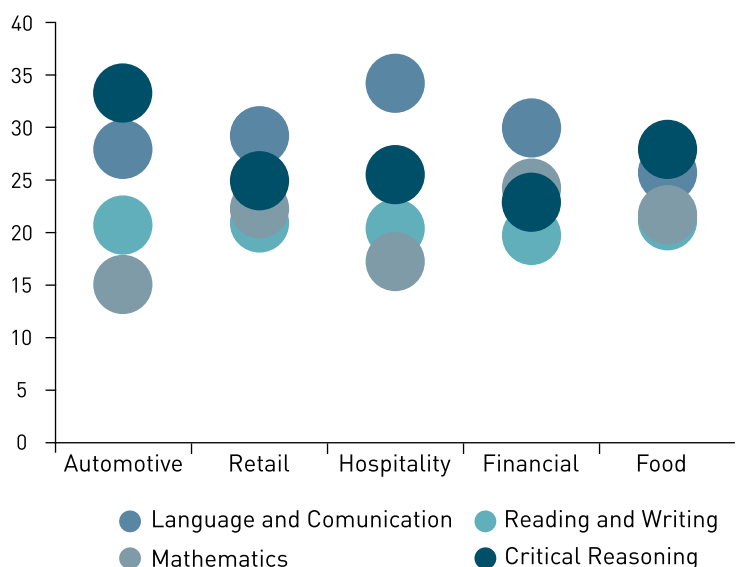


FIG. 22
Demand for Noncognitive. Abilities by Sector

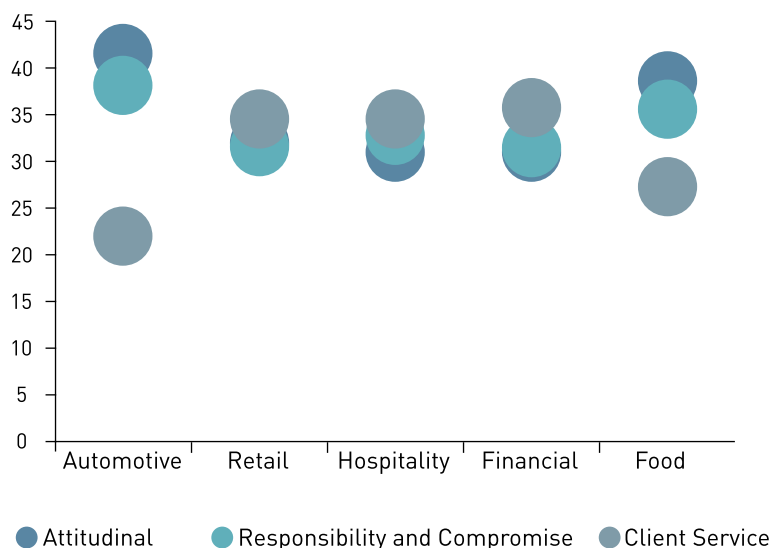
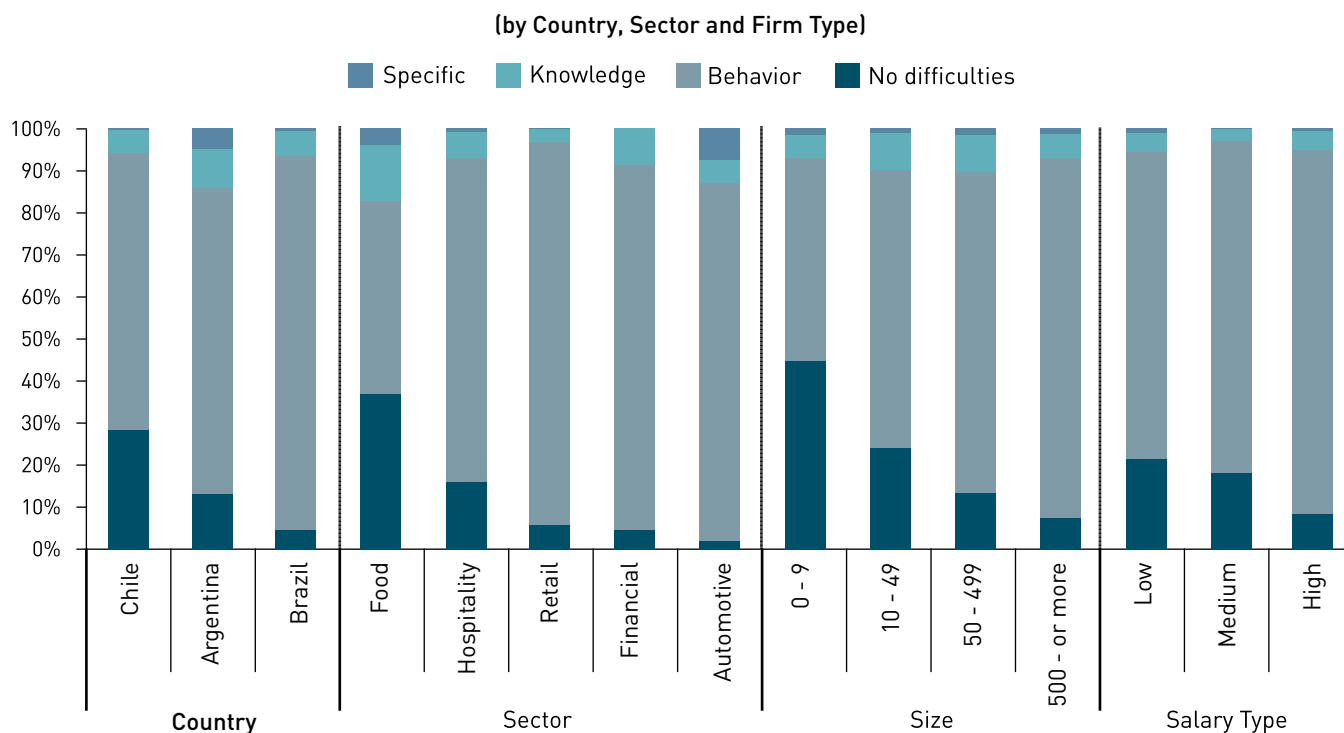


FIG. 23
Constraints to Finding Skills in the Labor Market



Source: Encuesta de Demanda de Habilidades. BID (2010)

Finally, figure 23 shows the difficulty employers have on finding the abilities they demand. Noncognitive skills (behaviors and attitudes) are reported as the most difficult to find, with 80 percent of firms in Brazil having trouble to find people with the adequate noncognitive skills. Interestingly, this pattern appears repeatedly throughout different countries, sectors, firm sizes, and salary levels. Among the most productive firms (i.e., the largest and those that pay higher wages), 80 percent also report finding it hard to hire people with those characteristics. Only the food-processing sector and smaller firms (many of which are in that sector), report less difficulty in finding the necessary skills.

The forthcoming book will provide a complete analysis of firms' demands, as well as policy recommendations to address these issues.

C. IMPROVING THE FUNCTIONING OF LABOR MARKETS AND EXTENDING COVERAGE OF SOCIAL SECURITY

When does Job Training Help the Most? A top concern for most people throughout Latin America is related to the labor market, be it employment, unemployment, wages or job stability. Governments are equally concerned, and creating good jobs has been consistently on top of national and regional agendas. In a world marked by globalization and rapid technical changes, a major challenge for policymakers is how to implement policies that help those with only basic or average skills enter the labor market.

To improve the functioning of the labor market, the Bank has financed a set of projects that tackle such

areas as labor intermediation (to ease the job-search process and facilitate a successful employer-employee match); job training for active workers (particularly in micro, small and medium firms); the promotion of occupational competency standards; and job training for unemployed or underemployed workers, particularly young adults.

The Bank has supported demand-driven training programs, where the training content is decided by employers. Either firms provide the training directly (in-firm training), or training institutions partner with them to develop courses that will meet current or future employer demand. These models contrast with traditional supply-driven training, where the training institution (usually a publicly funded agency) determines the content and type of courses, usually with poor coordination with the productive sector.

While the Bank is working on an array of topics that range from expanding social security coverage to implementing innovative firm surveys, its involvement in training and intermediation projects continues.²⁴ Here we present ongoing evaluations that will improve knowledge about the type of job training that works best. In addition, the design of an innovative evaluation in Bolivia is described in box 4.

Long-Term Partnerships in Improving Labor Market Results: Job Training in Mexico. The Mexican Ministry of Labor (*Secretaría del Trabajo y Previsión Social*), through the National Employment Service (SNE), has been one of the pioneers of the promotion of active labor-market policies (ALMP) in the region. These policies were introduced as a response to the challenges faced by the unemployed and underemployed in the aftermath of the 1982 economic crisis, and have been maintained in a comprehensive, national labor-policy framework.

One of the most important ALMPs in Mexico has been its training program for the unemployed (at first called Probecat, then Sicat and nowadays Bécate (*Becas de Capacitación para el Trabajo*)). The program operates in every state and is funded by the SNE and the private firms where the training takes place. Beneficiaries receive a stipend while taking part in training courses. The most important modality initially was school-based training, in which course content was decided by the program administrators. Another has been on-the-job training, where private firms committed to hiring at least 70 percent of trainees in order to continue to participate in the program.

The program has a long history of impact evaluations (Cruz-Aguayo, 2007). One of these (STPS, 1995) compared the results of the two largest modalities, and concluded that school-based training did not help participants get better jobs. This finding has been confirmed in other evaluations, so that modality was cancelled in favor of on-the-job training, which has consistently shown positive results.

In spite of a plethora of evaluations, there are still key knowledge gaps about the impact of the program. In particular, all evaluations have a nonexperimental design so the pervasive issue of selection-on-unobservables is present. Most importantly, impacts have been measured only in the short run, on average six to twelve months after completing training, so there is no evidence about medium- to long-term impact. This is a major shortcoming, as project rules require 70 percent of participants to be hired at project completion, so although short-term impacts are likely, the relevant question refers to the long-term effects of the program. Another drawback is that comparison groups are selected *ex-post*, while ideally they should be selected *ex-ante*. In the mid-1990s a group

²⁴ Ibararán and Rosas (2009) report on evaluations done on similar projects funded by the Bank. They report the results of two evaluations with an experimental design (the Dominican Republic and Colombia), one with a natural experiment (Panama) and four nonexperimental evaluations (Argentina, Chile, Peru and Mexico). Overall, in contrast to the evidence for developed countries, the results suggest that employment effects range from modest to meaningful—increasing the employment rate by about 0 to 5 percentage points—although higher and more significant for some groups, such as women in Colombia and Panama—with an impact of 6 to 12 percentage points in the employment rate. In most cases there is a larger and significant impact on job quality, measured by getting a formal job, having a contract and/or receiving health insurance as a benefit.

of unemployed workers interviewed in the labor-force survey was selected as a comparison group and followed in order to do a comparison. Currently, the Bank is partnering with STPS and CONEVAL (the National Evaluation Council in Mexico) to strengthen the eval-

uation of *Bécate*. In particular, short-term evaluations of repeated cohorts of trainees will be conducted for the period 2008-10, allowing researchers to examine how the project's impact has evolved during the 2009 crisis and economic recovery of 2010.²⁵

Box 4

Evaluating the Employment Programs in Bolivia: a Random Encouragement Design*

The Ministry of Labor, Employment, and Social Security (MTEPS) of Bolivia is joining efforts with the Bank to design and implement a program to further develop the country's active employment policies. The program will finance the expansion of the Public Employment Service (SEP, by its Spanish acronym) and the creation of an on-the-job training program (OJT) for adults, and the corresponding monitoring and evaluation system.

Every firm and job seeker can go to the SEP to find a job. The likelihood of a match will depend on the characteristics of job seekers and the type and number of vacancies registered. For job seekers, the service is provided through a one-stop window that refers them to the most appropriate support area or service, including labor intermediation services, a program to train youths and help them enter the labor market (MPED), OJT, and other services.

Currently, one of the main challenges of the SEP in Bolivia is the lack of vacancies for good jobs. Therefore, the success of the program relies on broadening the range of job opportunities and raising the profile of job seekers, to attract also skilled labor and vacancies in high productivity jobs.

The program will also support the development of an integrated monitoring system for all the services provided by the SEP, including training programs (MPED, OJT). The system will monitor two main outputs: the number of job seekers covered by the SEP, and the number of vacancies posted at the SEP.

To measure the impacts of the renewed SEP it is necessary to compare users and non-users in relevant outcomes such as employment status, duration of unemployment, among other characteristics. Given the universal nature of the SEP, it is not possible to design an experimental impact evaluation of its services. To overcome this limitation, the proposed evaluation strategy will use random encouragement to use the SEP, encouragement that will be given randomly to potential users. Specifically, among the households currently in the Bolivian labor force survey, 50 percent will be selected randomly and exposed to an encouragement to use the SEP services (for example, a card to add credit to a cell phone given after using the SEP offices). As long as the encouragement has the desired effect of increasing likelihood of attending the SEP offices (i.e. that the share of people that go to the SEP office is larger for the group that received the encouragement than for those that did not), and random exposure is followed, this method will allow to have a rigorous impact evaluation of the SEP services. This evaluation will not only provide with feedback as on the effectiveness of the interventions, it will also help to strengthen the institutional capacity of the Ministry, as planning and supervising impact evaluations is a fundamental tool for labor policymakers.

* For an explanation on this methodology, please refer to the definition of Randomized Promotion in the Glossary of Impact Evaluation Terms, based on Gertler et al. (2010), included in DEO 2010, starting at page 255.

²⁵ The evaluations are underway; results will be presented in the 2011 DEO.

Different Training Modalities in Panama. In the last decade Panama's Ministry of Labor (Ministerio de Trabajo y Desarrollo Laboral, MITRADEL) has undergone an important institutional shift in order to implement active and passive labor-market policies that are effectively linked with the productive sector.

With the support of the IDB, in 2001 the Panamanian System for Training and Employment (SIPCE) was established within MITRADEL and implemented two programs, PROCAJOVEN and PROCAMYPE. The course content of these programs was demand driven (i.e., decided by employers rather than by those supplying the training). In 2006, a legal reform transformed the national training institution INAFORP into a new institution called INADEH, and all training activities were required to be managed by it. Hence, both programs under the SIPCE were transferred to INADEH, which follows a supply-driven model largely delinked to the productive sector. The MITRADEL created two programs to promote labor-market insertion that fall outside the realm of INADEH: the Program to Support Labor Insertion (PAIL) in 2006 and *My First Job* in 2009.²⁶

PROCAJOVEN offers on-the-job training for unemployed youth in two modalities. The first one, called the insertion modality, focuses on youth aged 18 to 29 that satisfy the minimum level of education required by each position; it consists of up to two months of training in basic skills, specific skills for a job or craft, and a two-month internship in a firm. The second one, called the transition modality, focuses on secondary-school educated, first-time job seekers between the ages of 16 and 23 who are not enrolled in a program; it consists of six weeks training in basic skills and a three-month internship in a firm. PAIL is targeted nationwide at legal-age, active job seekers already registered in the public employment service of the MITRADEL with the level of education demanded by

each position. It consists of a one- to three-month internship in a firm with the possibility of gaining a position at the end.

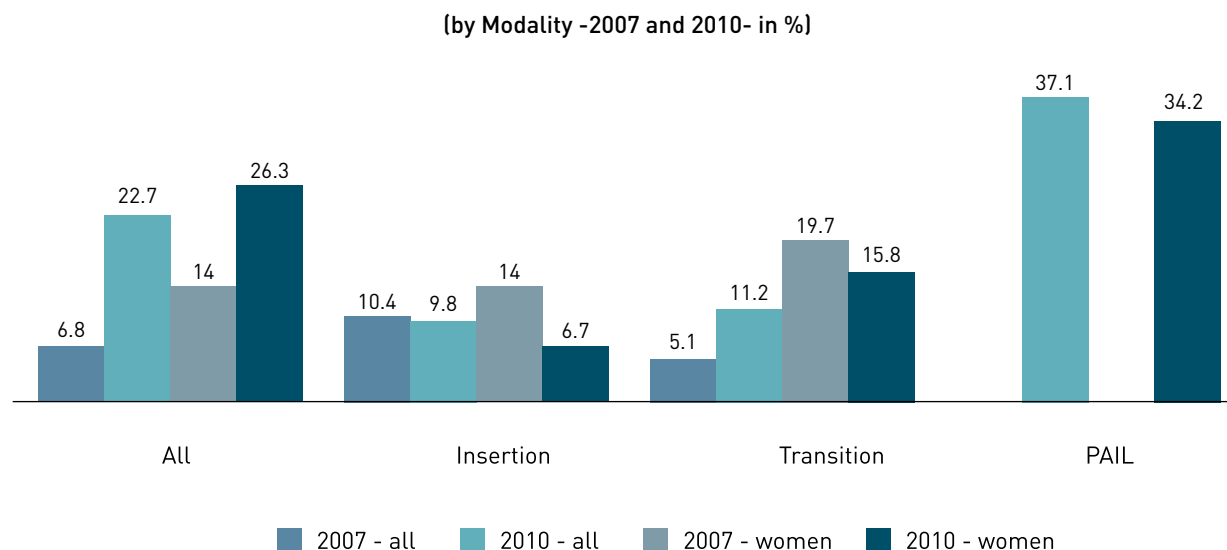
Due to the brief experience with ALMP in Panama, there is only one impact evaluation of PROCAJOVEN. Ibarra and Rosas (2006) used a natural experiment and showed a small impact on the employment status of the beneficiaries of both modalities (insertion and transition). There was a 5 percent rise in the employment rate for the entire sample (47 percent for the treated compared to 42 percent for the controls). This was more significant among women, less so among men. For Panama province there was a significant impact recorded, with 52 percent of the treated gaining employment compared to 42 percent of the control group, with once again women benefiting the most.

Currently, the IDB is conducting an *ex-post*, nonexperimental impact evaluation of the two modalities of PROCAJOVEN and PAIL. The universe for this evaluation was formed by the 630 participants in both programs in 2008 as the treatment group, with neighbors of participants as a comparison group. The final sample contains 429 participants (194 in insertion modality, 51 in transition, and 184 in PAIL) and 429 nonparticipants.

Although the data has limitations such as its small sample size and concerns about selection bias, a preliminary analysis was performed using propensity-matching techniques that sheds interesting results. Overall there is a large employment impact of 22 percent that, again, is significant for women (26 percent) but not for men. However, the most interesting result comes from comparing the different modalities. The impact of PAIL is enormous (37 percent) while the impact of insertion and transition is not significantly different from zero (although the values are similar to those reported by the 2007 evaluation, and the samples in the 2007 evaluation are quite small).

²⁶ What follows refers to PROCAJOVEN and PAIL. PROCAMYPE is a program to train active workers in SMEs, while *My First Job* is very similar to PROCAJOVEN's insertion modality.

FIG. 24

Impacts of Job Training in Panama

The apparently large impact of PAIL may be influenced by the fact that the program obliges firms to hire 80 percent of beneficiaries. However, since the survey was done 18 months after the program ended, so it is unlikely that the total impact is due to that requirement. In any case, it would be useful to do longer-term evaluations of this type of program. When short-term insertion is guaranteed by the operating rules of the program (such as in PAIL or in *Bécate* in Mexico as discussed above), it is of utter importance to do long-term follow ups. Nonetheless, the available information shows that in-firm training produces better results than training by institutions followed by internships.²⁷

The main message to be learnt from this evaluation is that the programs need better information systems built in at the design stage. In particular, they need (1) a monitoring system that allows registry information (such as labor history) to be gathered to form a baseline, and compliance with the program's eligibility criteria to be checked; (2) information gathering during the program, to allow for adaptation in response to any possible changes (e.g. in legislation); and, (3) an expansion of the time horizon for follow-up surveys, to evaluate the medium- and long-term impacts of the program. This can only be done by rigorous gathering of monitoring information.

²⁷ The very preliminary results from the evaluation of the Mexican training programs described above point in this direction as well.

D. FOSTERING SOCIAL INCLUSION

Gender and Diversity: Measuring the Results of our Work to Promote Equality. The IDB has a long-standing commitment to promote equity in the region, reaffirmed in the Social Sector Strategy developed as a mandate of IDB-9. Examples of its efforts include the creation of a Multi-donor Gender and Diversity Fund in 2009 (IDB, 2009) and the recent approval of the new Operational Policy on Gender Equality in Development (IDB, 2010) that emphasizes gender mainstreaming and direct investment in strategic areas for gender equality and the empowerment of women.²⁸

A key feature of the current work on Gender and Diversity is the determination to measure the results of our work. Here we report on some strategic projects where the Bank is testing new approaches that will provide regional policy makers with the key elements they need to design and implement high-impact projects in areas such as violence against women, teenage pregnancy, youth programs and political empowerment of women. By its nature our work covers various issues; however our determination to measure results and learn from them is common to all.

Building the Capacity of State and Local Actors to Respond to Violence Against Women.²⁹ The United Nations defines violence against women (VAW) as “any act of gender-based violence that results in, or is likely to result in, physical, sexual or mental harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life.” VAW is endemic in most regions of the world, but is often exacerbated where high levels of social and political violence are common or increasing (UNDP, 2009), as is the case in much of Latin America and the Caribbean (LAC). For example, the World Health Organization (WHO), in a multicountry study of intimate-partner violence using

standardized data-collection techniques, found that 61 percent of women living in rural areas of Peru have suffered physical violence at the hands of an intimate partner at some point in their lives; the corresponding percentage for Brazil was 33.8 percent (WHO, 2005).

The extent of the problem and the systematic low reporting of incidents have led almost all countries in the region to formulate national plans to address VAW. Unfortunately, these plans are plagued by a paucity of evidence of what approaches—especially at the community level—are successful in reducing the prevalence of violence and improving the quality of life for women affected by violence.

The IDB was the first multilateral development bank to tackle the issue of violence against women. Two technical cooperation projects in the mid-1990s financed the establishment of local treatment-and-prevention networks (following a model pioneered by the Pan-American Health Organization) and the piloting of a number of small-scale initiatives to create shelters and emergency hotlines, design social communication campaigns, and develop national violence prevention plans. Later in the 1990s, the IDB produced two books, *Too Close to Home: Domestic Violence in the Americas* and *La violencia en la pareja: La cara oculta de la relación* that brought attention to the pervasiveness and impact of VAW in the region. Since this time, most IDB citizen security loan operations have included interventions, although modest in scope, to address VAW.

Despite a long trajectory of work on violence against women, there is surprisingly little evidence available on what approaches best address this type of violence. In fact, a recent 2009 publication by the WHO could identify only two randomized controlled trials (RCT) of community-level prevention interventions in developing countries. A handful of nonexperimental

²⁸ The policy also emphasizes gender issues that disproportionately affect men, boys, and women from different ethnic and racial groups.

²⁹ This section was prepared by Adria Armbrister and Andrew Morrison.

design evaluation studies have shown promising results but these have not yet been replicated with RCT designs. A 2007 article in the *World Bank Research Observer*, (Morrison, Ellsberg and Bott, 2007), that surveyed several VAW evaluation efforts concluded that in the short run, “policy recommendations must be based both on emerging evidence in developing countries (process evaluations, qualitative evaluations, and less than perfectly designed impact evaluations) and on more rigorous impact evaluations from developed countries.”

Responding to the need for evidence-based policy advice, the Bank has designed a Knowledge and Capacity Building Product (KCP), funded by the Gender and Diversity Multi-donor Trust Fund, to measure impact and document some best practices in the prevention of VAW and provision of services to survivors in LAC, sharing this knowledge with civil society and governments. Specifically, the KCP will design and conduct rigorous impact evaluations employing both experimental and nonexperimental design, as well as quantitative and qualitative data-collection methods, where application of each design and method is deemed ethical, feasible and appropriate to program context.

A steering committee of VAW experts to identify for which programs an evaluation plan will be developed, is financed under the project’s activities. The programs selected will include offerings made by a variety of sectors (e.g., criminal justice, health, communication, education) at the national and sub-national level that provide services to women affected by violence, (e.g., one-stop service centers, support groups, and shelters); prevent violence from occurring, (e.g., primary, secondary and tertiary programs that work with young men to change behaviors; batterer treatment programs that target older men; and initiatives

to economically empower women); aims to affect community norms around violence against women, (e.g., television, radio or print-media campaigns); and targets vulnerable groups (e.g., displaced populations, indigenous women, migrants).

The programs chosen for evaluation must meet several criteria. First, they must be well-defined, with clearly communicated goals and operational standards such that the project team can readily identify plausible causal linkages between program components and social effects. Second, they must demonstrate a robust enough client base to allow for sufficient sample size to detect statistical effects of the intervention. Third, the programs must reflect widely accepted approaches to addressing VAW, such that inferences made through the project evaluations might be considered applicable to comparable VAW programs under similar circumstances. Programs with emerging qualitative evidence of success will receive special attention in the selection process. And finally, the cost of implementing an evaluation will be considered.

Sol y Luna: Curbing Teenage Pregnancy in Latin America. Most of the programs aimed at reducing teenage pregnancy in LAC are designed to change behavior by providing information about better outcomes for infants and mothers associated with postponing childbirth until after adolescence, or by shifting adolescents’ time away from sexually risky behavior toward other supervised activities such as school attendance. The *Sol y Luna* (SyL) program in Medellín, Colombia is distinctive in that it has an important component that focuses on providing reproductive health services to teenagers. In SyL, counseling and contraceptives are offered free-of-charge to young women and men at youth-friendly health centers staffed by skilled health personnel.³⁰

³⁰ Programs that focus on changing the behavior of teenagers are labeled “demand-side” interventions, while those that focus on increasing the quantity or quality of services offered by health facilities are labeled “supply-side” interventions. In this context, the purpose of the evaluation is to learn about the effectiveness of including supply-side interventions in programs aimed at reducing teenage pregnancies.



The inception of the SyL program as a pilot intervention in 2006 was technically and financially supported by the Bank; the program is widely regarded in the Latin American region as a good-practice approach to reducing unwanted pregnancies among low-income youth. Evidence-based information about the program's impacts could generate important policy and programmatic options that could be replicated elsewhere in the region.

In order to learn about the effectiveness of combating adolescent pregnancy by supplying youth-friendly reproductive health services, an impact evaluation has been designed with the support of the Bank. The main challenge to the evaluation of SyL is the generation of a credible counterfactual—i.e., what would have been the results for young people had they not participated in the program. After exploring several alternatives,³¹ the evaluation team decided to use an “encouragement design” methodology.³² In this case, those offered the incentive should have a higher participation rate than those that were not offered it. Also, the incentive should be unrelated to the likelihood of pregnancy.

During focus groups, youth highlighted tickets to a recently opened aquarium as the most appealing incentive to visit the health clinic. The evaluation will then proceed as follows: youth will be informed about the SyL services through a call service, with one group randomly informed that they have won a prize (ticket) that can be picked up after the health visit. The treatment group will be comprised of youth who are offered the extra incentive to participate, with some using the health services and some not. The control group will be comprised of youth who are not offered the extra incentive, with some participating anyway and some not. While an initial analysis will consider the impact of SyL on attitudes towards sexual behavior and early

childbearing, a follow-up study will evaluate the impact of the project on sexual activity, adolescent pregnancy and fertility.

Given the age of the subjects of the evaluation, the technical team emphasized the importance of the evaluation design being approved by the public health provider in Medellín (Metrosalud) ethics committee before beginning the evaluation.

E. ADDRESSING YOUTH AT RISK

Music and Life: Music Schools for Youth. The National Music Program for Coexistence (PNMC), created and administered by the Ministry of Culture of Colombia, has for the past seven years created spaces for self-expression, participation and inclusion for young people through music. The PNMC's goal is to improve young people's quality of life through music appreciation and to augment the store of knowledge around traditional music styles.

The PNMC creates and supports music schools for youth in 400 Colombian municipalities, employing at least one music teacher and providing instruction for 15 to 100 students for 10 months a year, two to three times per week. However, the difficult financial, social and political context of the Chocó region has contributed to the slow growth of the PNMC's music schools in this region. The Music and Life Music Schools for At-Risk Youth project (ML), run by a local NGO, the Association for Cultural Research on the Chocó (ASINCH), is designed to reinforce the quality and quantity of instruction; to increase the number of available instruments for students; to support the study of traditional music in these municipalities, and increase coping abilities among PNMC students in 10 municipalities of the Chocó region.

³¹ Random assignment was not an option given that the program had been providing services through universal provision in the City of Medellín since 2009. Using another city as comparison was also not viewed as credible given different trends in services in Medellín. The use of distance to the health clinic as an instrumental variable was viewed as problematic based on previous applications in evaluations of Colombian social programs in urban areas.

³² For an explanation on this methodology, please refer to the definition of Randomized Promotion in the Glossary of Impact Evaluation Terms, based on Gertler et al. (2010), included in DEO 2010, starting at page 255.



In the past two decades, Latin America has seen a surge in the number of programs targeting youth development, including many of these music programs. These are aimed at adolescents and young people between 12 and 21 who are passing through a critical developmental phase, when regulation of behavior and emotions shifts from external agents towards the self. This transition requires young people to establish their own goals and adopt strategies to achieve these goals (Steinberg, 2005). They often need assistance with setting goals, particularly when they are making life choices in the face of tremendous political, social and financial insecurity.

A growing body of evidence recognizes the lifetime benefits of successful self-regulation. Better self-regulation in adolescence is associated with lower rates of delinquency, drug use, sexual risk taking, and ultimately better labor-market outcomes as adults (Cuesta, 2009).³³ Music programs such as ML encourage personal goal setting, self-expression and self-direction, all of which contribute to the development of self-regulatory skills. In PNMC, for example,

students merge local and imported musical genres to create new compositions. Music programs also strengthen planning skills by expecting participants to develop practice regimes for their instrument and work towards group-performance goals.

The Bank is joining efforts with the Ministry of Culture of Colombia to expand and reinforce the PNMC in 10 municipalities of the Chocó region. The program will finance the acquisition of instruments and the hiring of additional instructors, doubling or tripling each school's capacity. The schools will also integrate regular life-skills instruction and community-organizing support for parents of students. The music program will focus on band-based instruction in Chirimía, the traditional music of the central and southern regions of the Chocó. Reflecting the region's demographic profile, the majority of youth participants will be from Afro-descendant populations, with the remainder representing mainly indigenous peoples.

Despite the potential and widespread implementation of similar youth interventions in Latin America

³³ Data from developed countries show that youth who play instruments have higher test scores than youth who never have.

(ranging from sports interventions to arts programming), very few have been rigorously evaluated. The expansion of the PNMC in the Chocó provides a prime opportunity to evaluate the impact of music programs targeted at youth. The evaluation will measure the impact of the expansion of music schools on youth outcomes related to risky sexual behavior, violence, alcohol and/or drug use, school attendance, and self-regulatory skills.

To conduct the impact evaluation, a randomized experimental design will be implemented to estimate the causal impacts of the music program on the outcomes of interest. Participants will be selected through the generation of a registry of all individuals enrolled in a local primary or high school who are between the ages of eight and eighteen and interested in participating in the music school program. Program participants will be chosen by public lottery and semi-annual surveys will be conducted for 12 to 16 year old participants and their control-group counterparts, selected from the registry. The control group will be ineligible for participation in the PNMC program during the three years of the evaluation. Subsequent vacancies for all age groups will be filled by interested students who will be assigned to a waiting list following the lottery selection. The evaluation's focus on self-regulation is of particular importance for Latin America, given the region's high levels of adolescent pregnancy and youth violence.

PROLEAD: Promoting Women's Political Empowerment. The Program for the Support of Women's Leadership and Representation (PROLEAD) seeks to advance women's political empowerment and gender equality by increasing their ability to access and participate in decision-making positions and by improving the policy and institutional environment so that women may fully contribute to the political life of their countries.

Women's political participation has profound positive and democratic impacts on communities, legislatures, political parties and citizen's lives. For instance, a 2008 survey by the Inter-Parliamentary Union,

based on surveys of parliamentarians from 110 countries, found that female legislators emphasize different priorities from their male counterparts. According to this survey, women tend to prioritize social issues such as childcare, equal pay, parental leave and pensions; concerns such as reproductive rights, physical safety and gender-based violence; and development matters such as poverty alleviation and service delivery (Inter-Parliamentary Union, 2008). Other results indicate that the presence of more women in legislatures is positively correlated with enhanced perceptions of government legitimacy among both men and women (Schwindt-Bayer and Mishler, 2005). Interestingly, female political leadership has also been found to lead to an increase in public investments such as health, education and provision of clean water (Chattopadhyay and Duflo, 2004; Clots-Figueras, 2009; and Funk and Gathmann, 2008).

While the case for promoting women's political participation is clear, there is still a long way to go in advancing the role of women in politics and civil society. Globally, the rate of female representation in national parliaments has grown (from 13.1 percent at the end of 1999 to 18.6 percent at the end of 2009), but is still remarkably low. This same trend has been experienced in LAC, where the number of women in parliament grew from 7 percent in 1990 to 19 percent in 2009. Remarkably, several countries in the region—Chile, Jamaica, Argentina, Trinidad and Tobago, and recently Brazil—have elected a female president or prime minister in the last few years. While there is substantial inter- and intra-country variation, women are still underrepresented in all countries in the region. In Argentina, Costa Rica and Ecuador, for example, women hold 40, 38 and 32 percent of the legislative seats respectively, whereas in Panama, Brazil and Chile, women hold only 8, 9 and 15 percent respectively. Indigenous and afro-descendant women remain largely absent from decision-making positions, even in countries with a high indigenous and afro-descendant population. Finally, progress has been volatile, as gains achieved in one electoral period have been suddenly lost in the next (Llanos and Sample, 2008).

The Bank took on the challenge of enhancing women's capacity and opportunity to participate in decision-making in LAC in 1998, the year in which it launched PROLEAD. This initiative has focused on three main lines of work. First, it provides grants and technical assistance to nongovernmental organizations, networks, women's coalitions, research centers, universities, and public institutions that implement projects and work to develop women's leadership in the region. Second, it promotes capacity building, identification of good practices and lessons, as well as the development networks of organizations connected to the program. Lastly, it supports communication and dissemination of information related to women's empowerment and gender equality. PROLEAD has awarded over US\$4 million in grants to more than 120 organizations, many of them devoted to working with indigenous and afro-descendant women.

In the current phase of the program, PROLEAD is pursuing a new grant-making strategy which will limit the scope of the interventions to four to five countries holding elections in the next two years and allow for a more focused and accurate definition of indicators and measurement of outcomes. One of the core components of the current phase of PROLEAD is a rigorous impact evaluation of its intervention models.

An evaluation has been designed to assess the impact of two key intervention models funded by the initiative: (1) media campaigns to promote women's participation in politics; and (2) training of journalists, or people working in the media sector, to promote less gender-biased coverage of the elections.

The first of a series of impact-evaluation exercises will be conducted in Guatemala, where general and municipal elections are scheduled for August 2011. A randomized design has been developed in which Guatemalan municipalities will be randomly assigned to four groups of ten municipalities each: one in which only the media campaigns will be delivered; one with only the training of journalists; one in which both interventions will be applied, and one which will serve

as a control group. This strategy will allow researchers to study the impact of each single intervention and whether there is an additional impact when interventions are delivered at the same time in the same place. In addition to electoral outcomes, such as numbers of women registering to vote (electoral participation is voluntary) and numbers of women elected in national and municipal elections, a survey of perception and attitudes towards women's participation in politics will be conducted before and after the elections. This exercise represents the first rigorous evaluation of PROLEAD interventions, thus helping the Bank to design more effective policies to enhance women's leadership and representation.

Summing-up. Bank efforts to enhance the evaluation of social sector programs in 2010 were two-fold: first, they focused on closing very specific knowledge gaps in subsectors where a longstanding tradition of support to the region exists, and in which broader assessments had been elaborated in previous years; second, they put emphasis on evaluating subsectors in which Bank involvement is more recent and in which, consequently, general knowledge about effective interventions is more limited. For instance, in the case of early childhood development, where empirical evidence already exists on successful interventions to assist mothers and young children, Bank evaluations focused concretely on identifying adapted low-cost delivery mechanisms and assessment instruments that are feasible at scale, but still remain effective and accurate. In turn, in the case of gender and diversity projects, where there is little evidence on the approaches that best address social exclusion and violence, Bank evaluations concentrated on measuring the impact of innovative interventions in order to start documenting best-practices in this subsector.

Overall, the chapter demonstrates the compromise of the Bank both in advancing and generating knowledge that fits the needs of the region in long established and emerging areas.





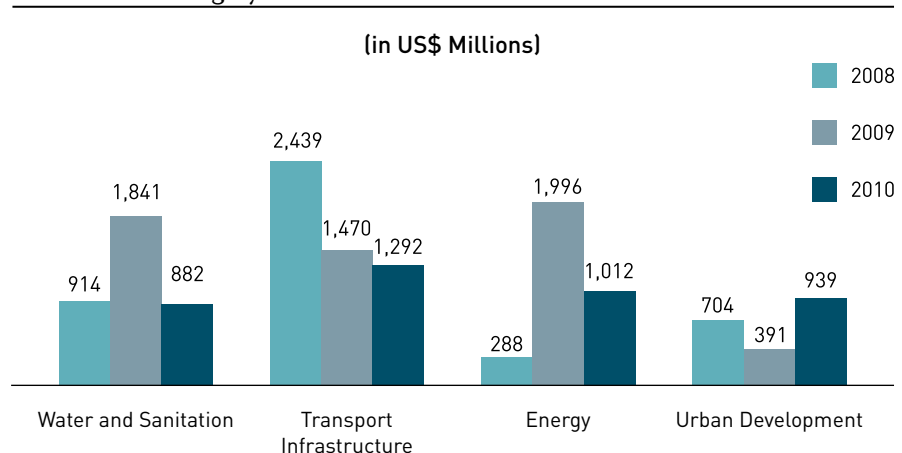
INFRASTRUCTURE FOR COMPETITIVENESS AND SOCIAL WELFARE

Latin America and the Caribbean (LAC) suffer from low levels of infrastructure compared to many countries in Asia and other regions of the world. This widening infrastructure gap accounts for about a third of the disparity in Latin America's output relative to successful East Asian countries. Lower power generation capacity, lagging telecommunication assets, and inferior road networks have contributed to the region's decline in terms of output per worker. Lack of adequate infrastructure has lowered productivity and increased production costs, reduced profitability and discouraged private investment. LAC needs to significantly increase investments in this area to help close its productivity gap, increase its competitiveness, foster economic growth, capitalize on opportunities to increase international trade and contribute to poverty reduction.

The need for infrastructure investments in LAC has placed infrastructure as one of the key priority areas of IDB-9. The sectors in this institutional priority include: energy and renewable energy, transportation, water and sanitation, and urban development. In 2010 Bank lending in these sectors was substantial, with 50 loans approved totaling US\$4,1 million and 35 percent of total 2010 lending. Overall, however, both lending volume and number of approvals declined between 2009 and 2010. The transport sector had the high-

est lending levels, followed by energy and urban development (the only sector in which lending was greater than the previous year). Projects in the water and sanitation sectors had the lowest amount of lending but the largest number of approvals. The 50 projects under this institutional priority were evenly distributed across the four country groups in which the Bank works.

FIG. 25
Infrastructure for Competitiveness and Social Welfare.
Total Financing by Sector



This chapter begins with a follow-up on the discussion from the 2008-09 DEO regarding the need to include an *ex-post* cost-benefit analysis in the impact-evaluation plans for infrastructure and urban development operations.

It presents the status of *ex-ante* cost-benefit analysis, the inclusion of projected economic benefits as indicators in the project's results matrix, and the status of *ex-post* cost-benefit analysis.

FIG. 26
Infrastructure for Competitiveness and Social Welfare.
Total Number of Projects by Sector

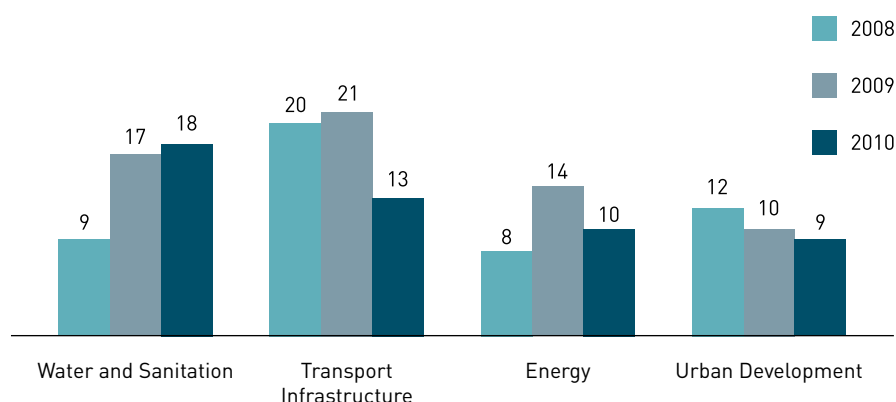
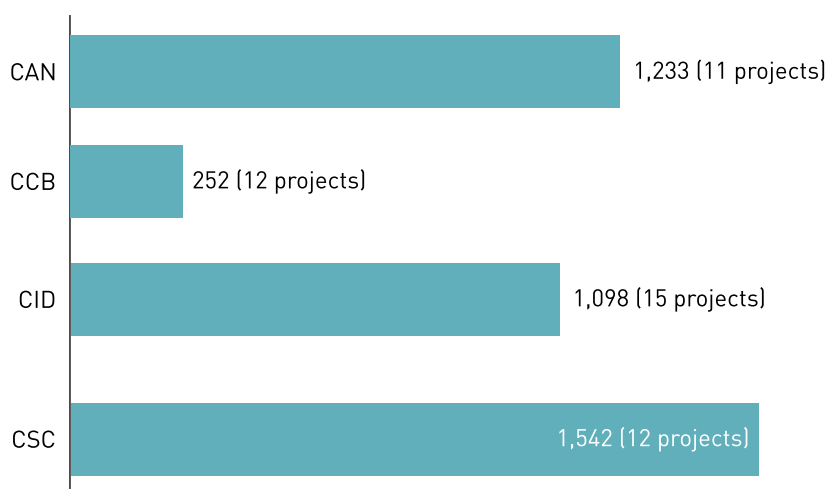


FIG. 27
Infrastructure for Competitiveness and Social Welfare.
Regional Distribution

(in US\$ Millions)

CAN Country Department Andean Group
CCB Country Department Caribbean Group
CID Country Department Central America, Mexico, Panama and Dominican Republic
CSC Country Department Southern Cone



The chapter then provides examples on what the Bank is doing to learn about the development effectiveness of its interventions in urban development, water, transportation, and energy. Most of the impact evaluations in these sectors are just commencing and thus have no results to report at this stage. Examples were selected from each sector and focus primarily on evaluation plans that contain innovative approaches and/or contribute to closing a knowledge gap.

A. MEASURING REALIZED ECONOMIC RETURNS TO INFRASTRUCTURE AND URBAN DEVELOPMENT PROJECTS

Economic analysis appraises the project's contribution to the economic welfare of the country where the development intervention will take place. For interventions in the infrastructure and urban-development areas, cost-benefit analysis is the preferred methodology, since expected economic benefits can usually be quantified.

When the cost-benefit analysis of a development intervention is done *ex-ante* it serves as a tool to determine whether the intervention should be undertaken, by estimating if the projected economic benefits to the country will outweigh the estimated costs. A cost-benefit analysis done *ex-post* measures the project's performance and realized contribution to the economic development of the country. It also identifies the critical values in the design and execution of the project that determine its success or failure and provides valuable lessons and best practice for future operations (Harberger and Jenkins, 1992).

At the IDB the socioeconomic feasibility of most of the infrastructure and urban-development projects is determined using an *ex-ante* cost-benefit analysis (CBA). In 2010, 64 percent of projects approved in these sectors used a cost-benefit analysis for part or all of their components. Urban-development and transport had the highest percentage of projects with this analysis.

An *ex-post* rate-of-return calculation requires that both the project's costs and benefits be monitored and measured during project execution. Tracking project costs during project implementation is standard practice in IDB projects, and the new Project Monitoring Report will help to better track if outputs are realized as planned in terms of cost and time. Monitoring and measuring project benefits, on the other hand, is not standard practice. Although this practice has been increasing in the last two years, as a result of the Bank requirement to include a results and Development Effectiveness Matrix (DEM) in every project, room for improvement still remains. A review of the results matrix of projects approved in 2010 revealed that 62 percent of infrastructure and urban develop-

TABLE 5

Infrastructure and Urban Development Projects Approved in 2010 with Cost-Benefit Analysis*

Sector	Number of Projects Approved	Number of Approvals with CBA	Number of Projects with all Economic Benefits Used to Calculate the <i>ex-ante</i> ERR Included in the Results Matrix	Number of Projects with ERR as Indicator in Results Matrix
Water and Sanitation	13	6	4	
Transport	8	6	3	
Energy	7	5	4	
Urban Development	5	3	2	1
Total	33	21	13	1
*Some or all components.				

ment projects with an *ex-ante* cost benefit analysis included indicators to measure the economic benefits included in the *ex-ante* calculation. Projects in the energy sector had the largest percentage of projects (80 percent) with results matrices including indicators to track all the economic benefits used in the *ex-ante* economic rate-of-return (ERR) estimation. Projects approved in the water and sanitation and urban development sectors followed with 67 percent of approved projects including these indicators in their results matrices.

Given the outcome indicators included in the results matrix, the IDB measures the level of success or failure of an infrastructure or urban-development project based on the degree to which the economic benefits projected *ex-ante* are achieved, irrespective of the cost involved to achieve them. This is reflected by the fact that results matrices do not include *ex-post* ERR, net-present values (NPV) or cost-benefit ratios (C/B) as indicators. For projects approved in 2010, for example, only one project had result matrices containing an *ex-post* ERR as an indicator.

Measuring only the benefit side does not capture the development effectiveness of a project. Projects can achieve all their outcome targets but generate welfare losses if economic costs outweigh benefits. Consequently, calculating the ERR, NPV or C/B ratio, using the economic costs and benefits that actually materialized, is critical to measuring the impact of the project, and thus makes the inclusion of an *ex-post* calculation as an indicator in the results matrix an important step to take. Unlike other sectors, infrastructure and urban-development projects have the advantage that their economic benefits can usually be quantified and the ERR, NPV or C/B ratio calculated both *ex-ante* and *ex-post*.

B. IMPACT OF THE FAVELA BAIRRO PROGRAM II

The IDB has a long history of investment in urban upgrading and housing programs. This dates back to the 1970s when the Bank supported finished hous-

ing programs. In the 1980s financing shifted towards sites and services programs which supplied urbanized lots equipped with sanitation services and minimal housing solutions. These interventions began to change in the 1980s, until in the 1990s the current neighborhood-upgrading modality took shape. Instead of developing new land with basic infrastructure the new modality consisted of upgrading or introducing infrastructure in already occupied land. Perhaps the most recognizable of these programs was the neighborhood-upgrading program known as *Favela Bairro*, in Rio de Janeiro, Brazil.

The IDB has been working with the municipality of Rio de Janeiro to improve the living conditions of families living in the poor informal neighborhoods of the city (*favelas*) since 1996, when the first *Favela Bairro* Program was approved. Two additional loans have been approved since then; *Favela Bairro II* which completed its execution in 2007 and *Favela Bairro III*, approved in December of 2010.

The municipality of Rio de Janeiro requested the IDB to undertake an impact evaluation of the *Favela Bairro II* Program. The objective of the program was to improve the living conditions of families living in *favelas* through the provision of (1) basic infrastructure (water, sewerage, drainage, street lighting, street paving, parks and sport areas, reforestation); (2) social services (child-care centers; social-service centers with an emphasis on families, children and adolescents; income and work-generating activities); (3) community organization and development; and (4) land titling.

To evaluate the results of this program, *favelas* that participated in it (henceforth referred to as the treated *favelas*) were compared with *favelas* that had not participated (henceforth referred to as the comparison or nontreated group). Given that no baseline data existed for either set of *favelas*, the strategy was to compare the two groups *ex-post* under the assumption that their values prior to the intervention were comparable.

The lack of baseline data made the selection mechanism for program intervention central to the credibility of the results. *Favelas* were selected based on a list developed at the outset which ranked them on variables that reflected socioeconomic characteristics and infrastructure deficits. In earlier work (Soares and Soares, 2005) it was found that, apart from population size (the program was initially targeted at *favelas* with between 500 and 2,500 households), there were few differences between the treated and comparison groups. In other words, *ex-ante* there appears to be no reason to suspect that program implementation would favor one type of favela over another. Furthermore, results from both simple means comparisons of program and nonprogram favelas produced similar point estimates of treatment effects as did results based on matching algorithms. These findings can allay concerns regarding *favela* comparability and program placement.

The first sets of results from the impact evaluation are those related to services. The program implemented water and sewerage works, as well as public works on streets, public lighting and other urban improvements. A significant increase in the availability of all services was seen for the treated *favelas*. The only exception was garbage collection, which was relatively high in both the treated and nontreated groups. It is also interesting to note that access to piped water did not improve. This was due to the fact that residents already had (in some cases clandestine) access to water. What did improve was the percentage of connections to the city system, which was 81 percent in treated and 55 percent in nontreated groups.

The next set of results relates to property ownership. The results indicated that the program had a statistically significant, yet economically insignificant, impact on formal titles (*escrituras*). Only 10 percent of the dwellings in the treated favelas had formal land titles, and the estimate of treatment effect was only 3 percent, meaning that the program increased the incidence of formal ownership by 3 percentage points *vis-à-vis* control communities. On the other hand,

even if the program did not produce large impacts on the incidence of formal ownership, it did increase the incidence of informal means of documenting ownership, such as bills of sale. This is consistent with the hypothesis that improvements in neighborhood amenities increase demand for certainty of tenure, and given the bureaucratic and legal constraints to obtaining formal titles, residents look for alternative methods of proof of residency and proof of ownership. This behavior is reflected in the fact that 13 percent more owners had some documentation of ownership in the treated group compared to the nontreated group. The program also prompted owners to invest in improving their dwellings.

The program had a large impact on household perception of dwelling worth. The estimated treatment effect was of 8,000 Reais, which represents a 44 percent increase relative to the perceived dwelling worth of nontreated households. Although this result is large, it was smaller than the increase in the actual value of properties sold (Borba 2005 and 2008). Borba's study found that valuations increased on average by 74 percent per square meter.

The evaluation also estimated the impact of the program on time used to reach public transportation and the degree to which residents carried out their activities inside and outside their *favela*. The assumption was that by improving the community, residents would increase their level of participation in various social and recreational activities (sports, leisure, religious worship, shopping, etc.) and that the number of activities undertaken within the community would increase versus those taken outside. No impact was found. Neither the time spent reaching public transportation or the nature (or extent) of participation in activities was impacted by the program.

With respect to access to education, employment, and income, the results showed that the program had a small but statistically significant impact on school attendance among those aged 5-20 years old. There was also a substantial increase in daycare attendance,



which reflects the program's emphasis on construction of these facilities. Impact was also seen on household incomes, which increased by around 15 percent, both statistically and economically significant. This may have been driven by the increase in the value of the beneficiaries' dwellings. Finally, there was no evidence of any impact on either employment or type of work, as both of these measures are similar for both the treated and nontreated groups. This may be a reflection of lack of focus by the program on this subject.

The last set of results relates to household perceptions regarding the quality of life in their community versus that in other neighboring communities and the city as a whole. A net rating (i.e. quality of life in community minus the quality of life in the city, for example) was used as an indicator of perceived integration. The results showed a marked improvement in household perception of quality of life in their community as a result of the program.

The conclusion is that the *Favela Bairro* program is having an impact on access to services, value of dwellings, and income (perhaps derived from dwelling valuations). It is also having an impact on school attendance, particularly preschool. There is still little evidence of impact on employment, participation in social and recreational activities, or other behavioral changes. Lastly, it is important to note that the lack of results in titling is not a reflection of an incorrect model, but rather a reflection of the difficulty that the program had in executing this component, in large part due to the institutional complexity (and constraints) involved in recognizing and providing titles in informal settlements.

There is one important caveat to the above. Given the absence of baseline data, these results are derived from *ex-post* comparisons, coupled with relatively strong assumptions regarding pre-program status. The presence of baseline data in future interventions would greatly boost the credibility of results.

C. HABITAT: A STEADFAST PARTNERSHIP TO FACE AN EVOLVING CHALLENGE

Mexico faces important challenges regarding urban poverty. More than 70 percent of the national population is concentrated in cities, which are home to about 23 million of the country's poorest individuals. Despite recent progress in basic-service coverage, access is still limited in the most marginalized urban areas. Approximately three million people lack access to potable water and six million live in dwellings without connection to sewage systems; most urban settlements do not offer adequate waste-treatment systems and only about half the roads are paved (Gobierno de los Estados Unidos Mexicanos, 2007-12).

In view of this situation, the Government of Mexico with the support of the Bank, has designed and implemented a multiphase program to address urban poverty, known as *Habitat*. The program aims to reduce poverty and improve quality of life in the most vulnerable urban areas through integral interventions such as the construction and furnishing of basic infrastructure, as well as extension of social-service coverage and community-development activities. The program also strengthens institutional capacities at the municipal level, to promote organized and sustainable urban planning and growth. The unit of intervention is the polygon, a conglomerate of street blocks that, based on census data, share high poverty rates (typically municipalities have several polygons that are eligible for *Habitat*).

The Bank has supported *Habitat* since 2004. Mexico has mandated annual evaluations of social programs since 2000, so *Habitat* has undergone several evaluations. Since the last program was approved in 2007, a rigorous multi-annual evaluation has been required by the National Evaluation Council (CONEVAL), and the IDB has supported this effort.

The evaluation of Phase I was carried out by Mathematica Policy Research and concluded in 2007. It consisted of an *ex-post*, non experimental analysis that

used data from the 2000 census and the 2005 mini-census at the polygon level. It employed propensity-score matching to construct a comparison group of similar polygons from a large untreated sample, using as covariates the variables for the selection of the treated polygons. The evaluation used the difference-in-differences method to assess the project's impact on access to three basic social services: potable water, sewerage and electricity. It found very small impacts at the polygon level; the most sizable effect was on access to quality sewage services, which was three percentage points higher in treated than in comparison polygons. Differences on the other variables of interest were not statistically significant.

The evaluation acknowledged several limitations in its analyses and suggested a possible underestimation of the project's impact. It argued that budgetary spillovers among untreated polygons might have biased the results downwards, given that comparison polygons also considerably increased their level of social-services coverage and that municipal administrators actually recognized that they had reassigned investment resources to polygons outside *Habitat*. The evaluation also pointed out that the use of polygons as the unit of analysis could have resulted in an underestimation of the impact of the program, as interventions were frequently concentrated in certain blocks/squares within a given polygon. Hence, as not all areas in the polygon benefited from the intervention but still were included in the treatment group, the estimated impact of the program could have been undervalued.

Evaluation of Phase II. The current evaluation of *Habitat* was designed with improvements in several dimensions. First, the integral feature of *Habitat's* investments was acknowledged, so several dimensions are being evaluated. Second, the analysis will be at the appropriate level according to the intervention. Third, the evaluation follows a random-assignment methodology, which is the most rigorous way to identify attributable results of a policy intervention. The evaluation methodology was approved by CONEVAL and is being implemented by a leading academic ins-

titution, El Colegio de la Frontera Norte. The Ministry of Social Development (SEDESOL) and the IDB are part of the evaluation team.

Through an experimental design, the evaluation will estimate the effect of the program on access to and availability of basic services, infrastructure, and equipment, including water, sewerage, road paving, street lighting, and electricity. In addition, it will determine whether the program has an impact on the real-estate value of properties and whether it increases social capital among inhabitants of the beneficiary areas.

Polygons were randomly assigned to treatment and control groups, with polygons in the treatment group receiving the intervention between 2009-11 and polygons in the control group receiving the intervention after 2011. Assignment to each group was done through a stratified randomization based on a shortage of infrastructure index at the polygon level. While randomization was carried out at the polygon level, impacts will be estimated both at the polygon and block level. Knowing the treatment status of blocks within the treatment group allows a comparison to be made with equivalent blocks in the control group and impacts among blocks to be detected, which are likely to be higher than impacts among polygons.

In addition, the evaluation randomizes the saturation of the treatment within municipalities, to allow for variation in the intensity of budgetary spillovers and to identify the magnitude of this phenomenon. The percentage of polygons receiving the intervention in each municipality has also been randomly assigned in order to identify spillover effects in control municipalities. If polygons in the control group of municipalities with intense treatments improve more than polygons in the control groups of municipalities with moderate treatments, there would be evidence of municipal administrators engaging in reassignment of *Habitat* resources to control areas of the study. Knowing the magnitude of these spillovers will enable researchers to control for this situation in when estimating the impact of the program without this bias.

The evaluation sample comprises 370 polygons in 68 municipalities in 33 cities. It covers 14,276 street blocks of which 11,484 will be included in the study in order to capture impacts at a more direct level of the intervention. Baseline data was collected in 2009 and follow-up data will be collected in 2011. Instruments have already been developed and piloted for the polygon, block and household levels.

Baseline results indicate that treatment and control groups are adequately balanced at the polygon, block and household level. Analysis of baseline characteristics, taking into consideration cluster design and municipality fixed-effects, reveal no *ex-ante* statistically significant differences in key indicators between the groups. The few differences that prevail after randomization do not compromise the project design.³⁴

Consequently, groups can be directly compared, to obtain unbiased results of the impact of the program once follow-up data is collected. Table 6 presents the levels of some impact indicators at baseline for control and treatment groups.

Results from this evaluation will help determine the effectiveness of the *Habitat* delivery model in changing the quality of life of the urban poor. This information will prove valuable for the design and implementation of future programs in Mexico and other countries in the region facing similar poverty profiles. The Bank's involvement in the *Habitat* program reflects its interest in improving not only the quality of the interventions themselves, but of the evaluations providing the feedback for this process.

TABLE 6
Balance of Control and Treatment Groups at Baseline

In %	Control	Treatment	Total	Significant Difference
Households with piped water	69.8	66.4	68.4	NO
Households with connection to public sewage systems	83.5	77.9	81.2	NO
Households with paved access roads	64.1	58.1	61.6	NO
Households with lighted access roads	90.1	89.2	89.8	NO
Households with electricity	98.9	98.5	98.8	YES
Source: Colegio de la Frontera del Norte (2009)				

³⁴ The observed difference in access to electricity, for example, is statistically significant but substantially both values are the same.

Box 5

Impact of Urban Upgrading Investments on Real Estate Values in Historic Downtown Montevideo: Application of a Hedonic Pricing Approach

During 2004-06 several entities invested in the restoration of the Historic Downtown area of Montevideo in Uruguay, among them the Inter-American Development Bank.

In 2010 the IDB commissioned a study to evaluate the impact of these upgrades on property values in the Old Town (Roche, 2010). An interesting aspect of this evaluation is that impacts were measured using a Hedonic Price Index Approach. This methodology was chosen because it allows to: analyze the relationship between the characteristics and location of the property and its market value; calculate the implicit price of housing characteristics and location; and thus analyze the impact of changes in housing attributes on property values through time.

The hedonic model defines property values as a function of property characteristics and location. The implicit prices of the independent variables are estimated via multivariate-regression analysis and are derived from the model's regression coefficients. The hedonic model was estimated using data from property prices of real-estate transactions in Montevideo during the period 2004-07, before and after the upgrades in the Old Town.

Variations in property values were calculated running the hedonic model with data on real-estate transactions before and after the urban upgrades, in Old Town Montevideo and other similar areas of the city that did not undergo upgrades. The results of these analyses revealed that the upgrades had a significant impact on property values in the Old Town. More specifically, it was estimated that property values between the Old Town and other similar parts of the city before and after the Old Town upgrades ranged from US\$87 to US\$127 per square meter.

D. WATER AND SANITATION: MEASURING THEIR IMPACT ON THE HEALTH OF RURAL POPULATIONS IN PARAGUAY

Inadequate water supply and sanitation (WSS) affects several human-development outcomes. Poor sanitation, lack of access to clean water, and inadequate personal hygiene are responsible for an estimated 90 percent of childhood diarrhea cases (WHO, 1997) and are strongly associated with cholera outbreaks and transmission (Prüss-Üsün, A. et al, 2008). Water and sanitation programs have proved to be the most cost-effective interventions in improving the health of children under five (World Bank, 2006).

In Paraguay, expanding water and sanitation access to the rural poor and increasing sanitation coverage in urban centers and rural areas are the biggest challenges for the sector: while over 80 percent of the population in urban areas is served by a network water connection, only 35 percent have similar access in rural areas. As in most developing countries, the poor are disproportionately affected by the lack of access to water and sanitation services.

For this reason, the Government of Paraguay has partnered with the Inter-American Development Bank and the Spanish Government, through the Spanish Cooperation Fund for Water and Sanitation,

to implement a Water and Sanitation Program for Rural Communities

The main goal of this program is to improve living conditions in rural communities by providing access to safe water supply and sanitation facilities. Each project includes:

- a. The construction of sustainable water distribution systems.
- b. The construction of basic sanitation facilities.
- c. The implementation of a hand-washing campaign.
- d. The expansion of the *Juntas de Saneamiento* (Water Boards) model.

The campaign will reinforce the health impact of the first intervention by further reducing the child mortality and morbidity associated with waterborne diseases. Diarrhea, for example, seems inversely related to the promotion of hand washing at critical times (such as before handling food and after contact with feces).

These activities will be coordinated and implemented by SENASA.³⁵

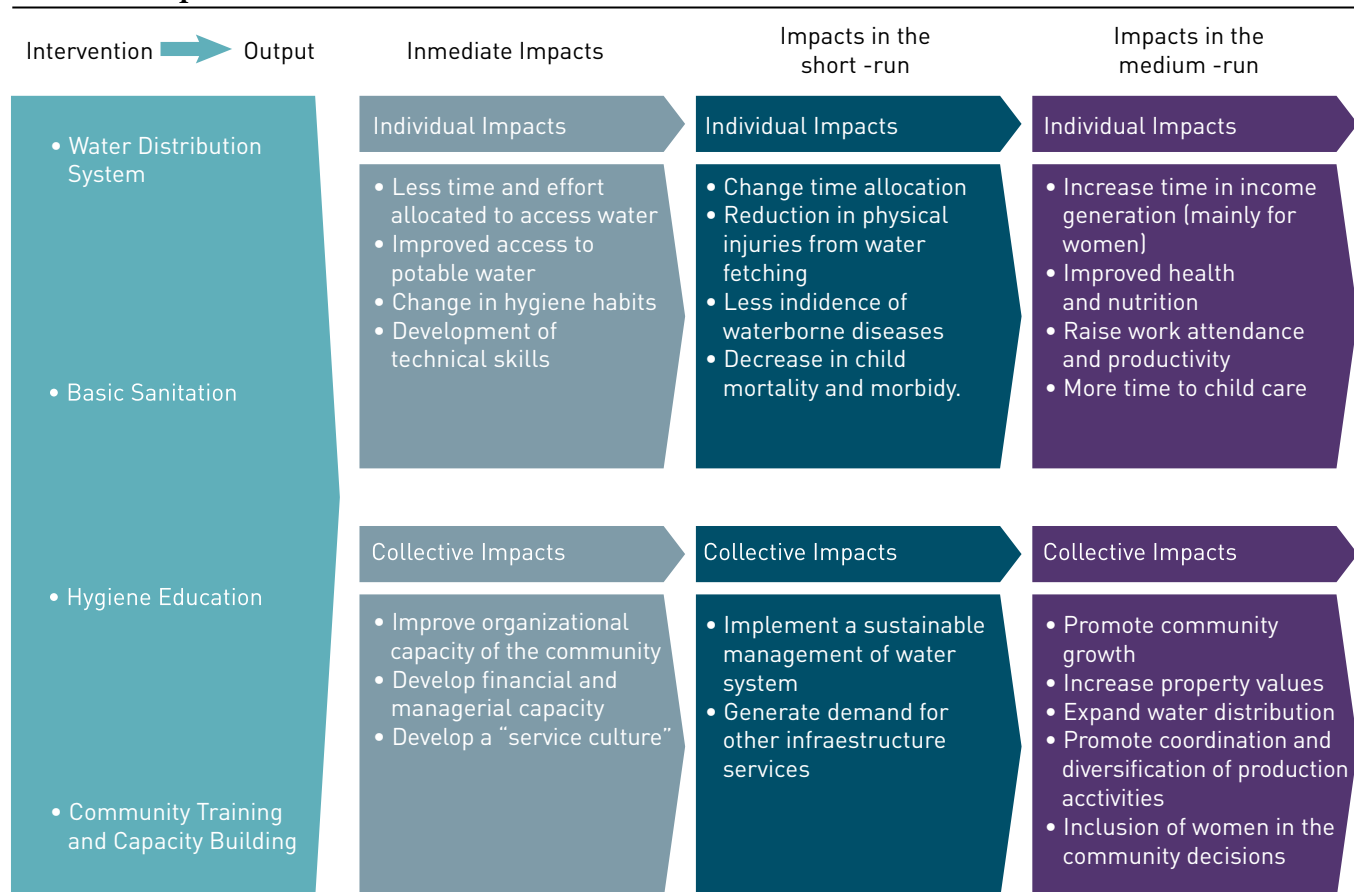
In this context the IDB, in collaboration with the World Bank and the Spanish Government, is supporting the design and implementation of an impact evaluation to determine the causal effect of rural WSS interventions on health (especially children's health) and on time allocation by adults and children. The main indicators regarding health are those related to diarrheal illnesses and child morbidity.

The evaluation design will use the natural timing and logistic limitations of the project to construct a counterfactual to the program. It would take SENASA four years to serve all the preselected community candidates. The identification strategy consists of using a public lottery to randomly distribute the communities into four different groups. Each group will receive the intervention in subsequent years; in the first follow-up survey, there will be 100 communities affected by the treatment (50 in year one and fifty in year two) and 100 still not treated. Thus, groups three and four will serve as control groups for groups one and two.

³⁵ SENASA (*Servicio Nacional de Salud Ambiental*) is the branch of the Ministry of Health responsible for expanding and supporting the provision of water services in rural areas.

FIG. 28

Potential Impact of the Interventions



In order to get a hint of the magnitude of the effect of the intervention earlier than in the follow-up survey, the evaluation also plans to implement a cross-phased design that takes advantage of the information from communities already treated. In particular, the characteristics of the intervention and the community-eligibility criteria are the same as previous interventions. The idea is to use the baseline data for communities that will be treated with the new program to construct a counterfactual for communities that were treated with previous interventions. Additionally, the communities will be matched according

to pretreatment outcomes and other characteristics not related to the treatment to ensure that the groups are similar.

This alternative strategy contributes to the evaluation in different ways. It allows a preliminary assessment of the program after the first round of data collection. This assessment will work as a benchmark to be compared with the actual results from the internal design. It will help to verify the implicit assumption that individuals in the treatment and control groups would evolve at a similar pace (or trend). In addition, if the

impacts estimated by the two methodologies prove to be consistent, the alternative treatment group could be used to identify long-term (eight-year) outcomes

from the program. The data will be analyzed using a difference-in-difference methodology.

Box 6

Meeting Water and Sanitation Goals

In 2010 the IDB approved US\$1,13 billion for water and sanitation projects, confirming its role as the largest source of multilateral financing for this sector in Latin America and the Caribbean. Since 2007, through the Water and Sanitation Initiative, the Bank has provided nearly US\$4,9 billion in loans and more than US\$39 million in technical assistance for water and sanitation projects.

The initiative has already met and surpassed some of its goals. In addition, sector plans for water and sanitation have been completed for 26 countries. Loans and technical cooperation have promoted integrated management of water basins, stronger management capacity, greater transparency among operators of water and sanitation services, and better planning, regulation, and monitoring.

Goal	Achieved by 2010
100 cities	146 cities
3,000 rural communities	2,600 rural communities
20 priority micro watersheds	31 priority micro watersheds
100 technical assistances provided in efficient and transparent utilities program	90 operators reached

Today some 38 million people in the region still do not have a water connection to their homes, and 119 million have no access to proper sanitation. Water and sanitation thus remain a priority for the IDB in line with the sector priorities established at the IDB-9, where investment in basic infrastructure, such as access to water and sanitation, was considered critical to raising households' basic welfare. IDB operations in the sector will contribute to increasing the number of households with new or upgraded water supply and sanitary connections and thus reduce the incidence of waterborne diseases.

This renewed emphasis on the sector also recognizes the increased demands likely in the coming years due to climate change, particularly in terms of ensuring health, food security, renewable energy sources, and export competitiveness.

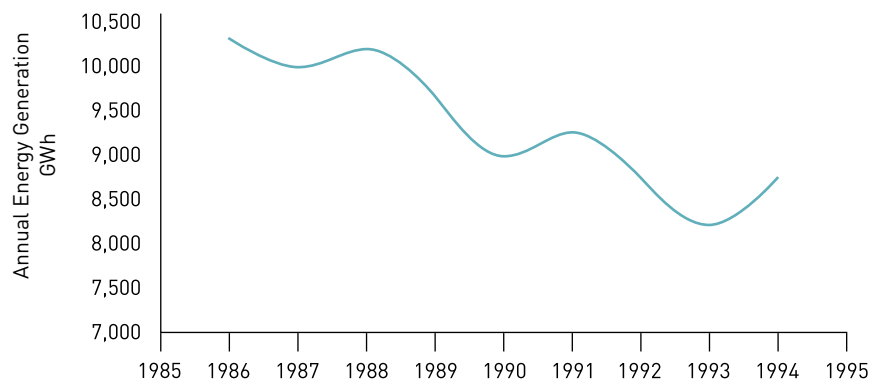
E. ENERGY: INCREASES IN POTENTIAL DEMAND FOR REHABILITATION OF HYDROPOWER PLANTS AND EX-POST EVALUATION

Hydropower is the largest source of electricity generation in the Latin-America and Caribbean region (LAC). The region also has the second and third largest hydropower plants (HPP) in the world.³⁶ In 2007 LAC had a power-generation capacity of approximately 276 GW with 147 GW (53 percent) of this capacity coming from hydropower. According to preliminary IDB estimates, there are 274 hydroelectric plants in the region (with installed capacity equal to or greater than 10 MW) which have been in service for over 15 years and will need to be rehabilitated in the short to medium term.

These plants generate 50 percent of the total hydropower capacity in the region, and it is estimated that by rehabilitating them LAC could recover power generation by approximately 40 GW.

An HPP converts hydraulic energy into electrical energy. In order to maintain its efficiency and capacity to deliver a constant level of electricity annually, periodic maintenance is required. Over time, as the HPP's equipment deteriorates, its efficiency is reduced, and maintenance is needed more frequently. This requires a substantial part of the plant to shut down, reducing the amount of energy produced annually. Figure 29 shows the decline in energy output through time for one HPP in LAC.

FIG. 29
Decline in Energy Output Over Time for One HPP in LAC



³⁶ Itaipú in Brazil-Paraguay and Simón Bolívar (Guri) in Venezuela.

HPP rehabilitation (which may include upgrading, modernization and/or reconstruction) is required when the level of equipment deterioration impairs the plant's ability to deliver energy in an economically and sustainable manner. It is commonly accepted that after 20 years of operation HPPs will usually require some degree of rehabilitation. However, in order to determine the most opportune time to intervene, an economic analysis needs to be undertaken.

The Bank is currently financing the rehabilitation of three HPPs: Central and Santa Barbara UHE in Nicaragua; Peligre in Haiti; and Simón Bolívar (Guri) in Venezuela. Given LAC's dependence on hydropower and the significant number of HPPs that are forecasted to require rehabilitation in the short to medium term, demand for IDB financing for these types of interventions is expected to increase substantially in the coming years. Along with financing, the Bank is also expected to provide knowledge and expertise on HPP rehabilitation as a result of its cumulative experience in these operations. This will require increasing Bank focus on *ex-post* evaluations of its interventions in this area.

Ex-ante, the IDB's standard practice to determine the returns to the country of undertaking an HPP-rehabilitation project is through a thorough economic analysis. An essential part of the analysis is to ensure that the type of rehabilitation selected is the least-cost alternative to meeting the projected demand for electricity. Having demonstrated this, the alternative selected is analyzed to determine: whether the economic benefits it is expected to generate will be greater than its economic costs; and the optimal timing to maximize this ratio. The economic costs used in the analysis are not only the investment and opera-

tion and maintenance costs of the project, but also the costs involved in energy-generation reductions resulting from the rehabilitation of the HPP. The economic benefits estimated are thus the value of incremental energy provided by the project and the avoidance of rationing and savings on operating costs.

The *ex-ante* analysis of HPPs is based on numerous assumptions regarding variables such as demand for electricity, the cost of rationing, and elasticity of demand. Assumptions are also made regarding key parameters in the energy equation of HPPs such as generation capacity, average energy delivered to the system, availability and efficiency of generation units, and frequency and length of maintenance stopages. Some of these assumptions could have significant margins of error, making it harder to predict the project's economic feasibility.

As is the case with all Bank-financed operations, a final evaluation of rehabilitation projects is undertaken at the end of the project. These evaluations verify the validity of the original assumptions, the actual costs that were generated by the intervention, and the extent to which the outcome indicators included in the project's results matrix were achieved. This would be an opportune time to redo the cost-benefit analysis using the realized economic costs and economic benefits which, although not yet fully realized, provide greater certainty on returns than the estimation done during project appraisal. Further monitoring during the life of the project could help consolidate lessons learned, improve the design and execution of future rehabilitation projects, minimize costs, improve efficiency gains, and provide a more precise understanding of the actual returns of these investments to the country.

Box 7

Development Results of Private Sector Financing in the Energy Sector in Brazil

The IDB's strategy in Brazil's energy sector emphasizes the need to invest in energy generation, transmission, distribution and efficiency with increased private sector participation in resource mobilization and in the operation of concessions. Since the Bank's private sector window was created in 1994, IDB Non-Sovereign Guarantee (NSG) financing has contributed to energy sector investments totaling US\$7,7 billion. NSG financing has been provided through US\$919 million in senior debt financing (A Loans) and US\$415 million in partial credit guarantees, and through the mobilization of over US\$1 billion in syndicated loans (B Loans) from private commercial banks and institutional investors. Energy distribution has received the largest NSG financing followed by energy generation.

Sources NSG Financing for Energy Sector in Brazil (US\$ millions)

	Generation		Transmission	Distribution	Energy Efficiency
	Hydro	Thermal			
Direct loans and guarantees	166	271	233	649	15
Syndications	115	493	156	263	
Total NSG Financing	281	764	389	912	15

In the area of *energy generation* NSG operations in Brazil have concentrated on hydroelectric and thermal power. NSG has invested in three hydroelectric generation projects (Cana Brava, Dona Francisca, Campos Novos), which collectively increased generation capacity by 1,455 MW. There were, however, some environmental problems related to emissions, and resettlement issues, which were addressed with the implementation of Correction Action Plans.

In thermal energy generation, NSG invested in two gas-fired thermal generation projects (Termobahia and Termopernambuco), one coal-fired thermal generation project (Pecem), and one diesel-fired plant (North Energy). These interventions increased generation capacity by 1,555 MW and connected 82 isolated towns in the northern Brazil to the electricity grid allowing its inhabitants to receive continuous 24-hour electricity services. A review of the projects' development outcomes, however, revealed that thermal power plants were less competitive than anticipated due to the secondary role thermal energy has played in Brazil. Given the country's abundant hydropower resources thermal energy has been used primarily in times of drought or precipitation change, when hydroelectric capacity was impaired. In addition, although thermal plants' initial deployment costs have been low, fuel costs have been relatively high with respect to hydro.

The NSG operations in Brazil's energy sector that have generated the greatest development results have been those in the electricity transmission and distribution sub-sectors. These operations have financed three transmission projects (Novatrans, ATE II, ATE III) which have resulted in an increase of 2,530 kilometers of 500-Kv transmission lines, and 110 kilometers of 230-kv transmission lines. All projects were implemented as scheduled and the quality of the service indicators all achieved their targets. With respect to outage frequency and line availability (industry-specific quality indicators), each transmission project achieved on average 1.4 outages per 100 km of line per year, and at least 99.9 percent line availability. NSG operations also financed seven distribution projects (VBC, Light, Bandeirante, Celpa, Cemat, Cel-tins, Energisa), which increased energy distribution by 5,825 GWh and provided electricity to 1,091,993 new customers.

A key element of NSG operations has been to support the Brazilian government in its electrification initiative called *Luz Para Todos* (LPT), which aims to provide universal access to energy services by 2011. As of 2004, there were 11 million Brazilians (or 5.47 percent of the population) that did not have access to electricity. The LPT intends to close this deficit by providing 1,7 million new connections. The Bank through its private sector window has invested US\$649 million in this initiative and provided electricity services to over 1 million new customers.

In all, NSG operations in Brazil have contributed to: the expansion of 2,530 kilometers of 500-Kv transmission lines and 110 kilometers of 230-kv transmission lines; an increase in generation capacity of 3,010 MW; the provision of electricity services to 1,091,993 new end users; and an increase in energy distribution of 5,825 GWh.

Box 8

Sustainable Energy Alternatives in the Caribbean

The increase in energy demand in the Caribbean, has generated a huge economic burden for the countries in this region. Being predominantly net-energy importers, these would significantly benefit from incorporating Renewable Energy (RE) as well as Energy Efficiency (EE) programs into their energy matrix. Doing so would lead to substantial benefits, including a decrease in fossil-fuel imports, important savings, improved energy security and reduced carbon emissions.

To promote and support renewable energy and energy-conservation programs in the Caribbean, the Bank is sponsoring a number of technical cooperations to explore RE and EE alternatives. The Bank's support aims to minimize the dependency on fossil fuels and to favor a positive environmental footprint on the use of energy resources.

One project in Barbados includes a pilot that will target a representative sample of 3,000 low- and middle-income households. For each household involved, the pilot program will replace five incandescent light bulbs, and promote energy conservation by introducing a power monitor for residential meters. Additionally, an awareness campaign in the residential sector will accompany and strengthen the introduction of the new technology. A second pilot will promote the installation of 29 small grid-connected RE-generation systems (28 Solar-Photovoltaic systems and one micro-wind system). Furthermore, Barbados will receive technical assistance to assess the potential for the implementation of RE technologies in the country; in particular solar power, wind power, ocean thermal-energy conversion (OTEC) and non-electric RE applications (geo-exchange, ocean exchange, solar thermal, thermally driven cooling processes, and industrial-process waste-heat recovery). Finally, an important component of this project is the validation and dissemination of the findings of the project's technical-assistance and pilot-program activities.

In the Bahamas the Bank is running three pilots aiming to promote and support sustainable energy to minimize the dependency on fossil fuels. One is the Compact Fluorescent Lamps (CFLs) Project, whose main goal is to replace up to approximately 150,000 incandescent light bulbs in a sample population of low- and middle-income households with CFLs. This project aims to reduce the electricity bills of the most vulnerable sector of the Bahamian population through energy savings and increased awareness of the benefits of energy efficiency and conservation. The second pilot will install Solar Water Heater (SWH) systems at the residential level to evaluate the potential capital and energy savings that may be achieved by using these systems on a larger scale. The third pilot, the Solar Photovoltaic (PV) pilot, would provide a representative sample of private households with PV systems and consider possible large-scale replication scenarios. In addition to these three pilots, two workshops will be financed to validate and disseminate the findings of the technical studies and pilot projects, helping the government to identify the interested sectors (the affected community in particular) and develop communication and participation strategies during project development and implementation.

With these pilot projects, the Bank is seeking to support Caribbean member countries in their quest to reduce their energy dependence on fossil-fuels. The results of these projects will provide important feedback to the governments of the region in the design of energy policies and programs that incorporate RE and EE in the energy matrix within the context of IDB operations.

F. TRANSPORT: LEARNING FROM RURAL ROADS FOR DEVELOPMENT IN EL SALVADOR

The Rural Roads for Development program has a total budget of US\$35 million to improve and/or rehabilitate about 80 kilometers of rural roads in El Salvador. The Government of El Salvador with support of the Bank has defined a number of eligible projects, eight of which will be selected for financing. Eligibility criteria are based on economic feasibility and potential impacts on welfare. The former are assessed by applying a standard economic analysis looking at consumer and producer surplus. Welfare impacts consider, among other aspects, poverty alleviation, income distribution and regional connectivity.

There is consensus in the literature that nonpecuniary benefits are as important as monetary benefits in the rehabilitation of rural roads located in areas where traffic volumes are not high enough to compensate investment using standard economic-analysis techniques.³⁷ This feature and the Government's commitment to identify the social benefits associated with the improvement of rural roads in El Salvador, call for the implementation of a rigorous impact evaluation. The program logic is presented in the results-chain figure which is based on the approach used by the Millennium Challenge Corporation for the impact evaluation of road projects.³⁸

The expected outcomes from the project are: (1) to improve transit conditions in the areas of influence of the selected roads, (2) to decrease travel time and costs, (3) to promote other productive investments, and (4) to improve income distribution (i.e., reduce inequality). Specifically, two types of indicators were selected in order to measure program impact: primary and secondary. Primary indicators are those which are directly affected by the investment while second-

ary indicators refer to those that might be affected but do not represent the core objective of the program. The main indicators are listed below.

Primary Indicators:

- **Income and productivity:** Agricultural income *per capita*, nonagricultural income *per capita*, and agricultural yields.
- **Access to inputs:** Fertilizer, fungicides, seeds and labor per hectare.
- **Access to labor markets and participation:** Labor participation, hours worked in nonagricultural activities, and wages per hour.
- **Household consumption patterns:** Proportion of household consumption (in US\$) allocated to food, education, health services, and medicines.
- **Transaction costs:** Transportation expenditures, travel time to the closest market, and frequency of market use (number of times going to the market).

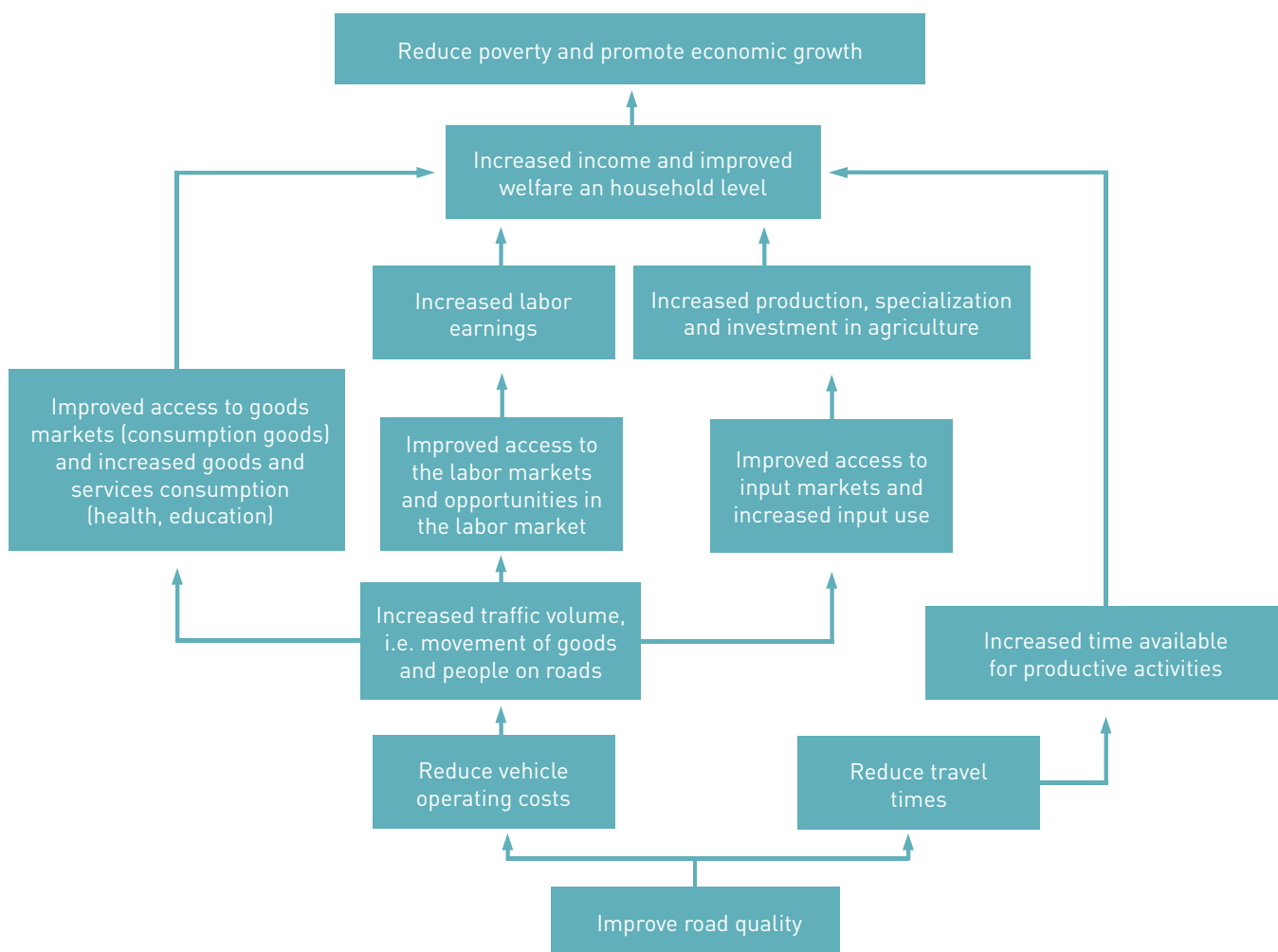
Secondary Indicators:

- **Travel time, education and health:** Travel time to closest school and to closest health center, and number of days attending school.
- **Land value:** Price of the parcel, percentage of households with land title, and land extension.
- **Household characteristics:** Number of social programs in which the family is enrolled, educational attainment of household members, and household size.

³⁷ See van de Walle, 2008. "Impact Evaluation of Rural Road Projects". Doing Impact Evaluation Series #12. World Bank. http://siteresources.worldbank.org/INTISPM/Resources/383704-1146752240884/Doing_ie_series_12.pdf For more details and references see also the Monitoring and Evaluation plan of the project available as an electronic link to the loan document (Spanish only).

³⁸ See <http://www.mcc.gov/pages/countries/impact/impact-evaluation-for-el-salvadors-connectivity-project>

FIG. 30
Map of Causal Effects for Rural Road Projects



To measure program impacts, household and community surveys will be applied in the area of influence of the project, and of other eligible projects that will not be financed due to lack of resources. The households located in the areas of influence of the eligible projects that will not be financed represent the counterfactual group and will be used for comparison purposes in order to estimate the causal effects of the road project on the indicators mentioned above. These instruments will enable the sociodemographic

characteristics of households and communities to be captured, as well as other features of the local economy. Surveys will be administered before the project begins, and after project completion in order to create panel data. Key features to be defined are: the selection process of the roads to be financed, and the area of influence of the road rehabilitation. Alternatives include using a given travel time with the most common mean of transportation as well as a given distance (e.g., a two kilometer radius).

Summing-up. Undertaking the necessary measures, during project preparation and execution, so that the socioeconomic benefits and costs that actually accrue, as a result of infrastructure investments, can be measured is critical to determine the economic returns to the country and assess the project's development impact. Bank efforts in this direction have increased in 2010. The quality of results matrices has improved in all four sectors. As reflected in the DEMs scores of infrastructure projects, outcomes and outputs are being defined in a more concise manner and

the indicators selected have increased their precision and measurability. Likewise, the majority of projects with *ex-ante* cost-benefit analysis include indicators in the DEMs that allow tracking economic benefits during execution. With few exceptions, however, cost-benefit analysis of infrastructure projects is not undertaken on an *ex-post* basis. Including an ERR or NPV as indicators in the DEMs of these interventions would be an important step towards making *ex-post* calculations of materialized economic returns to the country standard Bank practice.

Box 9

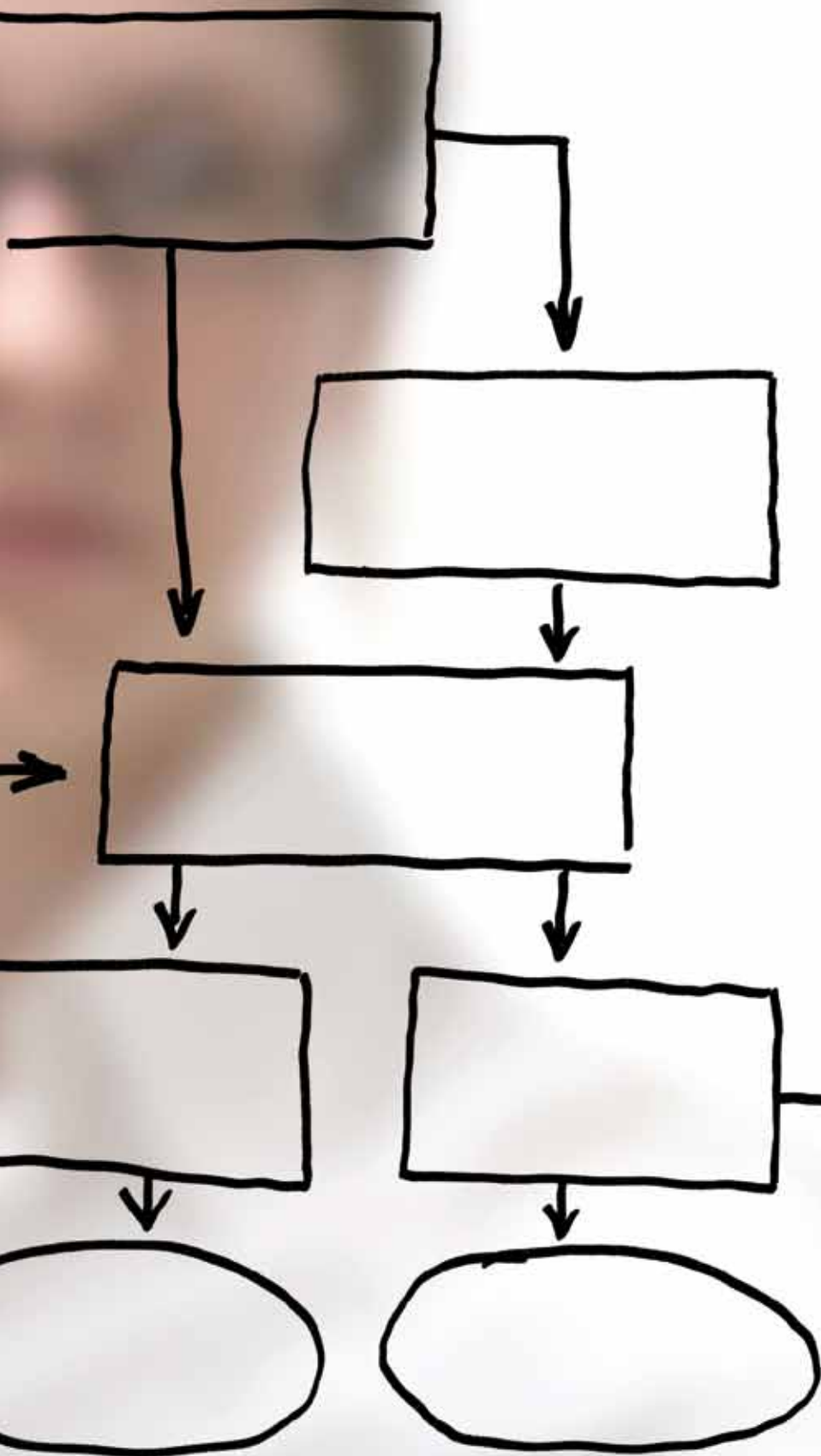
Cost-benefit Analysis as a Tool to Determine Project Economic Feasibility: The Case of Puerto Cortés

Puerto Cortés is the main port of Honduras and handles almost 90 percent of the country's maritime traffic. It is also the biggest and deepest port in Central America. With the expansion of Honduras's foreign trade, Puerto Cortés has had to handle a growing volume of cargo. The port is showing obvious signs of congestion. A shortage of berthing spaces and obsolete operating systems has kept productivity low and has lengthened the time vessels must remain in port.

To increase Puerto Cortés's capacity and the efficiency of its operations, the Bank is collaborating with the government of Honduras in a project to expand and modernize the port. As a result of the project there will be a reduction in delays during vessel and cargo handling and in the operating costs of the port. The economic returns to Honduras of undertaking the project were estimated through a cost-benefit analysis. Through this methodology, the economic costs and benefits attributable to the project were quantified. The net cost/benefit flow was projected over a 20-year span and the economic viability of the project was determined by calculating its net present value (NPV), and economic rate of return (ERR).

The economic benefits used in the cost-benefit analysis were the savings in time and operating costs expected to result from the investments undertaken in Puerto Cortés. These savings were estimated calculating the difference between vessel time in port and the operating costs of the port and ships, with and without the project. The economic cost stream included all the costs to the economy expected to be generated by the project. Using these estimates the analysis yielded an ERR of 20 percent (well above the regular cutoff of 12 percent), and an NPV of US\$108 million. Given these results, the project was determined to be economically feasible and to bring positive returns to Honduras.

The cost-benefit analysis of the modernization of Puerto Cortés constitutes an excellent example of good practice for decision making regarding whether or not a country should undertake a particular investment. Given the need to choose between alternative uses of scarce resources, determining *ex-ante* if the expected benefits of an intervention will outweigh the costs to the country's welfare is key to determining whether or not to undertake the investment. When economic benefits are possible to quantify, cost-benefit analysis is a necessary tool in making such a decision.





INSTITUTIONS FOR GROWTH AND SOCIAL WELFARE

The Bank's Institutional Strategy for IDB-9 includes supporting institutions for growth and social welfare. This sector priority is based on the identified need for effective institutions to ensure economic and social development. The sector strategy defines institutions as "the deliberate arrangements that shape human interaction" and identifies the focus of the Bank's work on the subset of institutions that have a role in promoting economic growth and social welfare. The work of the Bank in this area is examined in the following pages.

In the past decade, the debate over institutional reform has shifted from a universal and standard reform package towards more nuanced, targeted and country-specific designs for policy reform. Increased focus has been placed on country-specific initial conditions and development paths and, more specifically, on the effect that diverse institutional arrangements might have on welfare and growth. In this context, today's literature suggests that reform efforts be more selective and diverse. For example, Hausmann, Rodrik and Velasco (2005) propose that institutional reforms focus on the binding constraints to economic growth; that is, on those market or government failures that strongly affect productivity and whose reform will yield the highest efficiency gains. They propose a growth-diagnostics methodology in order to appropriately identify the most pressing constraints to economic growth and to closely target them through creative policy design.

The Bank has partnered with Harvard University's Center for International Development and various research institutes in Latin America and the Caribbean (LAC) to apply this approach, among others, to identify the areas in which intervention is required to spur economic growth. Growth diagnostics have been carried out in 14 countries in the region (Argentina, Brazil, Chile, Colombia, Ecuador, El Salvador, Guatemala, Guyana, Nicaragua, Panama, Paraguay, Peru,

Mexico, and Trinidad and Tobago), providing valuable information on which areas require urgent reform.³⁹ These areas have been accordingly prioritized and sequenced by the Bank through its programming and in the definition of the types of interventions supported through its institutional projects. Results from these studies are specific to each country and cannot be generalized to the entire region, nor do they replace other relevant assessments; there is no single, binding constraint across countries, but rather country-specific problems. This reinforces the Bank's view that country specific interventions are needed if impact is going to be achieved.

In this chapter, the focus is placed on selected projects that have rigorous analysis and evaluation strategies to assess the impact of the intervention on the binding constraint they attempt to affect. It is important to note that these projects are just examples of the type of work that is currently being carried out by the Bank on institutional reform.

The Bank's program in 2010 consisted of the approval of 33 operations for US\$2,97 billion, equivalent to 25 percent of approvals in 2010. Of the total approvals, US\$60 million financed two projects in credit markets; US\$2,6 billion was allocated to supporting 21 projects for fiscal efficiency and sustainability (of which 57 percent was in Policy Based Loans and Programmatic Policy Based Loans); US\$5 million for one citizen-security project; US\$212 million for six projects for institutional strengthening; and US\$90 million to support three projects to strengthen country systems (specifically financial management, procurement and monitoring and evaluation). As shown in following figures, the Bank has concentrated most of its projects supporting credit markets and fiscal institutions. Finally, the regional distribution of the projects shows the Bank's work on Institutions for Competitiveness and Social Welfare has spanned the whole region.

³⁹ The results of this ambitious research project are compiled in the book: *Growing Pains. Binding Constraints to Productive Investments in Latin America* (Agosin, Fernández-Arias and Jaramillo, 2009).

FIG. 31

Institutions for Growth and Social Welfare. Total Financing by Sector

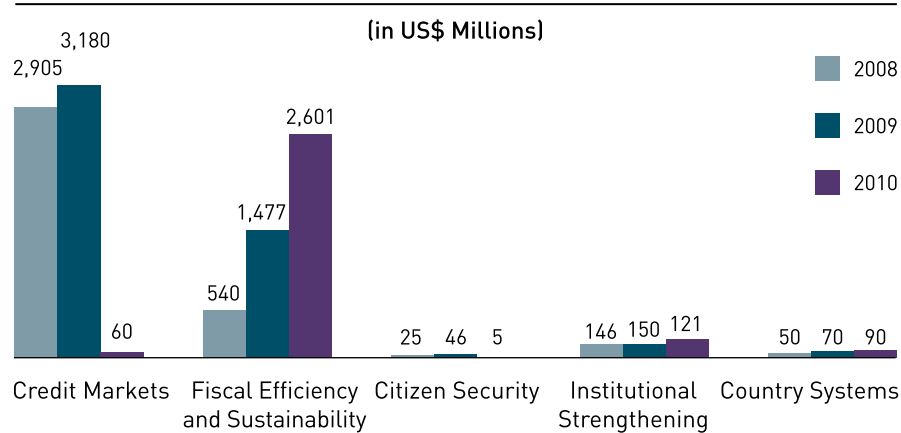


FIG. 32

Institutions for Growth and Social Welfare. Total Number of Projects by Sector

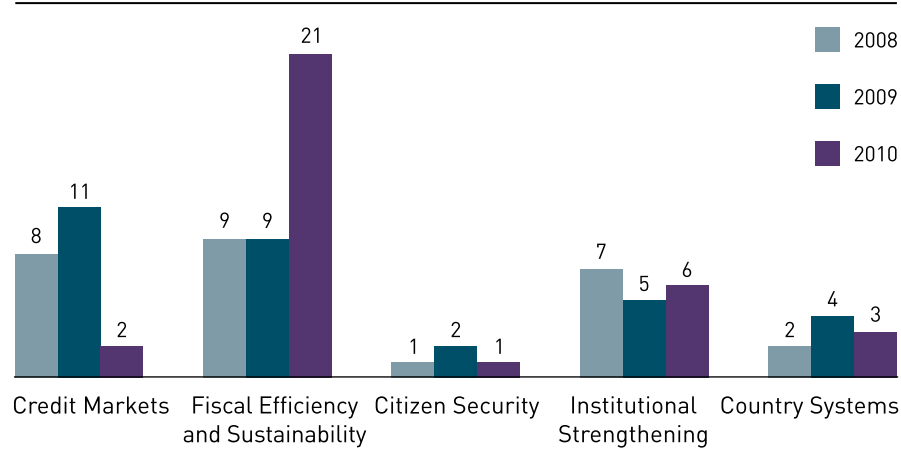
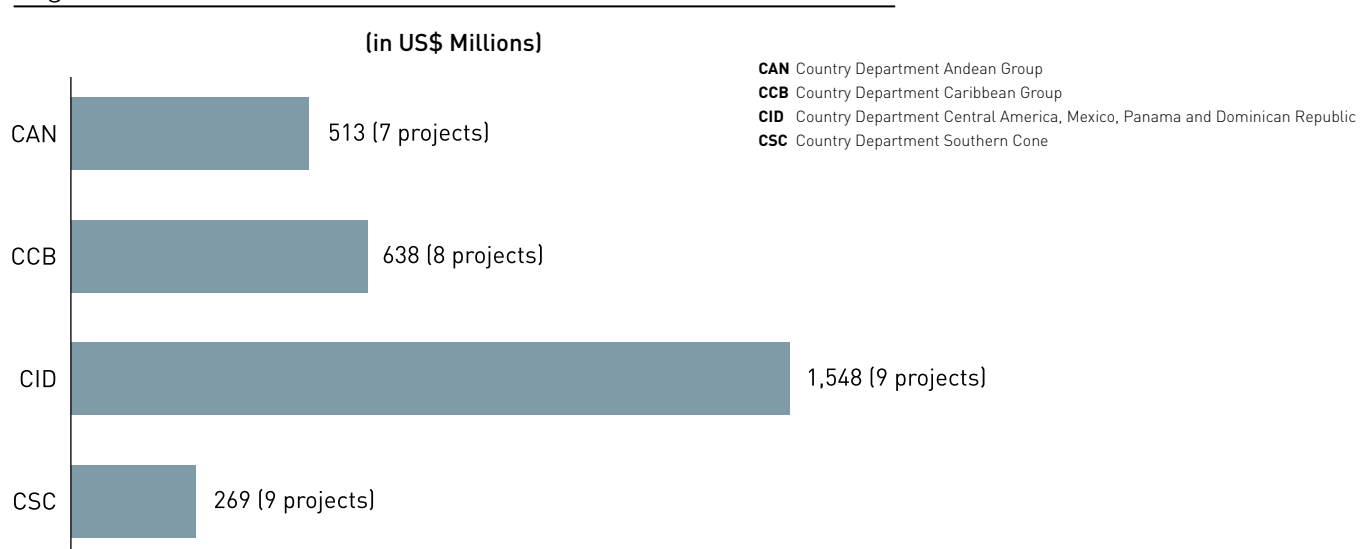


FIG. 33

Institutions for Growth and Social Welfare. Regional Distribution



This chapter first examines the cases of countries in which binding constraints are found to be related to the high cost of finance. In these cases, the Bank is funding operations that should result in an exogenous increase in investible funds and release credit constraints on small- and medium-sized enterprises through financial intermediaries in Brazil and Colombia. Likewise, analyses of operations that allow for larger flows of remittances in several Central American countries are included. Second, the chapter presents the case of countries where binding constraints are found to be related to low returns to private investments, among other possible effects. In these cases, the Bank is supporting projects that increase the social return on investments or improve the appropriability rate of these returns. These operations aim at improving the institutional environment, especially related to fiscal management at the Central level in Nicaragua and Peru, and fiscal policy and taxation at the local level in Brazil; and through citizen security programs to support greater social stability and lower social and private costs, in El Salvador, Belize and Costa Rica.

A. INCREASING ACCESS TO CREDIT FOR SMEs

As discussed in *The Age of Productivity: Transforming the Economies from the Bottom Up*, (IDB, 2010b), small and medium enterprises (SMEs) play a very important role in LAC, employing over two thirds of the workforce. The sector's potential to generate productive jobs is crucial to understanding the long-term prospects of increasing living standards in a sustainable way. Insufficient access to credit is a major factor that hinders the growth, in terms of size and productivity levels, of SMEs. Furthermore, there is a large literature suggesting that SME policies in general, and access to credit for these firms in particular, have an important role to play in promoting overall productivity (Ibarrarán et al. 2009; Lopez-Acevedo and Tan, 2010).

The Bank's interventions in this sector have focused on mitigating the impact of information asymmetries in markets that constrain firm financing and can ultimately affect their progress. One important aspect of Latin American financial markets is the likelihood that firms are credit constrained and rely too heavily on their own resources to finance investment (Galindo and Schiantarelli, 2002; IDB, 2005),⁴⁰ which has negative implications for aggregate investment levels.

The main instrument used by the IDB to improve access to credit, in particular for SMEs, are global credit lines, which provide resources to financial intermediaries (IFIs) in the region through second-tier financial institutions, for on-lending to the most viable projects of small- and medium-sized enterprises. This scheme builds on the idea that IFIs share a deep understanding and knowledge of local markets and hence can help to improve the allocation of financial resources. Under this intermediation scheme, the IFIs assume the risk of repayment by firms and therefore have the incentive of selecting those projects and firms that are the most viable and productive of the eligible firms. Examples of these types of interventions are the Conditional Credit Lines for Investment Projects (CCLIP) channeled through the Banco Nacional de Desenvolvimento Econômico e Social (BNDES) in Brazil since 2004 and through the Banco de Comercio Exterior de Colombia (Bancoldex) in Colombia since 2008.

Evaluating the Impact of Credit in Colombia. The main objective of Bancoldex is to support increased competitiveness in the Colombian productive sector, mainly by channeling medium- and long-term financing to micro-, small- and medium-sized enterprises (MSMEs) for investment, and product- and market-diversification projects. Bancoldex's funds are used to finance fixed investments or permanent working capital associated with the execution of investment projects by qualifying MSMEs.

⁴⁰ In fact, using data from The World Bank Doing Business database, approximately 25 percent of firms consider that they are credit constrained in Colombia. In the case of Brazil, Bond, Soderbon and Wu (2007) estimate that about 40 percent of firms are credit constrained using the same data from 2000-03.

Bancoldex offers a variety of credit lines, which can be categorized on a number of dimensions. One basic distinction is between traditional credit lines and their special credit quotas. Of the latter, one nontraditional line, aProgresar, is the most important for MSMEs in terms of the amount of resources lent. Launched in 2004, it is the main line through which IDB resources are provided to fund the purchase of fixed assets, international expansion, product diversification, and the acquisition of environmentally friendly technologies and training.

The Bank has supported the design of an evaluation with the objective of analyzing the effectiveness of Bancoldex in expanding SME access to medium- and long-term financing and thereby supporting a more dynamic and sounder financial and economic performance by beneficiary firms. Specifically, the evaluation seeks to analyze its impact on firms: (1) access to credit and its financing structure; (2) medium- and long-term investments; (3) employment and salary levels; (4) productivity; and (5) growth and total exports. This analysis takes into account the heterogeneity by firm-level characteristics and the type of credit received.

Three types of databases are being used in order to characterize firms both with regards to their relationships with the banking sector, and in terms of their characteristics and economic performance: (1) information on credit operations of Colombian firms since 2000, including amounts disbursed, dates of disbursement, interest rates, and loans terms, as well as specific Bancoldex credit lines; (2) firm characteristics such as employment, sales, purchases of fixed assets and capital stock, exports and productivity, using Annual Manufacturing Survey firm-level panel dataset of the Colombia National Institute of Statistics (DANE)⁴¹ from 1995 to 2008; and (3) a firm-level survey of firms collected in 2010 representing selected service sectors in the four largest cities of Colombia, financed

by the IDB. The sample for this survey included firms that received Bancoldex support in 2007 and a sample of similar firms that will be used as a comparison group, and collected firm characteristics for 2005, 2006, 2007 and 2009, thus comprising a four-year panel-shaped dataset. Structuring the information as panel data before and after the implementation of the program provides a perfect basis on which to apply a difference-in-differences (DID) methodology. Results from this evaluation should be available early in 2011.

Preliminary Evidence on the Effectiveness of Public Credit Policies in Brazil. The Bank is currently undertaking a study to produce evidence on the effectiveness of public-credit policies in Brazil. The objective of the study is to estimate the impact of public credit on firms' investments, employment generation, productivity, and exports. This study uses secondary data at the firm level from 1996 to 2007, constructed by the Instituto de Pesquisa Economica Aplicada (IPEA) on the basis of administrative records such as the *Relação Anual de Informação Sociais (RAIS)* of the Brazilian Ministry of Employment and Labor (Ministério do Trabalho e Emprego, MTE) and data on foreign trade from the *Secretaria de Comércio Exterior (SECEX)* of the Ministry of Industrial Development and Foreign Trade.

As in the Colombia evaluation, there is panel-data information and it is possible to apply DID methodology. Given the amount of available data, and to ensure that in absence of the program beneficiaries and nonbeneficiaries have the same trend in outcome variables, the comparison group consists of firms similar to the treated in terms of their *ex-ante* probability of obtaining the credit. Propensity-score matching enabled a group of nonbeneficiaries with the same pre-program trends as beneficiaries to be generated. Preliminary results show that public-credit policies had an estimated impact of around 24 percent on employment, around 40 percent on exports and almost no significant impact on average standardized wages, a proxy for

⁴¹ Departamento Administrativo Nacional de Estadística.

Box 10

Empresas Públicas de Medellín: Leveraging Customer Payment History to Increase “Bankability”

Following its mandate to support the development of market-based solutions that benefit the low-income population in Latin America, the Opportunities for the Majority Sector (OMJ) is providing a US\$10 million loan to the Colombian Empresas Públicas de Medellín (EPM), to support the expansion of the *Financiación Social* program. The objective of this project is to bring an additional 190,000 EPM customers into credit markets by 2015, 86 percent of which belong to the lowest-income deciles.

Financiación Social (FS) was established by EPM to help its customers, particularly low income, to have access to credit by removing binding constraints such as the inexistence of credit histories. Utility companies such as EPM have massive customer-information databases, including extensive long-term utility-payment information. In addition, EPM has sophisticated logistical systems for collections and billings. These allow the company to use its information to screen clients who qualify to receive credit lines for purchasing durable goods and building materials for home improvements. Leveraging EPM’s customer records and logistical capabilities has the potential to transform the life of those that are not “bankable” by helping them develop a credit history and a financial identity.

An impact evaluation of the FS program will be undertaken. The objective of the evaluation is to measure the impact of the program on access to financial services (“bankability”) by its beneficiaries. More specifically, the evaluation will attempt to measure the impact of the program on: (1) the provision of credit to beneficiaries that were not “bankable” prior to the program; (2) access to other financial services provided through the formal banking system; (3) household purchases of new and more energy-efficient durable goods, and (4) house improvements.

To undertake this evaluation OMJ will select a treatment and a comparison group using the information on the characteristics of loan applicants—regularly collected throughout the loan-application process—and their credit score. The evaluation will use *regression discontinuity*. The large sample and the clear cutoff point for qualifying for the credit line will allow a comparison between those immediately above this point with those immediately below it. Since the scores of both groups are very similar, they are likely to have similar socioeconomic characteristics which will allow for a good comparison. The similarities between both groups will be verified through a review of the application forms. From an administrative point of view, most of the information required for the evaluation will come from EPM’s regular business operations.

labor productivity. Furthermore, in terms of exports, findings reveal very large and significant impacts by restricting the sample to firms that were already exporting in the two years prior to the treatment. This supports the hypothesis that the effect on exports is almost entirely driven by the increase in export volumes among exporting firms, while not affecting the probability of becoming an exporter. Moreover, these results are robust to the use of different samples.

Overall, the evaluations in Colombia and Brazil constitute an important contribution to the growing literature on the effectiveness of credit-market interventions among SMEs in Latin America. Understanding what programs are ineffective because of poor design and/or implementation through the use of rigorous methodologies that control for selectivity bias is certainly a contribution to the construction of sound public policies.



Box 11

Effects of Remittances in the Region: Evidence from Salvadoran Migrants

Remittances from migrants bring substantial benefits for recipient households. Money sent home increases consumption, investments and lowers poverty rates. However, little has been done to gather evidence on how to increase these beneficial transfers. Such is the objective of two randomized experiments promoted by the Bank and carried out among Salvadoran migrants in Washington, D.C. These experiments help shed light on two highly relevant questions: first, what would happen if remittance-transaction costs were reduced? Secondly, what would be the impact of giving migrants more control over how remittances are used?

The first experiment tackles the fee charged by money-transmission institutions. Fee reductions were randomly assigned on transactions up to US\$1,500 (which accounts for the vast majority of transactions), and impacts were assessed by tracking remittance frequency and amounts using administrative data of the partner institution. A follow-up survey of migrants was also conducted to establish impacts on the use of other remittance channels, total remittance flows, and savings.

The results suggest that fee reductions lead to large increases in remittances, which occurred through an increase in the frequency of transactions, rather than in their size. Moreover, follow-up surveys with the migrants provided no indication that remittances sent through partner institutions were previously remitted by other channels, or were sent on behalf of others. Also, there is no evidence of inter-temporal substitution, as it seems that migrants were not shifting future remittances to the period before to take advantage of the discounts before they expired.

In a second experiment, to inquire into the impact of giving migrants more control over how remittances are used, the Bank partnered with a financial institution in El Salvador (Banco Agrícola) to create or facilitate access to various savings mechanisms. Migrants were randomly assigned to one of three treatment groups or a comparison group. The comparison group was visited by a marketer who encouraged them to remit to savings accounts in El Salvador. The migrants that were not selected for the comparison group were randomly assigned to one of three groups that were offered accounts with different levels of control over the use of their remittances.

Surveys were administered both to migrants in the United States and their corresponding remittance-receiving households in El Salvador. Results suggest that migrants are more likely to prefer savings than are the remittance-receiving households. The results of the study also provide support for the hypothesis that a desire for control over the fraction of remittances that are saved in formal savings accounts is quantitatively large and has an important influence on financial decision making by migrants.

The results of this experiment show that demand for savings accounts and savings levels were higher when migrants had the option of greater control over the accounts. In fact, no impact on savings was observed when migrants were offered the possibility of remitting into accounts under the name of the recipient alone. Despite what may have been originally expected, increased control over savings by migrants did not lead them to send more remittances home. The study also shows that the increase in savings appears to represent an increase in the fraction saved, rather than an increase in total remittances.

These experiments demonstrate that it is possible to conduct policy-relevant field experiments among cross-border migrant households and partnering with the private sector. Given the magnitude of remittance flows to the region and their importance for development, insights in this area may provide important guidance for policy. The findings from the experiment with lower remittance fees support initiatives aimed at reducing the cost of sending remittances, such as policies raising competition in the money-transmission industry or providing migrants information on the lowest-cost remittance services. The second experiment suggests that providing assistance to financial institutions to develop financial products that offer migrants more control over remittance uses may be beneficial.

B. INSTITUTIONS FOR FISCAL MANAGEMENT

Latin America has always faced tough fiscal challenges. Although there is no doubt that significant progress has been made since the 1970s, debt crises, periods of high inflation and balance-of-payments crises have challenged the region, hindering growth prospects and affecting welfare. Although still procyclical, public spending and tax systems are on the path to achieving efficiency and reducing regressiveness. This progress was evident at the onset of the 2008-09 international financial crisis, when most countries in the region had positive budget surpluses, reasonably low debt ratios, and credible monetary policies.

Latin America's main policy challenge is to implement fiscal policies that tackle the immense social needs of the region by creating the conditions for sustained and equitable output growth. Consolidating fiscal solvency and reducing procyclicality are necessary elements of any strategy to meet this broader challenge. A prerequisite for any sound fiscal policy is an efficient and effective management of revenues and expenditures. This requires laws that clearly define tax bases, institutions that can effectively manage tax administration, and transparent and cost-effective financial management of public resources.

This section will examine two issues with regards to fiscal institutions. First, the methodologies used to determine the benefits associated with improved financial management will be discussed by reviewing the *ex-ante* cost-benefit analysis of two projects that support the reform of integrated financial-management systems in Peru and Nicaragua. Second, to understand the effectiveness of tax policy and administration reforms, the design of an evaluation methodology is presented. This design will be applied to assess the effects on tax collection of the PROFISCO program in Brazil.

Deciding on Effective Investments in Reforms to Public Financial Management. In recent years, a widely used evaluation-indicator system for Public Financial Management (PFM) systems and the advent of more efficient information technology, have led to an increase in programs supporting reforms to the processes and systems that allocate, track, report and evaluate public resources, with the aim of making PFM an effective tool for decision making (Diamond and Khemani, 2005). These reforms require identifying the needed improvements to the norms, organizational structures and processes that affect resource flows, and how to systematize them with a Management Information System that is cost-effective and efficient.

The decision to undertake reform of the public sector's financial management (PFM)⁴² system requires that two elements be considered: (1) which business processes constrain the efficiency of the system, and (2) which information-technology solution is the best and most cost effective. Caba Pérez and López-Hernández (2007) describe several phases of reforms of PFM in LAC which at each stage focused on one or both of these elements. In the 1970s, reforms were more concerned with the budget-formulation stage and little attention was given to execution. In the 1980s, they focused on macro-structural elements, as the budget crisis placed emphasis on debt management. In the 1990s, reforms took a more integrated approach to public administration, introducing the concept of management of resources. During the last decade, reforms focused on transparency and accountability, which require that information is timely and accurate, and that reporting is useful for decision making at all levels.

There are multiple approaches in the literature on selecting which PFM-system reform interventions are most effective. A recent literature review conducted by Pretorius and Pretorius (2008) provides an over-

⁴² Public financial management is the system by which the financial aspects of the public services' business are directed, controlled and influenced, to support the delivery of the sector's goals" (Chartered Institute of Public Finance and Accounting, July 2009). <http://www.cipfa.org.uk/>



view of the different approaches to reform of PFM.⁴³ Of those described, the most widely used by the Bank in support of the design of PFM-reform programs is the Strengthened Approach. This approach was developed from the Public Expenditure and Financial

Accountability (PEFA) initiative. It identifies three pillars of good practice for PFM reforms: (1) a country-led agenda, (2) a coordinated program of support, and (3) a shared framework for measuring results on country-PFM performance. The PEFA assessments,

⁴³ The approaches described include New Public Management, Public Expenditure Management, Getting the Basics Right, and the Platform approach.

which provide the metrics to review progress of the reforms, have been successful according to a recent report on their impact (Betley, 2008) which argues that PEFA assessments have led to direct changes in the structure of PFM-reform programs, and have at a minimum provided an objective measure of the strengths and weaknesses of PFM.⁴⁴ Alongside other development institutions, the Bank has been involved in measuring PFM performance through the PEFA assessment framework since 2005. In 2010, the IDB was involved in PEFA assessments for eight countries in the region.

The strengthened approach, as well as others, recognizes that PFM reform needs to include investments in technology, but that these alone have little effect on efficiency and effectiveness. Reforms that solely emphasize implementing IT systems without accounting for the constraints posed by inadequate legal and institutional frameworks, and the inefficiencies imbedded in existing processes, do little to provide an effective management tool for making decisions based on results, and ensuring transparency.

The IDB has been at the forefront of supporting the implementation of Integrated Financial Management Systems (IFMS) in LAC. IFMS programs supported by the Bank over the last decade have had a two-pronged approach. First they have aimed to support the implementation of an improved management system, with more effective and efficient processes supported by modern legal and normative frameworks. By providing training, agencies are better able to make decisions, enhance transparency and ensure accountability, all of which should lead to improved policy outcomes. Secondly, they have provided IT tools that integrate and systematize these processes, facilitating

the flow of information between and within agencies, and have embedded controls to ensure that resources are monitored effectively. These projects involve making choices about the reforms to existing processes that will increase effectiveness and efficiency, and the type of information system to be implemented. In particular, they take into account the benefits of the improved management processes and the costs of replacing or upgrading the information system, when making decisions on whether or not to undertake the proposed reforms.

In 2010, loans to Nicaragua (NI-L1033) and Peru (PE-L1087), both structured to address the deficiencies identified in previous PEFA assessments, provided good examples of how to undertake economic analysis to determine the scope of these types of interventions. First, the programs identify the next generation of “business processes”⁴⁵ reforms based on those PEFA assessments that would yield the highest return in terms of effectiveness. Second, they analyze the costs of available technology options that would optimize the efficiency gains from the business reforms. Assuming that effectiveness and efficiency gains are a function of the business reform, and that these benefits are the same for all IT solutions, analyzing the costs of a new system, whether off the shelf or custom, is essential to making an informed decision. These costs imply analyzing the actual cost of implementing the solution, and of software and hardware, as well as the costs of maintenance (is there in-house or in-country capacity?), licenses, adjustments, training and the solution’s flexibility to allow for future upgrades and reforms. Once this decision is made, the costs of the IT system need to be incorporated into the cost-benefit analysis that compares a continuation of the *status quo* with engaging

⁴⁴ All these approaches need to consider *Political Economy Models*, which provide a framework for understanding the political context in which reform takes place. Its focus is on how culture, political systems, and informal or unwritten rules affect the speed, structure and ultimately the outcome of reforms, and therefore are relevant variables when deciding which type of approach is likely to be more effective.

⁴⁵ By business reforms we mean the changes to normative, organizational rules and processes and which are identified through internationally recognized assessment tools (generally PEFAs).

in a second- or third-generation reform of PFM with a new IT solution.

In the Nicaragua project, the information-technology solution was identified by assessing the cost effectiveness of a custom-made versus an off-the-shelf IT solution. Given the existing capacity and the identified information-flow deficiencies, the off-the-shelf solution was selected. To determine the economic rationale for the reform, the cost-benefit analysis took into account situations with and without the project. In the situation without the project, the benefits of the following were calculated: (1) improvements in the management of public finances that had been achieved with the on-going implementation of the existing Integrated Financial Management and Audit System (SIGFA by its Spanish acronym); (2) the single-treasury account in Córdobas and foreign currency; (3) improvements to the existing public-procurement system (SISCAE by its Spanish acronym); and (4) changes to two legal frameworks: procurement and public debt laws. Without making investments in further methodological improvements or in a new IT system, the analysis found the cost reductions from the on-going improvement (benefits) and the cost of maintenance of the current system would yield over 15 years an NPV of US\$4.1 million and an internal rate of return (IRR) of 25 percent.

In the situation with the project, investments included the following: (1) further reforms to the treasury system to increase the scope of public employees and suppliers that receive electronic payments; (2) a new procurement system; (3) an improvement in the management of the project cycle for investment operations; (4) reduced time for certain operations; and (5) reduced IT-maintenance costs, given that a new information solution was selected. Taking into account the additional costs of the entire program (IDB, World Bank, and EU financing) of US\$22.4 million over five years, the analysis shows an expected positive stream of benefits by the fourth year, with an NPV of US\$20.5 million. The expected IRR of the investment is 26 per-

cent. This analysis shows that the investment is viable, and will generate additional benefits, including some that are not easily quantifiable, such as greater transparency, and an improved environment for economic agents from the electronic-payment system, among others.

In the Peru project, the cost-benefit analysis comparing the continuation of the *status-quo* and the implementation of a new reform of PFM was carried out. Costs are computed at market and social prices for a seven-year horizon. For the situation without the project, costs were estimated on the bases of ongoing investments and recurrent costs of the system in place, both for operational and maintenance activities. By far the highest cost on the existing system is the payment to personnel, which represents about 95 percent of the total cost. No benefits were estimated under the situation without the project. In the situation with the project both costs and benefits were estimated. The increased costs basically correspond to the cost of the project itself, which reaches US\$31 million over the five-year execution period of the operation. Total costs are therefore estimated as the sum of these incremental costs and the costs of the situation without the project. Incremental benefits are estimated as the savings from which executing agencies, local governments and the Ministry of Economics and Finance benefit with the implementation of the improved system.

The analysis is developed separately for Lima and the rest of the country and includes four main items: travel expenditures, communication expenditures, mail expenditures and salaries of support personnel in the regions. In addition, the analysis estimates the benefits from implementing a Single Treasury Account. Other qualitative benefits, such as the gains from a Multiannual Budgeting Methodology, are also identified but not monetized. With the estimation of costs and benefits in the situations with and without projects at social prices, the cost-benefit analysis of implementing the project yields an IRR of 23 percent.

Box 12

Tax Waivers in Jamaica

The tax system of Jamaica involves a complex set of statutory incentives, benefits and discretionary tax waivers. The proliferation of these tax benefits have not only eroded public revenues significantly, but have also created serious economic distortions and inefficiencies by promoting a differential treatment of taxpayers. Tax policy has become increasingly focused on meeting the needs and wishes of individual sectors of the economy, and even those of particular individuals. Considerable amount of tax exoneration has been granted to very specific items of consumption, sources of income, and sectors of the economy (e.g., tourism). The former, contributes to an inefficient, unreliable and disintegrated system of information for the tax and custom administrations. It also creates numerous inequities, narrows the tax base, and results in a total “tax expenditure”, i.e. tax revenue forgone. Moreover, under the current fragile fiscal sustainability context, the credibility of granted waivers and incentives for medium term investment projects is very low. This credibility problem makes this policy to fail in promoting growth and on the contrary it raises serious concern in terms of further fiscal erosion.

The Bank has financed many studies on tax issues in Jamaica. One of the most complete studies is *Comprehensive Tax Reform: Final Report* by Roy Bahl and Sally Wallace, of the Andrew Young School of Policy Studies, Georgia State University in December 2004. Later, during 2009-2010 the Bank supported a consultancy to calculate these “tax expenditure” costs to map out the foregone revenue resulting from the discretionary incentives and waivers adopted. Note that tax collection is concentrated in three main taxes: the General Consumption Tax (which is a value added tax), the Income Tax, the Pay as-You-Earn (PAYE, which is a kind of a payroll withholding of income tax), and tariffs on international trade. Together, they account for close to 80 percent of total revenues collected. Preliminary results –presented in the following table- regarding tax collection and foregone revenue (tax expenditure) resulting from tax waivers alone (not including all the other tax benefits, exemptions, etc) give evidence of the importance of the matter.

Tax Collection and Tax Expenditures in Jamaica – 2008 (in J\$ million)

TAX	Collection (A)	Tax Expenditure (B)	(B / A) %
Corporate Income Tax	26,860	9,159	34.1
Personal income Tax	61,629	2,799	4.5
General Consumption Tax	69,768	6,019	8.6
Special Consumption Tax	18,867	540	2.9
Import Duties	19,678	11,254	57.2
Customs User Fee	7,806	586	7.5

Source: Jamaica: Tax Expenditure Budget. Eric Hutton. Inter-American Development Bank (IDB) and Ministry of Finance and the Public Service of Jamaica, 2009.

Furthermore, under the first operation of the Fiscal Consolidation Program, in collaboration with the Ministry of Finance, the Bank expanded the tax expenditure calculation for tax waivers and incentives (statutory and discretionary). Results from this estimation give evidence of a total tax expenditure of slightly above 7 percent of GDP in 2009. With this information, on the second operation of the Fiscal Consolidation Program, the Government of Jamaica has agreed to (1) simplifying and reducing significantly discretionary tax waivers and incentives –aiming at increasing revenues in at least 1.5 percent of GDP-; (2) modernizing the tax administration to improve tax compliance, and (3) increasing the transparency on tax waivers and incentives.

Improving the Management of Fiscal Expenditures and Revenues in Brazilian States (PROFISCO)

The Bank has supported expenditure management through the programs presented above, as well as through actions aimed at increasing fiscal revenues. The latter support has focused on two main areas: the tax base itself and taxpayer education. Interventions related to the tax base focus on the improvement of tax administration to increase tax collection and the processes linked to dispute resolution which are focused on reforms to income-tax policy. On the other hand, tax reforms are also implemented with anti-evasion laws, aimed at boosting collection, and achieving greater efficiency and progressivity. These interventions usually include institutional strengthening components such as improvements to customs processes, equipment, and infrastructure for the tax-administration authority. An example of a broad fiscal intervention that addresses both the revenue and expenditure policy and management issues is the Program to Support the Management and Integration of the Financial Administrations in Brazil (PROFISCO).

PROFISCO (a CCLIP that totals US\$500 million) aims to promote the integration of Brazilian state fiscal administrations, as well as the modernization of fiscal, financial and asset management, thus making the current fiscal system more effective, in fulfillment of Brazilian constitutional and legal provisions. Specifically, the program objectives are to: (1) create conditions for the implementation of tax reform (Sistema Público de Registro Fiscal y Contable Digital);⁴⁶ (2) increase state revenues, as a precondition for the tax reduction improving the current fiscal system; (3) improve public expense and decentralize financial-management support systems; (4) enhance the effectiveness and quality of public expenditure and improve its control; (5) control tax fraud and evasion, by means of risk management, data crossing and fiscal-manage-

ment planning; (6) consolidate fiscal balance, with a reduction in indebtedness levels; (7) strengthen the mechanisms of institutional integration of the treasury departments; (8) create knowledge networks and promote the continuous interchange of information and best practices, and (9) promote greater transparency and interaction of treasury departments with society. To achieve these results, the PROFISCO CCLIP is structured to support fiscal-management modernization projects through four components: (1) integrated strategic management, (2) fiscal management and tax disputes, (3) financial and asset management and internal oversight of fiscal management, and (4) strategic-resource management.

The Bank proposes to support an evaluation of the PROFISCO program with a focus on analyzing its effectiveness in increasing the efficiency of revenue services in order to achieve the program's objectives. Specifically, the evaluation will focus on analyzing impact on (1) subnational public debt, (2) subnational primary fiscal results as a percentage of GDP, (3) personnel expenditure, (4) total subnational ICMS revenues, and (5) subnational investments.

Since the program is at state level, the proposed evaluation should focus on effectiveness at this level. Comparing the evolution of an aggregate outcome (e.g., sub-national public debt) between a unit affected by the event or intervention of interest and a set of unaffected units requires only aggregate data, which is often available. However, the availability of aggregate data does not imply that the effect of the event or intervention of interest can be easily estimated without error. The quality of the comparison group as counterfactual is still a key issue to consider.

The evaluation will use a methodology that lends itself to analyzing aggregate-level policies. This approach, known as the synthetic-control method, uses histori-

⁴⁶ The main components of the tax reform are the fiscal electronic bill (*factura fiscal electronica*), digital-fiscal registry (*registro fiscal digital*) and digital-accounting registry (*registro contable digital*).



cal data from other aggregate entities to construct a counterfactual. The idea is to construct a “synthetic control” by combining “similar” regions to achieve a better comparison for the region exposed to the intervention than any single region alone.⁴⁷ For example, if we are interested in the subnational primary fiscal result as a percentage of GDP for state X, with the historical data of the rest of the states we can construct a synthetic state, X', that will exhibit the same behavior as X. This is done before the program starts, and the evolution of the indicator after the program will be observed for X and may be computed for X', thus providing an estimate of the impact of the intervention. The specifics of the methodology are rather technical (Abadie and Gardeazabal, 2003; Abadie, Diamond and Hainmueller, 2007), and work is being conducted to adapt them for evaluating PROFISCO.

Based on the synthetic-control methodology, the PROFISCO evaluation is expected to shed light and

generate credible evidence on the effects of fiscal interventions on factors that influence subnational fiscal revenue and hence the overall budget. The study will also help determine the extent to which different aspects of fiscal reforms (including the dosage effect) have on the subnational budget. Last but not least, this might be the first time the evaluation methodology described has been applied to fiscal interventions, at least in Brazil.

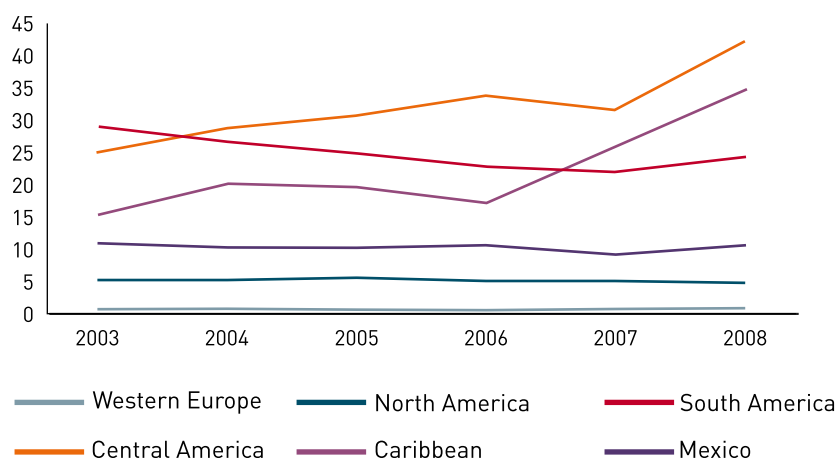
C. CITIZEN SECURITY

When asked about the most pressing issue in their countries, crime and public security is invariably at the top of the list for many LAC citizens. Notably, in 2010, lack of security was perceived as the most important problem in seven countries in the region (Venezuela, Panama, Costa Rica, El Salvador, Uruguay, Chile, and Guatemala).⁴⁸ These perceptions are largely supported by data on the occurrence of

⁴⁷ A synthetic control is a weighted average of the available control units, hence this methodology makes explicit (1) the relative contribution of each control unit to the counterfactual of interest; and (2) the similarities (or lack thereof) between the unit affected by the event or intervention of interest and the synthetic control, in terms of pre-intervention outcomes and other predictors of post-intervention outcomes. The benefits of this methodology are that the conditions of the model are more general than the conditions under which traditional linear panel data or difference-in-difference estimators are valid.

⁴⁸ See Latinobarometro, 2010.

FIG. 34
Homicide Rates Across the World



Source: UNODC, 2007, 2010 (United Nations Office on Drugs and Crime).
Note: North America does not include Mexico

crime and violence. For example, if one looks at homicide rates over the last few years—one of the most widely used proxies for measuring security—it seems clear that crime and violence is a key challenge for LAC countries. Figure 34 shows two main patterns: (1) LAC countries, particularly Central America, have much higher homicide rates than countries in Western Europe and Northern America; and (2) there is clearly an upward trend in homicide rates in Central America and the Caribbean, while in South America and Mexico the rates were falling until 2007.

Several factors have been seen historically as causes of the high levels of insecurity in LAC. These include: a weak criminal-justice system, devastating civil wars, past episodes of authoritarianism, and displacement and deportation of part of the population. Consequently, and following Bank Operational Guidelines for Program Design and Execution in the Area of Civic Coexistence and Public Safety, Citizen Security Interventions (CSIs) at the Bank use integral cross-sector measures (combining more than one policy approach) to prevent or reduce

violence, and may operate at the national, local or community level.

CSIs have some support at the theoretical level;⁴⁹ however the question of whether these interventions are effective is fundamentally an empirical one. Rigorous empirical evidence of the effectiveness of CSIs as a whole is missing, and there is very little known on the impact of individual interventions; most of the evidence available is for the United States and cannot be easily broadened to the LAC context. A recent evaluation of IDB projects in this area conducted by OVE highlighted the fact that there is a “lack of knowledge and data on the issues of crime and violence and how this negatively affects the efforts to reduce them.” For this reason, the report goes on to state, “citizen-security projects have included components aimed at improving or establishing new organisms for the systematic registering, administration, and publication of data on crime and violence. If carried out successfully, this would doubtlessly represent a promising learning effort. However data-collection issues are one half of the reason why there is very little learning on how to reduce crime and violence. The other half is the actual evaluation of the projects. A significant amount of effort still needs to be placed on this, which involves both choosing adequate indicators for measuring

⁴⁹ For more details on the theoretical underpinnings and typical components of CSIs see Part II, Chapter 3 in the DEO 2008-09 (IDB, 2010a).

the projects' outputs and outcomes, as well as taking evaluation into account at the time of designing the intervention. Because of deficiencies of both data collection and evaluation design, the projects have failed to rigorously keep track of their progress and have impeded their *ex-post* impact evaluation in a scientifically valid fashion."

The report then recommends that the Bank "finance only interventions whose impact can be evaluated and hence guarantee a learning process. This does not suggest that the Bank should finance any project so long as it has a good evaluation design; they also need to have a clear and strong theoretical justification for the interventions they propose" (OVE, 2010).

In 2010 the IDB prepared three projects with citizen-security components: Community Action for Public Safety in Belize (BL-L1014); the Program for Violence Prevention and Social Inclusion in Costa Rica (CR-L1031); and a violence-prevention component in the Support for Urban Communities Solidarity program in El Salvador (ES-L1044). OVE's recommendations and the Bank's increasing emphasis on measuring results and learning from its projects (as documented in the 2008-09 DEO),⁵⁰ led to a push to design rigorous evaluations for these three projects from the very initial stages. The results of the evaluations will thus have a high degree of validity and robustness and will be of enormous use when designing new, effective interventions in the same or in different contexts.

Community Action for Public Safety Program in Belize. This program aims to help reduce the involvement of youths in crime and violence in Belize City. More specifically, its three main components aim to

do the following: (1) design, pilot, and then implement a positive youth-development initiative in targeted primary and secondary schools in the city; (2) reduce recidivism among young offenders in juvenile rehabilitation institutions by improving their prospects of social reintegration, reducing violent attitudes, and improving basic and vocational education levels, and (3) enhance the government's capacity to formulate and implement evidence-based policies in public safety by establishing an Interagency Public Safety Management Information System.

This system will provide elements for making decisions and formulating and managing policies and strategies to deal with violence and crime. In addition to the inputs from several Belizean institutions, the system will include the results of the national victimization survey that the IDB is financing through a technical cooperation (BL-T1046).

A quasi-experimental evaluation has been designed to estimate the impact of the first two components. Given that selection of the treated schools in the first is not random, propensity-score matching at student level will be used to compare individuals in treated and nontreated schools. The treatment group will be formed by all enrolled students in the treated secondary school, and by all students above standard three in the treated primary school. The comparison group will be formed by the same student bodies in three comparison secondary schools and three comparison primary schools.

For the juvenile social-rehabilitation component, a methodology which compares residents in rehabilitation centers before and after the intervention will be

⁵⁰ Since 2009 the Bank has increased its efforts in this matter. For instance, a proper evaluation was designed for a project in Trinidad and Tobago (TT-L1003) in which the Bank is supporting the creation of Community Action Officers and training local residents to become Community Peace Promoters. The evaluation will focus on studying the links between program components in order to disentangle the impact of single components from the impact of the program as a whole. A special effort has been made to use indicators which are measurable, specific and realistic (such as differences between selected national crime rates—homicides, shootings, and robberies—and rates in targeted communities) and to properly measure indicators related to social capital. Social capital includes components such as trust, connections between individuals or households, and information or resource sharing. One novel way of estimating levels of trust is to make people play simple games based on game-theory models and then compare their behavior while playing these games with the predictions from the models.

used. This is basically the only method available when the size of the beneficiary pool is relatively limited and/or when there are strong limitations to the assignment of subjects to treatment and control groups which, given the peculiar nature of the penitentiary system, is the case in this intervention. Several instruments will be employed to provide indicators for the evaluation of both components, including tests of cognitive abilities and personality traits as well as indicators of school completion, attendance and repetition. To assess individual levels of growth and risk behavior, indices for youth-asset factors, self-reported violent behavior and violent attitudes will be collected.⁵¹

The importance of having data on which to base policy design cannot be stressed enough. The lack of data on crime and violence—which is typically harder to gather than other types of data—hinders the design of effective policies throughout the region, and especially in small countries like Belize. The main problems are lack of resources and training for proper data collection and lack of incentives for good reporting from institutions on the frontline of the fight against criminals, such as the police. There have been only a few comprehensive victimization surveys in some countries and any significant cross-country comparisons that can be made are of limited value. The focus of the project in Belize on creating and systematizing information will enable the design of better and more effective policies, as recommended by a recent report on IDB interventions in crime and violence prevention (OVE, 2010).

Reducing violent crime in Costa Rica. In Costa Rica, the IDB is supporting a project with a similar objective (reduction of crime and violence), but with different intervention models. One intervention is to strengthen the institutional capacity of the Ministry of Justice and Peace and of the Ministry of Public Safety, including supporting the establishment of a Higher Studies Academy for Violence Prevention and a new National

Police Academy. Other components will support the social reintegration of citizens in conflict with the law, and the prevention of youth involvement in crime and violence. Activities will include construction of Civic Centers for Peace which will serve as a community focal point for youth who have dropped out of school, and support for community justice centers which will offer alternatives to dispute resolution, and campaign on disarmament and gender violence. Support will also be provided to the education system through the hiring of new tutors, training for teachers and directors, investments in infrastructure and technology, and extracurricular activities. In addition to this, productive units will be opened, where individuals in conflict with the law can acquire skills and be matched with local employers. Most of these interventions will focus on the seven municipalities (*cantones*) with the highest levels of insecurity.

To evaluate the project an experimental design will be employed for most of the interventions. In particular, the Schools of Arts, Music and Sport, which will be based on the Civic Centers for Peace, will be evaluated with an experimental design in which eligible participants will be assigned randomly to a treatment or a control group. The interventions will exploit either the random assignment of pupils to these activities within schools or the random assignment of schools to the intervention. The evaluation of the productive units will be designed around penitentiary centers, in which eligible inmates will be randomly assigned to participate. The last component to have an experimental evaluation is the use of electronic bracelets as a substitute or complement to imprisonment: only a treatment group of eligible individuals in partner penitentiary centers will be randomly assigned to the use of the electronic bracelet. Key indicators will be the rates of recidivism, of school drop-outs, of violence and conflicts in school, of drug and alcohol consumption, and of violent behavior.

⁵¹ These indices are based on the Youth Asset Survey, designed by Oman et al. (2002), a violence behavior scale consisting of seven violence-related items, as described by Segawa et al. (2005), and the Attitudes towards Guns and Violence Questionnaire designed by Shapiro, J. (2000).



One of the strengths of the projects in Costa Rica and Belize is the combination of a rigorous evaluation, mostly based on experimental methods, with a detailed *ex-ante* cost-benefit analysis. A cost-benefit analysis is paramount to assess the overall economic return to a program's investment and the contribution of each of its components to the overall return. Interestingly, evaluation and cost-benefit analysis are intimately related as many of the calculations involved in a cost-benefit analysis are based on an estimation of the impact of an intervention. With strong empirical evidence lacking on the impact of many of the interventions implemented in these projects, the cost-benefit analysis uses the best possible assumption for some calculations, drawing on results from other contexts.

Due to the evaluation exercise being designed in these projects, at the end of the intervention an *ex-post* cost-benefit analysis will be conducted without having to rely on too many assumptions. This will increase knowledge about these types of interventions in at least two ways: first, it will be possible to compare an *ex-ante*, cost-benefit analysis with many assumptions to an *ex-post* analysis with far fewer assumptions. This will allow the validity of the initial assumptions to be assessed, and so potentially will improve the way *ex-ante* cost-benefit analyses are done. In addition, a neat picture of the returns of each of the program's components will arise, enabling the prioritization of interventions—according to an economic criterion—in future similar projects in Costa Rica, Belize, or elsewhere in the region.

Reducing crime in urban areas in El Salvador. The violence-prevention component in the Support for Urban Communities Solidarity program in El Salvador will support the operation of 100 centers for “peaceful coexistence”. These are public spaces which hope to attract young people by offering activities in the following five categories: (1) sports, arts and culture; (2) conflict transformation; (3) domestic-violence prevention; and (4) basic life and employment skills. The program's ultimate aim is to reduce school dropout rates by increasing investments in human capital

among low-income and socially excluded families. In particular, the IDB will finance operations in 25 Salvadoran municipalities to improve nutrition, and increase educational quality and coverage. In addition, support will be provided for implementing a national early child-development model in the poorest urban neighborhoods. A rigorous evaluation of all components has been designed which will exploit the assignment rule to the program, which is done according to a vulnerability index. In particular, a regression-discontinuity approach will be used in which treated urban neighborhoods (those which have a vulnerability index just above the threshold for inclusion in the program) will be compared to untreated urban neighborhoods (those with a vulnerability index just below the threshold).

Being a multifaceted phenomenon, violence is better approached in a holistic fashion that tries to have an impact on several risk factors at the same time. The project in El Salvador provides a great example of a response to crime and violence which tackles several underlying factors at the same time. For instance, the violence-prevention component might not have the same effect if not complemented with other components in health and nutrition. A proper evaluation, such as the one being designed for this project, can also allow for the study of complementarities between a program's components, and thus an estimation of the additional effect that a holistic approach can have.

Summing-up. At the end of 2010, the IDB has both began to assess the impact of its programs, effectively, albeit preliminarily, closing the knowledge gap of what works. This is the case of the Bank's work in enhancing access to credit. Pilot evaluations in this area allowed the Bank to test the application of rigorous impact evaluation techniques and to produce preliminary evidence of effectiveness in forstering the performances of beneficiary firms. In the area of financial management, the Bank is aiming to provide better understanding on the costs and benefits of reforms, including the variables that affect the decision to invest in technology. In the area of fiscal man-

agement, specifically revenue, there is little work on undertaking rigorous evaluations of the relationship between tax policy, administrative reforms and external factors on the outcome of an intervention at the state level. Over the coming years, with the proposed methodology for evaluating the Brasil PROFISCO program, the Bank hopes to understand what variables

play a role in determining successful reforms in this area. Finally, the 2008-09 DEO presented a discussion on the knowledge gaps that had been identified in the area of citizen security. In 2010, the Bank has focused on designing experimental and quasi-experimental evaluations for three citizen security programs.





COMPETITIVE REGIONAL AND GLOBAL INTERNATIONAL INTEGRATION

One of the sector priorities established by IDB-9 is to work on competitive regional and global international integration. Hence, the Bank is developing a Strategy to Support Competitive Global and Regional Integration that should guide the implementation of the IDB-9. The strategy focuses on acting simultaneously on the policy and regulatory framework and the physical integration ensuring coherence between national and regional interventions, as well as strengthening the production of regional public goods. One of the reasons that explain the need for such a strategy is that a renewed integration strategy for the region can be a key ingredient for a wider competitiveness agenda. To compete successfully in global markets, the countries of the region should combine their integration strategies, with reforms and investments that could determine their long-run productivity growth.

Productivity remains essential to economic growth and is still a primary concern for many policy makers in the region. DEO 2008-09 reported on the IDB's role

in supporting productive development policies (PDPs) in LAC aimed at strengthen the productive structure of a particular economy (Melo and Rodriguez-Clare, 2006). This chapter devotes special attention to the efforts put in place in 2010 to demonstrate the Bank's effectiveness in this area. This includes the production of impact evaluations, the design of evaluation plans for new operations and the development of knowledge- and capacity-building products (KCPs) aimed at closing knowledge gaps in this specific area.

This chapter focuses on the efforts made by the Bank during 2010⁵² to work: (1) in enhancing integration, trade and investment; (2) in fostering science, innovation and technology adoption and (3) in promoting the development and formation of clusters and the improvement of business environment. Besides the individual actions taken in each of these areas, strong synergies are expected from the joint efforts made in order to foster competitiveness in LAC.

⁵² Note that the figures 35-37 report information on projects finances through loans, which means that they do not display any information on technical assistance.

FIG. 35

Competitive Regional and Global International Integration. Total Financing by Sector

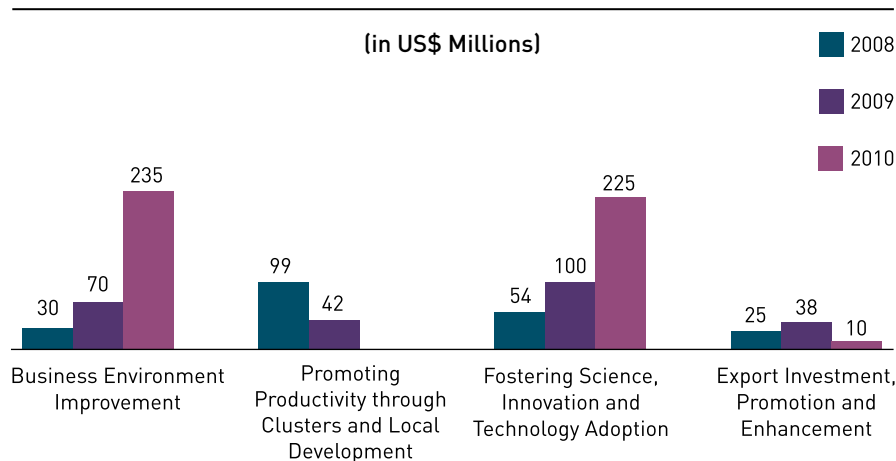


FIG. 36

Competitive Regional and Global International Integration. Total Number of Projects by Sector

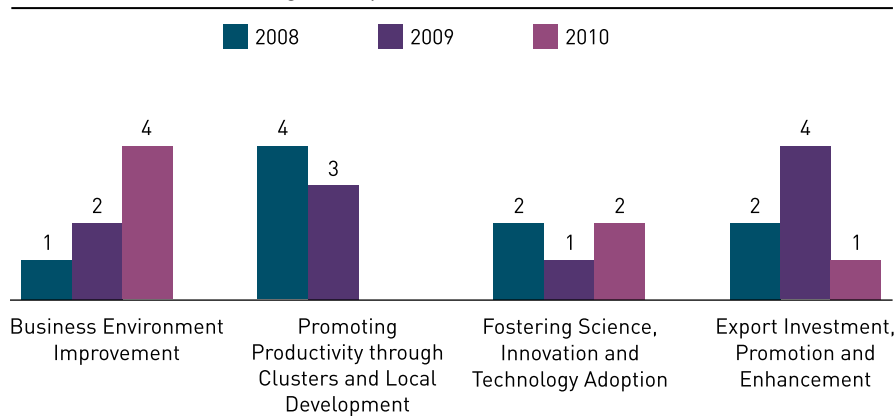
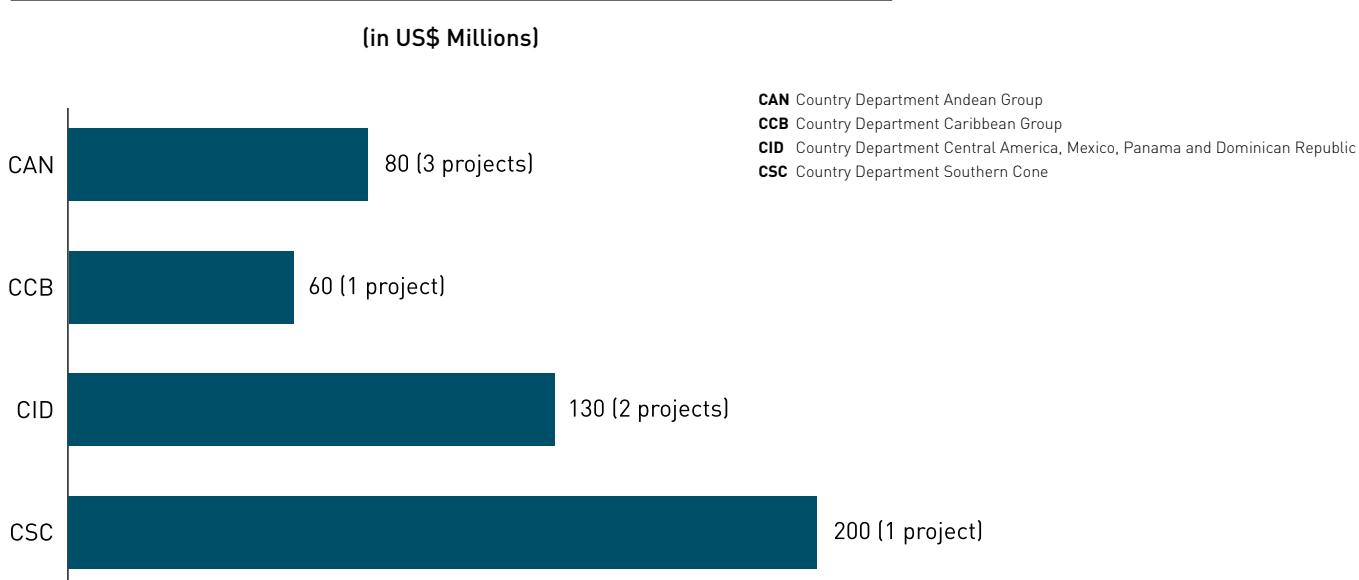


FIG. 37

Competitive Regional and Global International Integration. Regional Distribution



A. EXPORT AND INVESTMENT PROMOTION AND TRADE ENHANCEMENT

In 2010 the Bank has been working on several interventions whose aim is fostering the insertion of the region into global markets, through export promotion and investment promotion policies as well as the negotiation and implementation of trade and investment agreements and initiatives that can also include infrastructural interventions.

Export Promotion and Investment Attraction. As mentioned in 2008-2009 DEO, the Bank formally released the institutional report *Odyssey in International Markets: An Assessment of the Effectiveness of Export Promotion in Latin America and the Caribbean* in 2010. This study presents for the first time a consistent organizational characterization of the entities tasked with trade promotion in over 35 countries and regions as well as a rigorous evaluation of the effects of their activities on the declaredly primary variable of interest, exports. In particular, the report takes a first step towards improved evaluation practices and thereby better-informed policy decisions by providing estimates of the impact of export-promotion actions on alternative measures of firm-export performance (e.g., total exports and diversification in terms of destination countries and products). These estimates are based on state-of-the-art econometric methods from the impact-evaluation literature applied on new, unique datasets primarily consisting of highly disaggregated firm-level export data virtually covering the whole population of exporters and annual lists of assisted companies for six Latin American countries: Argentina, Chile, Colombia, Costa Rica, Peru, and Uruguay.

As a follow-up activity, this year the Bank organized an executive course to brainstorm with representatives from Latin American trade promotion organizations and chambers of commerce on alternatives to increase the effectiveness of export promotion. In addition the Bank has recently launched a research project aimed at analyzing the complementarities between export-promotion and innovation-promotion programs.

So far, existing evidence indicates that innovation policies have been successful in increasing firms' innovation spending and productivity (Hall and Maffioli, 2008) and that trade-promotion actions have helped firms increase and diversify their exports, primarily in terms of destination countries (Volpe Martincus, 2010).

Trade Facilitation. Since the region opened up its economy in the late 1980s and early 1990s, diverse studies have attempted to assess the impact of trade on markups, productivity and income and wage inequalities. Yet, despite the countries' poor record in ensuring that the benefits of growth are spread evenly across their regions, research devoted to understanding how trade interacts with prevailing regional disparities has clearly been scarce. This is far from a minor issue. High levels of regional disparity seen in several Latin American and Caribbean countries can threaten national unity and political stability, as has been proved by a number of events in the region and elsewhere. The Bank is therefore carrying out a research project aimed at analyzing the relationship between trade and regional convergence with a particular focus on the role of domestic-transport costs.

Both theory and the evidence available so far in the region—e.g. northern and southern Mexico, north-east and western Brazil, the extreme north and south of Chile and Northern Argentina—suggest that the good and bad results might not be entirely explained by transport costs, but that they invariably play a key role in the observed outcomes. The study's intended contribution focuses, first, on documenting and quantifying the impact of those costs on the ability of Latin America's lagging regions to trade with other regions of their countries and with the rest of the world. Secondly, it focuses on identifying the determinants of those costs and on making concrete policy recommendations on how to minimize them. Evidence generated by this project will be available in 2011 and will be reported on in next year's DEO.

Negotiation and Implementation of Trade Agreements. In the mid-1980s, in response to the prevail-



ling technological and economic stagnation associated with the exhaustion of the import-substitution model, LAC began to transform its approach to development, placing integration into regional and global markets at the center of its strategy to resume sustainable growth. After two decades of “open” regionalism in LAC, our understanding of its causes and consequences is still rather limited. Thus, a proper accounting of the factors that shaped the specific forms and modalities it took throughout the region is only partial. Likewise, analyses of how regionalism shaped countries’ economic outcomes, while not as few as those examining the role played by political-economy factors, are not always rigorous enough and, importantly, are far from conclusive. More generally, no comprehensive evaluation exists on the determinants and impacts of regional integration initiatives, in general, and whether and to what extent they have actually generated (some of) the benefits that they were initially assumed to be associated with. From an economic-policy point of view, this is a serious shortfall.

Countries in the region lack appropriate analytical inputs to guide their policy decisions in order to maximize the gains derived from regional trade agreements and to ameliorate or reverse their nega-

tive side effects. This is particularly critical at a time when a more complex integration scenario is starting to emerge, with some nations actively engaging in trade agreements with extraregional partners, and a growing trend to converge becoming apparent among groups of arrangements. Given this, the Bank is revisiting the LAC experience with regionalism over these 20 years through a series of research studies that primarily—but not exclusively—aim to identify the main political-economy determinants of the process. These will assess to what extent regional trade liberalization has transformed the region into an export platform from which countries can ship their products to extraregional partners, and evaluating the potential trade effects of the (different schemes and sequences of) convergence among the multiple trade agreements LAC countries take part in.

Results from this research initiative will be instrumental in advancing existing knowledge in this area, allowing the IDB to more effectively help countries design strategies to make the most of their trade policies. The first studies will take place during the course of 2011 and results will be published in next year’s DEO.

Box 13

India: Latin America's Next Big Thing?

Over the past decade, the economic performance and future prospects of LAC have been radically transformed by the emergence of China, which has brought both opportunities and challenges for all countries in the region (Devlin, Estevadeordal and Rodríguez, 2004).

While the full the full impact of China's emergences is still unfolding, LAC is already coming to terms with the fast growth and increasing presence of India. In an attempt to shed some light on the meaning of the surge of India for LAC, the Bank in 2010 prepared the report *India: Latin America's Next Big Thing?* (Mesquita Moreira, M. 2010). The motivation underlying this research initiative is to better understand and promote the potential for further trade and integration between India and LAC, while identifying the main obstacles for its realization.

Specifically, the study aims at giving an answer to the following questions: 1) What do these changes mean for LAC?, 2) What challenges and opportunities do they bring?, 3) Can LAC repeat with India the explosive trade it had with China in the last decade? 4) Would India merely amplify China's impact and present the same sort of policy challenges with which the region is already struggling? Or will India pose a different set of issues?

While trying to address the questions mentioned above, the report focuses on the main channel through which India's emergence is likely to be felt: trade and investment in goods and services. The First chapter of the report presents a background analysis and the major highlights of India's growth over the last two decades. It is shown that both LAC and India followed a long and winding road back to world markets and ended-up paying a high price in term of growth forgone. The authors of the report argue that whereas market-oriented reforms seem to be clearly behind India's take-off, their pace was slower and their scope was much more limited than similar reforms in LAC. Moreover, despite the importance of the reforms, and particularly the trade reforms, India's growth story defies any cookie-cutter characterization. It can hardly be described as an export-led growth story or as an unprecedented "service-led" story. But it does have some of the key elements usually associated with high growth, such as relatively high rates of investment in physical capital and productivity growth. This chapter concludes by addressing the issue of sustainability and by discussing two main concerns which are no strangers to LAC: fiscal fundamentals and insufficient job growth, particularly at the bottom of the income distribution.

The Second chapter of the report analyses LAC-India bilateral trade, investment and cooperation, and assesses its determinants, potential, and constraints. If trade theory is any guide, there seems to be a large potential for LAC to trade with India, and largely for the same reasons that its trade with China has taken off: India is, by any measure, a country that is relatively scarce in natural resources and abundant in labor, whereas most of LAC is the opposite. Moreover, size and the similarity of consumer preferences between the two economies can also provide powerful incentives to trade. However, evidence shows that both the volume and diversification of bilateral trade fall short of what is suggested by theory. This is particularly evident when China—whose endowments complement LAC's to the same extent as India's—is used as a benchmark. The high tariffs and transport costs and, to a lesser extent, the mismatch between India's exports and LAC's imports seem to be the main explanation behind this "missing trade." It could be argued that benefits of actions to reduce these trade costs likely extend beyond trade. They will also provide firmer ground for boosting still limited bilateral investments. In addition, they will strengthen and consolidate the growing number of India-LAC cooperation initiatives in areas that include education, poverty alleviation, and joint action in international fora.



Finally chapter Three tries to assess the competitive pressures on LAC's producers of services and goods arising from India's emergence. Unlike the case of China, India's penetration in world markets has been driven more by services than goods, which raises entirely different questions for LAC. This chapter takes a close look at this challenge, analyzing India's and LAC's competitive strengths based on available, hard-to-get, data on trade in services. It also examines goods and, unlike services and unlike the case of China, the issue here is more India's potential as an exporter rather than the current size of its presence in world markets.

The report's conclusions display the main policy recommendations for both maximizing opportunities in bilateral trade with India and for meeting the challenges that the emergence of this country poses to the region. Specifically, in a scenario in which India could join China as a major exporter of manufactured goods, the manufacturing "road" to development will become even more congested and particularly hazardous for countries that cannot count on an abundant supply of skilled workers. Hence this scenario is a call for governments in the region to increase productivity by addressing the well known deficiencies in education, access to credit, science and technology and infrastructure.

Box 14

Working with Regional Public Goods: Salud Mesoamérica 2015

The Salud Mesoamérica 2015 Initiative (SM2015) is an innovative public/private partnership between the Bill & Melinda Gates Foundation (BMGF), the Carlos Slim Health Institute (ICSS), the Government of Spain (AECID), the countries in the Mesoamerican region, and the Bank.

SM2015 was built on the regional efforts of the Proyecto Mesoamérica (PM), including the Mesoamerican Public Health System (SMSP), and the Council of Ministries of Health of Central America (COMISCA). With a five-year program (ending in 2015), it aims to support the achievement of the health related Millennium Development Goals through investing in projects with proven effectiveness for the poorest 20 percent of the population in the areas of (1) reproductive health; (2) maternal, neonatal and child health; (3) maternal and child nutrition; (4) immunization, and (5) malaria and dengue.

SM2015 seeks to support the Mesoamerican governments in their efforts to achieve the health-related Millennium Development Goals and to reduce the health equity gap in the region. The Initiative's objectives are to: (1) Increase the supply, quality and utilization of basic health interventions in poor communities; (2) Contribute to the creation of a sustainable political and financial commitment to close the health equity gap, and (3) Increase availability and use of evidence for pro-poor health policy.

To achieve these objectives, SM2015 will support the delivery of integrated, cost-effective, supply and demand-side interventions by using a results-based financing model, implementing evidence-based health policies, and creating incentives to improve the use of quality health services. In addition, SM2015 will develop a proof of concept for malaria elimination and dengue control in the region.

The design and implementation of interventions will be supported by policy dialogue activities that will include among others, participation of civil society organizations. Each country will implement between one and three operations during the life of the Initiative. All country operations will be executed through the SM2015's results-based funding model. As such, the IDB and each country will enter into an innovative contract that is expected to galvanize implementation efforts and efficiency by independently monitoring results, providing incentives and paying for performance. This high effort includes allocation of additional resources to the poorest for evidence based interventions. Country operations are complemented by a strong monitoring and evaluation plan in order to document, inform and improve the work undertaken by the Initiative.

The Initiative will systematize the evidence generated, produce case studies, and identify good practices and causality to understand how results are or are not achieved in order to learn, replicate and scale up interventions.

Box 15

Trade Finance Support

The IDB private sector window has been supporting trade finance activities of its member countries. The support for trade finance is expected to contribute to economic reactivation and benefit an even broader-range of countries in the region. Trade finance activities in the private sector started in 2003 with the International Trade Finance Reactivation Program for Private Sector Development (TFRP). This program was approved in a context of high volatility of international capital flows and dramatic decline in the availability of international resources that affected Latin America and the Caribbean (LAC) during the late 90s. In the early years of the 2000s, the access to trade finance became a significant bottleneck to economic development, affecting opportunities for increased free trade and global integration in the region. In 2005, the Board of Executive Directors (BOD) approved to extend this program on a permanent basis in order to allow the Bank to continue maintaining fast response capacity to adverse impact of volatility of international capital flow.

Through the support of trade finance, the IDB intends to play a counter-cyclical role in increasing and stabilizing the flow of financing to LAC countries' external sectors, which is vital to local economies. The facilities and programs created aim at alleviating country and commercial risk constraints of international banks *vis-à-vis* their LAC counterparts, and overcoming the lack of an international funding base of many LAC banks for short-term trade credit, particularly for smaller exporters and importers. Moreover, via the support to trade finance funds, the IDB intends to provide an additional source of traditional financing to smaller exporters and importers which otherwise would not be able to access stable and sufficient sources of financing from local financial intermediaries.

As commercial banks tend to focus their business on larger transactions rather than smaller labor-intensive transactions, the implementation of the IDB's TFRP program was important to propose new products aimed to address market failures related to short-term trade financing to smaller exporters and importers. For this reason, a market niche was identified and an alternative model that had not been tested in the market was proposed. The model proposed by the Bank comprises both direct financing to financial institutions and investment funds and partial or total guarantees to financial intermediaries (issuing banks) that participate in trade finance activities. The model has so far been successful in terms of the amount of the transactions and final beneficiaries. To date, SCF has approved and implemented four trade finance transactions, Bradesco, Crecera Regional Trade Finance Facility, IIG Regional Trade Finance Facility and the Trade Finance Facilitation Program. As of December 2010, the Bank also has supported about 1.146 trade transactions through the issuance of guarantees and loans under its Trade Finance Facilitation Program.

B. FOSTERING SCIENCE, TECHNOLOGY ADOPTION AND INNOVATION

As reported in 2008-2009 DEO, even if science and technology (S&T) has been growing in the region in absolute terms, it has been decreasing in relative terms. Additionally, given their level of income *per capita*, it was shown that many S&T indicators are lower than expected. More importantly, the low levels of investment in research and development (R&D) registered in LAC could be explained by the fact that innovation

activities in LAC focus on the adaptation of existing technologies instead of addressing the development of internal R&D, thus widening the knowledge gap in the sector.

The Multitreatment Effects of Innovation and Export-Promotion Policies. Both conceptual and empirical literature suggests that innovation and export-promotion policies might be two of the most tightly coupled productivity-enhancing policies. The rationale for these two types of policies rests on the ex-

istence of knowledge and information spillovers from innovation and business-search activities, respectively, which can potentially result in sub-optimally low levels of investment in these activities. As mentioned earlier, there exists evidence that indicates that innovation programs have increased firms' innovation spending and productivity and that export-promotion programs have helped firms increase and diversify their exports. Nevertheless, despite the fact that the literature clearly suggests the existence of interdependences that may generate a potential virtuous circle between innovation, exporting, and productivity growth, virtually nothing is known on whether and how the aforementioned public-support programs interact with each other. No insights are available therefore on how they should be coordinated and sequenced to maximize their direct effects on their primary variables of interest, exports and innovations, and consequently on firms' productivity. Given the possible synergies between innovation and export-promotion programs, an analysis of the complementarities between the different sets of instruments is called for. This could include R&D grants or tax credits in the case of innovation policies, and sponsoring the participation of firms in trade missions in the case of export-promotion policies.

In an attempt to shed some light on this knowledge gap, the Bank is working on a study that will produce entirely new evidence on how innovation and export-promotion policies feed back into each other at the firm level, and thereby potentially affect productivity. The results of this study will help policymakers by identifying the main transmission mechanisms through which innovation and export-promotion policies interact (e.g., do they operate through product or process innovation, through an increased volume of exports, or through larger market diversification?). Particular attention will be devoted to the impact of these policies on SMEs.

In order to assess the combined impact of a given innovation and export program on firms' innovation efforts and export performance (intermediate out-

comes) and productivity (final outcome), multi treatment evaluation methods will be used (e.g., Lechner, 2002, Imbens, 2000). This approach not only allows a comparison of the effectiveness of different policy instruments that may affect related outcomes of a target population, but also an assessment of the benefits of implementing complementary policy instruments. For this purpose, this methodology compares the performance of beneficiaries of one instrument, beneficiaries of multiple instruments and nonbeneficiaries.

Studies based on this approach can provide strategic insights on the effectiveness of a mix of policies in fostering firm-level performance in the region. This approach has not been applied so far to evaluate the interactions between innovation and trade policies. In terms of information, this research will build on the efforts already carried out by the Bank teams to integrate registered data on programs' beneficiaries over eight years or more. Given data availability, the first country to be examined will be Chile. Chilean data will be used to develop and fine tune the evaluation methodology, which will be applied subsequently to three other countries in the region. Finally, the evaluation methodology will be generalized to the region as a whole, based (and within) the limitations of a regional-enterprise micro-level data survey currently under construction.

By examining whether export and innovation-promotion policies cause any significant feedback effects, and by identifying the main transmission mechanisms, this new research project will fill an important knowledge gap, generate a set of analytical tools to help countries in the region improve the evaluation of their productivity-enhancing public policies, and contribute to better design of future policies. First results will be available in 2011. In carrying out this project, the Bank will also actively support a network of researchers on these issues; promote a multi-stakeholder policy dialogue among ministries and/or departments of trade and science and technology on the coordination of export and innovation policies; and produce recommendations on data collection and data linking.

Assessing the Long-run Effects of Technology Development Funds. As highlighted by the previous DEO, further research is still needed to understand the long-run effect of technology development funds (TDFs). Past IDB evaluations have shown quite consistently that TDFs are effective at the level of research and development (R&D) input additionality (Hall and Maffioli, 2008, López 2009). In particular, these studies found that public funding does not crowd out private investment and in many cases has a positive effect on the firm-level intensity of R&D. However, evidence regarding the impact TDFs have on innovative outputs and firm performance was inconclusive.

To fill this gap, the Bank carried out a study on the long-run dynamic effects of a matching-grant program managed by the Colombian agency COLCIENCIAS. The study was designed to take advantage of panel data long enough to detect the long-run effects of the program (Crespi, Maffioli and Melendez, 2010).

The study shows that COLCIENCIAS funding not only had a positive impact on firms' investment in R&D, but also had a significant impact on their performance. It also provides evidence that these effects remain and, in some cases, increase over time. Of particular interest are the effects on productivity. Over the period 1995-2007 COLCIENCIAS funding had an average impact on introduction of new products and labor productivity of around 12 percent and 15 percent respectively, with these effects becoming more significant between three to five years after the firms started being treated. These findings imply not only that beneficiary firms become more efficient, but that they grow more and gain a greater market share than the control group. The consequence is that economic resources are being reallocated towards more productive firms, hence impacting also productivity "in the aggregate".

The importance of these results is twofold: first they confirm that TDF are effective not only in promoting R&D investments, but also in boosting firms' performance in the long run. Secondly they show that longer-term impact evaluations of such projects enable the detection of impacts on some of the most relevant variables of interest. This does not necessarily mean that final impact evaluations should be carried out five years after the project's execution. Evaluations could focus instead on the first cohorts of treated firms, so that by the end of a program some results on performance could also be assessed. This is precisely the approach taken by the US Congress for the evaluation of the Small Business Innovation Research (SBIR) program. The moment the program was approved in the early 1980s, Congress asked the Small Business Administration (SBA) to ensure that beneficiaries of the first three cohorts be followed up over the next decade (Lerner, 2002).

To obtain these results, the COLCIENCIAS evaluation relied on a unique data set. In particular, the study required matching the administrative records from COLCIENCIAS with the Annual Manufacturing Survey (EAM, from its Spanish name) and the Colombian National Innovation Survey (EDIT, from its Spanish name), both collected and managed by the Colombian Statistical Office (DANE). In this way, it was eventually possible to estimate the effect of public funding on firm-level indicators over a 13-year period.⁵³

The study adopted rigorous impact-evaluation techniques, most notably a specification that aims to remove biases due to firm-level fixed effects (observable and unobservable). In addition, to test the robustness of the results of this specification, the study combined the fixed-effect estimations with the matching of firms' characteristics at the baseline and included placebo tests to check for endogeneity through the estimation

⁵³ Given the confidentiality of the data, the estimations were conducted following DANE's microdata-access policy, which implies working in situ under the supervision of DANE's staff and with blinded access to sensible information. This particular setting was then adopted to carry out other evaluation projects reported in this overview, in particular the Bancoldex and the Colombian National Guarantee Fund.

of anticipatory effects. One limitation of this approach is that data linking can only be done on already existing data registers. So, in this case, the use of the EAM somehow restricts the analysis to manufacturing firms and firms with more than 10 employees.

Innovation Policies and Employment. A second knowledge gap tackled by the Bank in this area concerns the effects of promoting innovation on employment. For many Latin American countries, science and technology policies have gained importance as a means to promote economic growth and sustainable development. However, the dynamic relationship between innovation activities and employment generation is still mostly unclear, with potentially contrasting outcomes depending on the type of innovation and the time frame considered. Given the key role played by employment generation in reducing poverty and inequality, a deeper knowledge on this topic will greatly contribute to the design of policy instruments aimed at pursuing growth with equality. For this purpose, a multiyear project is currently supporting studies and policy evaluations in five Latin American countries (Argentina, Chile, Colombia, Costa Rica, Uruguay).

Because the relationship between innovation and employment generation is a complex one, depending on many different transmission mechanisms, feedbacks and institutional factors (Harrison et al. 2005), the core part of the project focuses on analyzing this relationship. Whether and how innovation creates new jobs depends first and foremost on the type of innovation. The process of innovation is generally driven by labor-cost considerations and tends to reduce labor. The introduction of new products or services may replace or add to the list of existing products or services, with different effects on employment generation. Marketing and organizational innovation are likely to improve productivity and make firms more competitive (Nickell, 2002). The effects of innovation on employment depend also on the state of technology and

the demand conditions. Finally, innovation can also affect employment indirectly, through complementarities in consumption goods and increased variety or better quality of intermediate inputs.⁵⁴

Although this relationship has been studied in developed countries, evidence is lacking in Latin America where the very idiosyncratic nature of innovation and labor markets requires an ad-hoc analysis of the topic. Latin American firms tend to produce different types of innovations based on the imitation of best practice (rather than being the first to introduce world innovations). Also, the innovation process itself might respond to different objectives, incentives, and factor endowments, and go in different directions than in developed economies.

In addition, the Latin American production structure is strongly dominated by small and medium enterprises (SMEs) whose contribution to employment and innovation processes may differ significantly from those of larger firms. Although more likely to fail, when SMEs do survive, they normally show systematically higher employment-growth rates and can play an important role in the process of job turnover (Doms, Dunne and Roberts, 1995; Evans, 1987 and Hall, 1987). Innovation in SMEs is strongly dominated by informal searching routines and learning from already available technologies, while in large firms innovation processes are more systematic and tend to be formalized in R&D labs (Baldwin, 1997).

Finally, cross-country differences in the relationship between innovation and employment could reflect differences in institutional frameworks (affecting both labor and product markets) and innovation systems. A better understanding of how innovation relates to employment growth in Latin America could suggest policies aimed at making a better use of existing resources.

⁵⁴ Harrison et al. (2005), Klette and Forre (1998), Spiezia and Vivarelli (2002), and Doms, Dunne and Roberts (1995) among others provide empirical basis for some of these hypotheses in developed countries.

Box 16

Productive Development Policies and Employment

In a study financed by the Bank, Castillo et al. (2010) evaluate the impact of the *Programa de Apoyo a la Reestructuración Empresarial* (PRE). The study focuses on the impact of the PRE on employment, wages, and exports. PRE was implemented in Argentina between 1999 and 2007 and aimed to foster firm competitiveness by developing the market of professional services for SMEs and promoting access to those services. In particular, the program cofinanced up to 50 percent of the technical-assistance services. The direct cost of the program was US\$16 million with approximately 1,200 SMEs gaining technical-assistance services between 1999 and 2007. Firms received support for organizational development, development of information systems, quality management, and development of new products and services. The program was horizontal and demand driven and adopted only some basic eligibility conditions. In particular, beneficiary firms needed to be more than two years old and to be in good standing with both the fiscal and social-security authorities.

Given that the beneficiaries were not randomly selected, the study adopts a quasi-experimental approach for the identification of a proper counterfactual. In order to eliminate selection biases due to eligibility criteria and firms' self-selection into the program, the authors use propensity-score matching (PSM) and DD to control for observed and unobserved heterogeneity between treated and control firms.

The study is based on a unique dataset that matches two different sources of information: the administrative records of the program and a dataset constructed by the *Observatorio de Empleo y Dinámica Empresarial* (OEDE) that contains social-security and customs information for all the firms and employees in Argentina. These sources of information allowed the authors to construct a long panel of firms (12 years) in which the PRE's beneficiaries were precisely identified. An important feature of the dataset is that it contains information since 1996, three years before the first group of beneficiaries received the PRE's support. This feature allowed the authors to provide evidence in favor of the main assumption of the DID method, that is that the trends of the outcome variables for controls and treated would have been identical in absence of treatment. *Ex-ante* trends are not usually available in impact evaluations due to data restrictions.

The study's results show that the program was effective in increasing employment, real wages, and the probability of exporting. Although the available information does not allow authors to evaluate the program's effect on firms' productivity, they point out that these effects do suggest an increase in the productivity of the beneficiary firms. First, the joint increase in employment and real wages reflects an increase in the marginal productivity of labor. Second, following the hypothesis of selection in the export market, the increased probability of exporting may also reflect higher productivity, which would allow firms to afford the cost of exporting.

The second part of the project focuses on generating evidence on the effect that policy tools aimed at fostering innovation may have on employment. As mentioned above, an increasing number of impact evaluations have shed light on the effectiveness of grants, targeted credit lines, and fiscal incentives on the innovative effort of firms in Latin America. However, the evidence on other variables such as employment is less conclusive. For this reason, this project will finance impact evaluations of instruments such as the FONTAR in Argentina, the FONTEC in Chile and the COLCIENCIAS in Colombia with a specific focus on employment. Where possible, the studies will distinguish between

the funding granted for process and for product innovation to better understand the linkage between type of innovation and employment generation.

Most of the evaluations will be conducted using available secondary data, in particular innovation and industrial surveys managed by national-statistic institutes and administrative records at firm-level managed by other government agencies. In most cases, this information will allow panel data to be established and, therefore, a combination of DD and matching techniques will be used to estimate the impacts.



Development of Human Capital and the Colombian System of Science, Technology and Innovation.

The first phase of the “Project to Strengthen the National Science, Technology, and Innovation System” in Colombia, approved by the IDB Board of Directors (June of 2010), devotes US\$2 million to the financing of impact evaluations. With these resources and the technical support of the IDB, the Colombian Institute for Scientific and Technological Development (COLCIENCIAS) will carry out impact evaluations in three key areas of intervention: building human capital and promoting research in the sciences; elementary- and middle-school science education; and innovation by Colombian firms.

In the first area, the IDB project will support impact evaluations of grants for master and doctoral students, young researchers and scientists. Building on the IDB’s previous experiences in this area, the evaluations will focus on both the career achievements and the scientific productivity of the grants’ beneficiaries. The beneficiaries of the COLCIENCIAS grants

will be compared with control groups of students, researchers and scientists who applied for the grants but were not selected. The data for the evaluations will be constructed from COLCIENCIAS’s administrative database of curriculum vitae (CV-LAC) and international bibliometric datasets (SCI-Expanded). The effects of these programs will be estimated using quasi-experimental techniques, including regression discontinuity and DD.

In the second area, the IDB project will support the evaluation of the ONDAS program, which aims to promote science among elementary- and middle-school students. In particular, the program finances the training of teachers on pedagogic approaches based on the development of scientific research projects with children. The evaluation will focus on students’ learning achievements, which will be measured through standardized tests and specific surveys. The evaluation will adopt an experimental design and the training will be randomly assigned to a group of applicant teachers.⁵⁵

⁵⁵ This study is similar to the one on innovative methods to teach math and science to elementary school students in Argentina as described in the chapter on Social Policy for Equity and Productivity.

In the third area, the IDB project will support the evaluation of programs aimed at promoting innovation in Colombian firms. In this case, COLCIENCIAS will provide grants, matching grants and credit to support the development of specific innovation projects. The evaluation will focus on a set of firm-level outcomes, including innovation intensity (ratio between investment in R&D and sales), interconnectedness with the system of innovation in the country (number of linkages with university and research organizations), innovation outputs (number of new product and new processes) and productivity (labor productivity and total factor productivity).

The data for this evaluation will be mainly constructed on the basis of the National Innovation Survey. This survey will be applied to all the firms that will request COLCIENCIAS's grants, matching grants and credit, in addition to the sample regularly collected by the National Administrative Department of Statistics (DANE). In this way, the evaluation will be able to compare the COLCIENCIAS's beneficiaries with a control group of firms that applied but did not receive financial support and an additional control group of firms that did not apply for financial support. The effects of these programs will be estimated using quasi-experimental techniques, including regression discontinuity and DID. This evaluation will build upon the IDB's previous experience in evaluating the COLCIENCIAS grants.

Impact Evaluations of the Development and Strengthening of Scientific, Technological and Innovation Capacities in Argentina. The Bank has been working very closely with the Argentine authorities to develop and consolidate the National System of Innovation through the Program of Technological Modernization (PMT), whose third and last phase ended in 2010 (PMT III). In 2009 the Bank approved a conditional credit line with the Argentine Government to strengthen the national innovation system based on lessons learnt, among others, from PMT. The program design includes a component for monitoring and impact-evaluation activities. With these resources and the

technical support of the IDB, the Ministry of Science and Technology (MINCyT) will carry out impact evaluations in three key areas of intervention: increasing innovation by Argentine firms and institutions, building human capital, and promoting research in the sciences.

In the first area, the IDB project will support the evaluation of programs aimed at enhancing the innovation capacities of private firms. The evaluation will adopt a quasi-experimental design already used in many impact evaluations of technological development funds (TDF), including FONTAR, particularly appropriate when panel data are available. In the case of FONTAR, panel data will be constructed on the basis of secondary data built upon national statistics and administrative records managed by government agencies. As in the case of Colombia, a set of firm-level outcomes will be evaluated, including innovation intensity, innovation processes and products.

In the second area, the IDB project will support the evaluation of programs aimed at promoting the creation of scientific and technological knowledge, the training of researchers, and the creation of service platforms that could contribute to solving social problems. The evaluation uses a method already applied in Argentina for the evaluation of FONCYT (Chudnovsky et al. 2008) as well as for other evaluations of policies for scientific enhancement. The evaluation will use a quasi-experimental methodology and will consider both the level (measured as number of publications) and the quality (number of citations) of the scientific production of researchers five years before and after the intervention. The information on the control group will be constructed with the MINCyT and other organizations of the National System of Innovation. As mentioned earlier, longer time frames for evaluations should be considered in order to detect impacts with more accuracy.

Box 17

Innovation in Medicine and ICT for Inclusion

Medical Technology Innovation for Nicaragua

SCT is financing a project executed by the Massachusetts Institute of Technology (MIT) known as *Medical Technology Innovation for Nicaragua*. Working with local partners, MIT has designed five easily deployable biomedical training kits to foster innovation and creativity among medical professionals. The project will educate health workers in Nicaragua about state-of-the-art biomedical techniques that they can employ to create new medical technologies to meet the needs of the populations they serve. Building capacity within the educational and research system will enable local physicians to gain access to better and more affordable medical tools, and provide improved healthcare services to their patients.

Evaluating such a project requires a variety of approaches, especially to capture the degree of innovativeness among the participating health workers. Both the process and the impact must be studied. To assess the impact, two approaches will be used: before-and-after comparisons and with-and-without treatment comparisons. The evaluator is designing questionnaires for data collection (baseline and follow-up) and will also carry out interviews, focus groups and field visits. The surveys will be distributed to participants in the program (health workers) but also to end users (patients) in order to measure the use of the biomedical training kits and the perception of innovativeness among the health workers. To carry out the evaluation, SCT is teaming up with MIT and with an external evaluator. The MIT team is also taking advantage of in-house expertise from other parts of the university both on evaluation and innovation.

ICT for Inclusion: Using Technology to Include Children with Disabilities in School

In Ecuador the IDB is financing a project to increase the use of ICT in the education of children with disabilities, carried out by the NGO Fe y Alegría. To measure the impact of the intervention, a quantitative evaluation is being implemented. Treatment (special hardware and software designed for children with disabilities, and redesigned curricula that integrate ICT into all classes) will be applied to the children at the Special Education Institute Fe y Alegría in Santo Domingo de los Colorados, while their center in Guayaquil will serve as a control group. The evaluation has two main components: household surveys and academic testing. Surveys of families and children in Santo Domingo and in Guayaquil will be carried out at the beginning and end of the project, to measure changes in situation, behavior, attitude, aspirations, and so on among the target population and their families. Children at the school in Santo Domingo will be tested, as well as the control group in Guayaquil.

Interesting challenges arise when working with children with disabilities. For instance, there can be great variation within age groups, especially in children with developmental disabilities. The project team is taking great care to control for these issues. In addition, the survey firm will be thoroughly briefed on how to work with this population. Deaf children, for instance, will be interviewed through sign-language interpreters, rather than their parents, to make sure that their opinions, not those of their parents, are voiced in the survey.

Box 18

MIF and Software

TRAZ.AR: Argentina

The TRAZ.AR program was implemented between 2004 and 2006 in Santa Fe, Argentina, and consisted on developing a software to store and administer information associated with the displacement of livestock. Its main objective was to implement techniques for livestock identification and registration that aimed at increasing the value of livestock production and to improve the prospect of producers to sell in more valuable market niches, such as the European Union, where traceability is a requirement for meat exports. Besides, this program also intended to enhance the efficiency and administration processes of livestock activities.

The control group to identify the program's impact was obtained by selecting producers with similar characteristics to the beneficiaries with respect to land, socio-economic characteristics, geographic location and technological access. Using different econometric techniques including differences in differences, the TRAZ.AR beneficiaries had a better performance after the program compared with the nonbeneficiaries. The program participants also showed a higher capacity to adapt to external negative shocks such as weather related issues or the unpredictability associated with the implementation of public policies that might affect livestock production. The beneficiaries also portray a better understanding of the livestock business that is attributed to the association with other producers and the participation in all the links of the production chain. The results highlight an effect of 13-14 percent in the stock of livestock and an increase in the employment of qualified workers.

The Business Development Program for the Software Industry (PASS): Uruguay

The PASS in Uruguay was a non-reimbursable MIF facility approved in May 2001 and formally launched in March 2002. The program was designed with the objective to increase the global competitiveness of the small and medium enterprises software producers in Uruguay. PASS aimed at providing the initial inputs for quality enhancement, managerial strengthening, and standard setting for the software industry. The program provided among others: (1) training or technical assistance for at least 160 SMEs in the software sector and (2) an estimated 600 SME staff trained on internationalization, management, and quality control.

The impact evaluation was based on the identification of a control group that was conducted through surveys that were administered to beneficiaries and non beneficiaries. The responses were used to match the profile of participants and non participants that answered the survey. The results show that PASS beneficiaries show higher rates in sales and exports as well as employment compared to the control group.

Overall, the outcomes obtained by the program include: (1) at least US\$2,5 million in new exports by participants SMEs; (2) new sales in the amount of at least US\$3,78 million by participants SMEs; (3) an estimated 88 new high-value added jobs created by SMEs through 2005 and 302 through 2009, and (4) an increase in the client base of participants of at least 316 new clients.

C. THE CHALLENGE OF EVALUATING CLUSTER POLICIES

The idea of promoting the formation and development of clusters is based on the assumption that firm-level productivity benefits from agglomeration. These agglomeration economies are the result of a set of industry- and location-specific positive externalities derived from knowledge spillovers, input sharing, and labor-market pooling. These externalities and the lack of coordination between local agents could lead to low-investment equilibria, therefore justifying public intervention.⁵⁶

Although there appears to be a general consensus on the benefits of cluster policies, rigorous impact evaluations of such policies are scarce and the evidence on their effectiveness is somewhat inconclusive. This knowledge gap has also limited the ability of policy makers to make use of lessons learned from the design and implementation of these interventions. For this reason, as mentioned in 2008-2009 DEO, the Bank developed a work program to close this knowledge gap and to provide some guidance on how to evaluate and improve the design of future cluster policy operations.

To tackle these challenges and to achieve a deeper understanding of the impact of cluster programs, the Bank has adopted a pragmatic approach: to produce both a methodological toolkit for the evaluation of cluster policies and a pilot evaluation of the cluster policy in Brazil.

Toolkit for Evaluating Cluster Projects. The objective of the methodological toolkit is to enhance the Bank's ability to assist policy makers in the region design and implement impact evaluations of cluster and value chain projects. The toolkit will include a review of best international practices in this area, particularly in Latin-America. It will address the issue of

how to adapt standard impact-evaluation techniques to the specific challenges of evaluating cluster projects. In addition, because of the key role of linkages and coordination in cluster development, the use of complementary quantitative approaches such as Social Network Analysis (SNA) will also be discussed. It also hoped that the toolkit will foster policy dialogue through a series of training workshops for relevant agencies in the region.

One of the challenges when evaluating cluster policies is that these projects are not implemented firm by firm, but by groups of firms in a certain location. In addition, cluster projects aim at fostering the overall performance of such firms by implementing actions that may involve only sub-groups of the target population, creating a mix of direct and indirect effects. Those firms that agree to actively participate in the cluster development plan obviously are directly affected by it. Those that do not actively participate in the project however may still benefit from positive externalities and general equilibrium effects just by being located in the area of intervention (Angelucci and Di Maro, 2010; Angelucci and De Giorgi, 2009; Avitabile and Di Maro, 2007). They might for example gain indirect knowledge "spillover" from technology-adoption processes carried out by the beneficiaries; or enjoy the benefits of an improvement in the quality of the local labor force due to training activities performed by the beneficiaries. Likewise, the project's beneficiaries might demand more inputs from their local providers or, conversely, provide their local clients with higher quality inputs.

If not carefully taken into account, externalities and general equilibrium effects may lead to underestimation of the impact of a cluster project. First, spillover effects complicate the identification of a proper counterfactual. Nonparticipant firms that are potentially similar to the project's beneficiaries are likely to be

⁵⁶ Intervention is also clearly needed when negative agglomeration externalities occur.



located in the area of intervention. However, this comparison group would be highly likely to be contaminated by spillover effects. This means identifying a comparison group outside the projects' area of intervention. Second, unbiased direct effects would still provide an underestimation of the overall impact of a cluster project, because it would not attribute to the project the benefits generated through the spillover effects.

For these reasons, a well-designed evaluation of a cluster project should be based on the comparison of different groups of beneficiaries and nonbeneficiaries. To properly measure the direct effect of the project, beneficiaries of the program should be compared with similar firms located out of the area of intervention (and influence of externalities generated by the program). To measure the indirect effect due to externalities and general equilibrium effects, nonbeneficiary firms located in the area of intervention should be compared with nonbeneficiary firms located out of the area of intervention. In this way, the evaluation could count on nonbiased estimates of direct and indirect effects. The sum of these effects gives an estimate of the overall impact of the project.

Another key challenge in evaluating cluster projects is related to the presence of networks of linkages among firms and institutions. In this case, the problem is to understand how these linkages affect firm and cluster performance, and how cluster projects affect them. To tackle this issue the toolkit will focus on how to combine SNA techniques and impact-evaluation techniques. SNA focuses on uncovering the interaction patterns of economic agents (firms, universities, local governments, etc.) through graph theory. SNA allows the direct measurement of networks' characteristics, such as density, agents' position and linkages' distribution. In this way, it is possible to quantify concepts such as embeddedness and social capital, and to analyze the dynamic of the relationship between network and agent characteristics. SNA is a powerful tool for assessing the impact of policies aimed at strengthening ties between organizations. This approach will also help to better understand the

mechanisms through which impacts filter from firm to cluster level and vice versa.

A Pilot Evaluation of the APLs in Minas Gerais and São Paulo. As well as developing a toolkit evaluating cluster policies, the Bank is working on a pilot evaluation of local industry cluster (Arranjos produtivos locais, APLs) policy in Minas Gerais and São Paulo. As discussed in 2008-2009 DEO, the IDB has adopted a comprehensive approach to cluster development, supporting actions that range from cluster identification, to the financing of small infrastructure, club goods and other services that are underprovided due to some type of market failure. This comprehensive approach was adopted to support the programs implemented by State Governments in Minas Gerais and São Paulo in close partnership with the Agencies for Micro, Small, and Medium-sized Enterprises (SEBRAE), and the Federation of Industries in those states.

The objective of these interventions is to enhance the productivity and competitiveness of the firms located in the participating productive clusters and thus, to contribute to the economic development of the states. These interventions seek to (1) motivate and mobilize cluster stakeholders (firms, support institutions, and public agencies) around the need to analyze the performance and capacities of the local productive system; (2) develop a vision and joint strategy to enhance productivity and learning and innovation capacities among cluster firms, and (3) formulate and implement an integrated set of actions to promote innovation and joint learning, overcome technological and environmental constraints, and strengthen the local innovation system. These interventions also seek to enhance the level of articulation of public and private institutions providing support to firms.

The pilot study on the APLs policy in Minas and São Paulo will use secondary data from 1996 to 2007 built by the Instituto de Pesquisa Econômica Aplicada (IPEA) on the basis of administrative records such as the *Relação Anual de Informação Sociais (RAIS)* of the Brazilian Ministry of Employment and Labor (Minis-

tério do Trabalho e Emprego, MTE) and data on foreign trade from the Secretaria de Comércio Exterior (SECEX) of the Ministry of Industrial Development and Foreign Trade.

The aim of the study is to estimate the program's impact on employment, wages, labor productivity and exports among both direct and indirect beneficiaries. Indirect beneficiaries will be from similar firms located in municipalities that were not supported by the cluster program. Given that the IPEA's data provide panel-data information, the study will use a DID approach. The data will allow controlling for several years before the project was implemented in the Minas Gerais and São Paulo, potentially enabling the estimation of unbiased direct and indirect effects.

Summing-up. In 2010 the IDB further increased its effort in producing rigorous evidence on the effectiveness of PDP policies including export and investment

promotion and trade enhancement, science, technology adoption and innovation, and cluster policies. Particular attention has been devoted to filling important knowledge gaps such as the long term effect of finance for innovation, the effect of technology adoption on employment and the conjoint effects of export and innovation promotion and the effectiveness of cluster policies.

In addition, the Bank improved the evaluation design of operation in this area including evaluation plans with more carefully planned and budgeted evaluation activities. The development of a specific toolkit on how to evaluate this type of projects is also expected to have a significant impact on the evaluability of future operations. Moreover, several studies are also making important steps to set an agenda for the design and implementation of evaluations of regional public goods.





PROTECTING THE
ENVIRONMENT,
RESPONDING TO
CLIMATE CHANGE,
PROMOTING RENEWABLE
ENERGY, AND ENSURING
FOOD SECURITY

Protecting the environment and natural-resource base while ensuring food security remains a key challenge in Latin America and the Caribbean (LAC). The complexity of doing so is compounded by the need to address and adapt to global climate change. To work together with member countries on these issues, the Bank's Ninth General Capital Increase sets a target of 25 percent of total lending to support climate change initiatives, sustainable energy and environmental sustainability. This is a substantial increase from the 2006-09 baseline of 5 percent of lending to these areas, and is to be achieved by 2015.

Increased lending in these areas requires carefully considering the most effective use of Bank funds. As part of its activities to ensure that funded projects are

effective in bringing about development, the Bank is preparing a Climate Change Strategy that will guide investment in areas that seek to mitigate climate change through the reduction of greenhouse gas emissions and adapt to the potential impacts of climate change.

The four major areas of Bank activity under this institutional priority include the promotion of renewable energy, environmental protection, response to climate change, and agricultural development to enhance food security. Renewable energy has already been considered in chapter II, Part II. Figures 38-40 below show the total number of projects by sector, total financing by sector, and project components by sector in 2010.

FIG. 38
**Protecting the Environment, Responding to Climate Change,
 Promoting Renewable Energy and Ensuring Food Security.
 Total Financing by Sector**

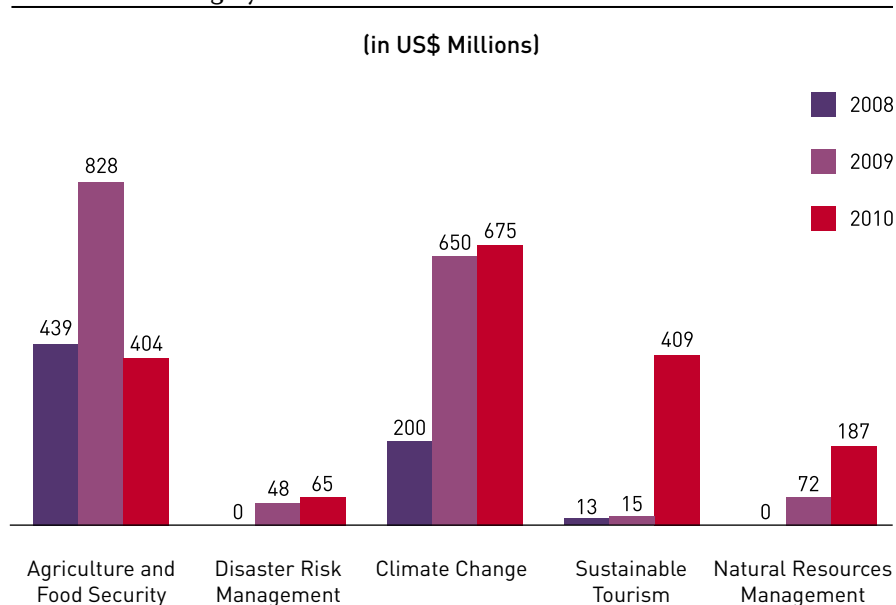


FIG. 39

**Protecting the Environment, Responding to Climate Change,
Promoting Renewable Energy and Ensuring Food Security.
Total Number of Projects by Sector**

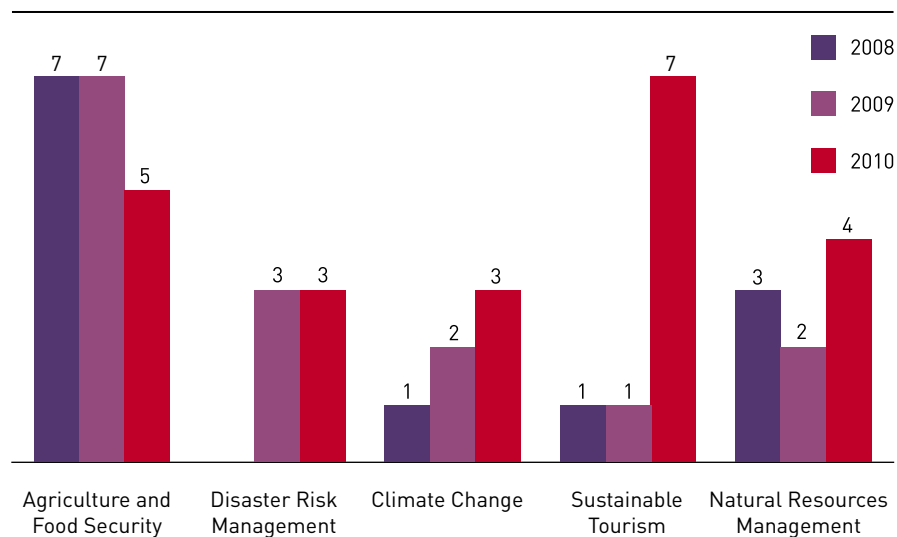
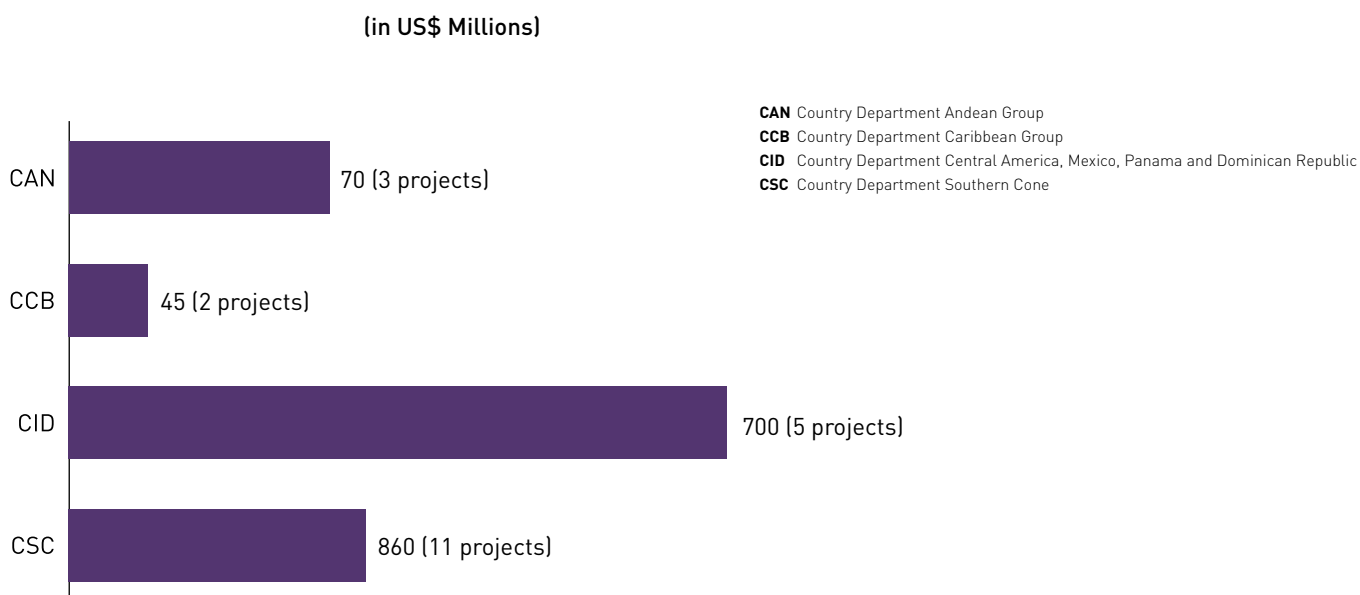


FIG. 40

**Protecting the Environment, Responding to Climate Change,
Promoting Renewable Energy and Ensuring Food Security.
Regional Distribution**



The nature of the operations in this institutional priority area creates substantial challenges in determining the development effectiveness of investments. Agricultural projects seeking to improve productivity and enhance food security may be difficult to evaluate since they often involve secondary effects that need to be measured. Operations that promote sustainable tourism to enhance food security, and that create national parks or marine reserves tend to target specific, unique geographic areas, which makes it difficult to find a counterfactual. Environmental and climate change projects often have very long time horizons and require a series of steps be taken over the long-term to have an impact. While it is still possible to take steps to assess the development effectiveness of these projects, it often requires being creative in the manner in which this is done. In this chapter, the activities of the Bank in this regard are highlighted.

The remainder of this chapter focuses on innovations in IDB project implementation that will enable rigorous project evaluations and contribute to greater development effectiveness. For agricultural development and food security, we discuss two innovative impact evaluations of projects covering agricultural-technology transfers in the Dominican Republic (PATCA) and income transfers to farmers in Mexico (PROCAMPO). These evaluations will provide answers to key questions about how to promote productivity improvements in agriculture. While the PATCA evaluation will be based on random assignment and will explore desirable spillover effects, to evaluate the effects of PROCAMPO, a program which started 15 years ago and that has not been rigorously evaluated, propensity-score matching, instrumental variables, and panel data will be used.

The next set of projects highlights a range of activities to assess the role tourism projects in addressing poverty. The data collection and simulations models included as part of a number of tourism projects will be used to determine the conditions under which tourism is most likely to reduce poverty.

The third set of projects highlights the strong links between food security, environmental protection and climate-change adaptation; and in one case, climate-change mitigation as well. In the Nicaraguan Environmental Program for Disaster Risk and Climate Change Management, the goal is to reduce the vulnerability of rural populations and infrastructure to climate-related disasters, in an upper and lower watershed. The timing of program implementation will enable researchers to establish treatment and control groups using a “randomized phase-in” technique, allowing the team to evaluate both environmental conservation and agricultural productivity gains due to the project.

A knowledge- and capacity-building product, undertaken in Guatemala and Colombia, also focuses on evaluating costs and benefits to both conservation goals and to local incomes in the forest sector. This information will also be useful in prioritizing projects that can take advantage of funding under the Reduced Emissions from Deforestation and Degradation (REDD+) mechanism. Team members will use matching techniques, based in part on a novel use of satellite-imagery data, in order to establish treatment and control sites. In the Barbados Coastal Risk Assessment and Management program, the evaluation will focus on the impact of improved coastal-zone management and investments in infrastructure. In order to assess the complex and inter-related impacts of this project, a “Risk Management Index” indicator will be constructed and followed over time. This will use 24 subindicators associated with six risk-related characteristics for four sets of public policies.

Finally, the last section discusses projects intended to aid countries in identifying adaption investments and strategies for limiting the impacts of climate change by increasing access to relevant information and building capacity to generate country or region-relevant knowledge on potential climate-change scenarios, and to improve institutional coordination and capacity to address the wide-ranging and cross sectoral impacts of climate change. Combining climate-



change models with relevant scenarios is a useful, but challenging, methodology for identifying priority areas of concern and for assessing potential adaptation-related investments. This is being addressed under the Climate Change Modeling for Latin America and the Caribbean project, in association with the U.S. National Center for Atmospheric Research (NCAR). The application of such modeling and scenario analysis is captured in the Olmos project, an irrigation and watershed management project financed by the Bank in Peru.

The chapter then highlights not only the objectives of the projects, but also knowledge learned from earlier project evaluations and research, and the important innovations in project design that will enable more rigorous evaluations at the end of the projects. They also show the range of techniques available to improve impact evaluation under different circumstances. Innovations include randomization techniques, the use of propensity-score matching and instrumental variables, panel data-analysis techniques, simulation models and sophisticated coupled-modeling approaches.

A great deal of empirical evidence points to the fact that environmental sustainability and food security must be addressed together, even more so when considering potential changes in climate and climate variability. The rigorous methodologies to assess the impacts of the environmental and food-security projects detailed below will enable the Bank and its member countries to identify not only which types of projects and project-delivery mechanisms will increase food security while protecting the environment; the results will also generate information on key “hotspots” that are particularly vulnerable to climate-change impacts.

Much work remains to be done, however. In particular, there is a need to increase the number of countries that have the institutional capacity to undertake vulnerability risk assessments, develop socioeconomic scenarios, and work with sophisticated climate models. Further work is also needed to increase the ability of countries to generate cost-benefit information on alternative adaptation strategies. As the work in Peru

highlighted below shows, not accounting for alternative future scenarios can seriously affect the development effectiveness of investments made today.

A. FOOD SECURITY: ENHANCING PRODUCTIVITY IN AGRICULTURE

Agricultural Technology Transfer in Dominican Republic (PATCA). The Program to Support Technological Innovation in Agriculture (PATCA) was initially implemented in 2002 with the purpose of reducing poverty and enhancing efficiency and competitiveness in the agricultural sector of the Dominican Republic (PATCA I, 1397/OC-DR). The program included technology-adoption support that provided financial support to farmers through vouchers and private providers in order to promote technology adoption, and funded five different types of technologies: (1) land leveling; (2) modernization of water and irrigation techniques; (3) zero or nonfarming; (4) pasture conservation, and (5) introduction of new tree species. The program targeted rice, vegetable, fruit and tuber producers as well as livestock breeders.

The Office of Evaluation and Oversight (OVE) at the IDB did an impact evaluation for the first phase of the program (González et. al., 2009) using the propensity-score methodology to identify the program effect on agricultural productivity. Results suggest a positive impact on rice productivity and breeding, but no significant impact on other crop-productivity measures or on milk productivity. As with most *ex-post* evaluations without an *ex-ante* design, this study has some drawbacks that are taken into consideration in the evaluation design of PATCA II.⁵⁷

PATCA II also seeks to increase agricultural productivity and income by providing financial and technical support in order to promote technology adoption (2443/OC-DR). The main technologies to be promoted

are: (1) land leveling; (2) irrigation; (3) rustic greenhouses, and (4) post-harvest management techniques. These technologies will mainly benefit fruit and vegetable producers. Overall, the objective of PATCA II is to accelerate the process of technology diffusion and adoption in rural areas of the Dominican Republic.

PATCA II is a technology transfer program that is categorized as an extension-services program. These programs are justified by the presence of barriers that impede an optimal process of technology adoption which in turn influences economic growth and development. Jack (2009) categorizes these barriers into the following two groups: (1) those that impede the adoption of technologies that are favorable from a social perspective but that do not provide enough economic benefits for private agents to adopt them, and (2) those that limit adoption even if the technologies are profitable from a private perspective. PATCA II seeks to address the second type of barrier, in relation particularly to credit constraints, lack of access to information or information asymmetries and risk aversion.

To overcome these barriers, PATCA II will develop three different strategies. The first strategy is to finance on average 40 percent of the cost of the technology in order to reduce liquidity constraints. The second is to create a link between supply and demand by offering information about the different providers, costs, locations, and so on, thus reducing information asymmetries. Lastly, PATCA II will provide technical support through field agents who will promote the program in the field, provide technical guidance, and supervise the adequate implementation and utilization of the technologies. This last strategy will help to address risk aversion and uncertainty.

As well as having direct effects on treated producers, it is expected that PATCA II will have desirable indirect

⁵⁷ First, the analysis was based on a small data set with few observations, which makes identification of the impact difficult due to sampling power limitations, and limits the possibility of determining heterogeneity of impact across households. Second, the authors do not have panel data or instrumental variables that allow them to control for unobserved factors that might influence both program participation and outcome indicators. Third, program implementation does not allow for identifying spillover effects.

or spillover effects on nonparticipants. In fact, such effects are a desirable impact of the program. Various indirect effects can take place with a technology-transfer program including positive externalities and general equilibrium effects (Angelucci and Di Maro, 2010; Angelucci and De Giorgi, 2009; Avitabile and Di Maro, 2007). In the case of PATCA II, nonparticipant producers could learn the benefits of the promoted technologies from treated farmers through direct observation, social interaction or other mechanisms. General equilibrium effects may occur due to increases in income that might affect the aggregate demand and thus influence local economy outcomes. Finally, PATCA II could generate positive externalities associated with the different technologies that are being promoted.

The process through which producers will be assigned to treatment and control groups was designed specifically to identify the program's direct and indirect effects. The identification and measurement of indirect effects represents one of the major challenges associated with this type of program, as it requires careful project design and implementation.

To create a control group, the randomization of the beneficiaries of PATCA II will be implemented in two stages. First the areas to be treated will be selected, then the producers that will be included in the program will be selected. This treatment group will be chosen from all eligible producers located in the randomly selected areas who fulfill the following requirements: (1) they perform an agricultural activity; (2) they are a small to medium producer, and (3) they have formal tenure of the cultivated land.

This selection strategy will enable farmers to be categorized into five different groups: (1) eligible beneficiaries in selected areas; (2) eligible nonbeneficiaries in selected areas; (3) ineligible nonbeneficiaries in

selected areas; (4) eligible nonbeneficiaries in non-selected areas, and (5) ineligible nonbeneficiaries in nonselected areas. The direct effects of the program will be made apparent by comparing eligible beneficiaries in selected areas with eligible nonbeneficiaries in nonselected areas. The indirect effects on eligible producers will be found by comparing eligible non-beneficiary producers in selected areas with eligible nonbeneficiary producers in nonselected areas. Indirect effects could also occur among ineligible producers. To measure this type of impact, we will need to compare the ineligible in selected areas with the ineligible in nonselected areas. The total impact of the program is the sum of the direct and indirect effects.

It is likely that the selection process will not result in a simple experiment as there might be some producers in the treatment group who will not receive the program. In fact, once the farmer is selected into the treatment group the field agents need to corroborate that all requirements are fulfilled and that land characteristics are appropriate in order to implement the technology. To participate, producers need to finance on average 40 percent of the technology and there is no guarantee that all the selected farmers will be able to pay, even if an *ex-ante* economic analysis is performed for each producer. This issue is widely known in the literature as noncompliance. The instrumental variables technique will be applied to deal with this issue, where the instrument is the randomization itself as it is correlated with program participation but not with the outcome of interest.

The data-collection strategy for the PATCA II impact evaluation requires two rounds of surveys. This will allow us to have a panel dataset to control for time-invariant unobservable characteristics, time trends and initial differences.⁵⁸ The baseline survey will be administered in 2011 and the follow-up survey in 2014 to between 3,500 and 4,000 agricultural producers.

⁵⁸ Because the main objective of the surveys is to collect detailed agricultural data, the best time to collect the survey is right after the main crop harvest takes place, in March. This reduces measurement error because the farmers' recall period is shorter and producers are more aware of the amount of inputs used and the total output obtained. Besides, this avoids the possibility of producers estimating future yields and sales which could be rather inaccurate.

PATCA II is the first agricultural technology-transfer program in LAC that will randomly select beneficiaries for participation in order to promote transparency and equal opportunity. This allows a careful measurement of the program's direct and indirect effects. This program will serve as a model for the execution of similar programs that aim to implement a combination of vouchers and private providers in the LAC region as well as an example of how important it is to embed the evaluation design in the project-design stage. The results obtained from the impact evaluation will be an important element in helping policy makers and international organizations understand the dynamics that lead to technological adoption and diffusion in rural areas in developing countries, as well as its effects on agricultural productivity. Lessons learned from PATCA II will also be crucial in the implementation of potential agricultural policies in the Dominican Republic and other countries in the region.

Farmers Direct Support Program PROCAMPO (*Programa de Apoyos Directos al Campo*) was originally designed to compensate staple producers who were expected to face declining prices after the initiation of the North American Free Trade Agreement (NAFTA). The program provided cash transfers to agricultural producers who had land dedicated to staple production in the period prior to the initiation of NAFTA. PROCAMPO has been in place for over 15 years, and while it has been modified over that time it continues to provide a subsidy per hectare of land cultivated with any legal crop or under an authorized ecological project to all farmers who originally subscribed.

As one of the main instruments of Mexican agricultural policy today, PROCAMPO seeks to improve the wellbeing of farmers by increasing and stabilizing their income. To accomplish this, the program provides decoupled direct-support payments to help farmers overcome the financial constraints that may limit their capacity to make productive investments. Although decoupled subsidies are not directly linked to production choices, empirical evidence suggests that they can affect production decisions, particularly

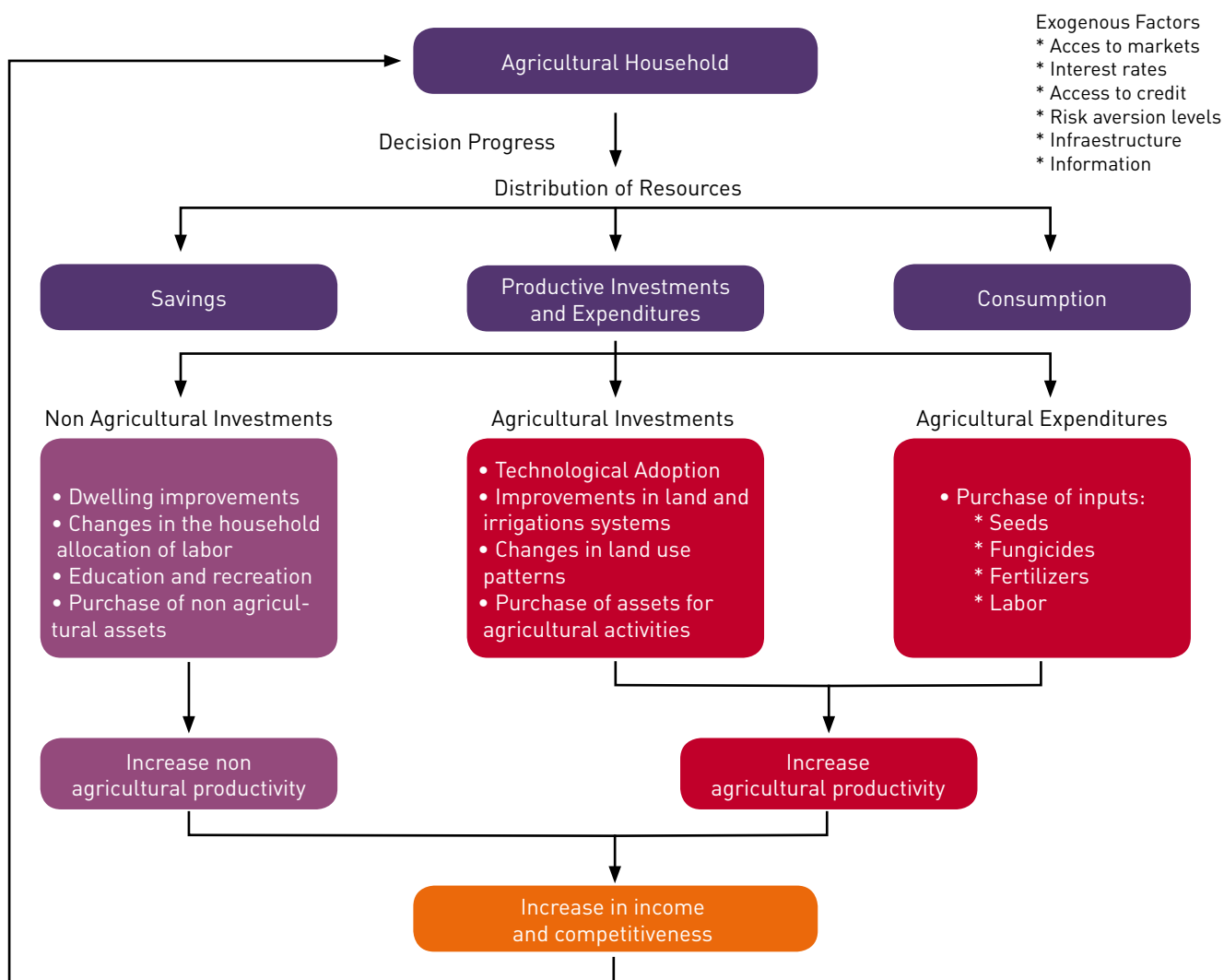
under the presence of market imperfections such as credit constraints. By providing cash, PROCAMPO helps credit-constrained farmers invest in agricultural production and obtain higher returns on production. In this way, each *peso* transferred to a farmer may increase income by more than a *peso*, creating a multiplier effect.

To understand how PROCAMPO transfers can increase household income beyond the amount of the transfer, we need to analyze agricultural-household behavior, particularly in the face of market imperfections such as liquidity constraints. The impact-evaluation analysis will be based on the nonseparable household-model framework which is appropriate when markets are either thin, missing or incomplete (Singh, Squire and Strauss, 1986; Bardhan and Udry, 1999; Taylor and Adelman, 2003). The multiplier effect of PROCAMPO takes place when producers decide to use their cash transfer to undertake productive investments or productive expenditures (agricultural or nonagricultural). The decision to undertake productive investments is clearly linked to financial (liquidity) constraints. In fact, if the farmers were not financially constrained in making productive investments, PROCAMPO would not have a multiplier effect because the transfer would be used to increase savings or consumption. Based on this, there are some hypotheses about the possible mechanisms through which PROCAMPO can have an income-multiplier effect, as shown in figure 41.

The strategy to evaluate PROCAMPO will focus not only on measuring the direct impact on farmers' income and welfare, but on understanding the channels through which PROCAMPO transfers can increase farmers' income beyond the amount of the transfer. The evaluation will first identify the impact of PROCAMPO on productive investment and spending in agriculture and secondly it will identify how this can be translated into higher productivity and thus higher income and competitiveness.

Because PROCAMPO has been in place for over 15 years, the principal challenge of the impact evalua-

FIG. 41
Mechanisms for Multiplier Effects of PROCAMPO



tion relates to the identification of a counterfactual. As is well known, the counterfactual is crucial in any impact evaluation because it allows one to attribute identified impacts to the program by identifying what would have happened in the absence of the program. In the case of PROCAMPO, some preliminary analysis has been done to identify the possibility of obtaining a

reasonable control group using secondary data such as the ENHRUM I and the Agricultural Census 2007.

Given that beneficiaries and nonbeneficiaries were not randomly assigned to PROCAMPO, the evaluation will implement various methods to identify the program's impact. In particular, the main approach

Box 19

Hypotheses and Indicators for PATCA and PROCAMPO

A broad set of indicators have been defined to test the various hypotheses on how the programs will produce the intended outcomes. All of the indicators will be computed and compared with the same indicators for nonbeneficiaries. Some of the most relevant are:

PATCA increases

- ...on average, the beneficiaries' agricultural net income.
» Net Agricultural Income (\$)*
- ... the average total-factor productivity (reproductive efficiency) of the beneficiaries.
» Total-Factor Productivity; Reproductive Efficiency
- ... the average value of production per hectare of the beneficiaries.
» Value of production (\$/hec)
- ... the average yields per hectare of the beneficiaries.
» Yields per hectare (tons/hect)
- ... the average value of inputs used for production per hectare of the beneficiaries.
» Value of inputs per hectare (\$/hec)
- ... the average percentage of commercialized production of the beneficiaries
» Percentage of commercialized production (%)
- ... technological adoption by the beneficiaries
» Technology User (Y/N)

*Dominican Peso \$

PROCAMPO increases

- ... agricultural competitiveness of the beneficiaries
» Cost per unit produced (\$/unit)*
» Price per unit sold (\$/unit)
- ... the average income of the beneficiaries.
» Total Income (Sum of agricultural and nonagricultural income (\$)).
- ... agricultural productivity of the beneficiaries
» Total Factor Productivity (total production/inputs)
» Yields (Tons/hect)
- ... the average value of production per hectare of the beneficiaries.
» Value of production (\$/hec)
- ... the amount of cultivated land of the beneficiaries.
» Amount of land cultivated (hectares)
- ... the amount of commercialized agricultural production of the beneficiaries
» Food security index
- ... the amount of consumption expenditure of the beneficiaries.
» Consumption Expenditure (\$)

*Mexican Peso \$

will be a combination of propensity-score matching and panel-data-generated double differencing. This will allow us to eliminate the biases caused by observable and time-invariant unobservable characteristics. Also, an instrumental-variables approach will be used in order to control for time variant and time invariant unobservable characteristics that might affect both participation and project's outcomes.

The impact of PROCAMPO is expected to be heterogeneous; understanding how the impact may vary among different types of beneficiaries is also important for

designing policies to complement the program's transfers. For this reason, the evaluation will assess the heterogeneity of impact by implementing a careful data-collection strategy on a nationally representative sample. This will allow the impact to be measured by land size, geographical regions, access to irrigation and type of land tenure, among others. The evaluation will devote particular attention to the assessment of the impact of PROCAMPO on poorer farmers.

The data-collection strategy represents one of the most important IDB efforts to obtain first-hand empi-



rical evidence of program impact. It includes collecting two rounds of survey data in 2011 and 2013, in order to create a panel of about 10,000 farmers. The survey instrument is a rich questionnaire that comprises about twelve modules and over 300 questions regarding farmers' livelihood strategies, income sources, demographic information, access to savings and credit, and food security, as well as a very detailed module on agricultural inputs and production. The collected

data will be a valuable resource with information that is useful not only to evaluate PROCAMPO, but to understand farmer behavior in Mexico. The final result of the evaluation will not only provide evidence of the multiplier effect of PROCAMPO on farmers' income and agricultural productivity, but it will also contribute to the understanding of the development effectiveness of decoupled subsidies in rural settings.



B. TOURISM FOR DEVELOPMENT AND ENVIRONMENTAL SUSTAINABILITY

The Bank has been supporting tourism development since the 1970s, starting in Cancun, Mexico. With this and other operations through the 1980s, the focus was on tourism as an earner of foreign exchange that could be used to import capital. From the 1990s through the early 2000s, the Bank's tourism investment emphasized the role of the sector in economic growth and promoting sustainability. When carefully managed, tourism can be used as a means to generate income from natural resources, such as forests and marine areas (through national parks and reserves), without destroying them and this environmental dimension of sustainability was often emphasized in Bank operations. The current focus moves beyond broadly supporting tourism for growth to using tourism to promote sustainable regional and local development through expanding local linkages and enhancing the impact on poverty (Moreda-Mora, 2010).

Although by the turn of the century the Bank's tourism investment had declined from previous levels, since 2002 the Bank has expanded its support for tourism projects with total loans approved surpassing US\$870 million in 12 countries in the region. This expanding portfolio, combined with a new emphasis on promoting tourism projects with substantial local linkages and poverty-reduction effects, has led the Bank to develop a strategy to fill the knowledge gaps related to the role of tourism in development and poverty reduction. Rather than focus on a particular tourism operation the Bank has undertaken a set of actions across a series of tourism operations and used technical cooperation funds to fill knowledge gaps. This section describes these actions, by first describing the rationale for investing in tourism, then the challenges in assessing the development effectiveness of these operations and finally the strategy that is being taken.

Rationale for Investment in Tourism as a Development Strategy.

The share of international tourist arrivals in emerging and developing countries rose steadily from 32 percent in 1990 to 47 percent in 2009. In 2009, 880 million tourists travelled abroad. About three-quarters of these journeys started in a high or upper middle income country, and almost 50 percent ended in a developing country. In 2009 tourists spent US\$305 billion in developing countries, almost three times the level of official development assistance. These numbers highlight tourism's potential to drive economic development, particularly in rural regions with natural tourist attractions, such as beaches and national parks.

Like exports, international tourism links economies to the rest of the world and brings in foreign exchange. As with the export-led growth hypothesis, the tourism-led growth hypothesis posits that tourism (1) provides foreign exchange for importing capital goods, and (2) enhances efficiency through competition with foreign firms and the creation of greater economies of scale. While domestic tourism does not do the former, it can do the latter.

This tourism-led growth hypothesis has been confirmed in developed countries with large tourism sectors, particularly Spain. Using co-integration and causality testing, results indicate that the Spanish economy has grown in response to the expansion of international tourism and the external competition it brings, with tourism earnings financing the import of capital goods (Balaguer and Cantavella-Jorda, 2002; Nowak, Sahli and Cortés-Jiménez, 2007). Further, empirical analysis cannot reject the hypothesis that tourism improves the efficiency of productive resources. Although not as complete, results from developing countries are in line with these results.⁵⁹

There is less evidence on whether such growth translates into poverty reduction. Using data from

⁵⁹ Narayan et al. (2010) find a link between international tourism receipts and economic growth in four Pacific Island economies heavily reliant on tourism. Using panel data from 17 countries in the LAC region, Fayissa, Nsiah and Tedesse (2009) find tourism revenue is positively linked with economic growth. Evidence from 42 African countries finds similar results (Fayissa, Nsiah and Tedesse, 2008).

Nicaragua, Croes and Vanegas (2008) find not only a causal link between tourism and economic expansion, but also to poverty reduction as measured by the poverty headcount. They conclude that tourism has the potential to help reduce poverty in Nicaragua. Blake et al. (2008), use a computable general equilibrium (CGE) modeling approach to provide an economy-wide analysis of the distributional effects of tourism expansion in Brazil. Their results show that Brazil gains US\$0,45 for every US\$1 unit of additional spending. The results also show that tourism benefits the lowest income sections of the population and has the potential to reduce income inequality.

If tourism is to be used as a tool for development, establishing its link to poverty reduction and maximizing its effect is critical. Mitchell and Ashley (2010) identify three primary pathways through which tourism impacts poverty: (1) direct effects, (2) secondary effects, and (3) dynamic effects.

The direct impacts of tourism come from tourists purchasing goods and services, thus providing income to owners of businesses serving tourists (in the formal or informal economy), and labor income to the employees of those businesses.

The secondary effects of tourism include both indirect and induced effects. The former refers to the purchase of inputs from other firms to support the tourism industry. The latter refers to the spending of income earned by tourist-business owners and employees (Dwyer et al. 2004). The sum of these additional rounds of spending is known as a multiplier effect. Studies suggest that the secondary effects of tourism are around 60 percent to 120 percent of the direct effects, so that every tourism dollar spent has a value of US\$1,60 to US\$2,20 in income generated (Mitchell and Ashley, 2010). As with direct effects, the influence of these secondary effects on the poor depend on whether they own or are employed in linked activities.

Dynamic effects refer to the benefits that tourism provides by inducing greater public and private in-

vestment in infrastructure, human capital formation, business development, agricultural production and similar activities. Such investment is likely to have spillover effects on other activities, creating a more dynamic economy in the long run. This is the basis for the tourism-led growth hypothesis noted above.

The primary role of the public sector in the tourist economy is to implement policies, strategies and corresponding investments that support the development of the sector. As with other industrial clusters, location matters since the geographic concentration of tourism activities assists in making those activities competitive. In general, clusters promote competition and productivity by providing (1) better access to specialized inputs and employees, information, customers, marketing channels and institutions and public goods; (2) a greater ability to innovate through better contact with suppliers and customers, and (3) lower barriers to entry due to better information and opportunities in existing clusters (Porter, 1998). For tourism, which is often based on a natural resource or cultural heritage, investment in public goods is often necessary to assure that tourism development follows acceptable patterns of social and environmental sustainability.

Challenges in Evaluating the Development Effectiveness of Tourism Interventions. The ways in which tourism can influence poverty are well understood; the challenge is to obtain empirical evidence on the magnitude of that link. This requires evaluation of tourism projects and identification of empirical approaches that highlight the tourism-poverty relationship. There are three primary challenges in conducting such an analysis: (1) identifying a counterfactual, (2) obtaining the necessary data, and (3) incorporating secondary effects.

The standard challenge of any impact evaluation is determining what would have happened in the absence of the project. The problem with evaluating tourism projects is the highly non-random placement of tourism destinations, which are sited on the basis of unique characteristics related to their tourism po-

tential. Other regions are by definition different from the tourist region, making it difficult to find an adequate counterfactual.

The second issue relates to the availability of data. Tourism has only recently been recognized as a legitimate sector of the economy and standards for collecting tourism data are only beginning to be formalized. For example, the establishment of separate industrial accounts for tourism remains uncommon and the United Nations in conjunction with the World Tourism Organization have only recently systematized accounting procedures through the use of Tourism Satellite Accounts (United Nations, 2008). Further, indicators such as numbers of tourists or days visited are often collected while the more appropriate indicators, such as receipts from tourism, are not. Even tourism receipts are only an outcome variable in the sense that they are not a development objective in themselves. Ultimately, the increase in receipts is desirable for achieving the final objectives of employment generation and income gains, but data on how those receipts are spent is required.

Finally, as noted previously, secondary effects in tourism projects can be as large as the direct effects. In terms of poverty impacts, the secondary benefits may be greater than the direct poverty effects if, for example, the sector mostly hires skilled workers. Capturing these secondary effects becomes crucial but measuring them is complicated by the fact that tourism not only transmits income into the economy through multiple pathways and sectors, but also may affect prices and wages. Each of these factors needs to be considered in evaluating the development effectiveness of tourism projects.

Strategy for Filling Knowledge Gaps on Tourism. The primary components of the strategy are: (1) improved data collection on tourism and tourism receipts, and (2) better modeling and assessment of secondary effects. Each of the individual projects supported by the Bank is seeking to improve the collection of data, including tourist arrivals and a range of information

about their activities and spending. These efforts are complemented by activities funded through a technical cooperation that supports the harmonization of tourism statistics and creation of Tourism Satellite Accounts (TSAs) in the southern cone countries. Through a combination of these efforts, the aim is to have a critical mass of data available on tourism in LAC.

Eventually, this data can then be used to assess the impact of Bank-funded tourism projects by comparing regions in which the Bank has intervened to those where no activities have been undertaken. The approach mirrors that taken by Chomitz and Wertz-Kanounnikoff (2005) who faced a similar problem in evaluating a program to reduce deforestation in Brazil. In that case, the deforestation program explicitly targeted enforcement areas where deforestation was easily observed and likely to be unauthorized. Comparisons to nearby forests that did not meet these criteria were not valid. The solution was to identify similar areas using geographic and socioeconomic data as a counterfactual for the effectiveness of these programs. This was combined with a double-difference approach, to determine if deforestation in the target areas declined, relative to other areas, after the program was instituted. Similarly for tourism, if data on tourism receipts are available across a number of countries and regions, it is possible to determine if tourism trends in a region targeted by a Bank project are greater than the trends in similar, but nontargeted tourism regions.

The second component of the strategy is the use of simulation models to capture the secondary effects of tourism projects. To determine these effects on employment and income it is not sufficient to understand how tourism receipts have changed or been used. It is necessary to understand how the spending of tourism receipts permeates the economy and the effect it has on prices, wages, economic sectors and households. This is best done through models such as computable general equilibrium (CGE) models. A CGE model is a computer model of an economy based on data that includes all the cash flows within an economy such as

those between industries, households, government and the rest of the world and within those groupings. The CGE model can trace the flow of tourism income through the economy and estimate how many jobs are created and how much income is gained, in general, and for poorer segments of society in particular.

This type of model has been used in a Bank-funded tourism project in Rio de Janeiro, Brazil (PRODETUR-Rio). The specific CGE-model being used is a detailed multiregional one, created at the state level, but with detailed information at the municipal level. The project seeks to increase tourism outside the city, along the coast and in interior mountainous regions. The multiregional model has sufficient detail to assess tourism within targeted areas and capture broader impact within the state and country. It was used for an *ex-ante* assessment of the anticipated impacts of the project and clearly justified the project investment. The project includes funding to improve data collection that will help to better calibrate the model. The end result will lead to better data on tourism spending and a greater understanding of the impact of tourism on local employment and poverty alleviation. Similar approaches are being used in other Brazilian tourism projects.

A similar simulation approach using disaggregated economy-wide models (DEM) is being used to evaluate tourism projects in other countries as well (Taylor, Dyer and Yunez-Naude, 2005). Unlike Brazil, in these cases the countries tend not to have existing simulation models that can be built on. Further, the tourism sectors tend to be less developed and the tourism programs target high-potential, but relatively small, regions of the country. The DEM models are like CGE models in their structure and coverage of activities and socioeconomic groups, but are localized and developed for the particular purpose of conducting an evaluation. The DEMs are being created as part of the project and include extensive data collection in the target areas of the tourism programs. These data-collection efforts will include surveys of tourists, tourism-related enterprises and households living in tourist destinations. The information will be used

to form the basis of the DEMs that can then be used to evaluate how tourism spending filters through the economy and influences employment and income gains, especially to the poor.

A model has already been completed for a project in the Bay Islands of Honduras and finds that while income gains are substantial, they tend to be diluted by the fact that the increase in tourism induces migration to the islands. Of course, wages on the island exceed those of the mainland so benefits are felt both by these migrants and those who previously lived on the islands. The migration does raise concerns about the environmental sustainability of the tourism expansion and pressure on resources. New tourism programs in Nicaragua, Bolivia and Paraguay have incorporated similar evaluation strategies into their design. The combination of these data-collection efforts and modeling across the range of projects should provide clear insights into tourism-poverty links in the future.

C. PROMOTING ENVIRONMENTAL SUSTAINABILITY AND PLANNING FOR CLIMATE CHANGE IMPACT

Nicaraguan Environmental Program for Disaster Risk and Climate Change Management. As part of Nicaragua's long-term strategy to promote comprehensive disaster-risk-management in highly vulnerable watersheds, this program seeks to reduce the vulnerability of rural communities in Nicaragua to climate change. In particular, the program's investments aim to reduce vulnerability and damage to infrastructure through: (1) the promotion in upper watersheds of profitable agronomic practices for soil management and erosion control that reduce risks of landslides and help producers adapt to climate change; and (2) sustainable investments in lower watersheds of flood control and protection of waterways to reduce risk of damages and losses. These investments are coupled with actions to strengthen the national institutional framework for disaster-risk-management.

The expected impact of these interventions is to reduce municipal-level risk as well as increasing the



gross value of farm output, through increased on-farm productivity. The infrastructure investments in the lower watershed are intended to help control flooding and protect waterways and are part of an overall strategy to manage intense weather events, such as severe tropical rain falls. These infrastructure investments are complemented by investments on farms, which serve not only to help farmers manage risk, but to improve the overall water management within the watershed.

Since there is an external benefit when farmers invest in natural-resource management, the program subsidizes this investment. However, evidence suggests that programs that only provide incentives to invest in resource conservation are often unsuccessful and farmers abandon practices after incentives are withdrawn (de la Briere, 1996; Carrasco and Witter, 1991; Obando and Montalvan, 1994). On the other hand, when conservation measures are complemented by actions that improve agricultural production, even in the short term, farmers are more likely to adopt and maintain those conservation practices (Barbier, 1990; Murray, 1994; Winters, Crissman and Espinosa, 2004). To address this concern, the program promotes an Environmental Restoration System (ERS) that includes a broad technological package comprised of conservation and agricultural measures that improve resource management while enhancing agricultural productivity.

To test the success of the program in achieving these dual objectives of conservation and increased value of agricultural production, a carefully designed impact evaluation is included as part of the program. The intervention will target groups of about 20-30 farmers in three municipalities. Since the government has decided that the program will be phased in over time within these municipalities, the evaluation strategy will take advantage of this sequenced implementation to use an approach referred to as randomized phase-in. Communities will be randomly selected to enter the program during the first year, creating a treatment group. Those not included will be the initial control group. A second wave of communities will begin receiving program benefits in the second year and will also be randomly selected for treatment. The final communities will begin the program in the third year. The fact that the communities are included in waves allows for not only an assessment of impact, but also an assessment of how long it takes farmers to adopt technologies and how the benefits of those technologies evolve over time.

When using randomized phase-in there is always a concern that the control group will learn of new technologies and adopt them or, since they know they will be getting support in the future, will delay adoption and wait for government support. The problem with both these scenarios is that they may lead to contami-

nation of the counterfactual and biased estimates of impact. In the former case, adoption of technologies by the control group will result in an underestimation of program benefits since control farmers are actually adopting because of the program. In the latter case, adoption is delayed due to the strategic behavior of the control group, which can lead to an overestimation of program impacts. Although this is a concern and an issue to consider, the complexity and high initial cost of the technology make these types of effects unlikely, suggesting the randomized phase-in approach should work to create a good counterfactual.

Data will be collected on the communities through a pre-treatment (baseline) survey as well as two follow-up surveys in years three and five. The year-three survey will serve as the pre-treatment survey for the last set of communities being incorporated into the program. Households in each community will be randomly selected for inclusion in the survey with between 500-700 farmers interviewed per round and a total of just over 2,400 surveys administered. The survey questionnaire will include sufficient detail to create indicators that allow an adequate assessment of the impact of the program on agricultural production and the value of production.

Once the data is collected, a comparison of trends between the treatment and control group will be used to assess impact following what is called a difference-in-differences model in the evaluation literature. Although randomization should create a control group that is a reasonable counterfactual for the treatment group, this approach allows any remaining (time invariant) differences in the control and treatment groups to be controlled for prior to program initiation.

This approach allows for an assessment of the effectiveness of the program in promoting the adoption of conservation technologies and improving the value of agricultural production. To assess the overall impact of the program on risk management, the monitoring and evaluation plan includes the measurement of a risk-management indicator at the municipal level. This

indicator was previously developed by the Bank at the national level and will be adapted at the municipal level as part of the program. This will allow for an assessment of whether the trends in risk management are consistent with the program having an impact.

The final evaluation will then include an indication of whether the program improved farmers' well-being, enhanced resource conservation on farms and generally reduced the vulnerability of priority watersheds.

Reducing Emissions from Deforestation and Degradation. Deforestation remains a challenging issue in LAC, with 65 percent of global deforestation during 2000-05 occurring in the region. In terms of climate change, forest and tree resources play a pivotal role in terms of adaptive capacity and system resilience to climate change and variability, and in reducing greenhouse gases (GHG) in the atmosphere both by reducing emissions from deforestation and increasing carbon storage from reforestation and afforestation activities. For effective development funding, as well as being able to take advantage of financing from Reduced Emissions from Deforestation and Degradation (REDD+), countries need to know the costs and benefits to alternative measures to reduce deforestation and increase reforestation/afforestation, particularly if such measures are intended to generate REDD+ credits.

To date however, there have been few rigorous evaluations of which policies and projects lead to significant forest-conservation benefits and concomitant impact on incomes for those who are dependent on these resources. A new Knowledge Capacity-Building project will address major gaps in knowledge using an innovative and rigorous research methodology. The work will be undertaken by IDB research staff in conjunction with local partners in Guatemala and Colombia, and Resources for the Future, a nonprofit think tank based in Washington, D.C. The main goal of the project is to develop and validate a rigorous methodology that can be used for evaluating future LAC forest conservation projects; at the same time,

the project will provide cost-and-benefit evidence on specific policies and investments undertaken in Guatemala and Colombia.

As with most of the project evaluations discussed above, the guiding principle of the statistical techniques to be used is to construct a credible counterfactual for the treatment sites targeted by the policy—that is, an estimate of what the deforestation rate on these sites would have been absent the conservation policy—using the average deforestation rate on “matched control” sites that have not been subjected to the policy but that are virtually identical in every other observable respect. The impact of the conservation policy will then be estimated as the difference between the deforestation rate on treatment sites and matched control sites. A similar method is used to account for leakage, or the extent to which reductions in deforestation on protected land are offset by increased deforestation on nearby nonprotected land. Additional data on geophysical and socioeconomic variables will also be collected and analyzed to determine their effect on deforestation rates.

In Guatemala, the study will evaluate the Guatemala Mayan Biosphere Reserve (MB), which has been supported by previous IDB loans, and is the largest contiguous protected area in LAC. The MBR is divided into three zones: a zone where all economic activity is prohibited, a zone where mixed-use and community forest concessions are allowed (some of which have been certified by the Forest Stewardship Council), and a buffer zone. The rigorous matching techniques described above will thus shed light on the relative costs and benefits from the three zones, and also on the impact of forest certification. In Colombia, the study focuses on the Pacific coast forests, which are not only a biodiversity hotspot but also home to many relatively poor Afro-Colombian and indigenous communities. The main policy to be evaluated is the issuance of collective land titles; between 1996 and 2008, 157 such titles—covering over 5 million hectares—have been issued.

Barbados Coastal-Risk-Management Program. The coastal zone of Barbados is its key economic asset, playing a critical role in its tourism industry as well as in fishing and marine transport. It is also central to the social and recreational lives of Barbadians. Given this, the Coastal Risk Assessment and Management Program funded by the Bank seeks to protect this asset by building resilience to coastal risks through improved conservation and management of the coastal zone. Specifically, the program invests in new infrastructure to protect coastal regions, strengthens coastal zone-related data collection and analysis capacity of the country, and improves the institutional management of coastal zones. Through these actions, the program will build capacity in integrated coastal-risk-management and as part of this program incorporate new threats that are likely to result as a consequence of climate change.

Assessing the development effectiveness of this program presents a number of challenges. First, since all Barbadians benefit from the program, establishing a counterfactual of what would have happened in the absence of the program is not possible. Further, there are multiple outcomes of interest since, as noted above, much of the economy and well-being of Barbadians depends on proper management of coastal areas. Finally, coastal-risk-management is a long-term issue, particularly given the greater uncertainties created by climate change, making it difficult to assess impact during the life of the project.

Despite all this, in 2005 the Bank established a System of Indicators of Disaster Risk and Risk Management that can be used to evaluate the success of the program (IDB, 2005). The system describes a series of risk factors that should be reduced through public policies and actions to reduce vulnerability and maximize the resilience and coping capacity of the population. The risk factors are generally represented by indicators available in international databases and country-specific information. Each index is derived on the basis of current theory and statistical techniques, and has a number of empirical variables associated

with it. The choice of variables is driven by a number of factors including: country coverage, the soundness of the data, direct relevance to the phenomenon that the indicators are intended to measure, and quality. Of the various indicators available, the Risk Management Index (RMI) is the most relevant for the program.

The RMI brings together a group of indicators that measure a country's risk-management performance. These indicators reflect the organizational, developmental, capacity-building and institutional actions taken to reduce vulnerability and losses, to prepare for crisis and to recover efficiently from disasters. The RMI is constructed by quantifying four public policies, each of which has six indicators. The policies include risk identification, risk reduction, disaster management, and governance and financial protection. Each indicator is estimated based on five performance levels (low, incipient, significant, outstanding, and optimal) that correspond to a range from one (low) to five (optimal). This methodological approach permits the use of each reference level simultaneously as a "performance target" and allows for comparison and identification of results or achievements.

The data for the index will be collected via an online-survey questionnaire which will be sent via email to a group of technical experts with knowledge and experience in disaster-risk-management practice in Barbados. The expert group will consist primarily of representatives of public sector institutions responsible for the execution of the risk-management policies in each country, such as emergency managers; national disaster coordinators; technical staff in working in planning and development, works, geology, local government, coastal zone management, and insurance. The expert group may also include external experts with experience in disaster-risk-management in the country, such as those drawn from academia and civil society. Each expert will be required to complete the questionnaire, providing a weight as well as values for each indicator. The number of experts that will participate in the survey will vary from a minimum of 10 to a maximum of 30 to 50.

The data collected from the questionnaires will be used to construct a reliable RMI baseline as a benchmark for evaluating the impacts of the program. In Barbados, the index has been computed once in 2009 using 2008 data. As part of the impact-evaluation plan, the RMI will be updated to reflect the situation with regards to disaster risk and disaster-risk-management just before the implementation of the current operation (i.e. in 2011). The *ex-post* evaluation will be carried out via follow-up surveys in the year in which the program is completely executed. These follow-up surveys will make it possible to compare the RMI before and after the implementation of the program.

D. PLANNING FOR CLIMATE CHANGE IMPACTS: MODELING IMPACTS AND ADAPTATION OPTIONS

In the area of climate-change adaptation, the Bank's priority lines-of-action include: (1) mainstreaming climate-risk-management in country programming; (2) financing country-level climate-change vulnerability assessments, risk assessments, and strategic identification of adaptation measures; (3) investing in reducing the vulnerability of LAC countries to the impacts of climate change; (4) identifying and protecting capital assets at risk to climate-change impacts; (5) making Bank investments climate proof, and (6) increasing the region's institutional and technical capacity to confront the challenges posed by climate change.

Vulnerability and risk assessments based on historical data provide valuable information on which areas currently face high exposure and/or have insufficiently developed adaptive capacity, and thus which are likely to face even greater pressures from climate change. However, this information needs to be combined with the best-available information on potential climate-change scenarios in order to identify and prioritize adaption measures to enable countries to continue economic growth while reducing poverty in the face of changing climate conditions. At present, there remains a great deal of uncertainty surrounding likely changes in temperature and precipitation patterns as well as exposure to extreme-climate events.



To be better able to plan adaptation investments and develop capacity to respond to climate-related disasters, countries need information at higher-resolution spatial scales, and they need to develop the technical capacity to use this data for planning purposes. Building this capacity will ensure the development effectiveness of investments made across a wide range of sectors that will be particularly affected by climate change, including agriculture, watershed and coastal zone management, health and sanitation, transportation and energy.

To build this capacity, the Bank continues to support countries in developing the technical capacity to work with, and refine, global climate data and models. Currently, General Circulation Models (GCM) provide scientists around the globe with significant amounts of data that serve to assess the expected impacts from climate change.⁶⁰ The data generated varies across models, including such variables as intensity and frequency of precipitation, number of rainy days, and maximum, average, and minimum temperature, among others. However, the data are generated at low resolution, at 150 km². In order to assess potential impacts or future vulnerability to climate change at national and subnational level, data at higher spatial resolutions are required. This can be accomplished by using additional modeling techniques such as dynamic downscaling. There are different downscaling techniques and their degree of complexity varies significantly. Importantly, which techniques can be used will depend on the available local technical capacity as well as historical hydro-meteorological data. Finally, models that capture potential climate change and biophysical processes need to be combined with socioeconomic scenarios based on current socioeconomic conditions, likely future paths of development in different sectors and regions and with vulnerability analyses.

In the past year, 17 scientists and technical staff from 10 countries attended workshops dedicated to increasing the regional capacity and computing skills required to develop regionally appropriate adaptation and mitigation strategies. Specifically, workshop participants increased their ability to manage outputs produced by global-science models and the scenarios generated under IPCC AR4, and increased their capacity to manage and use newly created regional-scale climate models. The latter part of the workshop focused on developing a conceptual framework to undergird the development of regional climate-change scenarios that will also be included in the IPCC AR5 report.

A follow-on project, Climate Change Modeling for Latin America and the Caribbean, will continue supporting the development of a science-and-technology transfer program between the LAC scientific community and the National Center for Atmospheric Research (NCAR),⁶¹ by building and strengthening existing capacity for the generation, analysis and visualization of climate, climate variability and climate-change data and its integration with vulnerability and impact assessments. The work will comprise of two main components, the first focusing on capacity building, and the second on the generation of climate change and variability impact and vulnerability assessments.

Under the first component, capacity building through training and educational activities will include the collection, analysis and interpretation of climate data generated by complex climate-system models, as well as the development of climate scenarios by multidisciplinary teams. Under the second component, activities will be aimed at supporting the countries' current climate-change national agenda or IDB-specific operations in which climate-change vulnerability and/or impacts assessments would be required to strengthen

⁶⁰ List the GCM models, e.g. Hadley, etc.

⁶¹ The National Center for Atmospheric Research (NCAR) is a federally funded research and development center located in Boulder, Colorado, USA. It is one of the biggest modeling centers in the world with over 500 scientists dedicated to understanding and simulating the behavior of the atmosphere and related physical, biological and social systems.

Box 20

Modeling Potential Climate Change Impacts in Peru

A new project in Peru highlights how the use of modeling, in combination with other expert and stakeholder knowledge, can be used to evaluate alternative investment and management plans and increase development effectiveness in the face of climate change. The overall goal of providing cost-effective, environmentally friendly, and reliable water services to both current and future rural residents will depend critically on future climate conditions. Project members are developing an integrated water-resource management model, based on dynamically downscaled data generated using the NCAR regional climate-system model coupled with a regional land-surface model. Model simulations incorporating alternative climate scenarios will then generate information on how different investments and management options perform under different scenarios. The modeling work will also incorporate uncertainty regarding future changes in population growth and land-use changes as well. Incorporating these multiple uncertainties will enable project members to identify investment and management options that are both robust to uncertainty as well as providing flexibility to adapt as new information becomes available. Importantly, capacity building and training of project personnel will enable local project members to continue using the model over time, incorporating both new climate information and new scenarios as these develop.

targeted investments' resilience to climate. This includes generating climate scenarios over the short, medium, and long term for sectoral and national/sub-national planning, particularly in the water sector, and also an assessment of the effects of extreme events on ecosystems, water resources and coastal areas, agriculture, human health, and energy production.

The modeling work itself can improve development effectiveness, since the point is to build the tools and/or knowledge to integrate potential climate changes into assessments of alternative investment strategies. Given the uncertainties surrounding potential climate-change impacts, building this capacity across different agencies and at different levels of government is imperative to ensuring that investments made now continue to pay off in the future.

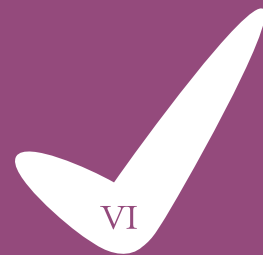
Summing-up. While the nature of operations in this priority area creates challenges in assessing development effectiveness, the Bank has made substantial progress in evaluating operations in this area using the variety of empirical methods highlighted in this chapter. The design of these evaluations are driven not solely by the desire to see if these operations achieve stated objectives, but to fill gaps in knowledge regarding the process of development and the role of projects in development.

For example, the evaluation of PATCA II in Dominican Republic aims to increase knowledge regarding the

impacts of technology transfer programs on neighbors of program recipients who are not eligible for the program. This will help build a better understanding of the transmission of technologies from initial adopters to a broader set of producers. The evaluations of the highlighted tourism projects have been specifically designed to identify the link between tourism investment and poverty. This link is often noted, but has yet to be empirically tested and through this series of evaluations the hope is to provide insight into the best manner to invest in tourism so that its poverty reduction benefits are maximized. In the case of the Nicaraguan Environmental Program for Disaster Risk and Climate Management, the evaluation is designed to determine the viability of a strategy of simultaneously improving short term farmer welfare and improving on-farm resource conservation that helps reduce long term vulnerability.

The approaches taken to evaluate operations in this priority area not only help to understand if operations are protecting the environment, responding to climate change and ensuring food security, but advance the Bank's ability to determine the effectiveness of these types of operations. Combined with knowledge products, such as the highlighted study on reducing emissions from deforestation and degradation, these and future evaluations allow for greater reflection on the approaches that are likely to be successful in the future to bring about sustainable development.





THE IDB's WORK IN HAITI

As the largest donor in Haiti, in 2010 the IDB mobilized almost US\$3 billion for the next decade. The Bank plays the leading role in the efforts to build back a better Haiti, by combining innovative ways of doing our work with a solid strategic focus marked by the ability to design comprehensive policies and adapt to a rapidly evolving context. This chapter describes the challenge created by the earthquake that hit Haiti on January 12, 2010, the key features of our leading role in Haiti and the outputs we accomplished in 2010.

A. THE CHALLENGE

On January 12, 2010 an earthquake devastated Haiti's capital, Port-au-Prince, and immediate surroundings (Léogâne where the epicenter was located, Jacmel, and Petit-Goâve). By striking at the heart of the country's economic and administrative centers, the earthquake had a severe effect on human and institutional capacities. Nonetheless, the Haitian people's resilience and determination to build a better future endures, and the IDB is taking significant steps to support these efforts.

The earthquake destroyed the equivalent of more than Haiti's total GDP for 2009.⁶² Estimates point to damages of US\$4,2 billion (65 percent of GDP) and losses of US\$3,6 billion (45 percent of GDP),⁶³ affecting both the private sector (US\$5,5 billion) and the public sector (US\$2,4 billion). About 2,3 million people, nearly a quarter of the national population, were directly affected. Over 230,000 persons were killed and more than 300,000 injured. About 105,000 homes were destroyed and more than 208,000 damaged. About 80 percent of schools in the department of l'Ouest were destroyed or damaged, affecting about 3,800 schools.⁶⁴ More than 50 health centers and hospitals

collapsed or were rendered unusable. The government lost thousands of civil servants along with most of their infrastructure which included most ministerial and public administration buildings, equipment and records. The country's main port was damaged and many roads were left unusable or blocked by debris. Since the earthquake, Haiti has coped with its first cholera outbreak in more than 50 years as well as hurricane threats.

B. THE RESPONSE FROM THE INTERNATIONAL COMMUNITY

In the immediate aftermath of the earthquake of 2010, countries, organizations, and individuals around the world were unified in responding to urgent humanitarian needs. The long-term reconstruction effort is being supported by large-scale financial and technical assistance from the international community. At the end of March 2010, a meeting to discuss the international response to the Post Disaster Needs Assessment (PDNA) took place at the United Nations, led by the Government of Haiti (GOH) and coordinated jointly by the IDB, the World Bank, the European Union, and the United Nations Development Program. At this conference, the GOH presented its Action Plan for National Recovery and Development, aimed at sustainably raising long-term growth and reducing poverty by creating decentralized economic growth poles, reducing vulnerability to natural disasters, enhancing access to basic social services, and strengthening state institutions. The international community committed US\$9,9 billion (over the next decade) in donations in support of Haiti's recovery and development plan, US\$5,3 billion of which it committed to disburse by September 2011. In addition, donors also committed to cancel Haiti's debt.

⁶² The damages and losses are estimated to be about 120 percent of Haiti's 2009 GDP representing almost US\$8 billion. See Haiti Earthquake Post Disaster Needs Assessment (PDNA) Report, March 30, 2010. (http://www.refondation.ht/resources/PDNA_Working_Document.pdf).

⁶³ Damages refer to stock of lost assets and losses to flows of forgone revenues.

⁶⁴ See <http://commissionspresidentielles.ht/gouvht/files/Plan%200p%C3%A9rationnel%2025%2008%2010.pdf> for details.



Two coordination mechanisms have been established for managing the reconstruction process: the Interim Haiti Recovery Commission (IHRC) and the Haiti Reconstruction Fund (HRF)⁶⁵. The IHRC sets strategic reconstruction priorities and coordinates government and donor activities (public and private). The HRF is located in the International Development Association

(IDA) and channels resources to finance high-priority projects, programs, and budget support for post-earthquake reconstruction and development. Since July 2010, the Bank has presented projects to the IHRC to support the commission's programming role as well as to seek co-financing when required.

⁶⁵ See Interim Haiti Recovery Commission (IHRC): <http://www.cirh.ht/sites/ihrc/en/Pages/default.aspx> and Haiti Reconstruction Fund (HRF): <http://www.haitireconstructionfund.org/hrf/> for details.

In 2010, the IHRC's board approved a total of 49 projects worth US\$2,4 billion. Of these, US\$1,5 billion or 63 percent involved projects presented by the IDB. As of December 2010, the HRF has allocated and set aside about US\$187 million to fund eleven operations, of which 19 percent is channeled through the IDB as Partner Entity.⁶⁶

C. THE IDB'S RESPONSE

The IDB is Haiti's largest multilateral donor with an uninterrupted presence of 50 years and a strong commitment to the Haitian people and government.⁶⁷ We are the only international donor to have provided Haiti with a long-term financial commitment to support and fund the country's reconstruction and rehabilitation through 2020.

A salient feature of the Cancun Declaration was the decision by IDB's Governors to provide a comprehensive long-term financial support package to Haiti. The approved measures include up to US\$200 million annually in transfers of Ordinary Capital (OC) income to the IDB Grant Facility through 2020, subject to annual approvals by the Board of Governors and the fulfillment of the respective requirements of the Bank's Charter. IDB-9 also included the cancellation of Haiti's outstanding debt (US\$484 million) and of Haiti's obligation for conversion of their local currency in the Fund for Special Operations (FSO, US\$28,5 million).⁶⁸ Outstanding loans were converted into grants (US\$144 million from existing undisbursed loans to Haiti) and one-off US\$137 million FSO replenishment was made available. These measures total close to US\$3 billion.

In response to immediate post-earthquake needs, the Bank supported emergency tasks and reconstruction efforts. To help maintain the country's administrative and financial management capacity, the Bank executed most of the operations in Haiti's portfolio as planned. In some sectors, for instance in education and in water and sanitation, the Bank reassigned resources from existing projects in order to meet pressing challenges. In the education sector the Bank modified a grant operation in order to adjust to post-disaster conditions and support an emergency-sector program, the reopening of schools, the distribution of learning materials for students and to provide financial support to schools in the non-public education sector. In the water sector, the Bank disbursed US\$2,5 million from an existing loan to support the government's water and sanitation authority (DINEPA) immediately after the earthquake in the metropolitan region to provide clean and safe water.

The Bank has established an organizational platform focused exclusively on Haiti, the Haiti Response Group (HRG). The Bank strengthened its country office and increased the frequency of missions to the field, which last year more than doubled those in 2009. Between its office in Port-au-Prince and headquarters, the Bank has nearly 50 staff working full-time on Haiti. In 2010 the Bank more than doubled the resources devoted for working with Haiti across its structure, which supported record disbursements and approvals under difficult circumstances.

⁶⁶ See for details HRF Six Months Report June 17th to December 16th, 2010 <http://www.haitireconstructionfund.org/hrf/>

⁶⁷ For example, prior to the response to challenges caused by the earthquake and the IDB-9 agreements, in mid-2009 the cancellation of US\$1,2 billion of debt in nominal terms under the High Indebted Poor Countries Initiative (HIPC) and the Multilateral Debt Relief Initiative (MDRI) took place, cancelling US\$492,3 million in nominal terms, representing 41% of total claims.

⁶⁸ In 1998, the Board of Governors of the Bank resolved to increase the convertible base of the Fund of Special Operations (FSO) by implementing a partial conversion of the FSO local currency balances available in the central banks of the borrowing member countries totaling US\$2.4 billion during the period 1999-2013. The IDB-9 allowed to extend the local currency conversion obligation schedule in the FSO by the less advantaged member countries of the Bank (Bolivia, Honduras, Nicaragua, and Guyana) from 2011-2014 to 2011-2020; and to cancel Haiti's local currency conversion obligation. Total amount scheduled to be converted by FSO countries during the period 2011-2020 totals US\$224.5 million excluding the US\$28.5 million that corresponds to Haiti.



TABLE 7
IDB Support for Haiti, 2010 - 2020 (US\$ millions)

Grants from the Grant Facility	2,200
Additional Debt Relief	484
Conversion of total undisbursed loans to grants	144
FSO Replenishment	137
Conversion of Haiti's local currency to grants	28
Total	2,993

Box 21

The Haiti Emergency Spending Allocation Request (HESAR)

The MIF launched in January 2010 the Haiti Emergency Spending Allocation Request (HESAR) budget line of US\$3 million, so as to cover expenditures necessary to support former and present executing agencies of the MIF and the Special Entrepreneurship Program (SEP).

The Clinton-Bush Haiti Fund and other foundations are contributing to this program. As of December 2010, the MIF approved US\$1,88 million in HESAR projects and was able to disburse US\$1,78 million.

The program has supported 17 MIF executing agencies of which ten are non-governmental organizations, six are microfinance institutions and one is a small agribusiness enterprise.

The HESAR's effective interventions have helped at least 180,000 microentrepreneurs, impacting approximately 900,000 people, to recover some of their losses caused by the earthquake; restart business; continue to facilitate access to financial services, business development and markets; and generate income.

In the five months that followed the earthquake, the Bank approved 30 operations totaling more than US\$114 million⁶⁹ (see box 21 for details on an emergency program created by the MIF to relieve microfinance institutions). By the end of 2010, the Bank approved US\$251 million in grants and disbursed a record of US\$203 million (US\$176,8 million were in grants, US\$22,6 million were non-reimbursable technical cooperation, and US\$3,51 million administered by the MIF).

D. DOING THE RIGHT THINGS IN HAITI: IDB'S STRATEGIC ENGAGEMENT

In order to achieve substantial development effectiveness with the financial support package for Haiti, the IDB in consultation with the Government defined six key strategic sectors that provide a framework for **doing the right things**. These sectors, reflected in the updated Country Strategy, are: (1) education; (2) wa-

ter and sanitation; (3) transportation; (4) energy, (5) agriculture, and (6) private sector development. To complement sector interventions, the IDB will promote regional development efforts in line with the government's objective to de-concentrate economic activity. The Development of a Northern Growth Pole will support private sector job creation in manufacturing, agriculture, and tourism, including the development of an industrial park.

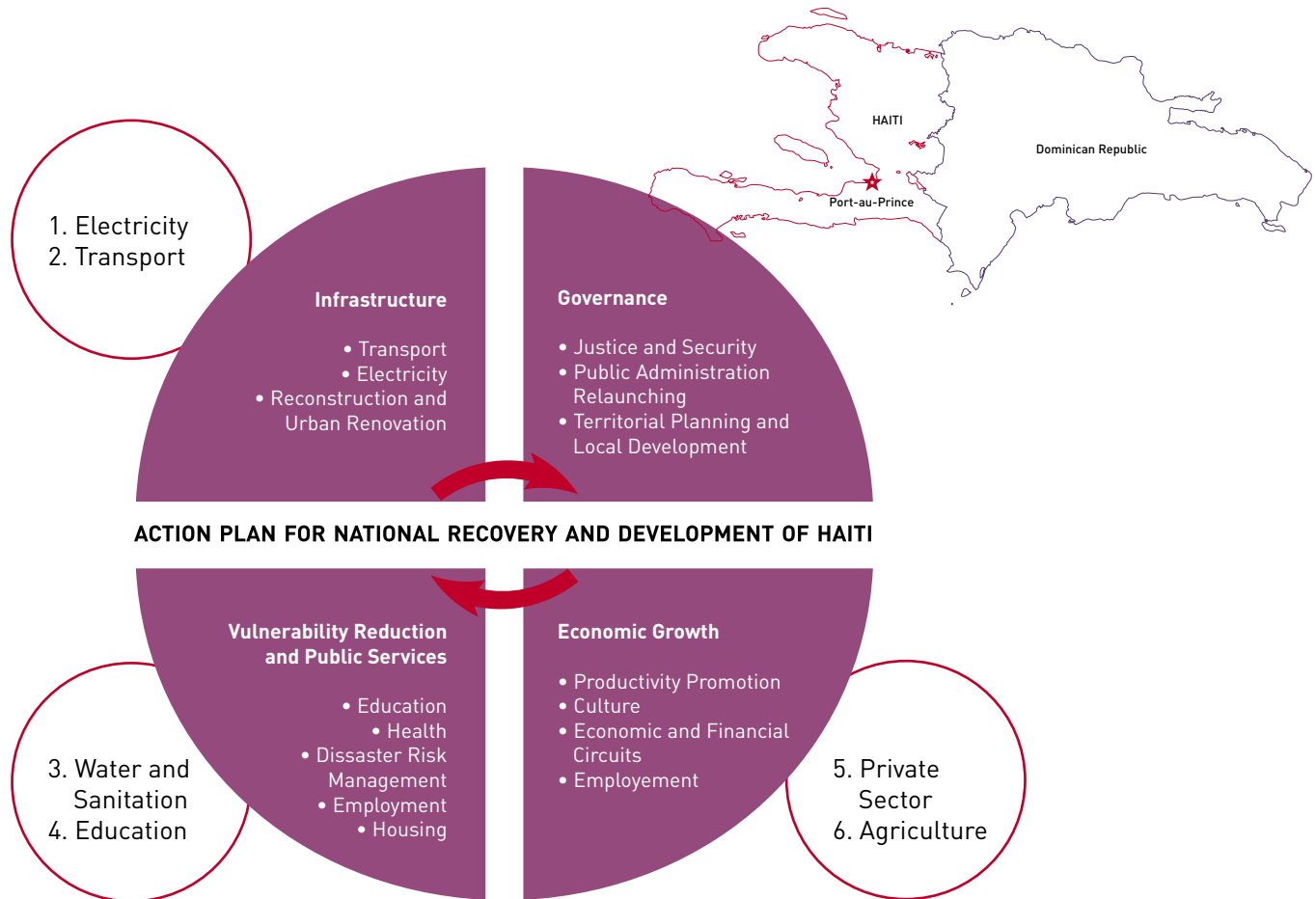
The six key sectors subscribe to the Bank's strategic priorities as established by IDB-9. Education, agriculture, water and sanitation and job-creation programs will have objectives related to *equity and poverty reduction*. Water and sanitation interventions will contribute to *environmental sustainability*, energy investments to *sustainable energy*, and transport investments and industrial-park creation to *regional cooperation and integration*.⁷⁰

⁶⁹ This includes 27 projects in the areas of microfinance, agribusiness, productive industries, water and sanitation, business climate improvement and debris removal; US\$50 million for budget support and two operations totaling US\$32,6 million for shelter and housing. In the same period, the Bank disbursed US\$41,5 million.

⁷⁰ The Bank is also a strategic partner of the GOH and has also played a key role in the Government's Action Plan for National Recovery and Development by undertaking comprehensive sector analyses.

FIG. 42

IDB's Six Key Strategic Priorities



E. DOING THINGS RIGHT IN HAITI: INNOVATIONS TO IDB'S WORK

Haiti requires innovations in the way the Bank works with the country:⁷¹

- *Partnership.* Programs will leverage partnerships for co-financing, as in education and agribusiness, as well as coordinated infrastructure investments for the creation of a northern industrial park. Multilateral and bilateral donors will be sought as well as private sector funds (see box 22). The Bank administers a total of US\$193 million from other nine funds endowed by donors, multilateral, bilateral and private.⁷²
- *Long-term strategic work.* A ten-year horizon allows for a strategic partnership in the sectors where the IDB is focusing its expertise. This is a unique scenario for the Bank to provide technical and financial assistance with more certainty of future involvement.
- *Sector and Spatial Focus.* Investments will concentrate on large programs designed to foster structural change and enable sustainable impact in six key sectors. Programs will be spread throughout the country and have an explicit spatial dimension with emphasis on the Northern growth pole.

⁷¹ The Bank's new approach to working with Haiti can serve to modify the way it works with other countries. To increase its development effectiveness in different contexts, the Bank will benefit from learning from the innovations implemented in Haiti.

⁷² This includes US\$91 million from the Canadian Joint Financing Programs for road construction projects and economic infrastructure; US\$70 million from the Spanish Fund for Water and Sanitation for projects in urban, peri-urban and rural areas; and US\$23 million from the Haiti Reconstruction Fund (HRF), Global Environment Facility Fund, the Union of South American Nations (UNASUR), the Sustainable Energy and Climate Multi-Donor Trust, and the Korean Poverty Fund. In addition, US\$9 million are Co-financing Special Grants from the European Union, the OAS and the Government of Finland for vocational training, bio-energy and agricultural initiatives.

- *Flexibility to contribute where impact is the greatest.* Having sector and spatial focus does not prevent the Bank from responding swiftly and decisively to emergencies, such as the cholera outbreak.⁷³
- *Non-sovereign financing.* A central role has been assigned to private sector development that will need the enhanced and unprecedented long-term involvement of the Bank group private-sector windows.

Box 22

Haiti Hope Project

The Haiti Hope project is a five-year partnership between the IDB's Multilateral Investment Fund (MIF), the Coca-Cola Company (TCCC), TechnoServe, the US Agency for International Development (USAID), with the support of the Clinton Bush Haiti Fund (CBHF) and other international and local actors. Its objective is to realize the full potential of Haitian mangoes. Haiti Hope will raise the mango revenues of 25,000 of Haiti's many mango farmers by 100 percent over five years - a total of about US\$11 million in income for Haiti's economy. The IDB is granting US\$3 million, TCCC is contributing US\$3,5 million, the USAID US\$1 million and the CBHF US\$0,5 million. The project started in September 2010.

The Project will work with consortiums of smallholder farmers to train producers on tactics and tools to improve productivity and quality of mango. Training will cover quality and productivity management, tree replanting to create orchards, post-harvest handling and commercialization. Haiti Hope covers three geographic regions in the first year and will expand to up to five regions over the life of the project. It is already working with existing farmer groups in Plateau Central, Artibonite and Léogâne. Haiti Hope has also partnered with local financial institutions to promote access to financial services among poor mango farmers in order to achieve its overall objective to increase farmer income.

Haiti Hope will also explore the feasibility for the development of local processing opportunities for pulping, drying and other high value mango products. These processing plants would create jobs and retain a still greater share of the mango's value in the local economy. This approach serves as a model for driving a long-term economic recovery in Haiti, based on the production of a local fruit that will improve the environmental condition of the country while enhancing lives.

⁷³ The Bank disbursed immediately after the cholera outbreak US\$2,5 million from an existing loan (HA0014). DINEPA used these resources mainly to provide water purification treatment tablets, clorox, quality control systems, soap, etc. to the most affected area.



Support for improving the education of Haitian children and developing a modern industrial park are examples of the work that the IDB is doing in two of the six key strategic sectors. Although still in early stages, these projects represent ambitious efforts to make a long-lasting impact.

F. OUR WORK IN HAITI: A COMPREHENSIVE PLAN TO RESTRUCTURE THE EDUCATION SYSTEM

Even before the 2010 earthquake Haiti's education system was among the lowest performing in the world. It is characterized by limited access, uneven and low quality, and an institutionally weak Ministry of Education and Professional Training (MENFP) unable to regulate and supervise the sector (about three quarters of the non-public schools that provided approximately 80 percent of education lacked certification or licensing resulting in poor quality of educational services provided).⁷⁴

The earthquake greatly damaged the sector in terms of infrastructure and human capital, further exacerbating these challenges. The education sector as a whole sustained damages and destruction estimated at US\$478,9 million. Many ministry staff died and the MENFP building fell, forcing surviving staff to work out of a tent.

In May 2010, the President of Haiti mandated the MENFP and the Presidential Commission on Education to create a taskforce to develop, with the support of the IDB, an overall plan for reorganizing and reforming the education sector. The plan⁷⁵ lays out a framework for achieving a publicly financed, tuition-free, well-managed education system and providing quality educational services to all children over the next five years.

It includes shorter-term strategies and goals to be reached at 3- and 18-month intervals. Basic tenants of the plan include:

- a. To improve the *quality and safety of school infrastructure* by constructing new schools; creating an institutional body to develop and enforce uniform building standards and construction codes; ensuring regular maintenance; and introducing technology.
- b. To create a single *national curriculum* that is aligned across the various levels of education, with assessment tools and clearly defined learning goals/standards.
- c. To address chronic and widespread shortages of school supplies by providing about *2,2 million school kits* with books, supplies, and uniforms to schools and students.
- d. To provide *tuition-free, publicly financed basic education* (nine years) in the form of tuition subsidies be given to families and schools.
- e. To set a premium on teacher- and administrative staff-training programs *to improve teaching quality*.
- f. To undertake a far-reaching *adult literacy campaign*.
- g. To increase *access to education for disabled children* and youth.

To achieve these objectives, reform of the governance of education is crucial. Considerable changes to financial and legal frameworks are foreseen to allow

⁷⁴ See Post Disaster Needs Assessment (PNDA) 2010. For background on the Haitian education sector, see the latest IDB project in the sector *Support for Haiti's Reconfiguration of the Education Sector (HA-L1049)*.

⁷⁵ The plan was presented to and approved by the IHRC on August 17, 2010.



for a closer collaboration between the public and nonpublic sector including: (1) reform and modernization of the central and regional offices; (2) staff training; (3) upgraded data and communication systems, as well as financial and procurement systems, and (4) strengthened capacity to regulate, monitor and implement across the Ministry. The Bank pledged to give US\$250 million in grant resources over five years in support of the government's education plan and to raise an equivalent amount from other donors resulting in a US\$500 million commitment. In November 2010, the Bank approved the first operation of US\$50 million. Also in November 2010, the first citizens Bank of Trinidad and Tobago became the first nontraditional donor to contribute, with US\$1 million for the construction of a new school.

G. OUR WORK IN HAITI: REGIONAL DEVELOPMENT WITH THE NORTHERN INDUSTRIAL PARK

The creation of decentralized new development centers that hold promising economic opportunities for Haiti's future growth is one of the most important pillars of the Haitian government's action plan. In August 2010, the GOH, private investors and international partners agreed to cooperate and collaborate on activities intended to create thousands of formal jobs and attract the types of businesses crucial to helping Haiti expand its economic capabilities through the development of a globally competitive industrial park and major manufacturing operations in Northern Haiti.⁷⁶

The GOH, the IDB and the United States Government are working together to plan the development of the industrial park, including the required supporting infrastructure and financing mechanisms.⁷⁷ This agreement marks the first collaborative public-private effort to foster employment and increase exports in the apparel industry since the earthquake and the signing of the Haiti Economic Lift Program (HELP) Act,⁷⁸ enhancing trade preferences for Haiti. The enactment of HELP by the U.S. Congress gives the apparel industry-Haiti's highest-value export market the incentive to expand sourcing in Haiti and benefit from further-improved, duty-free access to the U.S. market.

The industrial park and manufacturing operation will be located in the North-East Department on the road from Cap-Haitien to Ouanaminthe on the border with the Dominican Republic. This is consistent with Haiti's National Action Plan, which prioritizes these two regions as centers for industrial development. The industrial park is expected to cover about 150 hectares of a 250 hectares site. The park will target local and international manufacturers as well as warehousing businesses that will benefit from tax and customs advantages, as stated by existing law, and from a healthy working environment with adequate provision of private and public services.⁷⁹ The project will include improvements to transportation networks, such as primary and secondary roads leading to the park. All of this needs to be done while laying the foundations to ensure the sustainable and efficient operation of the facility, including the provision of public services.

⁷⁶ The project began on August 17, 2010 with the signing of a Memorandum of Understanding with the GOH, the IDB, and the US Government along with Hansoll Textile Ltd (Korea), the first industrial park tenant, which will anchor the park.

⁷⁷ The Government of Haiti, working with its Tripartite Committee for the Implementation of HOPE (the initiative that became HELP) and the Bank are exploring alternatives to fund the industrial park and connective roadways. The necessary electricity, housing and port requirements for such a park are being assessed by the U.S. Government.

⁷⁸ The HELP Act, approved by the U.S. Congress on May 6, 2010 would extend Haiti's trade preferences provided under the HOPE II Initiative until 2020 and expand duty-free access to the U.S. market for additional Haitian textile and apparel exports. The initiative is designed to generate jobs in Haitian factories.

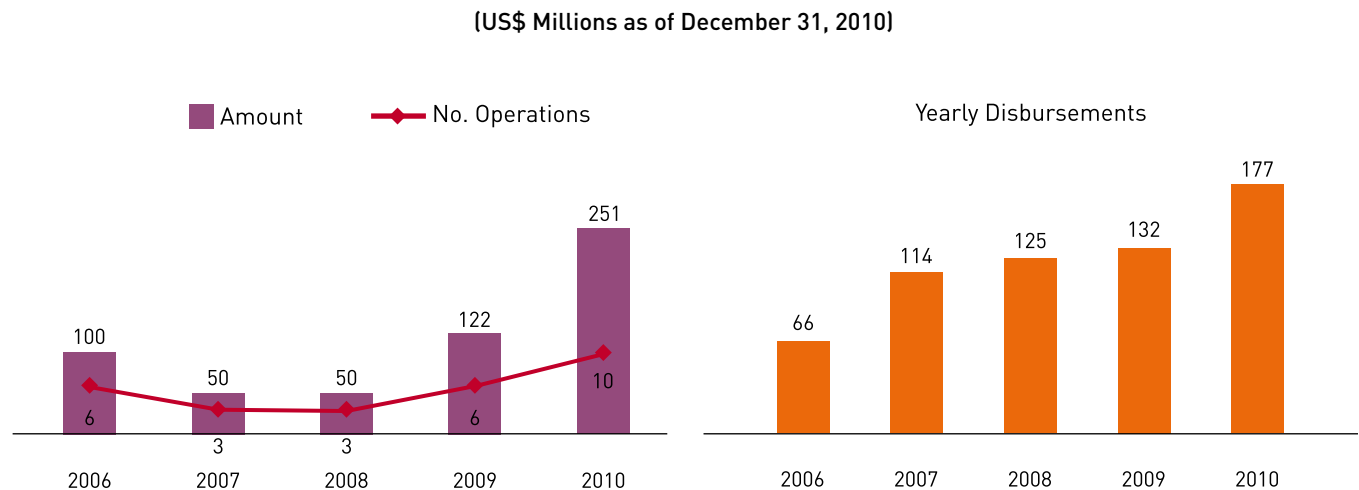
⁷⁹ Prime Minister Jean-Max Bellerive and President Bill Clinton, co-chairs of the Interim Haiti Reconstruction Commission, attended the signing ceremony held at the SONAPI industrial park on January 11, 2011. A Korean textile manufacturer Sae-A Trading Co. Ltd plans to hire as many as 20,000 workers over time, becoming the largest private sector employer in Haiti.

H. THE IDB'S PORTFOLIO IN HAITI

Yearly loan disbursements to Haiti averaged US\$37 in the early 2000s, rising gradually to US\$132 million between 2006 and 2009.⁸⁰ In 2010, the Bank disbursed a record of US\$176,8 million in grants, including outlays for school reconstruction, budget support and

other basic services devastated by the earthquake. Approvals followed the same pattern, gradually increasing until the unprecedented approved amount of US\$251 million in grants in 2010 (figure 43). Consequently, high approval levels herald potentially bigger disbursements in 2011.

FIG. 43
Haiti: Yearly Loan Disbursements and Approvals



⁸⁰ Starting in 2007, Bank's financing to Haiti was provided just in form of grants.

FIG. 44

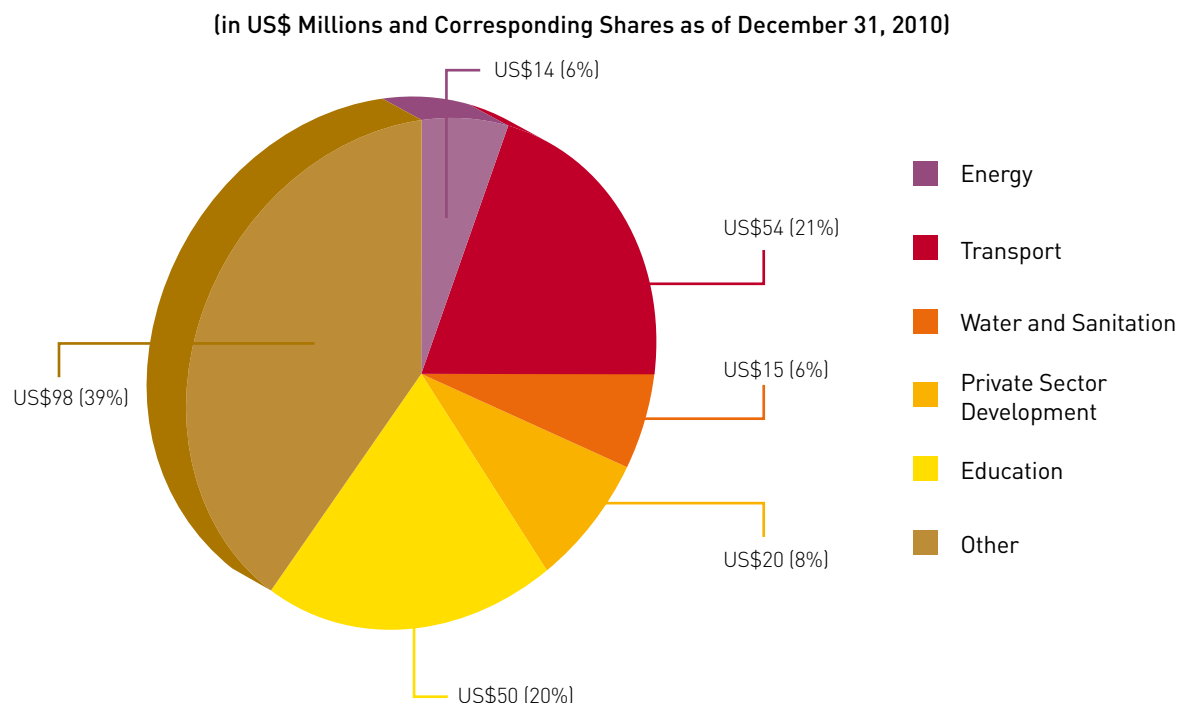
Haiti: Operations Approved in 2010

Figure 44 shows the Bank's approvals for 2010, which included operations in five of the six strategic sectors, as well as an emergency response operation to help Haiti face the cholera outbreak.⁸¹ In 2010 the Bank's active portfolio consisted of 149 interventions totaling US\$1,1 billion (see figure 45), of which half (US\$559,7 million) has been disbursed. The Bank's objective is to maintain a level of disbursements to around US\$200 million until 2020.

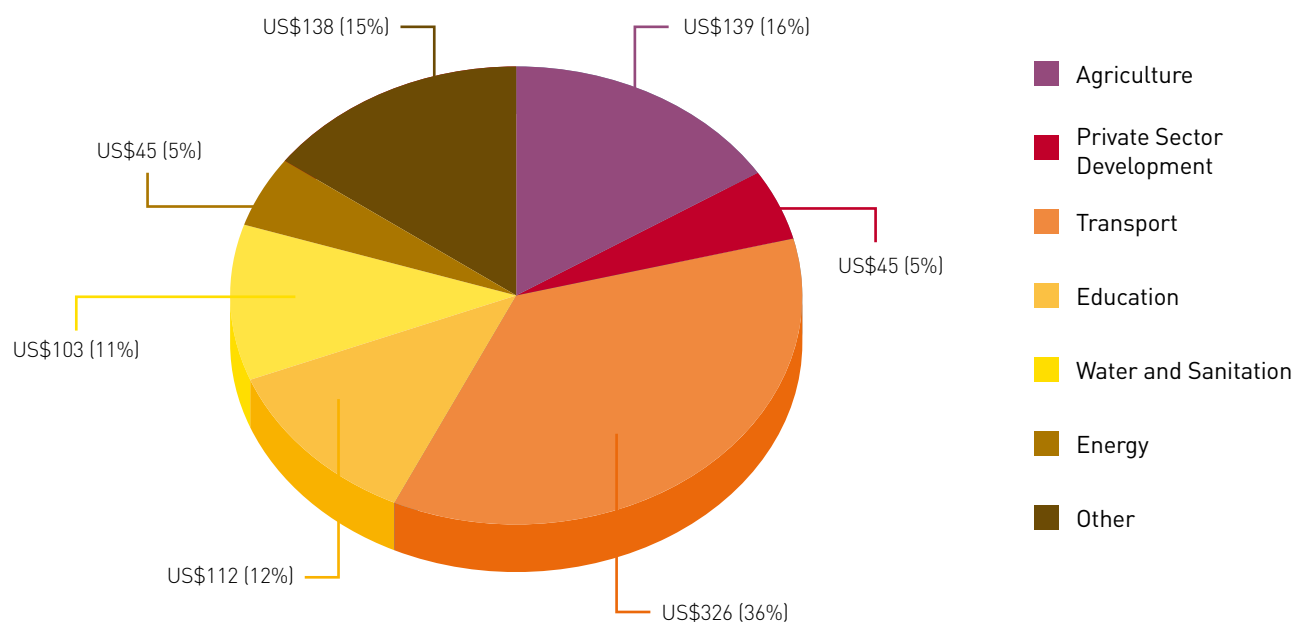
Technical Cooperation has been an important complement to the Bank's operational program. In 2010, the active TC portfolio consisted of 70 operations that total US\$217,9 million of which US\$60,2 million had been disbursed, in areas such as information technologies, investments to improve child survival, build social safety-nets, and strengthen Early Flood Warning Systems. Similarly, the Multilateral Investment Fund (MIF) has been an important actor, executing

⁸¹ The Bank's anti-cholera operation is coupled with a US\$5 million donation from Spain for a total grant of US\$20 million.

FIG. 45

Haiti's Loan Active Portfolio

(by Sector in US\$ Millions and Corresponding Shares as of December 31, 2010)



46 operations representing US\$25,7 million in original approved amount. In 2010, the MIF and the Social Entrepreneurship Program (SEP) approved 8 projects in the amount of US\$14,7 million, including a US\$3 million ceiling for emergency spending to make executing agencies operational. In November 2010, the

Inter-American Investment Corporation (IIC)⁸² approved the Haiti Social Investment Fund (HSIF) with loans from the IIC and the government of Spain. The HSIF will provide financing to creditworthy small and medium enterprises (SMEs) operating in Haiti by increasing availability of credit and reducing its cost.⁸³

⁸² In 2009, the IIC approved its first two projects in Haiti. The first was a loan of US\$300,000 to the Carifresh fruit packing plant, an agribusiness company that exports mainly mangos. This project also receive financial support from the MIF which through its SEP approved a US\$450,000 loan to finance Carifresh's plan to develop its own mango grove and a US\$250,000 grant to start a program that will provide technical assistance to the small growers. The second project of the IIC was a loan of US\$10 million to DINASA, a leading marketer and distributor of diesel, gasoline and other fuel as well as oil related products in Haiti.

⁸³ Technical Assistance and Strategic Partnership (TAS) activities have also supported IIC interventions in Haiti. In 2009 the Korean government approved over US\$170,000 for two technical assistance projects with DINASA and Barbancourt. In September 2009 the French Government approved US\$70,000 for a study of the Haitian private sector and to identify companies that could benefit from IIC financing in the short and medium term. After the earthquake the project shifted focus to concentrate on programs that address major challenges faced by SMEs in Haiti. Furthermore, in 2010 the Norwegian government approved US\$70,000 to contract technical experts to assist DINASA in assessing the level of damage caused to the company's oil terminal by the earthquake.



TABLE 8
Haiti's 2010 Portfolio
(In US\$ Millions as of December 31, 2010)

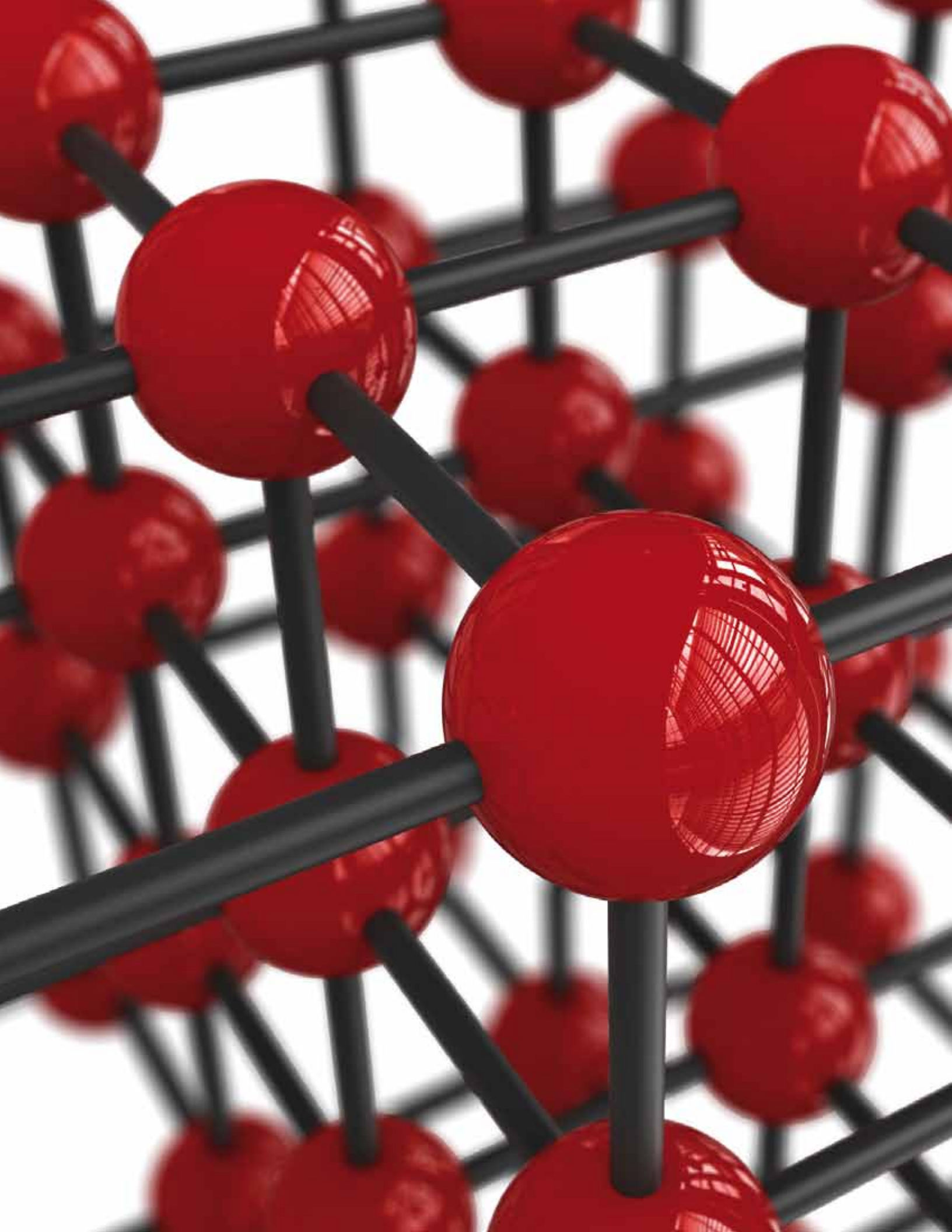
	Operations	Approvals	Disbursements	Balance
IDB	103	1125,8	554,8	575,3
Non-Reimbursable Loans	33	907,9	494,6	414,4
Technical Assistance	70	217,9	60,2	160,9
MIF	46	25,7	4,9	20,8
IIC*	8	74,2	18,5	55,7
* Total includes loans and technical assistance.				

The Bank's partnership with Haiti has produced concrete results during 2010, as shown in the table 9:

TABLE 9

IDB Outputs in Haiti 2010

Sector	Outputs
Education	Emergency Response: <ul style="list-style-type: none"> • 826 temporary classrooms built and equipped in 57 sites. • Over 70,000 children went back to school, another 15,000 indirectly benefitted through resource sharing. • 100,000 school kits purchased. • Financial support to 1,188 non-public schools (US\$3 million of which 75 percent to support teachers and 25 percent to support school operations). • Collaboration with the Ministry of Education in the design of the Education Strategy.
Water & Sanitation	Emergency Response: <ul style="list-style-type: none"> • 500,000m³ of potable water delivered to 500,000 persons between January and July. • Aquatabs, soap and chlorine delivered to cover 100 percent of family needs in the camps of the metropolitan area, at least 60 percent in high risk areas and 40 percent in medium risk areas from mid-October to end of December. Continuity: <ul style="list-style-type: none"> • 12,470 households connected to potable water. • Creation of 4 regional offices for potable water and sanitation (OREPA). • 6 water systems created and operating in the Grande Anse Department.
Transport	Continuity: <ul style="list-style-type: none"> • 73 km road built. • 87.2 km road rehabilitated. • 3 bridges rehabilitated. • Jacmel airport rehabilitated. • 45 percent progress on the rehabilitation of 150 km of main roads. • 20 km of works to improve rain water drainage.
Energy	Continuity: <ul style="list-style-type: none"> • 192 distribution transformers installed. • Resources management system implemented. • Preparation of a white paper for the Haitian government on a strategy for developing the sector, in collaboration with the World Bank and USAID.
Agriculture	Continuity: <ul style="list-style-type: none"> • Irrigation of a never-before irrigated 2,000 hectares in the Artibonite Valley. • 500,000 new small farmers beneficiaries of vaccination programs against swine fever, anthrax and Newcastle fever (50 percent of the total number of Haitian farmers). • 10 km of ravines protected against flooding and erosion. • Around 800,000 Haitian farmers have access to better agriculture services and rural infrastructure.
Social Protection & Health	Emergency Response: <ul style="list-style-type: none"> • Health response to cholera outbreak: US\$1 million channeled to strengthen the Ministry of Health, and US\$14 million were allocated to UNICEF based on the implementation plan approved by the Ministry of Health. Continuity: <ul style="list-style-type: none"> • A national campaign "Child Health Week" was delivered together with the immunization program, hence delivering vaccinations, vitamin A, de-worming, zinc, oral dehydrations salts to treat diarrhea, and core public health messages on breastfeeding, child nutrition and cholera prevention and treatment.
Institutional Capacity	Emergency Response: <ul style="list-style-type: none"> • Furniture and equipment provided to 5 ministries for them to function again post-earthquake. • Mobile information and communication technologies provided to about 200 management staff in 5 ministries.





ANNEX

2010 ANNUAL BUSINESS REVIEW

ABBREVIATIONS

AFS	Audited Financial Statements
BDA	Budget and Administrative Services Department
C&D	Countries from Group C & Group D
CAN	Country Department Andean Group
CCB	Country Department Caribbean Group
CCLIP	Conditional Credit Line for Investment Projects
CID	Country Department Central America, Mexico, Panama and Dominican Republic
COF	Country Office
CPD	Country Programming Document
CSC	Country Department Southern Cone
DTF	Donor Trust Funds
DEM	Development Effectiveness Matrix
EDU	Education Division
EME	Emergency Operations
FMM	Fiscal and Municipal Management Division
FSO	Fund for Special Operations
FTE	Full Time Equivalents
GCM	Grants and Co-Financing Management Unit
GEF	Global Environment Facility
HQ	Headquarters
HRD	Human Resources Department
HRG	Haiti Response Group
ICF	Institutional Capacity and Finance Sector
IDB-8	Eighth General Capital Increase in the Resources of the Inter-American Development Bank
IDB-9	Ninth General Capital Increase of the Inter-American Development Bank
INE	Infrastructure and Environment Sector
INT	Integration and Trade Sector
INV	Investment Operations
KCP	Knowledge and Capacity Building Products
LPGS	Liquidity Program for Growth Sustainability
NFP	Non Financial Products
NPC	Non-Personnel Costs
NSG	Non-Sovereign Guaranteed
OC	Ordinary Capital
OMJ	Opportunities for the Majority Sector
OPUS	Operations Update System

PBL	Policy Based Lending
PC	Personnel Cost
PCR	Project Completion Report
PDP	Operations Procurement Office
PFM	Portfolio Monitoring Unit
PMR	Progress Monitoring Report
PRG	Programming Product
REG	Regional
RES	Department of Research and Chief Economist
RND	Environment, Rural Development Disaster Risk Management Division
SCF	Structured and Corporate Financing Department
SCL	Social Sector
SECCI	Sustainable Energy and Climate Change Initiative
SG	Sovereign Guaranteed
SMO	Strategic Monitoring Division
SPD	Office of Strategic Planning and Development Effectiveness
SPH	Social Protection and Health Division
T&L	Time and Labor System
TC	Technical Cooperation
TFFP	Regional Trade Finance Facilitation Program
VPC	Vice President for Countries
VPF	Vice President for Finance and Administration
VPP	Vice President for Private Sector and Non-Sovereign Guaranteed Operations
VPS	Vice President for Sectors and Knowledge
WSA	Water and Sanitation Division

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230	V. Staffing and Culture

This document provides an analysis of the 2010 operational results for discussion and decision making purposes. This data was collected from a number of sources and is subject to adjustments and analysis as deemed appropriate by the corresponding business units sponsoring the information.

Special acknowledgement to VPC, VPS, VPF, and VPP for their support in the preparation of this report.

Project Approvals

- Lending approvals reached \$12.7b, a 19% decrease from \$15.6b in 2009. Number of operations reached 170, a 12% increase from 152 approved in 2009.

- * Fund NSG approvals reached \$0.8b, a 14% decrease from \$1b in 2009.

- * SG approvals with Ordinary Capital reached \$11.3b a 21% decrease from \$14.3b in 2009.

- * Investment approvals reached \$9b in 2010, a 21% decrease from \$11.3b in 2009.

- * Policy Based lending approvals reached \$3.7b, a 37% increase from \$2.7b in 2009.

- * Fund for Special Operations (FSO) approvals reached \$297m, a 30% increase from the \$228m approved in 2009.

- * Grant Facility approvals reached \$251m, more than double from \$122m approved in 2009.

- The number of operations that scored “satisfactory” or above in evaluability dimensions reached 98, an increase of 88% from 52 projects in 2009.

- Operations for C and D countries reached \$4.2b, a 16% decrease from \$4.9b in 2009. Number of operations reached 93, a 29% increase from 72 in 2009.

Project Disbursements

- Total disbursements reached \$10.9b, an 8% decrease from \$11.8b in 2009.

- Investment loan disbursements reached \$7.4b, a 14% decrease from \$8.6b in 2009.

- Loan disbursements from FSO and Grants amounted to \$418m, a 5% increase from \$398m in 2009.

- Disbursements for C and D countries reached \$3.4b, an increase of 5% from \$3.2b in 2009.

Portfolio Management

- There are 580 SG operations in the Bank’s portfolio, an increase of 4% from 557 in 2009 and there are 66 NSG operations, an increase of 18% from 56 in 2009. INE reached 278 operations, a 9% increase from 254 in 2009.

- The median time from legal effectiveness to First disbursement is 6.8 months and from legal effectiveness to Last disbursement is 7.4 years, an increase of 2% and 6% respectively.

- Sector disbursement profiles reveal that two years after approval ICF disbursed an average 89% of its balance, SCL an average of 88% and INE an average of 80%.

VPS Knowledge and Capacity Building Products (KCPs)

- VPS worked on 94 KCPs, a 14 % decrease from 109 KCPs in 2009.

- VPS completed 537 deliverables (86% of the 622 planned), a 46% increase from 368 deliverables (68% of the 538 planned) in 2009.

- Non personnel expenditures for KCPs reached \$14.6m, a 15% decrease from \$17.2m spent in 2009.

- Staff time reported to KCPs in 2010 reached 74.2 FTEs, a 3% decrease from 76.2 reported in 2009.

Programming Products

- Six country strategies (CSs) were approved by the Board during 2010: The Bahamas, the Dominican Republic, El Salvador, Mexico, Panama and Paraguay.

Technical Cooperation

- TC approvals reached \$198m, a 7% decrease from the \$213m approved in 2009. Number of operations reached 411, a 9% decrease from 451 in 2009.

- TC Disbursements reached \$133m, an increase of 16% from \$115m in 2009.

Operational Efficiency

- Staff time reported per approved project reached 0.89 FTEs, a 9% decrease from 0.98 in 2009.
- Time elapsed to prepare a project (from Profile to Approval) was 6 mos., a decrease from 7 mos. in 2009.
- Staff time reported to project execution per US\$ million disbursed reached 3.9 days, an 18% increase from 3.2 days in 2009.

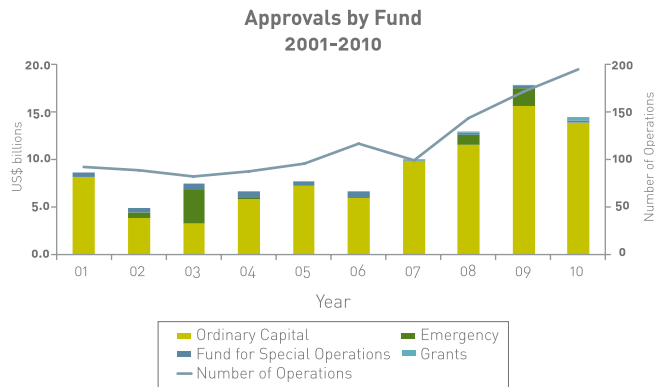
Operational Staffing and Culture

- There were 198 positions filled in 2010 out of which 138 (70%) were operational. In 2009, 180 positions were filled out of which 125 (69%) were operational.
- Of the 60 hires in Country Offices in 2010, 26 (43%) were females; for headquarters, out of the 90 hires, 41 (46%) were females. In 2009, out of the 46 hires in Country offices, 24 (52%) were females; for headquarters, out of the 91 hires, 43 (45%) were females.
- Number of SG operations prepared by Team Leaders in COF as a percent of total number of SG approvals reached 20%, a 20 percentage points decrease from 40% in 2010.
- The percentage of projects in execution with Team leaders in COFs increased from 82% in 2009 to 84% in 2010.

I. Program Strategic Alignment

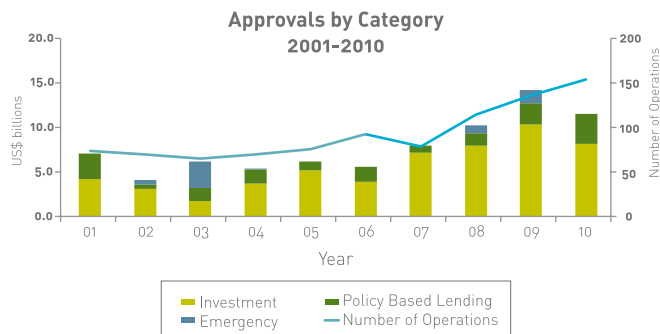
This section presents indicators for the utilization of Bank's financial resources through different instruments as well as their allocation to country groups and priority sectors. Also presents information regarding the completion of Departmental Business Plans.

1.1 LENDING (SG AND NSG)



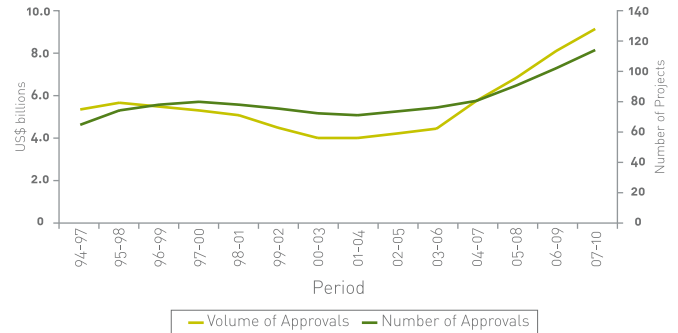
- Lending approvals reached \$12.7b, a 19% decrease from \$15.6b in 2009. Number of operations reached 170, a 12% increase from 152 approved in 2009.
- Fund for Special Operations (FSO) approvals reached \$297m, a 30% increase from the \$228m approved in 2009. Grant approvals reached \$251m, a 106% increased from the \$122m approved in 2009.

1.2 LENDING BY CATEGORY



- Investment approvals reached \$9b in 2010, a 21% decrease from \$11.3b in 2009. Policy Based lending approvals reached \$3.7b, a 37% increase from \$2.7b in 2009. There were no Emergency loan approvals, in contrast to the \$1,600m in 2009.
- Sovereign Guaranteed investment operations account for \$8.2b of investment approvals, a 21% decrease from \$10.4b in 2009.

Investment Lending Growth 4 Year Moving Average

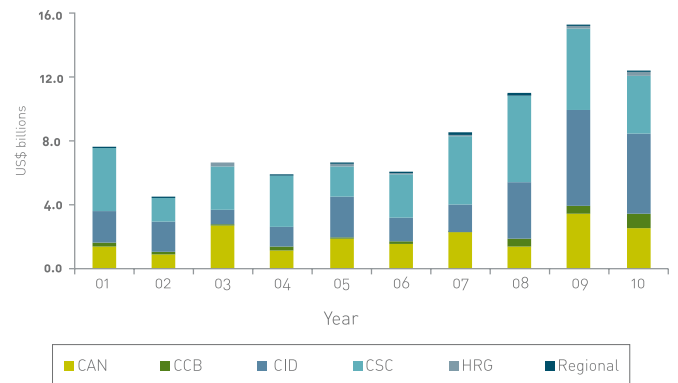


- The 4 year Average Investment Lending approvals reached \$9.3b in the 07-10 periods, a 14% increase from \$8.1b in 06-09.
- The 4 year Average Investment Lending approvals reached 115 operations in the 07-10 periods, a 14% increase from 111 in 06-09.

1.3 LENDING BY COUNTRY DEPARTMENT

Approvals by Country Department (Volume) 2001-2010

Excludes Emergency Lending



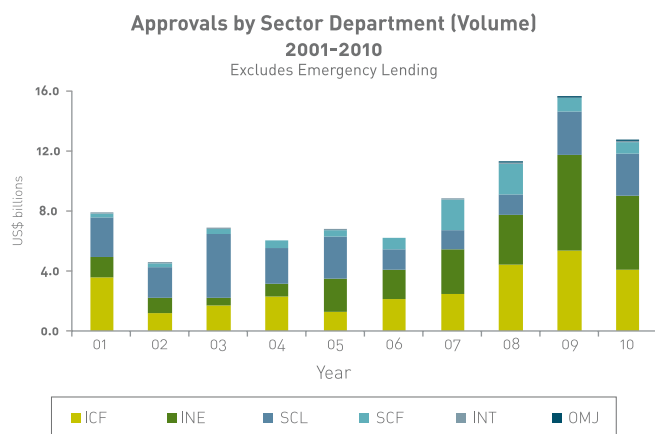
- Approvals for CAN countries reached \$2.6b, a 25% decrease from \$3.5b in 2009. Number of operations reached 38, a 19% increase from 32 in 2009.
- Approvals for CCB countries reached \$0.9b, a 56% increase from \$0.5b in 2009. Number of operations reached 17, a 42% increase from 12 in 2009.

- Approvals for CID countries reached \$5.1b, a 17% decrease from \$6.1b in 2009. Number of operations reached 54, a 15% increase from 47 in 2009.

- Approvals for CSC countries reached \$3.7b, a 29% decrease from \$5.2b in 2009. Number of operations reached 50, a 2% decrease from 51 in 2009.

- Approvals for HRG reached \$0.3b, a 106% increase from \$0.1b in 2009. Number of operations reached 10, a 67% increase from 6 in 2009.

1.4 LENDING BY SECTOR



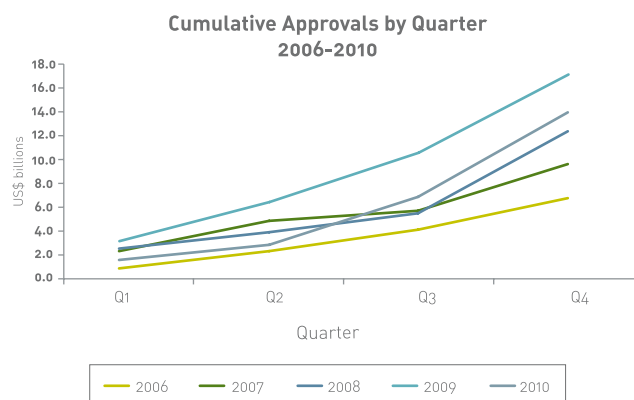
- ICF approvals reached \$4b, a 25% decrease from \$5.3b approved in 2009. Number of operations reached 45, a 5% increase from 43 in 2009.

- INE approvals reached \$4.9b, a 22% decrease from the \$6.3b approved in 2009. Number of operations reached 65, a 16% increase from 56 operations in 2009.

- SCF approvals reached \$0.8b, a 15% decrease from the \$0.9b in 2009. Number of operations reached 21, a 5% decrease from 22 in 2009.

- SCL approvals reached \$2.8b, a 4% decrease from \$2.9b in 2009. Number of operations reached 28, a 33% increase from 21 in 2009.

1.5 LENDING APPROVALS BY QUARTER

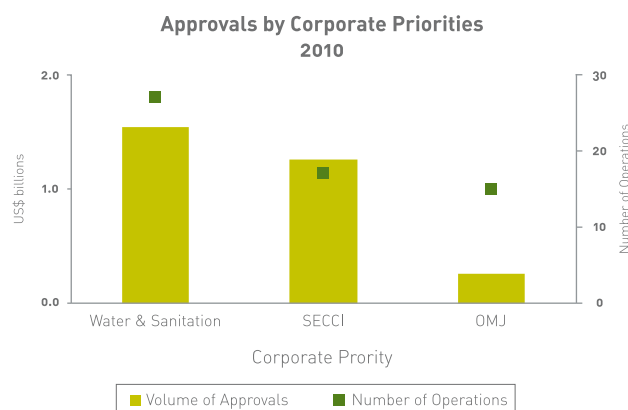


- Volume of lending approved in the last quarter of 2010 reached \$6.4b, a 9% increase from 5.9b in 2009. As a percentage of total lending, approvals in the last quarter reached 51%, 13 percentage points increase from 38% in 2009.

- Number of loan approvals in the last quarter of 2010 reached 81, a 2% decrease from 83 in 2009. As a percentage of total number of operations, approvals in the last quarter reached 48%, 8 percentage points decrease from 55% in 2009.

1.6 LENDING BY CORPORATE PRIORITIES

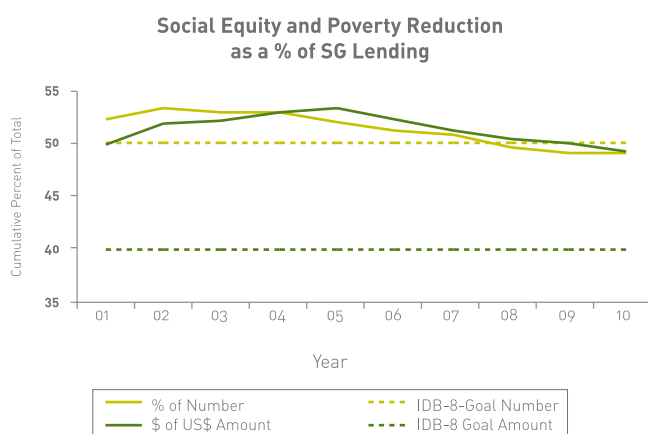
- Water and Sanitation approved \$1.5b, a 23% decrease from \$2b in 2009. Number of operations reached 27, a 35% increase from 20 in 2009.



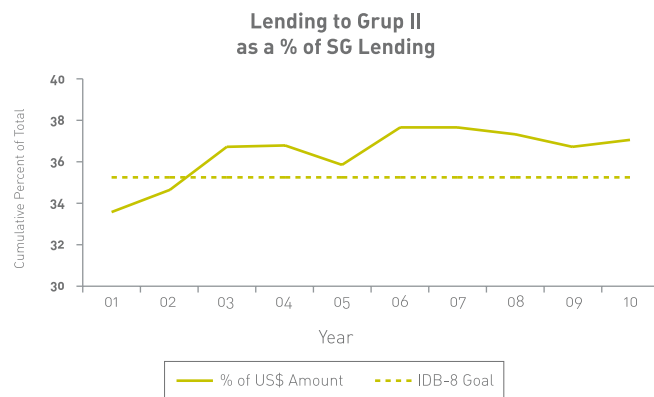
- SECCI approved \$1.2b, a 38% increase from \$0.9b in 2009. Number of operations reached 17, a 240% increase from 5 in 2009.

- OMJ initiative reached approvals for \$0.2b, from \$0.1b in 2009. Number of operations reached 15, a 36% increase from 11 in 2009.

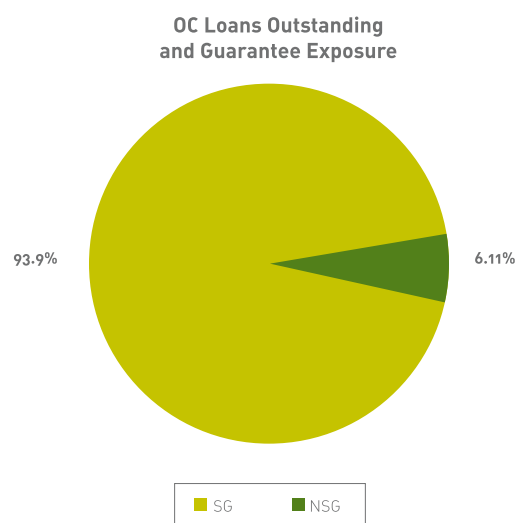
1.7 GOALS OF THE 8TH REPLENISHMENT¹



- Cumulative levels for SG volume and number of approvals for operations for Social Equity and Poverty Reduction are at 49% of volume (9 percentage points over the indicative goal of 40%) and 49% of number (one percentage point below the 50% indicative goal).



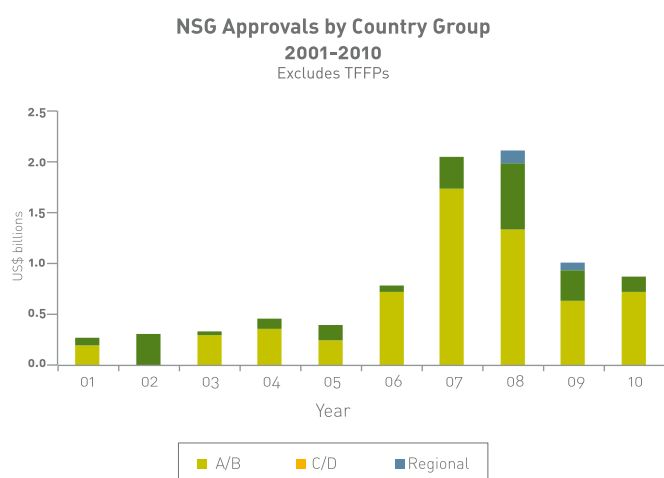
- Cumulative SG lending approvals for Group II countries remained at 37% of volume (2 percentage points above the 35% indicative goal).



- Total OC loans outstanding and guarantee exposure reached \$64b (excluding emergency loans) and includes \$3.9b of NSG operations which represent 6.11% of the total.

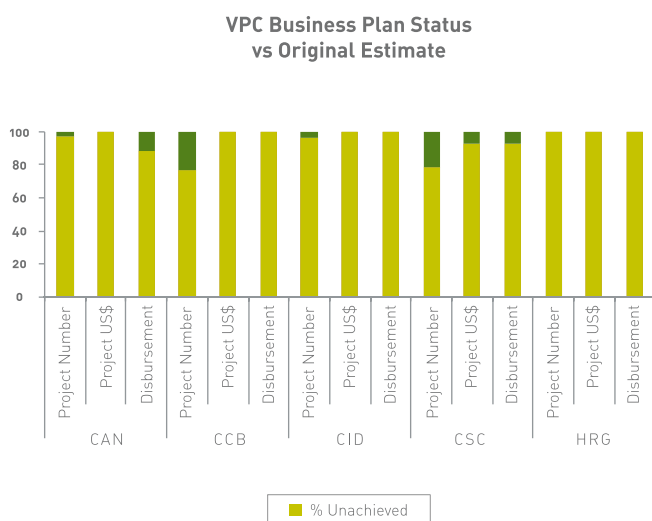
¹ As stated in the Results Framework of the IDB-9 (AB-2764), the Bank will report on IDB 8 Indicators until 2011. Starting in 2012 and beyond, IDB-9 lending indicators will be reported.

1.8 NSG LENDING TO GROUPS C & D

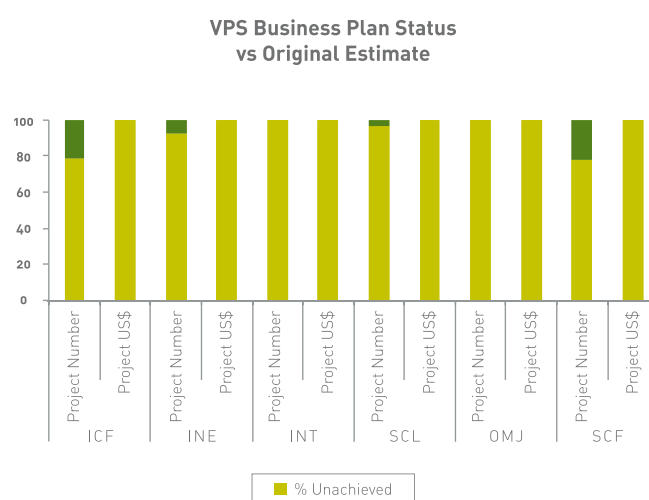


- NSG approvals for C & D countries represented 16% of total NSG volume (\$0.8b) and 32% of number of operations (31) in 2010. In 2009, 30% of total NSG volume (\$1b) and 39% of the number of operations (28) were for C&D countries in 2009.

1.9 BUSINESS PLANS EXECUTION



- By year end of Business Plan² 2010, CAN reached 89% in disbursements 100% of lending operational estimate³ volume, and 97% in number of projects; CCB reached 100% in disbursements 100% in volume, and 77% in number; CID reached 100% in disbursements, 100% in volume, and 96% in number; CSC reached 93% of disbursements, 93% of volume and 79% in number; HRG 100% in number, volume and disbursements.



- All Sectors, reached 100% of loan projects volume estimates. For number of projects, ICF reached 79%, INE 93%, INT 100%, SCL 97%, OMJ 100%, and SCF 78%.

² Business Plans are the original estimations of outputs proposed by the Bank's Units during the budget preparation exercise for the year. These estimations are used as targets in the context of this report.

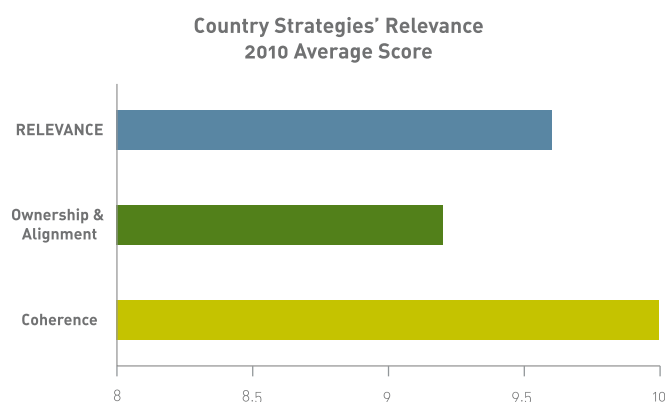
³ Country Departments and Sectors prepared estimates for loan projects (number and volume). Disbursements estimates were prepared under leadership of Country Departments.

II. Business Development

The following section presents indicators that assess Country Strategies and programming as well as Knowledge and Capacity Building Products. There are indicators about financial and human resources devoted in these activities. This section also includes Technical Cooperation program and execution indicators.

2.1 COUNTRY STRATEGIES AND DIALOGUE EFFECTIVENESS

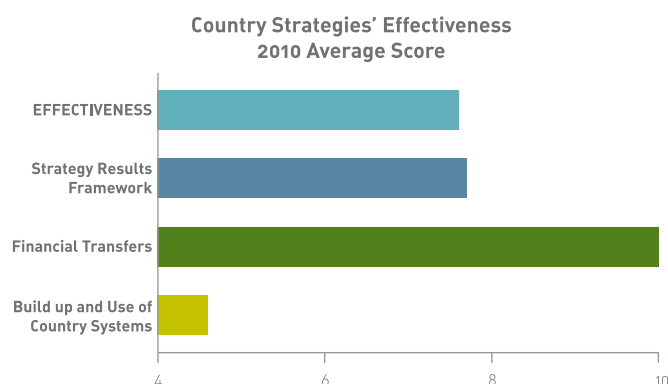
- Six country strategies (CSs) were approved by the Board during 2010: Bahamas, Dominican Republic, El Salvador, Mexico, Panama and Paraguay. All six were assessed for evaluability using the development effectiveness matrix⁴ (DEM-CS), in compliance with the Evaluation Cooperation Group Good Practice Standards for Country Strategy and Program Evaluations (ECG-GPS, 1008).



- On a scale of 1 to 10,⁵ CSs approved achieved an overall average score of 9.6 on relevance and 9.2 on ownership and alignment indicating a high consistency of CSs with Bank clients' needs and priorities. All 6 CSs received the highest score for coherence, indicating that expected results of Bank-country partnership are clearly identified and supported by an indicative mix of products.

⁴ The DEM matrix includes the core standards of relevance to measure the degree to which the CS is consistent with the needs of the country and with the government's plans and priorities; effectiveness to examine the extent to which the CS is likely to achieve its development objectives; and risks to identify issues that may negatively affect Bank assistance or the long-term sustainability of CS results.

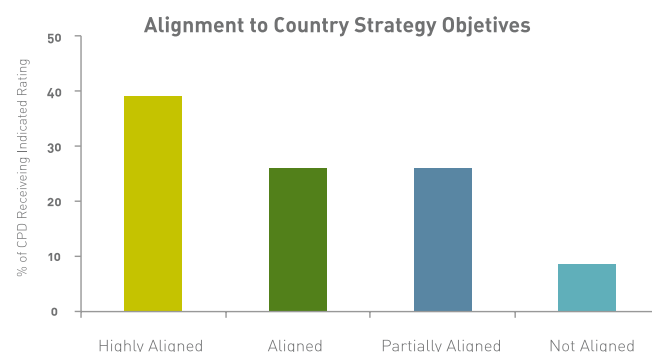
⁵ Each DEM section is scored on a 1 to 10 scale. The DEM matrix includes the core standards of relevance to measure the degree to which the CS is consistent with the needs of the country and with the government's plans and priorities; effectiveness to examine the extent to which the CS is likely to achieve its development objectives; and risks to identify issues that may negatively affect Bank assistance or the long-term sustainability of CS results.



- Overall effectiveness of CSs in 2010 reached a 7.6 average score, strategy results framework⁶ a 7.7, financial transfers⁷ a 10, and the use and build up of country systems a 4.6.

2.2 COUNTRY PROGRAMS

- In 2010, CPDs were prepared for 23 of 26 countries following the guidelines contained in the "Country Program Document" (GN-2551)⁸. All 23 were assessed by SPD using the DEM instrument⁹ specifically developed for CPDs.



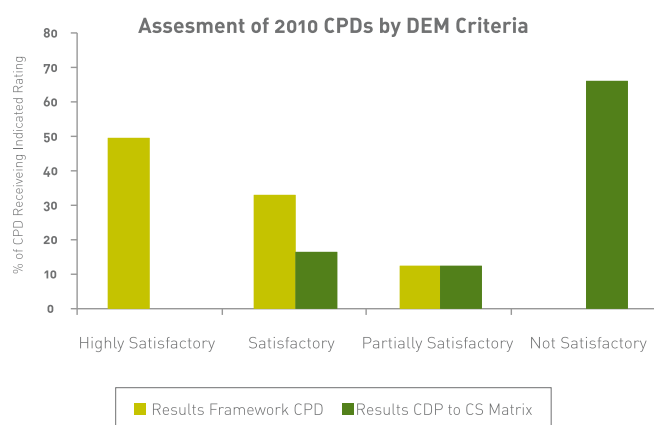
⁶ The Results Framework addresses whether an evidence-based diagnosis supports each area of Bank intervention and whether expected results and indicators are well defined.

⁷ Financial Transfers are the financing envelope estimations including high and low case scenarios and annual financial flows.

⁸ El Salvador, Haiti and the Dominican Republic were scheduled to prepare their country strategies during 2010 and therefore were not required to submit a CPD until later in the year.

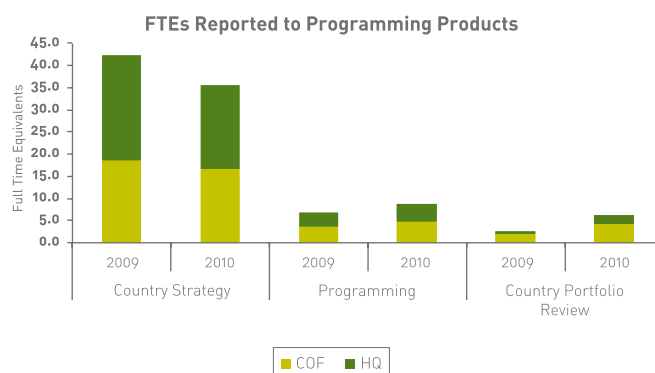
⁹ The DEM for CPDs is divided into three key criteria: (i) degree of alignment of the country program with CS objectives; (ii) the quality of the results framework (whether CPD results matrix provided clearly defined, measurable, time-bound output or outcome indicators); and (iii) extent of the link between CPD targets and CS indicators.

- 65% of CPDs obtained ratings of “Highly Aligned” or “Aligned” with CS objectives while the remaining 35% had ratings of either “Partially Aligned” or “Not Aligned”. In the majority of cases where no alignment existed, a justification for the relevance of the intervention was presented by the team.



- The analysis showed that 87% of the Results Framework CPDs had ratings of “Highly Satisfactory” or “Satisfactory”, and the results of CPD to CS matrix had 17% of “Highly Satisfactory” and “Satisfactory” ratings.

2.3 PROGRAMMING ACTIVITIES

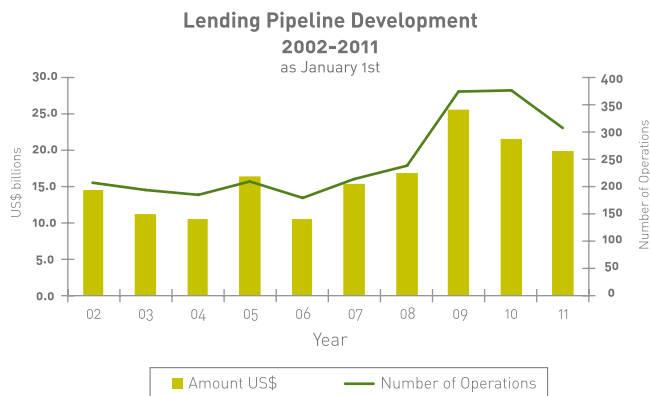


- Staff Time reported to programming and portfolio management activities reached 54.7 FTEs¹⁰ a 5% increase from 52.1 FTEs reported in 2009. Country Strategies accounted for 65% (35.6 FTEs) of the total reported to these activities.
- The 15 FTEs reported to programming and portfolio management activities are distributed as: CAN 36%, CCB 18%, CID 23%, CSC 20%, HRG 1% and Regional 3%.
- Staff time reported to Programming activities by COF reached 52% of FTEs reported to these activities, a five percentage point increase from 47% in the same period in 2009.
- Staff time reported to Customer Relationship Management¹¹ activities reached 4 FTEs, an increase of 10 times relative to the 0.4 FTEs in 2009

¹⁰ FTE – Full Time Equivalent Staff Years.

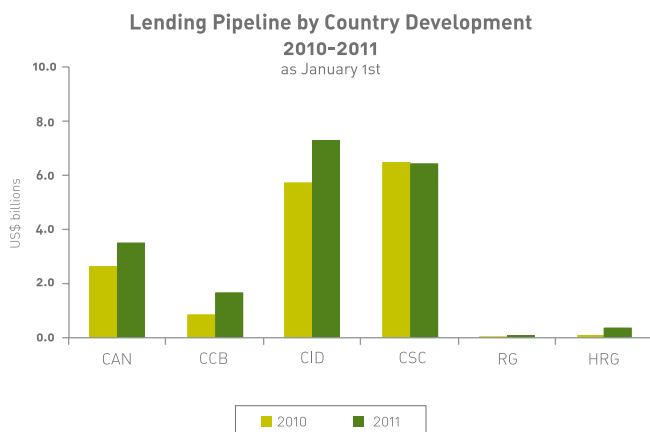
¹¹ Customer Relationship Management refers to the provision of timely, high quality services to borrowing countries, donors and other key constituencies. Manage clients' expectations under a scenario of scarcity of resources.

2.4 PIPELINE DEVELOPMENT

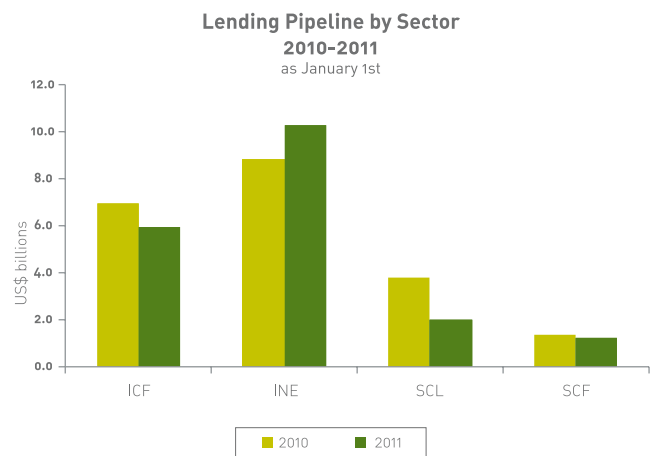


- As of January 1st 2011, the pipeline had 301 loan operations for \$19.6b, a decrease from 369 operations for \$21.1b on January 1st 2010 of 18% and 7% respectively. This included \$3.2b in Policy-based Lending (PBL), and \$16b in SG and NSG investment, a decrease from \$3.8b and \$17b on January 1st 2010.

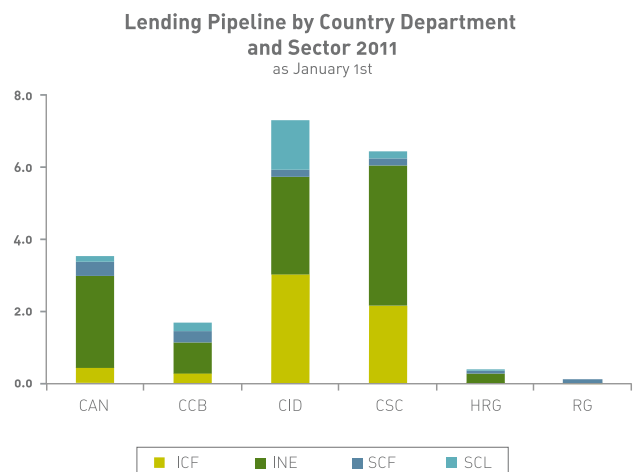
- The 2011 category "A" pipeline has 257 operations for \$14.9, an increase from 178 operations for \$9.4b in 2010. This includes \$2b in Policy-based Lending (PBL), and \$12.9b in SG and NSG investment, which represents the same level of 2009 for PBL and an increase from \$7b for SG and NSG investment.



- Lending pipeline as of January 1st 2011 for CAN amounts to \$3.5b, a 1% increase from \$3.5b in 2010; for CCB amounts to \$1.7b, a 96% increase from \$0.9b in 2010; for CID amounts to \$7.3b, a 1% decrease from \$7.3b in 2010; for CSC amounts to \$6.5b, a 24% decrease from \$8.5 in 2010 and for HRG amounts to \$0.4b, a 188% increase from \$0.1b in 2010.



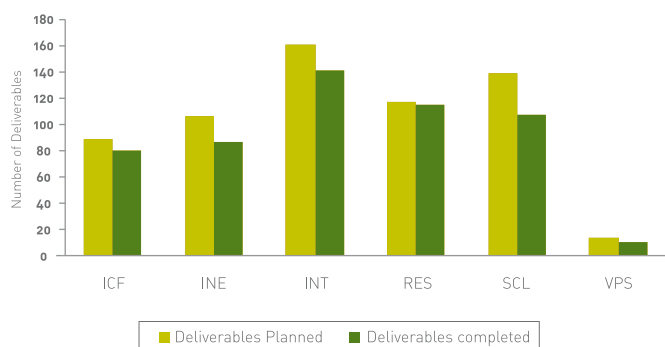
- Lending pipeline as of January 1st 2011 for ICF amounts to \$5.9b, a 15% decrease from \$6.9 in 2010; for INE amounts to \$10.3b, a 16% decrease from \$8.8b in 2010; for SCL amounts to \$2b, a 46 % decrease from \$3.8b in 2010; for SCF amounts to \$1.2b, an 8% decrease from \$1.3b in 2010 and INT amounts to \$50m, an increase of 16% from \$43m in 2010.



- Operations in pipeline based on volume, are distributed in CSC and CID (70% of pipeline), 9% for CCB, 18% for CAN, 2% for HRG and 1% Regional. For Sectors, ICF and INE account for 83% of pipeline while SCL accounts for 10% and SCF for 6%.

2.5 KNOWLEDGE AND CAPACITY BUILDING PRODUCTS¹² (KCPs)

KCPs Deliverables by Sector
Planned vs. Completed



- Sectors worked on 94 KCPs as of December 2010. ICF was responsible for 27 (29%), INE for 18 (19%), SCL for 22 (23%), RES for 16 (17%), INT for 9 (10%) and ESG and VPS for 2 (2%).

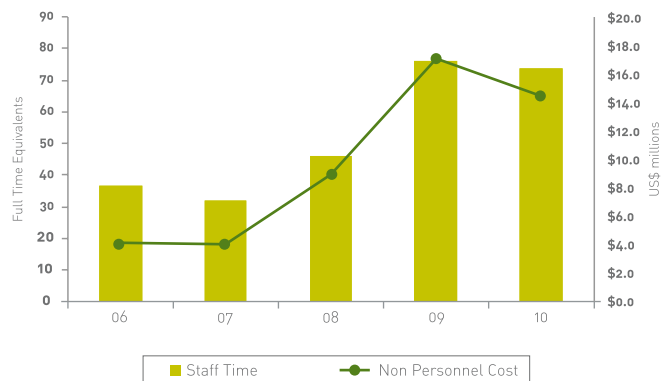
- For each KCP approved by VPS, the sectors responsible planned a number of deliverables¹³ to be completed in 2010. As of December 2010, Sectors completed 537 (86%) deliverables of 622 planned.

- RES and INT completed 254 (47%) deliverables of 276 planned, ICF, INE and SCL completed 273 (82%) of 332 deliverables estimated.

¹² In previous years, Country and Sector knowledge was generated mainly through independent research papers, studies, notes and seminars. 2009 was the first year of implementation of Knowledge and Capacity Building Products through a programmatic approach.

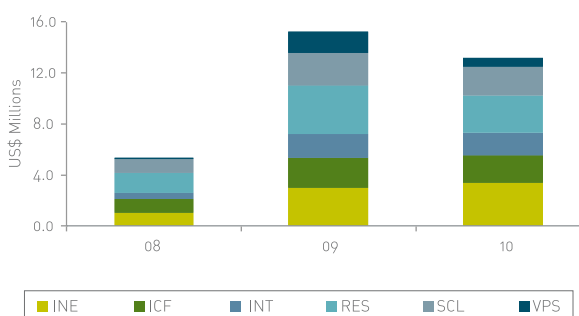
¹³ KCP deliverables are intermediate outputs such as sector studies and notes, seminars, technical networks, and databases, among others.

Resources to Knowledge Products
2006-2010

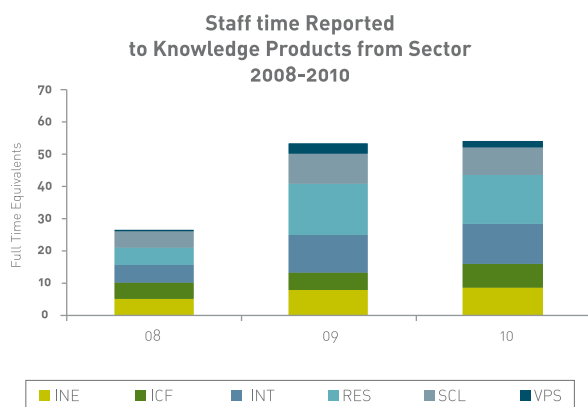


- Non personnel expenditures for KCPs reached \$14.6m, a 15% decrease from \$17.2m spent in 2009.
- Staff time reported to KCPs in 2010 reached 74.2 FTEs, a 3% decrease from 76.2 reported in 2009.

Non Personnel Costs
to Knowledge Products from Sector
2008-2010

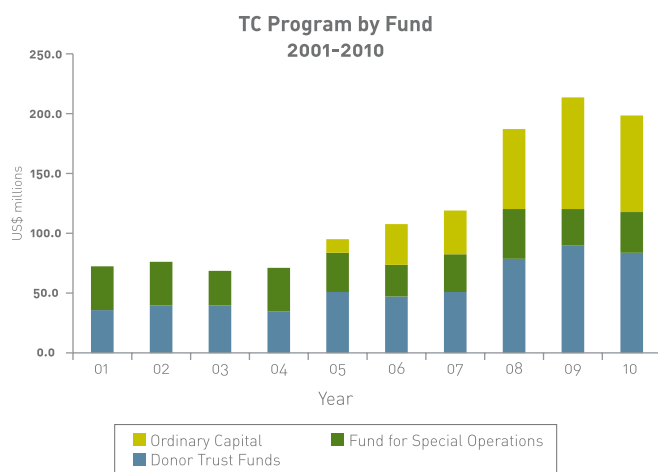


- Execution of Non personnel resources (consultants and travel) by VPS to the KCP program in 2010 reached \$13.2m, a 14% decrease from \$15.3m in 2009. By sector, ICF reached \$2.2m, INE \$3.4m, INT \$1.7m, RES \$2.9m and SCL \$2.2m.



- Staff time reported by VPS to the KCP program in 2010 reached 61.8 FTEs, compared with 60.9 FTEs in 2009. By sector, ICF reached 8.6 FTEs, INE 9.9 FTEs, INT 14.1 FTEs, RES 17.2 FTEs, and SCL 9.5 FTEs.

2.6 TECHNICAL COOPERATION PROGRAM



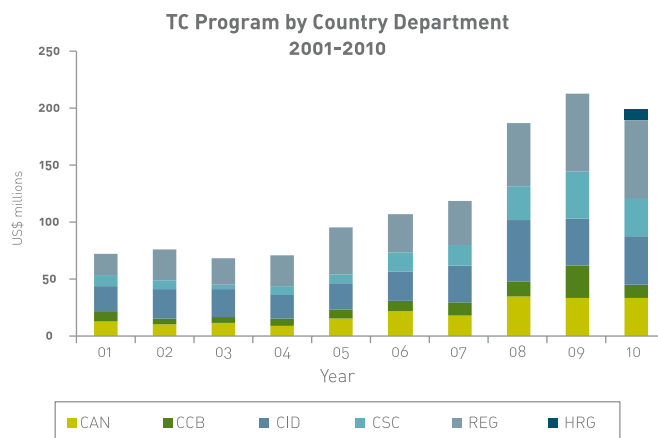
- TC approvals reached \$198m, a 7% decrease from the \$213m approved in 2009. Number of operations reached 411, a 9% decrease from 451 in 2009. Average size of TCs approved reached \$481K, a 2% increase from \$472K in 2009.

- TC financed with FSO approvals reached \$34m, a 14% increase from \$29.9m in 2009. Number of operations reached 87, a 22% decrease from 111 in 2009. Average size of FSO TCs was \$390K, a 45% increase from 270K in 2009.

- TC financed Donor Trust Funds (DTF) approvals reached \$83.9m, a 7% decrease from \$90.1m in 2009. Number of operations reached 181, a 10% decrease from 200 in 2009. Average size of DTF TCs was \$443K, a 2% decrease from \$451K in 2009.

- Investment Grant Operations¹⁴ financed by the Spanish Fund for Water and Sanitation amount to \$272.8m in 11 operations, 97% of the available \$281m of the Fund.

- Special programs financed with Ordinary Capital (OC) approvals reached \$83.9m, a 10% decrease from \$93m in 2009. Number of operations reached 143, a 2% increase from 140 in 2009. Average size of OC TCs was \$587k, a 12% decrease from \$664k in 2009.

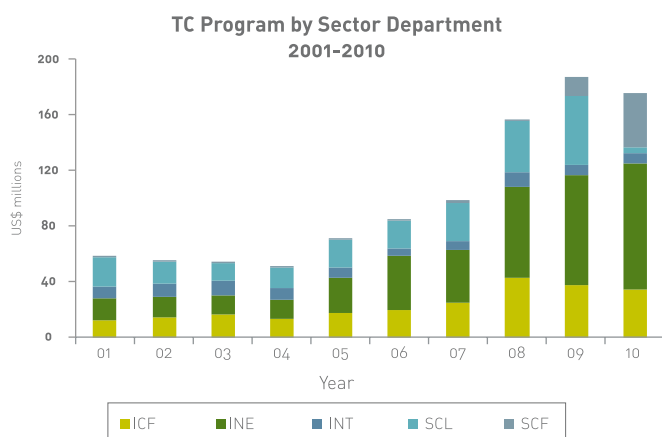


- TC approvals for CAN countries reached \$32.9 m, a 0.3% decrease from \$33m in 2009; for CCB countries, approvals reached \$12.3m, a 22% decrease from \$15.7m in 2009; for CID countries, approvals reached \$42m, a 2% increase from \$41.3m in 2009; for CSC countries, approvals reached \$33.5m, a 20% decrease from \$41.9 in 2009, and HRG approvals reached \$8.4m, a decrease of 35% from \$12.9m in 2009.

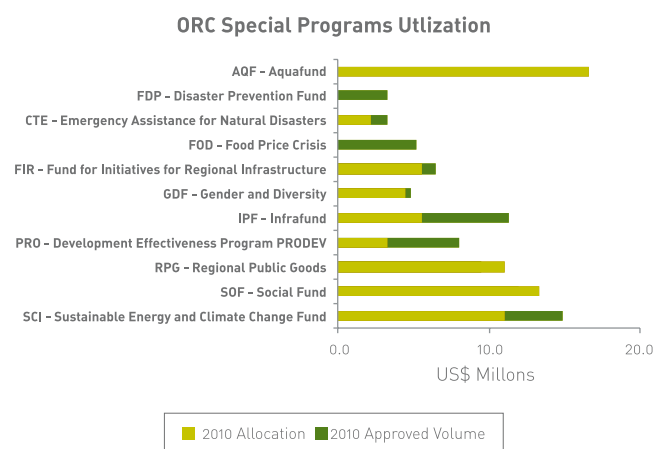
¹⁴ Investment Grant Operations are those that finance investments on a non-reimbursable basis, either complementary to technical cooperation or as stand-alone contributions, consistent with the objective of the DTF. The eligible investment activities may include works, goods, equipment, and related services (transportation, insurance, etc.) and pilot projects in areas contemplated by the DTF instrument, as well as consulting services required for such investments.

- TC Regional approvals reached \$69m, a 1% increase from \$68.2m in 2009.

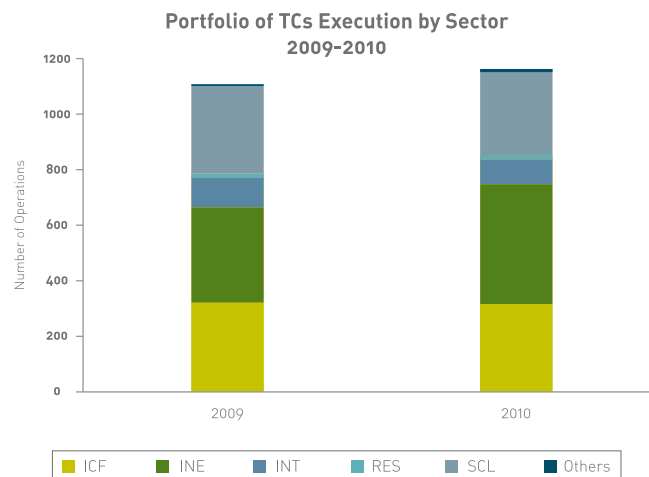
- CAN countries account for \$33m (17%) of TC approvals in 2010; CCB countries for \$12m (6%), CID countries for \$42m (21%), CSC countries for \$34m (17%), HRG for \$8.4m (4%) and Regional for \$69m (35%).



- Approvals in 2010 for ICF reached \$34.6m, an 8% decrease from \$37.6m in 2009; for INE, approvals reached \$90.1m from \$78.9m in 2009; for INT, approvals reached \$8.2m, an 11% increase from \$7.4m in 2009; for SCL approvals reached \$3.5m from \$49.2m in 2009; and for SCF, approvals reached \$38.9m, a 181% increase from \$13.8m in 2009.

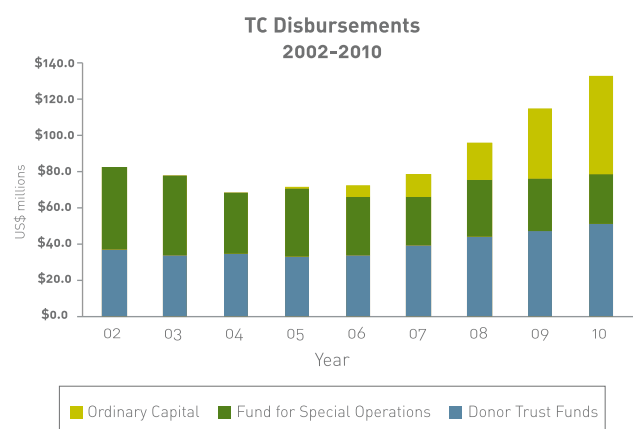


- Approvals under special programs financed with Ordinary Capital (OC) reached \$83.9m, 66% of the \$128m available in 2010 which included \$55.7m of carryover from 2009. In 2009, these programs reached approvals of \$90m, 61% of the \$149 available that year.



- TC Portfolio under responsibility of Sectors reached 1,161 operations, a 5% increase from 1,107 in 2009.

- The ICF TC portfolio reached 319 operations, a 1% decrease from 323 in 2009; INE reached 427 operations, a 25% increase from 342 in 2009; and SCL reached 300 operations, a 5% decrease from 315 in 2009.



- Disbursements of TCs financed with Fund for Special Operations (FSO) reached \$27.8, a 5% decrease from \$29.2m in 2009.

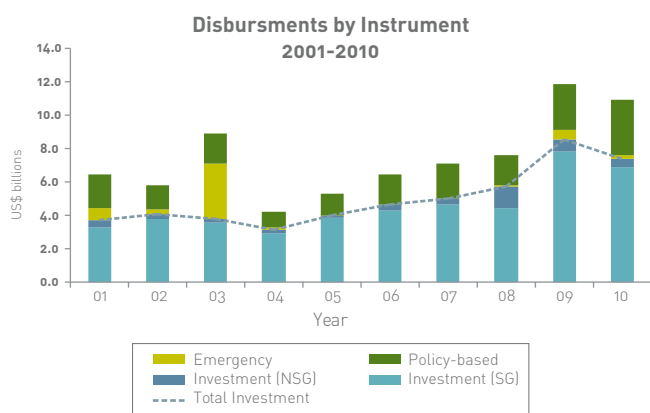
- Disbursements of TCs financed with Donor Trust Funds (DTF) reached \$51m, an 8% increase from \$47.1m in 2009.

- Disbursements of TCs financed through Special Programs of Ordinary Capital (OC) reached \$54.1m, a 40% increase from \$38.7m in 2009.

III. Program Delivery

The following set of indicators measure portfolio distribution among the different units as well as the overall status of the operations. There are indicators for Portfolio management and Disbursements.

3.1 DISBURSEMENTS



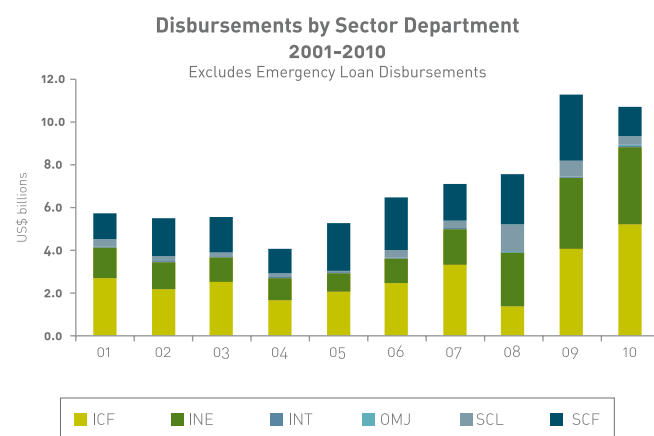
- Total disbursements¹⁵ reached \$10.9b, an 8% decrease from \$11.8b in 2009.

- Investment loan disbursements reached \$7.4b, a 14% decrease from \$8.6b in 2009.

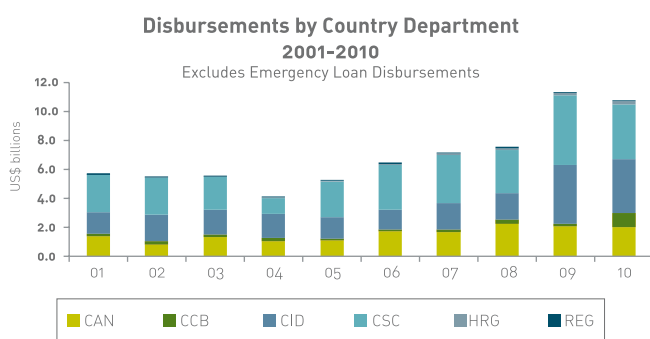
- Policy Based loans disbursements reached \$3.3b, a 21% increase from \$2.7b in 2009.

- Emergency Loans disbursements reached \$0.2b, a 63% decrease from \$0.5b in 2009.

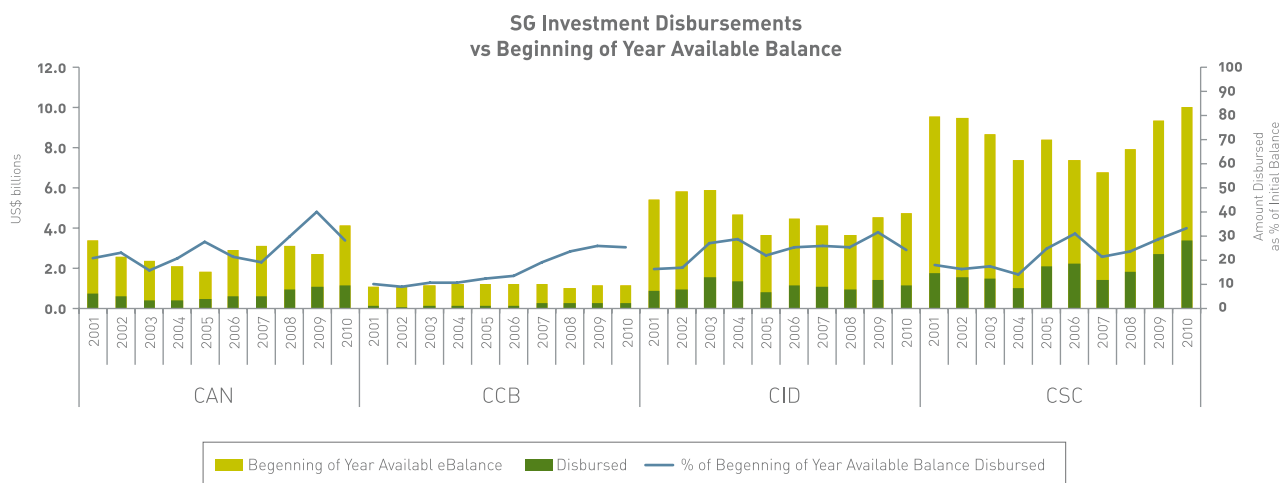
- Disbursements to CAN countries reached \$2.02b, a 1% decrease from \$2.05b in 2009; to CCB countries reached \$0.9b, a 201% increase from \$0.3b in 2009; to CID countries reached \$3.9b, a 13% decrease from \$4.5b in 2009; and to CSC countries reached \$3.7b, a 21% decrease from \$4.8b in 2009.



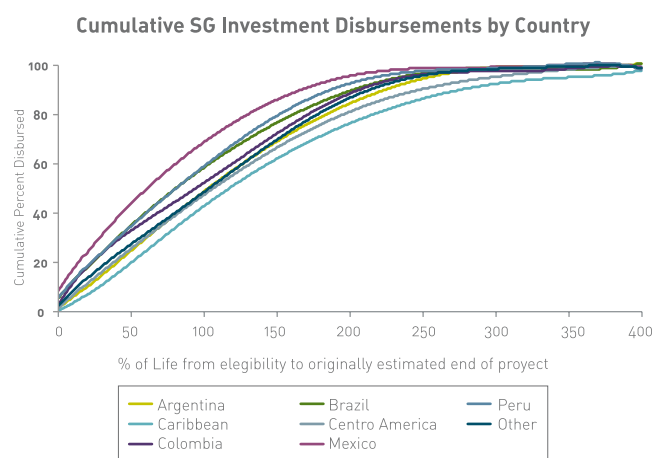
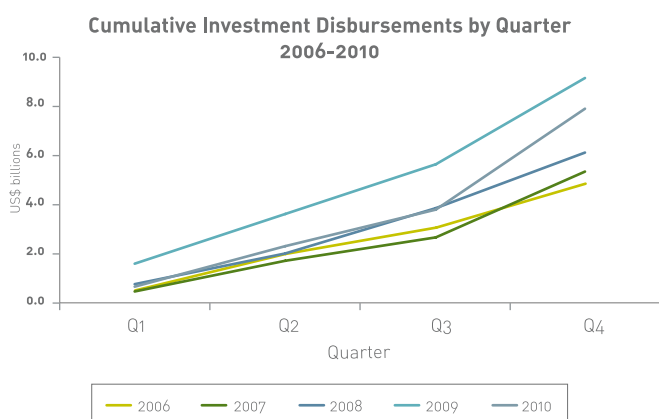
- ICF disbursements reached \$5.3b, a 17% increase from \$4.6b in 2009; INE disbursements reached \$3.6b, a 9% increase from \$3.3b in 2009; SCL disbursements reached \$1.3b, a 56% decrease from \$3b in 2009; and SCF disbursements reached \$0.5b, a 42% decrease from \$0.8b in 2009.



¹⁵ Included Emergency loans disbursements (LPGS and Fiscal) for \$37m in 2008 and \$548m in 2009.

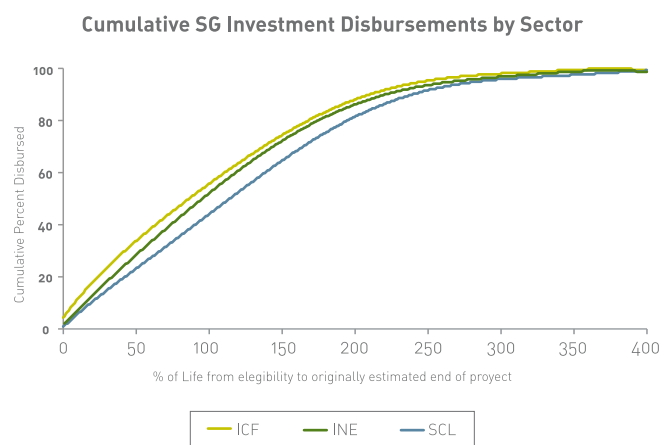


- Disbursements trends as a percentage of beginning of year balance for eligible investment projects are similar among country departments in recent years, with CSC reaching a 14% year-on-year average increase, CCB 13%, CAN 9% and CID an 8%.

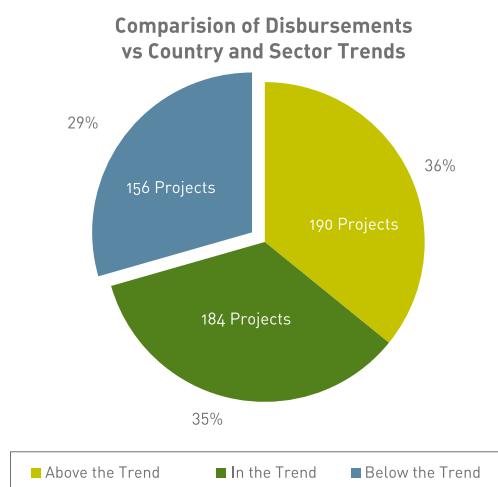


- Investment loan disbursements in the last quarter reached \$3.8b, a 17% increase from \$3.3 in 2009.
- Investment loan disbursements in the last quarter represented 52% of total investment disbursements. In 2009, disbursement concentration for this type of loans in the last quarter was 38%.
- Country disbursement profiles¹⁶ reveal that two years after approval Mexico disbursed 98% of its balances, Peru, Brazil and Colombia disbursed 90%, 89% and 93% respectively. All other countries average 49% of its available balance disbursed by the end of the fourth year.

¹⁶ Disbursement Profile of a Country is based on the average of the amount disbursed per project in the portfolio. The number of months is calculated from date of approval. The universe of projects for the profile shown, are the investment operations with Sovereign Guarantee that have closed between 1996 and 2010.



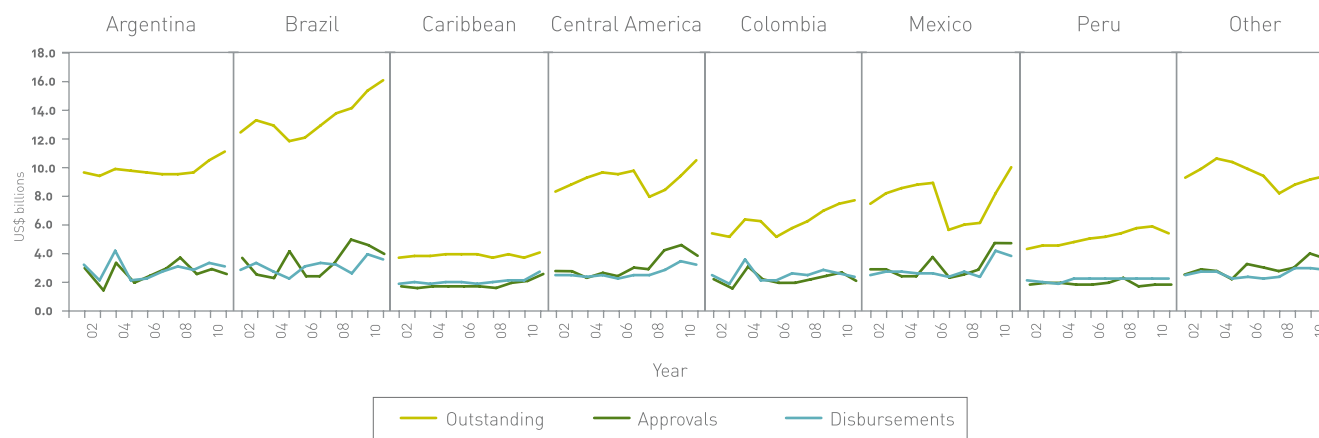
- Sector disbursement trends reveal that in twice the original projected timeframe; ICF disbursed an average 89% of its balance, SCL an average of 88% and INE an average of 80%.



- In 2010, 374 operations currently disbursing are above or within the sector and country historical trends¹⁷. The disbursement of each of these operations included in this group falls above or within the expected range of disbursement based on half-a- standard deviation of its corresponding country and sector.

¹⁷ The historical disbursement trends were individually calculated for countries and sectors based on available data beginning in 1996 to current date. In the analysis presented, each project was compared against its corresponding country and sector disbursement behavior model; which included a disbursement range based on a half-a-standard deviation.

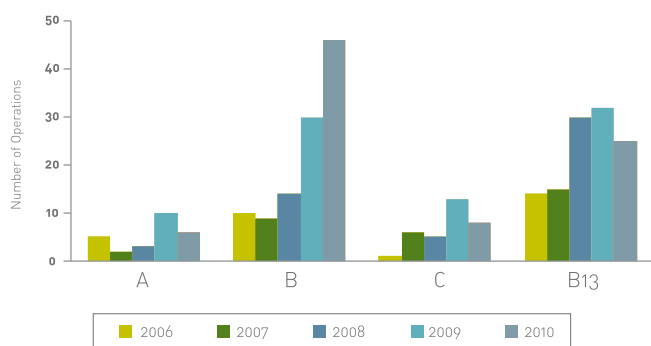
IDB's Outstanding. Approvals and Disbursements by Country



- Outstanding balances in Bank's borrowing countries show an increasing trend, particularly since 2006, with the exception of the Caribbean that remains steady.
- Mexico has recovered its outstanding portfolio and approvals after repayments made in 2006. In 2010, Argentina, Brazil, and Colombia reached their highest levels of outstanding balances since 2001.

3.2 ENVIRONMENTAL AND SOCIAL SAFEGUARDS

ESG's participation in approved operations per category 2006-2010



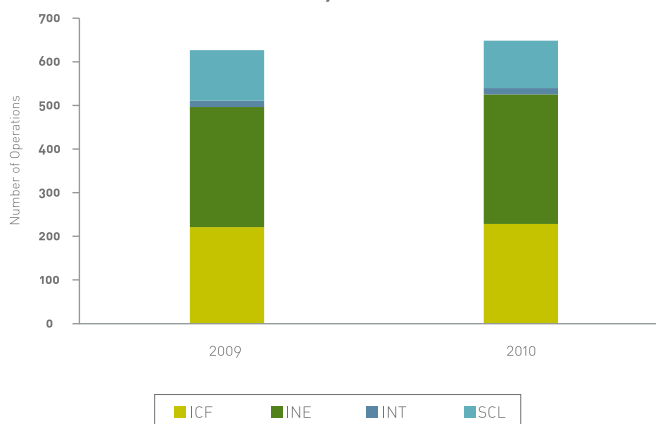
- The number of loan operations that had assistance from an Environmental and Social Safeguards specialist from ESG reached 85 in 2010, the same level as 2009. Category A operations reached 6, a decrease of 40 % from 10 in 2009; B operations reached 46, an increase of 53% from 30 in 2009, C operations reached 8, a decrease of 40% from 13 and B13 operations reached 25, a decrease of 22% from 32 in 2009.

3.3 PORTFOLIO MANAGEMENT

The following paragraphs assess the distribution of the portfolio among the different Sector Departments and selected measures so assess the time elapsed from approval to First and last Disbursements. Indicators below also address portfolio management instruments such as the Audited Financial Statements (AFS) and the Project Completion Reports (PCR).

3.3.1 DISTRIBUTION BY SECTOR

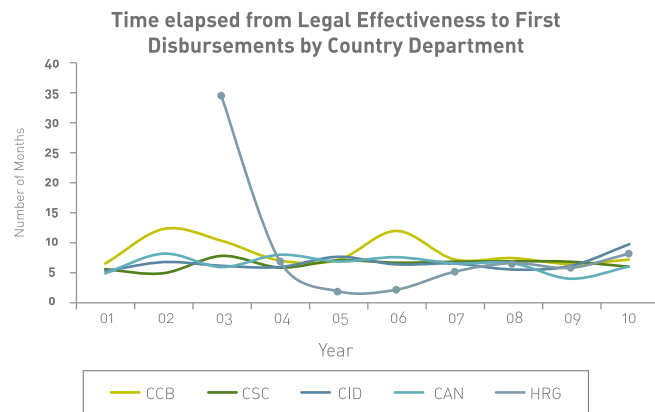
Portfolio of Loans in Execution by Sector 2009-2010



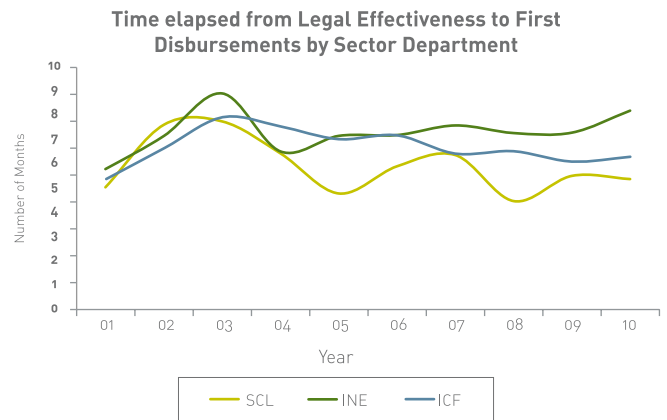
- The number of operations in the SG portfolio under responsibility of VPS reached 580 projects, 4% increase from 557 in 2009.

- The ICF portfolio reached 190 operations, a 3% decrease from 196 in 2009; INE reached 278 operations, a 9% increase from 254 in 2009; and SCL reached 100 operations, a 5% increase from 95 in 2009.

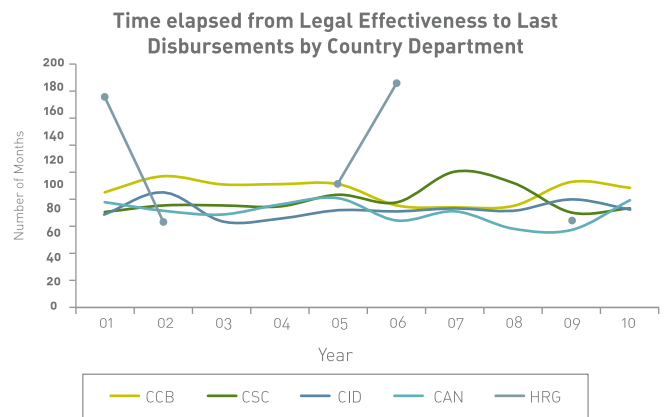
3.3.2 TIME ELAPSED FROM LEGAL EFFECTIVENESS TO FIRST AND LAST DISBURSEMENTS



- Median time elapsed from legal effectiveness to first disbursement for operations which performed a first disbursement in 2010 for CAN countries reached 6 months, a 50% increase from 4 months in 2009; for CCB countries, time elapsed reached 7.2 months, an 11% increase from 6.5 months in 2009; for CID countries, time elapsed reached 10 months, a 56% increase from 6.4 months in 2009; for CSC countries, time elapsed reached 6 months, a 12% decrease from 6.8 months in 2009; in Haiti, time elapsed reached 8.2 months, a 41% increase from 5.8 months in 2009.



- Median time elapsed from legal effectiveness to first disbursement for operations which performed a first disbursement in 2010 for ICF operations reached 6.3 months, a 3% increase from 6.1 months in 2009; for INE operations, time elapsed reached 8.2 months, a 12% increase from 7.3 months in 2009; for SCL operations, time elapsed reached 5.4 months, a 2% decrease from 5.5 months in 2009; for INT operations, time elapsed reached 7.3 months and there were no operations that reach this stage in 2009.



- Median elapsed from legal effectiveness to last disbursement for operations which completed disbursements in 2010 for CAN countries reached 7.4 years, a 38% increase from 5.4 years in 2009; for CCB countries, time elapsed reached 8.3 years, a 5% decrease from 8.7 years in 2009; for CID countries, time elapsed reached 6.7 years, a 10% decrease from 7.4 months in 2009; for CSC countries, time elapsed reached 6.9 months, a 4% increase from 6.6 years in 2010; in Haiti, there were no operations closing in 2010.

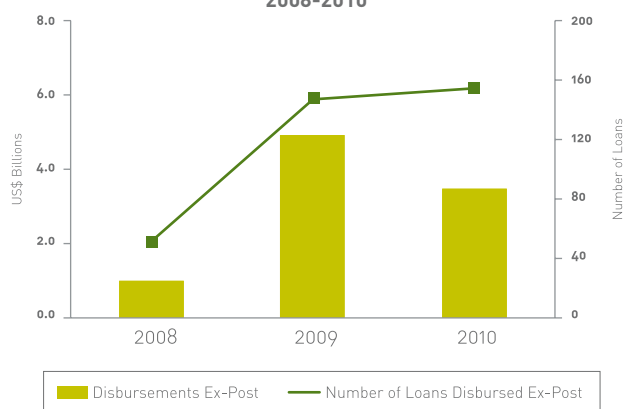
Time elapsed from Legal Effectiveness to Last Disbursements by Sector Department



- Median time elapsed from legal effectiveness to last disbursement for operations which completed disbursements in 2010 for ICF operations reached 6.8 years, a 10% increase from 6.2 years in 2009; for INE operations, time elapsed reached 7.6 years, a 2% increase from 7.4 years in 2009; for SCL operations, time elapsed reached 6.6 years, a 13% decrease from 7.5 years in 2009; for INT, there were no operations closing in 2010 compared to 7.7 years of time elapsed in 2009.

3.3.3 EX-POST REVIEW OF DISBURSEMENTS

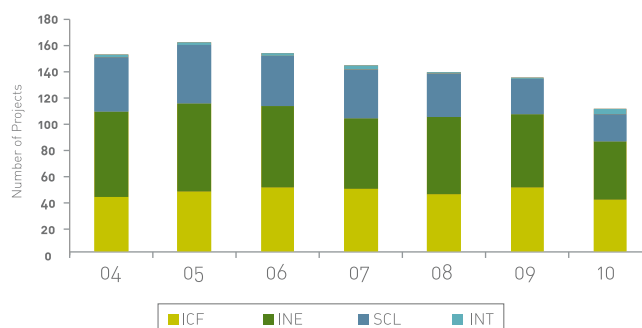
Disbursements Reviewed Ex-Post 2008-2010



- The amount of disbursements reviewed *ex-post* from investment SG operations reached \$4.1b, a 29% decrease from \$5.8b in 2009.
- The number of loans that disbursed with *ex-post* review reached 184 in 2010, a 5% increase from 175 in 2009.

3.3.4 LAST DISBURSEMENTS EXTENSIONS

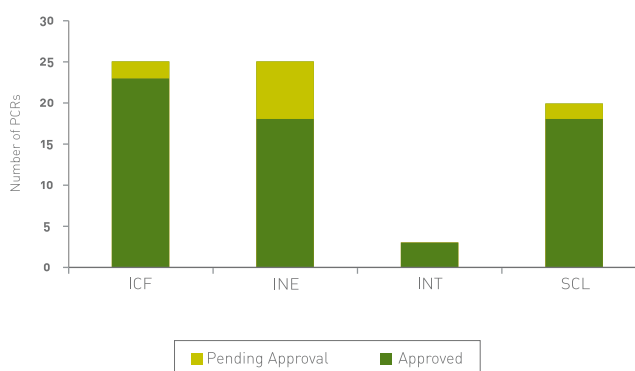
SG Investment Projects with 24+ Months Extensions



- The number of SG investment projects with extensions of 24 months or more from its original last disbursement date reached 114, an 18% decrease from 139 in 2009.
- The \$1b available balance of these operations represents 4% of the portfolio's total available balance. In 2009 the reported available balance was \$1.3b representing 7% of the portfolio's total available balance.

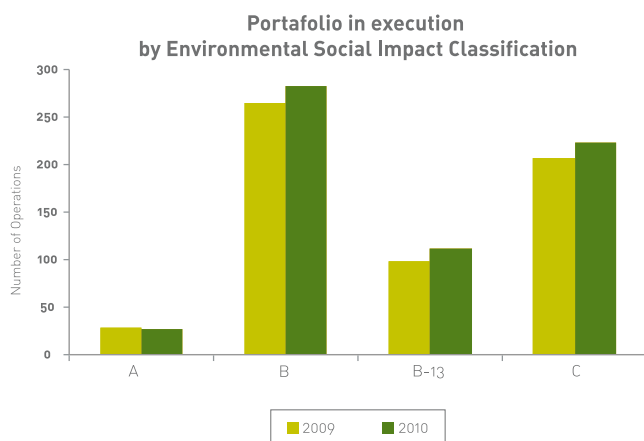
3.3.5 PCRs

PCR Completion Status for Projects Closed in 2009



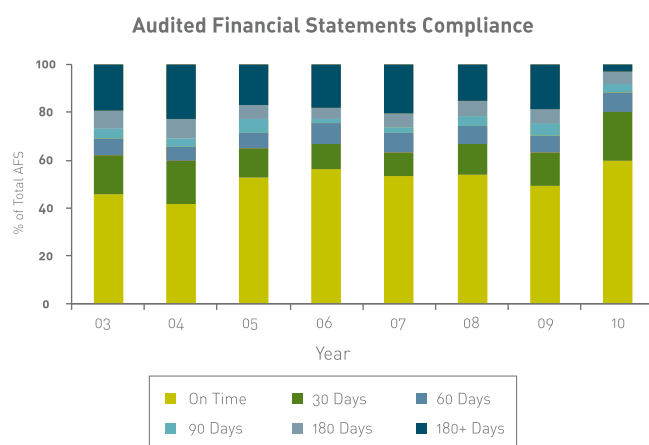
- There are 73 projects that required the preparation and approval of a PCR before July 30th 2010¹⁸ of which 62 were approved achieving an 85% completion rate.

¹⁸ The PCR completion cycle reports at the end of year's first half, on operations completed the year before.

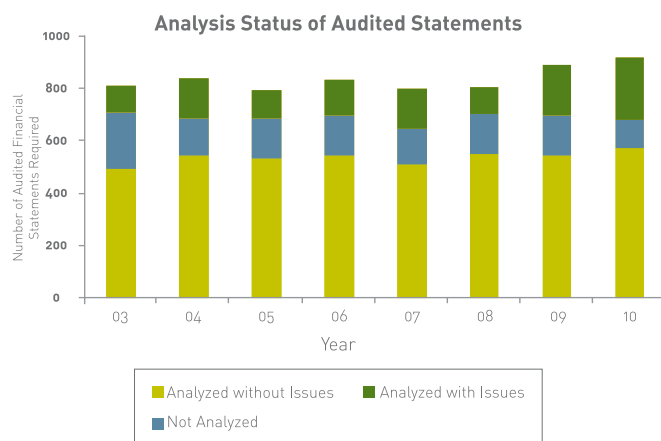


- 27 operations in execution for \$4.7b have been assigned the “A” Environmental and Social Impact risk classification. 28 operations in execution for \$5b in 2009 were assigned the same rating.
- 283 operations in execution for \$20.5b have been assigned the “B” Environmental and Social Impact risk classification. 265 operations in execution for \$17.8b in 2009 were assigned the same rating.

3.3.6 AUDITED FINANCIAL STATEMENT



- AFS delivered on time as a percentage of AFS required reached 60%, an increase from 50% in 2009.

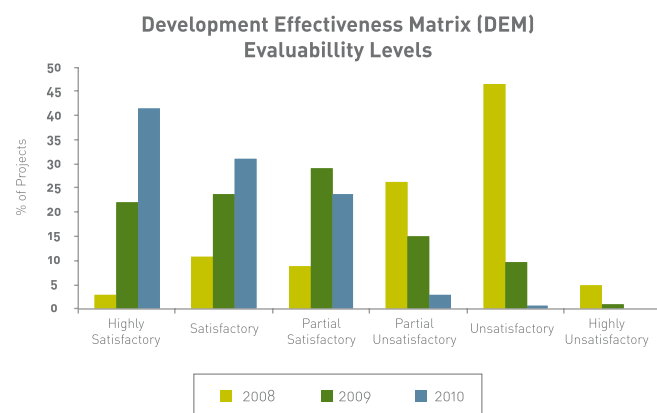


- In 2010, 679 (74%) of the 918 AFS expected were analyzed by auditors. This analysis resulted in 572 (84%) AFS with no issues, an increase from 78% of 2009.

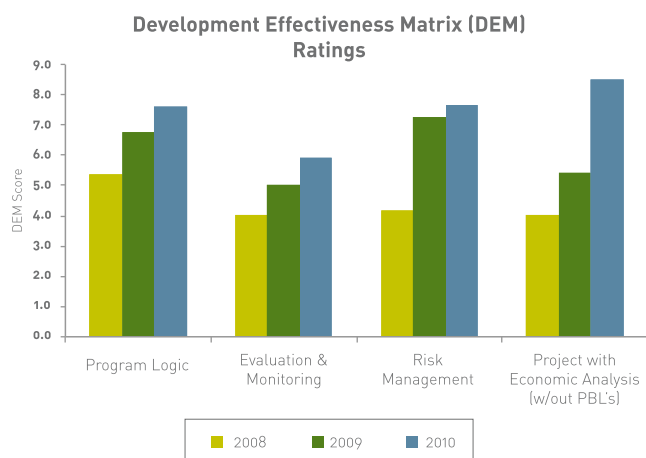
3.4 DEVELOPMENT EFFECTIVENESS

This section presents indicators from Development Effectiveness Matrix (DEM) and the implementation of the Progress Monitoring Report (PMR).

3.4.1 DEVELOPMENT EFFECTIVENESS MATRIX



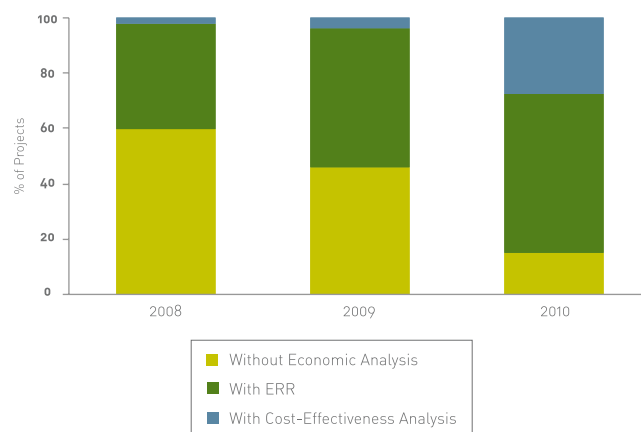
- The number of operations that scored “satisfactory” or above in evaluability dimensions reached 98, an increase of 88% from 52 projects in 2009.
- The number of operations that scored satisfactory or above in evaluability dimensions as a percent of total projects assessed was 73% compared to 46% in 2009.



- Average DEM ratings at entry improved in all dimensions from 2009 to 2010. Program Logic scored 7.6, a 12% improvement from 6.7 in 2009; evaluation and monitoring scored 5.9, an 18% improvement from 5 in 2009; Economic performance scored 8.5, a 57% improvement from 5.4 in 2009; and risk management scored 7.7, a 6% improvement from 7.3 in 2009.

Economic Rate of Return Analysis 2008-2009

Excludes PBL and Emergency Operations



- The number of SG operations assessed in 2010 (excluding PBL and Emergency) that had an Economic Rate of Return Analysis reached 61, a 27% increase from 48 in 2009. The number of operations with a Cost-Effectiveness Analysis reached 30, a 650% increase from 4 in 2009.

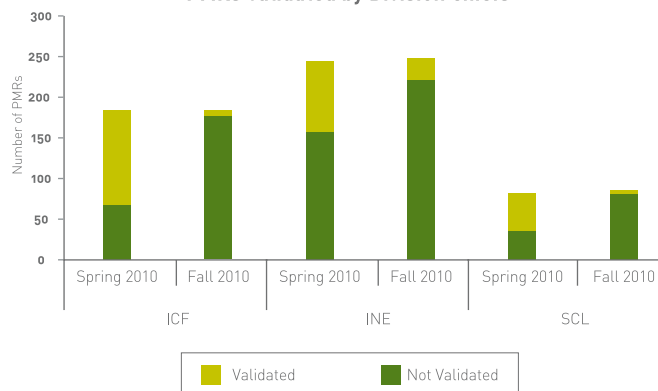
Ex-Ante Impact Evaluation 2008-2010



- The number of SG operations assessed in 2010 with planned impact evaluation reached 37, a 185% increase from 13 in 2009.

3.4.2 PROGRESS MONITORING REPORT¹⁹

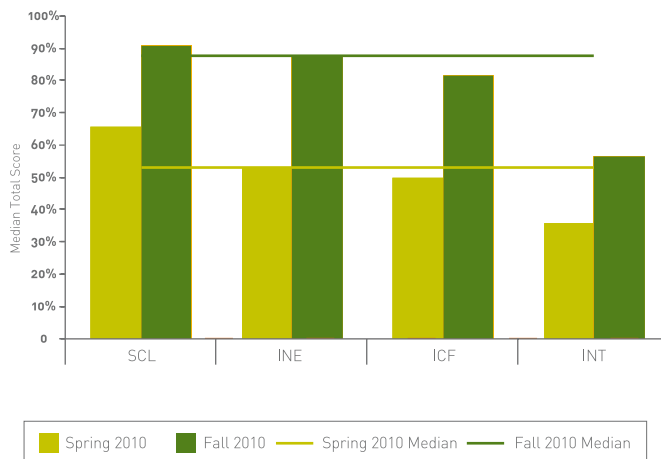
PMRs Validated by Division Chiefs



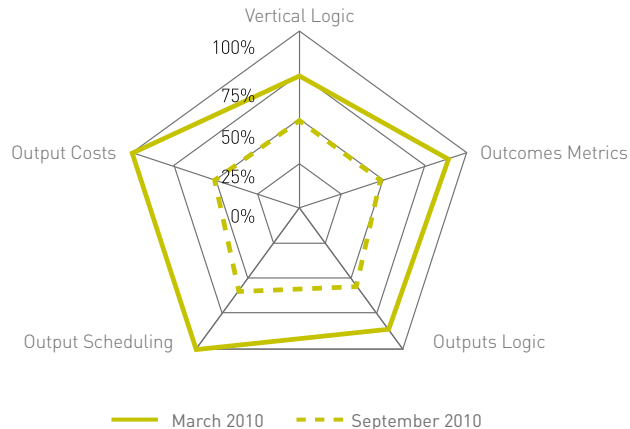
- By the end of the PMR cycle closing at the end of 2010, 93% (492 of 528) of the PMRs were validated by Division Chiefs compared to 49% (270 operations of 552) validated in the prior cycle Q1/10.

¹⁹ The Bank will be monitoring and reporting on the portfolio status based on the Performance Index (PI) as of the second semester of 2011.

PMRs Checklist Median Score by Sector



Total Reviewed PMRs (187 Projects)



- The contents of the PMR improved in the cycle closing at the end of 2010. The median PMR checklist²⁰ score in reached 87% for SG portfolio under 10% disbursed compared to 53% in the prior cycle (Q1/10).

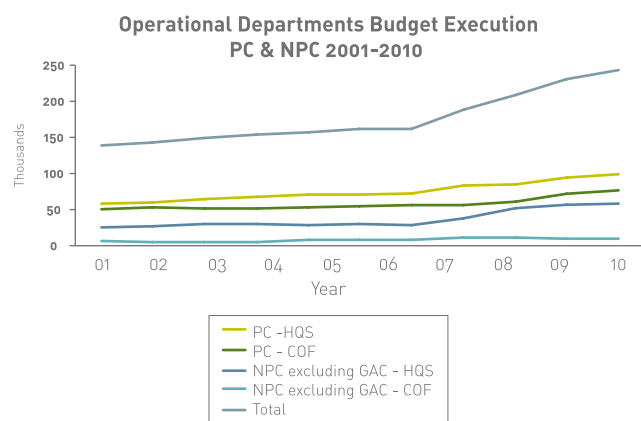
- The average score for all 5 dimensions of the checklist for the group of projects with less than 10% disbursed improved to 89% at the end of 2010 from around 50% in the Q1/10 cycle.

²⁰ PMR content for SG portfolio under 10% disbursed (188 projects) was reviewed by SPD using a checklist based on the DEM program logic and monitoring sections. The checklist consists of questions in 5 dimensions, including: evaluation logic, metrics, monitoring logic, output scheduling and output financial programming. The review applied the checklist to data that was entered into the system.

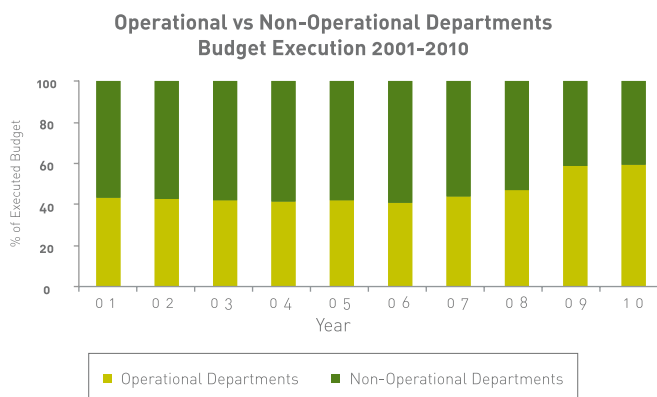
IV. Operational Efficiency

The following indicators measure operational budget execution as well as how resources are allocated and used in operational activities, in particular loan project preparation and execution.

4.1 OPERATIONAL BUDGET EXECUTION

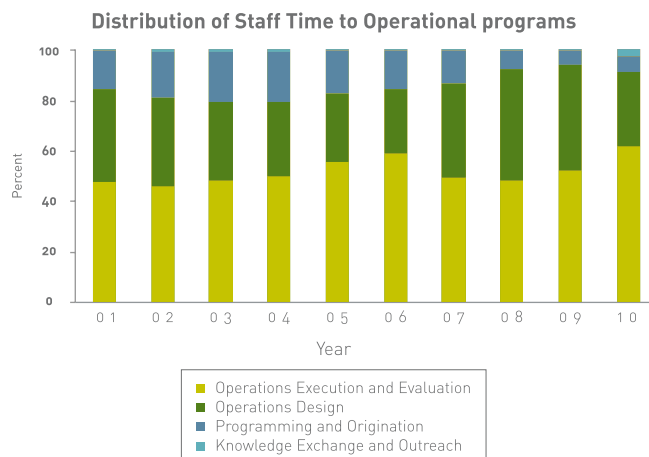


- Personnel Costs expenses for operational departments reached \$164.4m, 13% increased from \$145.4m in 2009.
- Non-Personnel Cost²¹ (NPC) expenses for operational Departments reached \$68.8m, a 5% increase from \$65.5m in 2009.



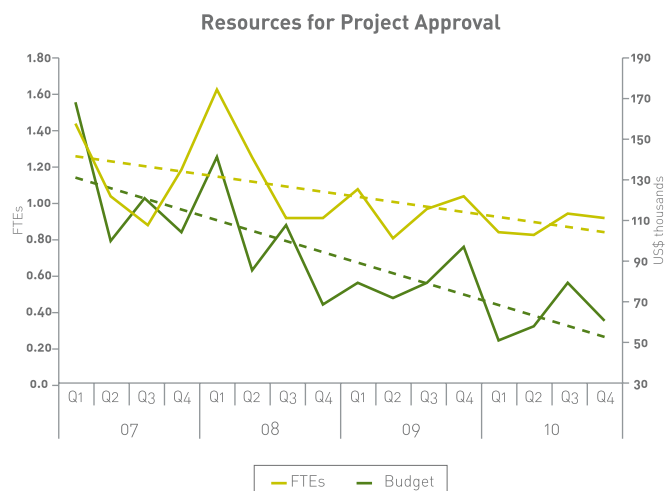
- Operational department's executed budget reached \$258.7m, a 5% increase from \$246m in 2009.
- Operational department's executed budget as a percentage of total administrative budget was maintained at 59%.

4.2 TIME REPORTED BY PROGRAM GROUP



- Staff time reported to operational programs²² reached 731 FTEs, a 1% increase from 724 in 2009.
- Staff time reported to execution and evaluation of operations reached 449 FTEs, a 19% increase from 377 in 2009.
- Staff time reported to operation's design and Programming and Origination reached 217 FTEs, a 28% decrease from 303 in 2009.

4.3 PROJECT EFFICIENCY

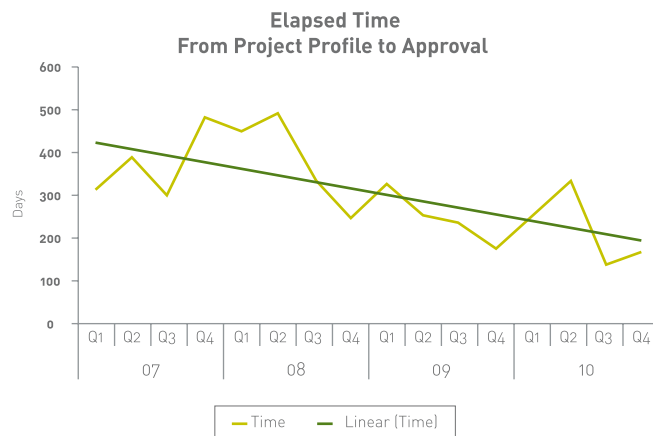


²¹ Excludes general administrative costs.

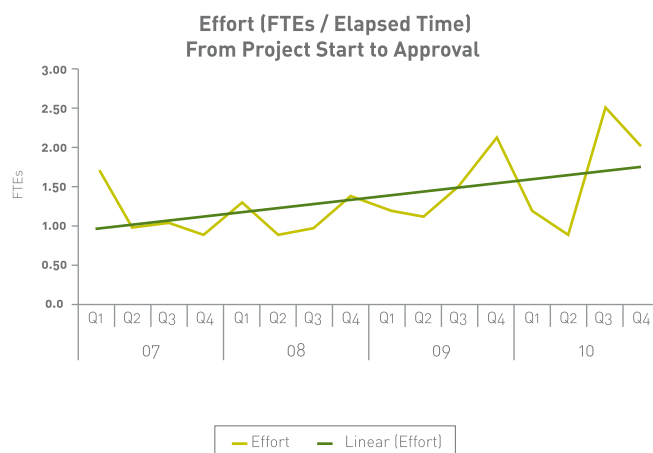
²² (Programming and origination, operations design, execution and evaluation and operational knowledge exchange and Outreach).

- Total cost per approved project reached \$63K, a 29% decrease from \$90k in 2009.

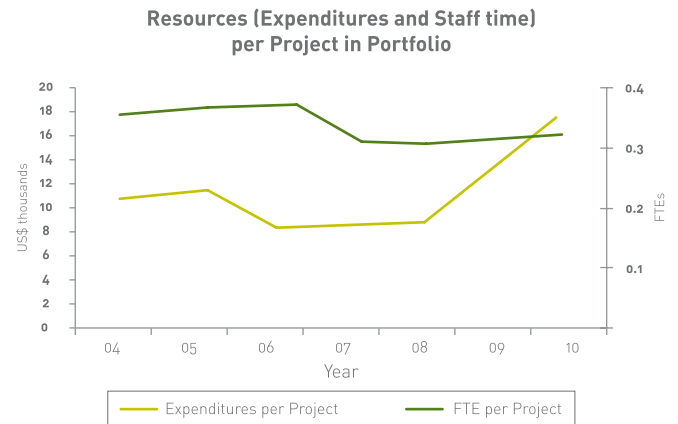
- Staff time reported per approved project reached 0.89 FTEs, a 9% decrease from 0.98 in 2009.



- Time elapsed to prepare a project (from Project Profile to Approval) approved in 2010 was 6 months, a decrease from 7 months in 2009.



- The ratio between staff time reported and preparation elapsed time (effort), reached 1.7 in 2010, a 2% decrease from 1.73 in 2009.



- Staff time reported per project in the portfolio in execution reached 0.32 FTEs, a 4% increase from 0.31 in 2009.

- Expenditures per project in the portfolio in execution reached \$17.3K, a 37% increase from US\$12.7 in 2009.

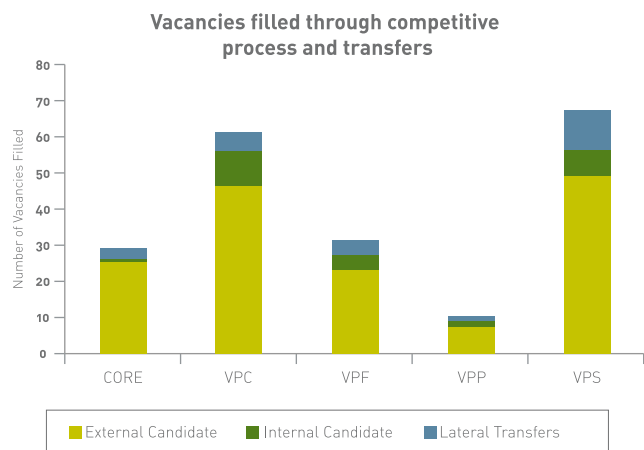


- Staff time reported to project execution per US\$ million disbursed reached 3.9 days, an 18% increase from 3.2 days in 2009.

V. Staffing and Culture

Indicators in the following section assess the staff hiring process, Country Offices strengthening, cross sector collaboration within VPS and learning activities.

5.1 VACANCIES AND NEW HIRES



- Positions filled reached 198 out of which 138 (70%) were operational (VPS, VPC, VPP). In 2009, 180 positions were filled out of which 125 (69%) were operational.
- Positions filled with external candidates reached 150 (76%) out of which 67 (45%) were female. In 2009, 137 (76%) positions were filled with external candidates of which 67 (49%) were female.
- The remaining 48 positions (24%) were filled internally of which 24 were through lateral transfer. In 2009, 43 positions (24%) were filled internally, out of which 33 were through lateral transfer.
- Out of the 60 hires in Country Offices in 2010, 26 (43%) were females; for headquarters, out of the 90 hires, 41 (46%) were females. In 2009, out of the 46 hires in Country offices, 24 (52%) were females; for headquarters, out of the 91 hires, 43 (45%) were females.

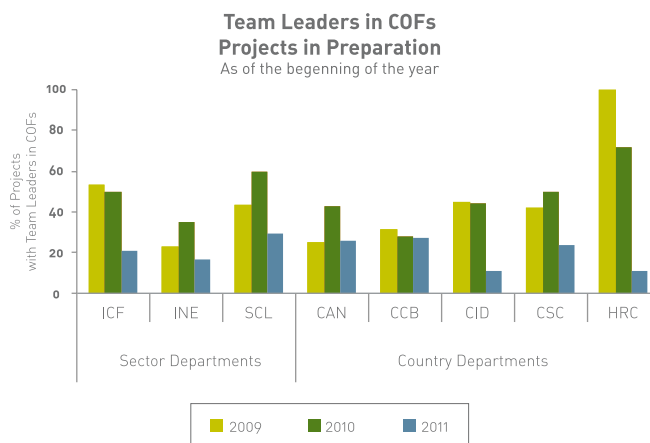
5.2 COF STRENGTHENING

Flow of COF Professional Staff

On Board 12/31/09	405
Terminations	-38
Net Transfers	12
External Hires	52
Promotions from Administratives to Professionals	5
On Board 12/31/10	436
Net Changes	31
Variances	35

- Net change of professional staff in COFs by December 31st, 2010 was an increase of 31 (8% from the beginning of the year). In 2009, net change was an increase of 22 (6% from beginning of year).
- Of the 150 external professional staff hires, 60 (40%) were for COFs of which 40 (67%) were national professionals and 20 (33%) internationals. In 2009, of the 137 external professional staff hires, 40 (30%) were for COFs of which 32 (51%) were national professionals and 40 were internationals.
- By year's end 2010, VPC professional staff on board in COF increased with respect to 2009 by 5, VPS by 7. By year's end 2009, VPC increased with respect to 2008 by 17, VPS by 1 and VPP by 2, and VPF by 3.

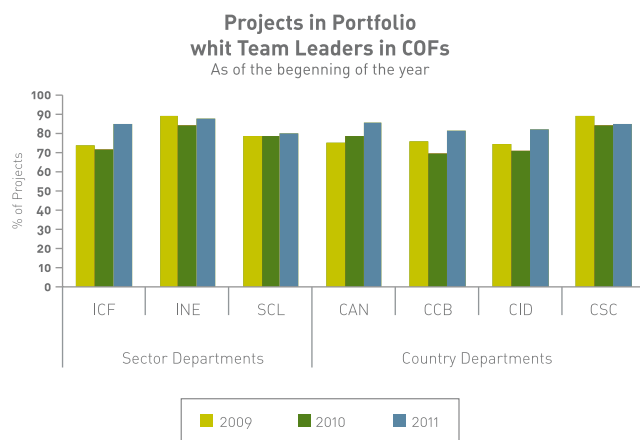
5.2.1 TEAM LEADERS IN COFs



- Number of SG operations prepared by Team leaders in COF reached 37, a 39% decrease from 61 in 2009.

- Number of SG operations prepared by Team Leaders in COF as a percent of total number of SG approvals reached 20% at the beginning of 2011, a 25 percentage points decrease from 45% at the beginning of 2010.

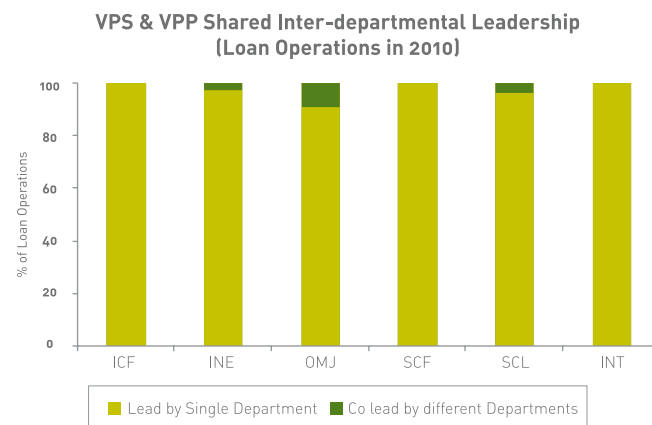
- Two divisions have 40% or more of their operations in preparation by team leaders in COFs (SPH and WSA) and one country (Guyana) have 50% or more of operations in preparation by team leaders in COFs.



- The percentage of projects in execution with Team leaders in COFs increased from 82% at the beginning of 2010 to 84% at the beginning of 2011.

- The percentage of total staff time reported by COFs in operation's execution related activities reached 66%, 1 percentage point decrease from 67% in 2009.

5.3 CROSS SECTOR COLLABORATION



- OMJ co-leads with shared responsibility 9.1% of its projects program with other Departments, SCL coleads 3.4%, and INE co-leads 2.9%.

- ICF, SCF, and INT have sole responsibility of 72 operations.

5.4 KNOWLEDGE AND LEARNING

- Staff received an average of 8.2 days of K&L activities per FTE reported in 2010, a 17.2% decrease from 9.9 days in 2009. Time to these activities represented 3.5% of Bank's total reported time.

- Staff Learning Activities were offered to 11,683 Bank participants, a 40.6% increase from the 8,438 registered in 2009. Time reported to these activities reached 74.6 FTEs, a 5% decrease from 78.5 FTEs in 2009.

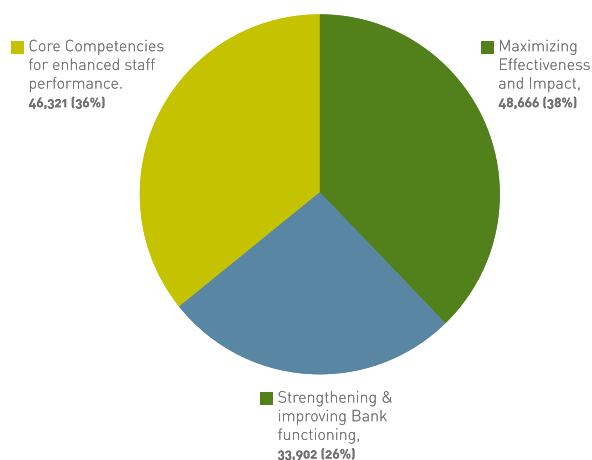
- In 2010, 69% of the participants were professionals, a 2 percentage points decrease from 71% in 2009. 26% of the participants were from Country Offices, same level as 2009.

- In 2010, 1,661 professional staff, 263 administrative staff and 874 consultants or Research assistants participated in at least one K&L activity²³.

²³ For these activities, 86% of internal participants who responded to KNL surveys indicated that the knowledge and skills attained would enhance their performance and productivity. Participants rated quality of learning activities with an average of 4.3 on a five-point scale.

- On average, a professional staff member participated in 5 K&L activities; administrative staff in 4, and consultants or research assistants in 3.

2010 Staff K&L Hours Delivered



- In 2010, 2,410 external participants from the region participated in learning activities for a total of 70,852 hours²⁴. 38% in face-to-face and 62% in e-learning activities.
- By year end 2010, there were 31 active communities of practice, facilitating knowledge sharing among 2,157 persons. Four knowledge portals (excluding visits to <http://knl> and <http://lib>) were visited by 2,882 persons, who made a total of 7,581 visits.
- Technical services delivered by the Felipe Herrera Library amounted to: 3,973 Selective Dissemination Information Alerts, 134 Catalog-in-Publications; 22 bibliographic research notes, and 4,443 Library and Inter-library Loans, among other services.

²⁴ For these activities, 97% of participants who responded to the evaluation survey indicated that the knowledge and skills attained would enhance their productivity and performance. Those participants rated the quality of the course with an average 4.3 on a five-point scale.







ANNEX

BANK'S RESULTS FRAMEWORK 2012-2015

TABLE 1

Lending Program Estimates to be Reached by end of 2015 for SG and NSG Operations

Lending Program Indicators	Percent of Total Lending	
	Baseline	Estimated
	2006 - 2009	2015
1.1 Lending to small and vulnerable countries	27	35
1.2 Lending for poverty reduction and equity enhancement	40	50
1.3 Lending to support climate change initiatives, sustainable energy (including renewable) and environmental sustainability	5	25
1.4 Lending to support regional cooperation and integration	10	15
Note: Since projects can qualify for more than one lending category the estimated percentages proposed do not add to 100 percent.		

TABLE 2

Regional Development Goals

Goal	Baseline	Year	Progress	Progress Year
1- Social Policy for Equity and Productivity				
2.1.1 Extreme poverty rate	11.9	2007	*	
2.1.2 Gini coefficient of <i>per capita</i> household income inequality	0.55	1999–2004	*	
2.1.3 Share of youth ages 15 to 19 who complete ninth grade	0.47	2000–2007	0.54	2005–2009
2.1.4 Maternal mortality ratio	130	2005	*	
2.1.5 Infant Mortality ratio	21	2007	20	2008
2.1.6 Share of formal employment in total employment	46.3	2007	47	2009
2- Infrastructure for Competitiveness and Social Welfare				
2.2.1 Incidence of waterborne diseases (per 100,000 inhabitants)	19	2002	*	
2.2.2 Paved road coverage (Km/Km ²)	0.038	2006	*	
2.2.3 Percent of households with electricity	93	2007	93	2009
2.2.4 Proportion of urban population living in dwellings with hard floor	30	2008	*	
3- Institutions for Growth and Social Welfare				
2.3.1 Percent of firms using Banks to finance investments	19.6	2006	*	
2.3.2 Ratio of actual to potential tax revenues	78	2007	*	
2.3.3 Percent of children under five whose birth was registered	90.6	2008	*	
2.3.4 Public expenditure managed at the decentralized level as % total public expenditure	20	2007	*	
2.3.5 Homicides per 100,000 inhabitants	27.5	2008	26.3	2008
4- Competitive Regional and Global International Integration				
2.4.1 Trade openness (trade as percent of GDP)	84.9	2004–2007	84.2	2006–2009
2.4.2 Intraregional trade in LAC as percent of total merchandise trade	24.2 exports	2004–2007	26.7	2006–2009
	33.1 imports		34.5	2006–2009
2.4.3 Foreign direct investment net inflows as percent of GDP	4.2	2004–2007	4.6	2006–2009
5- Protecting the Environment, Responding to Climate Change, Promoting Renewable Energy, and Enhancing Food Security				
2.5.1 Stabilization of CO2 equivalent emissions (metric tons per habitant)	2.4	2004	0.29	2007
2.5.2 Countries with planning capacity in mitigation and adaptation of climate change	3	2009	*	
2.5.3 Annual reported economic damages from natural disasters	US\$7.7b	2007	39.3 b ¹	2010
2.5.4 Proportion of terrestrial and marine areas protected to total territorial area (%)	21	2009	*	
2.5.5 Annual growth rate of agricultural GDP (%)	3.5	2007	4.2	2008
*The most current data available is the one in the baseline.				
⁽¹⁾ The increase in economic damages is due to the earthquakes in Haiti and Chile.				

TABLE 3

Bank Output Contribution to Regional Development Goals 2012–2015

Expected Results	Baseline ¹ 2005-2008	Progress ² 2010	Estimated outputs 2015
1- Social Policy for Equity and Productivity			
3.1.1 Students benefited by education projects (girls, boys) (a) girls (b) boys	3,200,000	1,500,000 *	8,500,000
3.1.2 Teachers trained	175,000	80,000	530,000
3.1.3 Individuals (all, Indigenous, Afro-descendant) receiving a basic package of health services (a) Indigenous; (b) Afro-descendants	2,000,000	** *	23,000,000
3.1.4 Individuals (all, Indigenous, Afro-descendant) receiving targeted anti-poverty program (a) Indigenous; (b) Afro-descendants	n/a	** *	16,000,000
3.1.5 Individuals (all, men, women, youth) benefited from programs to promote higher labor market productivity (a) men; (b) women	n/a	154,700 *	600,000
3.1.6 Number of jobs added to formal sector	129,000	**	160,000
2- Infrastructure for Competitiveness and Social Welfare			
3.2.1 Households with new or upgraded water supply 3.2.1.1 Percentage of households with new or upgraded water supply that are: (a) Indigenous; (b) Afro-descendants	1,500,000	43,785 *	2,770,000
3.2.2 Households with new or upgraded sanitary connections 3.2.2.1 Percentage of households with new or upgraded sani- itary connections that are: (a) Indigenous; (b) Afro-descendants	680,000	49,154 *	3,600,000
3.2.3 Km of inter-urban roads built or maintained/upgraded	22,000	542	53,000
3.2.4 Km of electricity transmission and distribution lines ins- talled or upgraded	2,000	1,418	1,000
3.2.5 Number of Households with new or upgraded dwellings 3.2.5.1 Percentage of households that are: (a) Indigenous; (b) Afro-descendants	n/a	** *	25,000
3- Institutions for Growth and Social Welfare			
3.3.1 Micro/Small/Medium productive Enterprises financed	220,000	92,471	120,000
3.3.2 Public Financial systems implemented or upgraded (budget, treasury, accounting, debt, and revenues)	24	8	28
3.3.3 Persons incorporated into a civil or identification registry 3.3.3.1 Percentage who are: (a) women; (b) men; (c) Indige- nous; (d) Afro-descendants	n/a	0 *	3,000,000
3.3.4 Municipal and other sub-national governments supported	n/a	**	1000
3.3.5 Cities benefited with citizen security projects	n/a	5	32

4- Competitive Regional and Global International Integration			
3.4.1 Number of public trade officials and private entrepreneurs trained in trade and investment	n/a	100	65,000
3.4.1.1 percentage that are women		*	
3.4.2 Regional and sub-regional integration agreements and cooperation initiatives supported	n/a	*	10
3.4.3 Number of cross border and transnational projects supported (infrastructure, and customs, etc)	26	4	22
3.4.4 Number of International trade transactions financed	561	901	1,000
3.4.5 Mobilization volume by NSG financed projects/companies	\$25,3 billion	\$1,131b	\$31,2 b
5- Protecting the Environment, Responding to Climate Change, Promoting Renewable Energy, and Enhancing Food Security			
3.5.1 Percentage of power generation capacity from low-carbon sources over total generation capacity funded by IDB	91	**	93
3.5.2 Number of people given access to improved public low-carbon transportation systems	n/a	**	8,500,000
3.5.2.1 Percentage of people that are (a) Indigenous; (b) Afro-descendants		*	
3.5.3 National frameworks for climate change mitigation supported	n/a	3	5
3.5.4 Climate change pilot projects in agriculture, energy, health, water and sanitation, transport, and housing	n/a	*	10
3.5.5 Number of projects with components contributing to improved management of terrestrial and marine protected areas	15	4	30
3.5.6 Farmers given access to improved agricultural services and investments	n/a	980,265	5,000,000
3.5.6.1 Percentage that are (a) women; (b) men; (c) Indigenous; (d) Afro-descendants		*	
⁽¹⁾ Baseline numbers are collected from the information systems for the four-year period, where available.			
⁽²⁾ Information was not available in 2010 for the outputs with one asterisk (*) and information with two asterisks (**) will be available at a later stage.			

TABLE 4

Operational Effectiveness and Efficiency

	Baseline ⁽¹⁾ 2006-2009	Progress 2010	Estimated 2015
1- Effectiveness – Country Strategies			
4.1.1 Percent of country strategies with satisfactory scores in evaluability dimensions	27%	100%	85%
Percent of country strategies that have satisfactory results that can be validated at completion for:			
4.1.2 Sector outcomes	-	83%	65%
4.1.3 Financial outcomes	-	100%	75%
4.1.4 Progress on building and using country systems	-	33%	55%
2- Effectiveness – loans			
For sovereign guaranteed (SG) operations (approvals)			
4.2.1 Percent of new operations with satisfactory scores on evaluability dimensions	26%	72%	85%
4.2.2 Percent of projects with high environmental and social risks rated satisfactory in implementation of mitigation measures	-	*	85%
Project portfolio performance satisfactory from monitoring reports (execution) - SG			
4.2.3 Percent of projects that have satisfactory results	-	**	70%
4.2.4 Percent of projects with satisfactory rating on development results at completion	-	**	60%
For nonsovereign guaranteed (NSG) operations (approvals)			
4.2.5 Percent of new operations with satisfactory scores on evaluability dimensions	-	*	85%
4.2.6 Percent of projects with high environmental and social risks rated satisfactory in implementation of mitigation measures	-	*	85%
Project portfolio performance satisfactory from monitoring reports (execution) - NSG			
4.2.7 Percent of projects that have satisfactory results		**	70%
4.2.8 Percent of projects with satisfactory ratings on development outcomes at completion	60%	**	65%
3- Effectiveness – Knowledge and Capacity Building Products (KCPs)			
4.3.1 Percent of completed KCPs with results that can be validated	-	*	100%
4.3.2 Percent of completed KCPs with satisfactory results	-	*	65%
4- Effectiveness - Partner satisfaction			
4.4.1 Percent of external partners satisfied with Bank delivery of services for country strategies	-	*	70%
4.4.2 Percent of external partners satisfied with Bank delivery of services for loan operations	-	*	70%
4.4.3 Percent of external partners satisfied with Bank delivery of services for KCPs	-	*	70%
5- Efficiency			
4.5.1 Cofinancing (percent of Regular Lending Program)	29%	9.7%	30%
4.5.2 Trust Funds (percent of Regular Lending Program)	2%	3%	3%
4.5.3 Total administrative expenses per US\$1 million approved ⁽²⁾	\$41,900	\$33,685	\$34,000

4.5.4 Total administrative expenses per US\$1 million disbursed	US\$50,150	US\$39,258	US\$45,000
4.5.5 Percent of administrative expenses in operational programs	61%	61%	68%
4.5.6 Cycle time: country strategy (Inauguration to delivery of Strategy to Government)	20 months	***	6 months
4.5.7 Cycle time: SG loan preparation time (Profile to approval)	9.5 months	5.3 months	8 months
4.5.8 Cycle time: SG loan disbursement period (eligibility to first disbursement)	19 days	8 days	19 days
4.5.9 Cycle time: NSG loan preparation time (Profile to approval)	12 months	5.6 months	6 months
4.5.10 Cycle time: NSG loan disbursement period (eligibility to first disbursement)	-	**	10 days
Human Resources			
4.5.11 Percentage of professional and executive staff who are women, grade 4 or above	28%	32%	35%
4.5.12 Percentage of Upper Management staff who are women (Executive staf and Representatives/EVP and Vice-Presidents)	18% / 0%	22% / 20%	38% / 40-60%
4.5.13 Percentage of Professional staff based in COF	26%	31%	40%
<p>⁽¹⁾ Average of 2006 - 2009 period where information is available for all years.</p> <p>⁽²⁾ Target figures for administrative expenses are set in constant 2009 dollars.</p> <p>^(*) Information was not available in 2010.</p> <p>^(**) Information will be available at a later stage.</p> <p>^(***) Country Strategies are not necessarily aligned to political cycles.</p>			





ANNEX

PARIS DECLARATION

IDB PERFORMANCE IN IMPLEMENTING THE PRINCIPLES OF THE PARIS DECLARATION ON AID EFFECTIVENESS

Over 2010, the IDB has worked on...

OWNERSHIP
To increase our alignment to country development priorities , the IDB implemented results-based country strategies that are evaluable in 2010- 100 percent of country strategies approved in the year were evaluable for country level results.
To enhance country ownership of the development interventions we support, the IDB monitored the Bank's programs alignment to country priorities- in 2010, 52.9 percent of programs approved by the Bank were highly aligned to country development priorities.
ALIGNMENT
To support countries in establishing programs to improve procurement and financial management systems :
33 percent of our country strategies show satisfactory results in the progress towards building and using country systems;
36 percent of total disbursements of Bank financing used national budget, financial reporting and audit procedures ;
39 percent of total disbursements of Bank resources used national procurement processes .
To ensure that resources flows are predictable and are aligned to the national priorities of our partners . In 2010, 100 percent or US\$10,4 billion of the Bank's Sovereign Guaranteed Disbursements are reflected in partners' national budgets.
To provide technical assistance to strengthen capacity of our clients, the IDB disbursed US\$158,4 million in technical cooperation in 2010.
To enhance coordination with other development partners through joint programs, the IDB managed investment grants and co-financing agreements which disbursed US\$4,98 million in 2010 .
To reduce the use of parallel implementation units, 64.49 percent of the Bank's approved operations provided additional measures to build the capacity of partners to manage development interventions .
HARMONIZATION
To continue our engagement in joint analysis with other development partners, the IDB participated or led other donors and partners in 8 PEFA assessments and 6 OECD/DAC procurement indicator framework.
MANAGING FOR RESULTS
To ensure that our performance at the country level can be measured and outcomes validated, 83 percent of the IDB's country strategies have satisfactory results that can be validated for sector outcomes.
To increase our capacity to measure the results of the interventions we support, 72 percent of projects approved by the Bank in 2010 had satisfactory scores in evaluability dimensions.
MUTUAL ACCOUNTABILITY
To ensure that an accountability framework for partners to assess the Bank's performance in achieving the goals set forth in IDB-9 is in place, the Board of Governors approved the Results Framework for IDB-9 in July of 2010.
To provide a vehicle for feedback by clients and other stakeholders on our performance, the IDB designed an external feedback system to obtain timely information on client's views as to the quality and effectiveness of the Bank's work.



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GLOSSARY ON IMPACT EVALUATION TERMS

This glossary is from Gertler, P. J., S. Martinez, P. Premand, L. B. Rawlings, and C. M. J. Vermeersch. 2010. *Impact Evaluation in Practice*. Washington D.C., The World Bank.

Italic indicates terms that are defined in the glossary.

Activity. Actions taken or work performed through which *inputs*, such as funds, technical assistance, and other types of resources are mobilized to produce specific *outputs*.

Alternative hypothesis. In *impact evaluation*, the alternative hypothesis is usually the hypothesis that the *null hypothesis* is false; in other words, that the intervention has an impact on *outcomes*.

Attrition. Attrition occurs when some units drop from the *sample* between one data collection round and another, for example, because migrants are not tracked. Attrition is a case of unit *nonresponse*. Attrition can create *bias* in *impact evaluations* if it is correlated with treatment status.

Baseline. Preintervention, *ex-ante*. The situation prior to an intervention, against which progress can be assessed or comparisons made. Baseline data are collected before a program or policy is implemented to assess the “before” state.

Before-and-after comparison. Also known as “pre-post comparison” or “reflexive comparison,” a before-and-after comparison attempts to establish the impact of a program by tracking changes in *outcomes* for program beneficiaries over time, using measurements before and after the program or policy is implemented.

Bias. The bias of an *estimator* is the difference between an estimator’s expectation and the true value of the parameter being estimated. In *impact evaluation*, this is the difference between the impact that is calculated and the true impact of the program.

Census data. Data that cover all units in the population of interest (*universe*). Contrast with *survey data*.

Cluster. A cluster is a group of units that are similar in one way or another. For example, in a *sampling* of school children, children who attend the same school would belong to a cluster because they share the same school facilities and teachers and live in the same neighborhood.

Cluster sample. A *sample* obtained by drawing a *random sample* of clusters, after which either all units in the selected clusters constitute the sample, or a number of units within each selected *cluster* is randomly drawn. Each cluster has a well-defined probability of being selected, and units within a selected cluster also have a well-defined probability of being drawn.

Comparison group. Also known as a “control group.” A valid comparison group will have the same characteristics as the group of beneficiaries of the program (*treatment group*), except that the units in the comparison group do not benefit from the program. Comparison groups are used to estimate the *counterfactual*.

Cost-benefit analysis. *Ex-ante* calculations of total expected costs and benefits, used to appraise or assess project proposals. Cost-benefit can be calculated *ex-post* in *impact evaluations* if the benefits can be quantified in monetary terms and the cost information is available.

Cost-effectiveness. Determining cost-effectiveness entails comparing similar interventions based on cost and effectiveness. For example, *impact evaluations* of various education programs allow policy makers to make more informed decisions about which intervention may achieve the desired objectives, given their particular context and constraints.

Counterfactual. The counterfactual is an estimate of what the *outcome* (Y) would have been for a program participant in the absence of the program (P). By definition, the counterfactual cannot be observed. Therefore, it must be estimated using *comparison groups*.

Difference-in-differences. Also known as “double difference” or “DD.” Difference-in-differences estimates the *counterfactual* for the change in *outcome* for the *treatment group* by taking the change in outcome for the *comparison group*. This method allows us to take into account any differences between the treatment and comparison groups that are constant over time. The two differences are thus before and after, and between the treatment and comparison groups.

Effect. Intended or unintended change due directly or indirectly to an intervention.

Estimator. In statistics, an estimator is a statistic (a function of the observable *sample* data) that is used to estimate an unknown population parameter; an estimate is the result from the actual application of the function to a particular sample of data.

Evaluation. Evaluations are periodic, objective assessments of a planned, ongoing, or completed project, program, or policy. Evaluations are used to answer specific questions, often related to design, implementation, and results.

External validity. To have external validity means that the causal impact discovered in the *impact evaluation* can be generalized to the universe of all eligible units. For an evaluation to be externally valid, it is necessary that the evaluation sample be a representative *sample* of the universe of eligible units.

Follow-up survey. Also known as “postintervention” or *ex-post* survey. A survey that is fielded after the program has started, once the beneficiaries have benefited from it for some time. An *impact evaluation* can include several follow-up surveys.

Hawthorne effect. The “Hawthorne *effect*” occurs when the mere fact that units are being observed makes them behave differently.

Hypothesis. A hypothesis is a proposed explanation for an observable phenomenon. See also, *null hypothesis* and *alternative hypothesis*.

Impact evaluation. An *impact evaluation* is an evaluation that tries to make a causal link between a program or intervention and a set of *outcomes*. An impact evaluation tries to answer the question of whether a program is responsible for changes in the outcomes of interest. Contrast with *process evaluation*.

Indicator. An indicator is a *variable* that measures a phenomenon of interest to the evaluator. The phenomenon can be an *input*, an *output*, an *outcome*, a characteristic, or an attribute.

Inputs. The financial, human, and material resources used for the development intervention.

Instrumental variable. An instrumental *variable* is a variable that helps identify the causal impact of a program when participation in the program is partly determined by the potential beneficiaries. A variable must have two characteristics to qualify as a good instrumental variable: (1) it must be correlated with program participation, and (2) it may not be correlated with *outcomes* *Y* (apart from through program participation) or with unobserved variables.

Intention-to-treat, or ITT, estimator. The ITT *estimator* is the straight difference in the *outcome indicator* *Y* for the group to whom we offered treatment and the same indicator for the group to whom we did not offer treatment. Contrast with *treatment-on-the-treated*.

Internal validity. To say that an *impact evaluation* has internal validity means that it uses a valid comparison group, that is, a *comparison group* that is a valid estimate of the *counterfactual*.

Intra-cluster correlation. Intra-cluster correlation is correlation (or similarity) in *outcomes* or characteristics between units that belong to the same cluster. For example, children that attend the same school would typically be similar or correlated in terms of their area of residence or socioeconomic background.

John Henry effect. The John Henry effect happens when comparison units work harder to compensate for not being offered a treatment. When one compares treated units to those “harder-working” comparison units, the estimate of the impact of the program will be biased; that is, we will estimate a smaller impact of the program than the true impact that we would find if the comparison units did not make the additional effort.

Matching. Matching is a nonexperimental *evaluation* method that uses large data sets and heavy statistical techniques to construct the best possible *comparison group* for a given *treatment group*.

Minimum desired effect. The minimum change in *outcomes* that would justify the investment that has been made in an intervention, counting not only the cost of the program and the benefits that it provides, but also the opportunity cost of not investing funds in an alternative intervention. The minimum desired *effect* is an input for *power calculations*; that is, *evaluation samples* need to be large enough to detect at least the minimum desired effect with sufficient *power*.

Monitoring. Monitoring is the continuous process of collecting and analyzing information to assess how well a project, program, or policy, is performing. It relies primarily on administrative data to track performance against expected results, make comparisons across programs, and analyze trends over time. Monitoring usually tracks *inputs*, activities, and *outputs*, though occasionally it includes *outcomes* as well. Monitoring is used to inform day-to-day management and decisions.

Nonresponse. That data are missing or incomplete for some *sampled* units constitutes nonresponse. Unit nonresponse arises when no

information is available for some *sample* units, that is, when the actual sample is different than the planned sample. *Attrition* is one form of unit nonresponse. Item nonresponse occurs when data are incomplete for some sampled units at a point in time. Nonresponse may cause *bias* in *evaluation* results if it is associated with treatment status.

Null hypothesis. A null *hypothesis* is a hypothesis that might be falsified on the basis of observed data. The null hypothesis typically proposes a general or default position. In *impact evaluation*, the default position is usually that there is no difference between the treatment and control groups, or in other words, that the intervention has no impact on *outcomes*.

Outcome. Can be intermediate or final. An outcome is a result of interest that comes about through a combination of supply and demand factors. For example, if an intervention leads to a greater supply of vaccination services, then actual vaccination numbers would be an outcome, as they depend not only on the supply of vaccines but also on the behavior of the intended beneficiaries: do they show up at the service point to be vaccinated? Final or long-term outcomes are more distant outcomes. The distance can be interpreted in a time dimension (it takes a long time to get to the outcome) or a causal dimension (many causal links are needed to reach the outcome).

Output. The products, capital goods, and services that are produced (supplied) directly by an intervention. Outputs may also include changes that result from the intervention that are relevant to the achievement of *outcomes*.

Population of interest. The group of units that are eligible to receive an intervention or treatment. The population of interest is sometimes called the universe.

Power. The power is the probability of detecting an impact if one has occurred. The power of a test is equal to 1 minus the probability of a *type II error*, ranging from 0 to 1. Popular levels of power are 0.8 and 0.9. High levels of power are more conservative and decrease the likelihood of a type II error. An *impact evaluation* has high power if there is a low risk of not detecting real program impacts, that is, of committing a type II error.

Power calculations. *Power* calculations indicate the *sample* size required for an *evaluation* to detect a given *minimum desired effect*. Power calculations depend on parameters such as power (or the likelihood of *type II error*), *significance level*, variance, and *intra-cluster correlation* of the *outcome* of interest.

Process evaluation. A process *evaluation* is an evaluation that tries to establish the level of quality or success of the processes of a program; for example, adequacy of the administrative processes, acceptability of the program benefits, clarity of the information campaign, internal dynamics of implementing organizations, their policy instruments, their service delivery mechanisms, their management practices, and the linkages among these. Contrast with *impact evaluation*.

Random sample. The best way to avoid a biased or unrepresentative *sample* is to select a random sample. A random sample is a probability sample in which each individual in the population being sampled has an equal chance (probability) of being selected.

Randomized assignment or randomized control designs. Randomized assignment is considered the most robust method for estimating *counterfactuals* and is often referred to as the “gold standard” of *impact evaluation*. With this method, beneficiaries are randomly selected to receive an intervention, and each has an equal chance of receiving the program. With large-enough *sample* sizes, the process of random assignment ensures equivalence, in both observed and unobserved characteristics, between the treatment and control groups, thereby addressing any *selection bias*.

Randomized offering. Randomized offering is a method for identifying the impact of an intervention. With this method, beneficiaries are randomly offered an intervention, and each has an equal chance of receiving the program. Although the program administrator can randomly select the units to whom to offer the treatment from the universe of eligible units, the administrator cannot obtain perfect compliance: she or he cannot force any unit to participate or accept the treatment and cannot refuse to let a unit participate if the unit insists on doing so. In the randomized offering method, the randomized offering of the program is used as an *instrumental variable* for actual program participation.

Randomized promotion. Randomized promotion is a method similar to *randomized offering*. Instead of random selection of the units to whom the treatment is offered, units are randomly selected for promotion of the treatment. In this way, the program is left open to every unit.

Randomized selection methods. “Randomized selection method” is a group name for several methods that use random assignment to identify the *counterfactual*. Among them are *randomized assignment* of the treatment, *randomized offering* of the treatment, and *randomized promotion*.

Regression. In statistics, regression analysis includes any techniques for modeling and analyzing several *variables*, when the focus is on the relationship between a dependent variable and one or more independent variables. In *impact evaluation*, regression analysis helps us understand how the typical value of the *outcome indicator* *Y* (dependent variable) changes when the assignment to treatment or *comparison group* *P* (independent variable) is varied, while the characteristics of the beneficiaries (other independent variables) are held fixed.

Regression discontinuity design (RDD). Regression discontinuity design is a nonexperimental *evaluation* method. It is adequate for programs that use a continuous index to rank potential beneficiaries and that have a threshold along the index that determines whether potential beneficiaries receive the program or not. The cutoff threshold for program eligibility provides a dividing point between the *treatment* and *comparison groups*.

Results chain. The results chain sets out the program logic that explains how the development objective is to be achieved. It shows the links from *inputs* to activities, to *outputs*, to results.

Sample. In statistics, a sample is a subset of a population. Typically, the population is very large, making a *census* or a complete enumeration of all the values in the population impractical or impossible. Instead, researchers can select a representative subset of the population (using a sampling frame) and collect statistics on the sample; these may be used to make inferences or to extrapolate to the population. This process is referred to as *sampling*.

Sampling. Process by which units are drawn from the *sampling frame* built from the *population of interest* (universe). Various alternative sampling procedures can be used. Probability sampling methods are the most rigorous because they assign a well-defined probability for each unit to be drawn. Random sampling, stratified random sampling, and cluster sampling are all probability sampling methods. Nonprobabilistic sampling (such as purposive or convenience sampling) can create sampling errors.

Sampling frame. The most comprehensive list of units in the *population of interest* (universe) that can be obtained. Differences between the sampling frame and the population of interest create a coverage (*sampling*) *bias*. In the presence of coverage *bias*, results from the *sample* do not have *external validity* for the entire population of interest.

Selection bias. Selection bias occurs when the reasons for which an individual participates in a program are correlated with outcomes. This bias commonly occurs when the *comparison group* is ineligible or self-selects out of treatment.

Significance level. The significance level is usually denoted by the Greek symbol, α (alpha). Popular levels of significance are 5 percent (0.05), 1 percent (0.01), and 0.1 percent (0.001). If a test of significance gives a p value lower than the α level, the *null hypothesis* is rejected. Such results are informally referred to as “statistically significant.” The lower the significance level, the stronger the evidence required. Choosing the level of significance is an arbitrary task, but for many applications, a level of 5% is chosen for no better reason than that it is conventional.

Spillover effect. Also known as contamination of the *comparison group*. A spillover effect occurs when the comparison group is affected by the treatment administered to the *treatment group*, even though the treatment is not administered directly to the comparison group. If the spillover effect on the comparison group is negative (that is, if they suffer because of the program), then the straight difference between *outcomes* in the treatment and comparison groups will yield an overestimation of the program impact. By contrast, if the spillover effect on the comparison group is positive (that is, they benefit), then it will yield an underestimation of the program impact.

Statistical power. The *power* of a statistical test is the probability that the test will reject the *null hypothesis* when the *alternative hypothesis* is true (that is, that it will not make a *type II error*). As power increases, the chances of a type II error decrease. The probability of a type II error is referred to as the false negative rate (β). Therefore power is equal to $1 - \beta$.

Stratified sample. Obtained by dividing the population of interest (*sampling frame*) into groups (for example, male and female), and then drawing a *random sample* within each group. A stratified *sample* is a probabilistic sample: every unit in each group (or stratum) has the same probability of being drawn.

Survey data. Data that cover a *sample* of the population of interest. Contrast with *census data*.

Treatment group. Also known as the treated group or the intervention group. The treatment group is the group of units that benefits from an intervention, versus the *comparison group* that does not.

Treatment-on-the-treated (effect of). Also known as the TOT *estimator*. The *effect* of treatment on the treated is the impact of the treatment on those units that have actually benefited from the treatment. Contrast with *intention-to-treat*.

Type I error. Error committed when rejecting a *null hypothesis* even though the null hypothesis actually holds. In the context of an *impact evaluation*, a type I error is made when an *evaluation* concludes that a program has had an impact (that is, the null hypothesis of no impact is rejected), even though in reality the program had no impact (that is, the null hypothesis holds). The *significance level* determines the probability of committing a type I error.

Type II error. Error committed when accepting (not rejecting) the *null hypothesis* even though the null hypothesis does not hold. In the context of an *impact evaluation*, a type II error is made when concluding that a program has no impact (that is, the null hypothesis of no impact is not rejected) even though the program did have an impact (that is, the null hypothesis does not hold). The probability of committing a type II error is 1 minus the *power* level.

Variable. In statistical terminology, a variable is a symbol that stands for a value that may vary.





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