

Development Effectiveness Overview 2008-2009





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✓ Message from the President

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In 2006 the Board of Executive Directors approved the Realignment of the Bank, which represents a major institutional shift in order to improve the results of our work, with a focus on increasing the development effectiveness and efficiency of our efforts. Since then the Bank has changed its structure and improved key procedures, while enhancing our commitment to support member's efforts to achieve

and maintain a sustainable and inclusive growth. These changes allowed the Bank to respond promptly to the global crises in 2008 and 2009, when the region was affected by two major exogenous shocks, the increase in food prices and the global financial meltdown.

While the effects of the crises are still felt by many families in the Region, the worse part of it is behind us. For the Region and for the Bank, the coming years pose key challenges, some remain from before —such as increasing productivity and promoting equality of opportunities— and some are recent, as helping those who fell into poverty in 2008 and 2009 to bounce back and improve their livelihoods, and contributing for firms to adapt and compete in the new global environment. Finding effective answers to those challenges is an enormous task, and the Bank has prepared to continue its collaboration with national and local governments and with private firms and other stakeholders in the Region to face them successfully. A key contribution of the Bank to the region is the technical quality of our work.

We partner with countries to provide financial resources and knowledge to achieve results. That is why we work hard to improve the quality of our products and, most importantly, in enhancing the results of our work. To achieve this objective, in 2008 the Board approved the Development Effectiveness Framework, as a tool to manage our work in order *to do the right things and to do things right*. The first task requires having applicable knowledge on what works, while the latter requires management, monitoring and evaluation systems to ensure that our work is duly executed and the outputs, outcomes and impacts are materializing on the ground.

This first edition of the *Development Effectiveness Overview* (DEO) takes stock of our work in the last two years. It shows our progress in implementing the new policy on development effectiveness, and it reports on the available empirical evidence about the effectiveness of programs financed by the Bank in the last two years. A special topic publication provides an analysis of the effectiveness of policies supported by the Bank aimed at fostering agricultural production for competitiveness and food security. The DEO shows that we have made progress in improving the evaluability of our work, applying new and innovative tools and processes to assess ex-ante the quality of our all of our interventions. It also presents the Bank's Results Framework that will allow monitoring our performance and effectiveness.

The Bank recently commemorated fifty years of partnering for development in the Region. The institution has transformed itself to be a more relevant and reliable partner, and we strive to contribute to the further development of the region. It is with satisfaction for the progress achieved so far and with excitement and responsibility for the opportunities and challenges that we will continue to work in all dimensions to increase our development effectiveness.

Luis Alberto Moreno

President

Washington, March 2010.



The *Development Effectiveness Overview* is a tool by which the IDB 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. This report also reviews the evidence on how well the type of projects financed by the Bank are producing expected outputs, on the likely impacts of our efforts in the ultimate development goals that we set for the region. It shows that many of the projects we are partnering on have high potential for positive impacts. It also points the sectors where we need to generate more and better evidence on results, and the need to disseminate lessons learned from our development work in the Region. These are key challenges in the Development Effectiveness agenda that will guide our work in the next years. The effort that the Bank has invested in improving the evaluability of our products will pay off in the years to come when evaluations are completed and our knowledge on what works in the Region is increased.

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Koldo Echebarria
General Manager & Chief of Development Effectiveness
Washington, March 15, 2010



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✓ Abbreviations

ABR	Annual Business Review
ADB	Asian Development Bank
CAN	Country Department Andean Group
CCB	Country Department Caribbean Group
CCLIP	Conditional Credit Line Investment Projects
CCTs	Conditional Cash Transfers
CFI	Corporate Finance Division
CID	Country Department Central America, Mexico, Panama and Dominican Republic
CMF	Capital Markets and Financial Institutions Division
CPD	Country Program Document
CRCS	Credit Risk Classification System
CS	Country Strategies
CSC	Country Department Southern Cone
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
ECC	Sustainable Energy and Climate Change Unit
ECG-GPS	Evaluation Cooperation Group - Good Practice Standards
ECG-MDB	Evaluation Cooperation Group of the Multilateral Development Banks
EDU	Education Division
ENE	Energy Division
FMK	Financial Markets Division
FMM	Urban and Municipal Development Division
FSO	Fund for Special Operations
GCI	General Capital Increase
GDI	Gender and Diversity Unit
GEF	Global Environment Facility
ICF	Institutional Capacity and Finance Sector
ICS	Institutional Capacity of State Division
IDA	International Development Association
IDB	Inter-American Development Bank
IDB-8	Eighth General Capital Increase in the Resources of the Inter-American Development Bank
IIC	Inter-American Investment Corporation
INE	Infrastructure and Environment Sector
INT	Integration and Trade Sector
KCP	Knowledge and Capacity Building Products

KNL	Knowledge and Learning Department
LDCs	Less Developed Countries
LMK	Labor Markets Unit
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 Initiative
OPC	Operational Policy Committee
OVE	Office of Evaluation and Oversight
PAACT	Action Plan to Support Countries in their Efforts to Fight Corruption and Foster Transparency
PCD	Project Concept Document
PCRs	Project Completion Reports
PISA	Programme for International Student Assessment
PMR	Progress Monitoring Report
PMU	Portfolio Management Unit
PSRs	Project Supervision Report
QBR	Quarterly Business Reviews
R&D	Research and Development
RBB	Results Based Budgeting
RF	Results Framework
RND	Environment, Rural Development Disaster Risk Management Division
SCF	Structured and Corporate Finance Department
SCL	Social Sector
SCT	Science and Technology Division
SDV	Strategy Development Division
SECCI	Sustainable Energy and Climate Change Initiative
SG	Sovereign Guaranteed Operations
SMO	Strategy Monitoring Division
SPD	Office of Strategic Planning and Development Effectiveness
SPH	Social Protection and Health Division
TSP	Transport Division
VPC	Vice Presidency for Countries
VPF	Vice President for Finance and Administration
VPP	Vice President for Private Sector and Non-Sovereign Guaranteed Operations
VPS	Vice Presidency for Sectors and Knowledge
WB	World Bank
WSA	Water and Sanitation Division
XPMR	Expanding Performance Monitoring Report
XPSRs	Expanded Project Supervision Report



The *Development Effectiveness Overview 2008-2009* (DEO, 2009) is the first corporate report on effectiveness for the IDB since its realignment took place. This review assesses the Bank's progress in implementing its new policy on development effectiveness, the available empirical evidence on the effectiveness of programs financed by the Bank in the last two years, and the alignment of this lending with the institutional priorities proposed under the General Capital Increase (GCI).

Part I of this report considers the implementation of the Bank's two-pronged approach for increasing the accountability of its work: a bottom-up approach, which focuses on measuring the results of each development intervention and was launched with the approval of the Development Effectiveness Framework (DEF) in 2008; and a top-down one, which measures institutional-level results, which is reflected in the proposal for a Results Framework for the GCI.

The DEF has led to important improvements in terms of compliance with the production of Project Completion Reports for Sovereign Operations (PCRs). Historically, the Bank has had a poor record of compliance in the production of Project Completion Reports (PCRs) for its sovereign guaranteed loans. Under the DEF, compliance with the production of PCRs rose to unprecedented levels and 83% of projects ending in 2008 had produced a report. OVE is currently undertaking a validation of these PCRs¹ to establish a baseline both of the type and quality of information contained in the PCRs. Based on this assessment, OVE will produce, in consultation with Management, standards and guidelines to further improve the quality of the Bank's completion reports.

Evaluability ex-ante has also improved substantially under the DEF. To ensure that the results reported in PCRs will have solid evidence to support them, the DEF has implemented an ex ante evaluability rating tool, the development effectiveness matrix (DEM). All operations approved in 2009 were rated through the DEM by the project team and reviewed by Office of Strategic Planning and Development Effectiveness (SPD). SPD also completed the DEM at entry for all SG projects approved in 2008 in order to obtain baseline

data. When compared with this baseline, DEM scores show improvement in several dimensions: on a scale of 1 to 10, 10 being the highest, the simple average of the seven dimensions measured was 4.05 while the median was 3.76 in 2008; in 2009, the mean was 5.53 and the median 5.61. The Bank achieved significant improvements in program logic from 5.39 to 6.74, in ex-ante economic analysis from 1.99 to 3.96 and in monitoring and evaluation from 4.00 to 5.00. This latter result relates to an area of great importance for the DEF, where increased and substantial efforts are still needed.

To enable results-based management, **under the DEF monitoring of implementation shifted from inputs to outputs and outcomes.** During 2009, the Bank designed and began implementing the Progress Monitoring Report (PMR) as the new monitoring tool for operations, replacing the Project Performance Monitoring Review (PPMR). The new PMR strives to identify delays early during project implementation, and changes needed during execution, using a quantitative approach to track the achievement of a project's outputs and outcomes relative to its estimated time and cost parameters. The system employs the Earned Value Method (EVM), a simple cost management technique that provides accurate, consistent, timely and comparable data to project teams and management, allowing them to oversee project performance at the individual or portfolio level. EVM compares the planned values of a project with the results achieved (earned value) and the actual costs. Schedule and cost deviations from the Planned Value are then converted into one single metric: The Project Performance Index (PI).

Evaluation has shifted from reflexive comparisons to the use of more rigorous evaluation methodologies under the DEF. Improving the evaluability at entry for projects, and monitoring performance based on quantitative indicators of progress will increase the accountability of the Bank and will allow to determine if we are doing things right. However, the ultimate objective is to achieve the development objectives and to increase our knowledge of which interventions work best, i.e. *to do the right things*. For this, the design of rigorous impact evaluations and their

¹ OVE is currently undertaking a validation of the projects that were completed in 2008 and whose completion reports were produced by June 2009.

implementation has taken center stage. To measure development effectiveness and increase knowledge, it is necessary to establish the causality between the intervention and net changes in key development indicators. The most effective way of doing this is by establishing a counterfactual by answering the question *what would have happened in the absence of the project?* In 2008, the Bank approved eight projects with rigorous impact evaluation designs (one experimental and seven quasi-experimental evaluation designs). This number increased to thirteen in 2009 (three experimental and ten quasi-experimental designs).

The Structured and Corporate Finance Department (SCF) has also implemented significant changes in the area of development effectiveness. SCF started implementing the ECG-GPS for Private Sector Investment Operations in 2006. Based on the Evaluation Guidelines prepared by OVE, SCF has prepared self-evaluation reports called Expanded Project Supervision Report (XPSR) for its projects and the results of the XPSRs have been validated by OVE since 2007. In 2008, SCF overhauled its Development Effectiveness Framework by aligning assessment of development impact and additionality of projects at entry and monitoring to ECG-GPS. The strategic objectives of this revision were: i) to create a tool to enhance the development outcome and additionality of SCF projects; ii) establish a systematic methodology to screen and select projects based on SCF strategic priorities, iii) design a system that can track progress toward fulfillment of SCF's development mission, and iv) enhance harmonization with other MDBs and ensure comparability with IIC and other private sector windows of the Bank. In addition, a Development Effectiveness Matrix (DEM) for NSG project has been developed and implemented and several measures to support the revised framework has been undertaken, including training sessions to SCF staff, preparation of guidelines, development of a DEM database, retrofitting of baseline data.

The development effectiveness matrix for country strategies (DEM-CS) was swiftly implemented during the second semester of 2009. Five country strategies were approved by the Board during the year: Guyana, Nicaragua, Guatemala, Belize and Barbados. The deployment of the new results-based country strategies and the entry DEM-CS began with the Belize country strategy, approved by the Board at the end of June 2009. Since then, the evaluability of country strategies submitted for Board approval was rated through the

application of the DEM-CS. The original DEM matrix was fine-tuned for application to the Barbados and Paraguay country strategies in response to the Vice Presidency for Countries (VPC) decision to separately document the Bank's strategic orientation and the Bank's annual programming efforts. The DEM-CS examines three key dimensions of country strategies: i) strategic relevance, which refers to whether country strategy objectives are consistent with country needs; ii) effectiveness, which refers to whether the country strategy is likely to achieve its intended objectives; iii) risk management, which refers to the identification of issues that may negatively affect Bank assistance in the proposed areas of intervention.

The Results Framework (RF) is the second fundamental component of the IDB effort increasing its own accountability. The RF proposal is an integral part of the General Capital Increase (GCI) discussions and is based on the Bank's proposed five institutional priorities. The implementation of the RF will use the monitoring and reporting instruments already in place, but it will also require promoting more emphasis on results throughout the Bank. Progress will be reported annually through this Development Effectiveness Overview (DEO) and an evaluation will be carried out at the end of the four year period to provide inputs for reviewing institutional priorities. The RF has four components: i) Lending Program Priorities; ii) Regional Development Goals; iii) Output Contributions to Regional Goals; and iv) Operational Effectiveness and Efficiency.

Part II of the DEO report² presents an account of the Bank's lending during the post-realignment period³, its coherence with the institutional priorities proposed during the General Capital Increase (GCI) discussions, and the available evidence in development literature on the effectiveness of the types of programs financed by the Bank.

The GCI proposed five institutional priorities: (i) Social Policy for Equity and Growth; (ii) Infrastructure for Competitiveness and Social Welfare; (iii) Institutions for Growth and Social Welfare; (iv) Competitive Regional and Global International Integration; and (v) Protect the Environment, Respond to Climate Change, Promote Renewable Energy and Ensure Food Security. For each priority, a chapter in the report provides an initial assessment of the available evidence on the development effectiveness of projects; it discusses the logic (and evidence to support it) of the main interventions being proposed; and it identifies key knowledge gaps, where evaluation efforts need

² Bank's programs refer to Sovereign Guaranteed and Non-Sovereign Guaranteed operations.

³ Includes all lending approved in 2008 and 2009.

to be focused in pursuit of rigorous evidence. It also reports on some of the rigorous evaluation designs of strategic projects that are in the early stages of implementation and that have the potential to generate important evidence on their particular area.

A unique feature of Part II is that the analysis of the projects logic was done by components of each operation, in order to identify with more accuracy the work that the Bank does in each of its institutional priorities. This allowed the more precise examination of the sector where the Bank has centered its efforts. As illustration, urban development projects components were classified in three broad categories: neighborhood upgrading, social housing and non-shelter urban development clusters; being the latter comprised by education, transport and water and sanitation components, among others. This component-analysis approach also allowed to identify the strengthening of public sector institutions in projects from all five priorities, which is reported in Chapter IV.

The IDB projects in the area of **Social Policy for Equity and Growth** focused on five key areas of intervention: (i) building well-articulated safety nets; (ii) improving the functioning of labor markets in order to achieve higher productivity and social security coverage; (iii) raising the quality and equity of education; (iv) promoting equity in health outcomes; and (v) tackling cross-cutting gender and diversity issues. The Bank has concentrated most of its projects in education, social safety nets and health. In terms of financing, social safety nets were by far the most important sector in 2009.

The review of projects in this first institutional priority shows that IDB is supporting projects with strong evidence of development effectiveness as well as innovations that will generate new evidence in the near future on their effectiveness (CCT adaptations to urban areas, new mechanisms to provide health services for the poorest populations, novel ways of teaching math and science to low-income children). The Bank has an ambitious research and evaluation agenda on improving the quality of teachers and teaching practices (for example by analyzing the effect of teacher qualifications at entry or by studying the effect of computer applications on literacy) and moving beyond CCTs for social protection (by strengthening targeting mechanisms and integrating supply policies to enhance the impacts of CCTs in countries where the Bank is financing such programs). The Bank is also working on, among other things, the design of labor policies to promote equity and productivity (recent labor market profiles prepared for several countries such as El Salvador and Honduras focused on these issues), school-to-work policies to improve labor-

market insertion of graduates (including research of labor market insertion of young adults in Chile and Argentina, and evaluation of technical secondary education in Mexico), delivery mechanisms of health for the poor (the Mesoamerican Health Initiative will test and evaluate promising alternatives), among others.

The Bank projects in the area of **Infrastructure for Competitiveness and Social Welfare** focused on four key areas of intervention: i) water and sanitation, ii) energy iii) transport; and iv) urban development. These four areas represent key fields in which public investment is justified given that there are large welfare effects from these investments; that improving social welfare is a key development objective; and that there is a potential for underinvestment by the private sector in key, high-risk and long-term industries like energy production. The Bank activity has been strongest in Transportation, whether measured by the number of projects approved or by Bank financing in 2008-2009. Bank activity in Water and Sanitation ranks second, followed by Energy and Urban Development.

The review of the Bank's projects in this area show that, although external studies of other projects provide justification for the investment in some areas, these studies are still limited within the Bank. When evaluations of infrastructure projects are conducted, there is a tendency to focus on ex-ante measures of the costs and benefits of predicted project outputs. This assumes both that the realized costs and benefits of the project will reflect those that are predicted and that obtaining these outputs will necessarily lead to higher-level outcomes. If evidence from similar projects in the same or similar countries showed this was the case, this would be a reasonable assumption. But the lack of any such evidence raises the need to test such assumptions through more thorough evaluations.

The review also found that during 2009 awareness grew of the need not only to increase the quantity and quality of ex-ante evaluations of project benefits, but to expand the effort to include ex-post reporting of benefits realized. There have been initial attempts within the Bank to expand the evaluation of project impacts towards the construction of counterfactuals, particularly in the area of urban-development and housing programs. These developments are encouraging and suggest a desire to assess development effectiveness and adjust project approaches based on lessons learned from such evaluations.

This review of the IDB's projects in the area of **Institutions for Growth and Social Welfare** analyzes interventions in three strategic areas of institutional development in the region: (i) financial access for small and medium enterprises (SMEs), (ii) citizen security and (iii)

anti-corruption. It also analyzes the existing evidence to support them and includes a first approximation as to how sector institutions might be strengthened, an important component in many of the Bank's projects that has not been properly examined. While the IDB has worked on many other important institutional issues in the region, these three illustrate the type of work being done and the challenges lying ahead.

The review of IDB's projects in this area shows that the Bank has devoted substantial resources to the strengthening of key institutions in its partner countries, and needs to step up to the challenge of measuring the effectiveness of these interventions. By doing so, it will accumulate knowledge about what works and make the most of two of its core advantages: its regional nature and potential for cross fertilization. Just as the Bank's work in the social sector is a reference point, in the institutional realm it needs to document the effectiveness of its interventions in order to increase its relevance as a development partner. To be clear, it is likely that the Bank has played an important role in the areas mentioned above and also in other institutional challenges such as tax administration, and the strengthening of country systems in accordance with the Paris Declaration on Aid Effectiveness; but the reality is that it has not been able to systematically document those results. While institutional topics are complex, the benefits of having solid evaluation designs are great, and concrete efforts need to be undertaken to acquire these.

In two of the three topics reviewed in this chapter (credit to SMEs and citizen security), mainstream evaluation methodologies can be applied with minor modifications. Where firms instead of households are the final beneficiaries (and other agencies act as intermediaries) the design and implementation of the evaluation presents more challenges. Nevertheless, there are rigorous evaluations that show that it is possible to overcome these challenges. The Bank has begun working on such evaluations and needs to increase and sustain its effort in this area.

For most interventions in citizen security, rigorous evaluation design could be applied, at least in specific areas such as training, prevention, and environment improvement. It is also necessary to test the holistic aspect of the Bank's integrated approach. The Bank's support of crime observatories and its focus on generating credible data on crime and violence will aid in the design and implementation of evaluations. The Bank should therefore pay particular attention to these efforts.

Anti-corruption programs in particular and those focusing on changing the internal dynamics of institutions in general, do pose particular evaluation challenges. The definition of valid counterfactuals is not straightforward and structural models (analytical descriptions of the determinants – and their interrelationships—of the performance of institutions) are not common. The Bank has two options available, both of which it should exploit. The first is to apply existing frameworks to the evaluation of institutional reform projects, such as those reviewed by Thoenig (2000) and by Larbi et al. (2005); or those used by the Independent Evaluation Group (2008).⁴ Although they are not proper impact evaluations per se, these frameworks allow to measure progress in achieving institutional change to be measured. Secondly, the Bank should form partnerships with other development agencies working on these topics. The Global Development Network, for example, focused on these issues in its recent tenth annual meeting in Prague. The evaluation of the Paris Declaration has also generated a methodological debate on how best to evaluate these types of projects.

The review of projects in the area of **Competitive Regional and Global International Integration** focuses on four areas of intervention in which the IDB has implemented its strategic priority of fostering competitiveness in LAC: (i) business environment improvement; (ii) clusters and local development promotion; (iii) technology adoption and innovation; and (iv) export and investment promotion, and trade enhancement.

The analysis shows that wide theoretical and empirical evidence reasonably justifies IDB interventions in this strategic area. Several market and non-market failures hamper the potential growth of productivity and competitiveness of LAC economies and IDB projects provide valuable support in overcoming those impediments. Policies aimed at improving business environment and promoting clustering, innovation and internationalization processes may significantly mitigate the effect of burdensome bureaucratic costs, asymmetry of information, non-appropriability problems and coordination challenges.

Although the number of rigorous evaluations has increased in the last years, the evidence on the potential effectiveness of these policies is still scarce and, therefore, somewhat inconclusive. In some cases, such as innovation and export promotion policies, the available evidence suggests that IDB interventions will have a significant positive impact on the outcomes of their final beneficiaries. In other cases, such

⁴ IEG, 2008, *Public Sector Reform: What Works and Why? An IEG Evaluation of World Bank Support*.: Washington, D.C. World Bank Group; Larbi, George, Paul Jackson, Sarah House and Ato Gharthey.(2005) *Capacity Development Outcome Evaluation, Field-testing the Methodology*. Copenhagen: Ministry of Foreign Affairs-DANIDA; Thoenig, Jean-Claude. (2000). "Evaluation as Usable Knowledge for Public Management Reforms", *Evaluation* 2000; 6; 217.

as in the cluster policy, the available evidence does not allow the formulation of strong predictions.

The Bank, therefore, needs to intensify its effort to produce internal evidence on the effectiveness of productive development policies. For this purpose, the Bank has developed an evaluation work program on cluster and BE policies that includes: (i) methodological guidelines to support the adoption of state-of-the-art impact evaluation techniques; (ii) training to increase the ability of Bank specialists and government counterparts to define rigorous impact evaluation plans; (iii) pilot impact evaluations of IDB projects in these areas of intervention.

In the case of innovation and export promotion policies (areas where the Bank has already pioneered the adoption of rigorous impact evaluation techniques in LAC) the Bank effort should focus on producing more studies to confirm previous findings and to bridge the knowledge gap where the available evidence is still inconclusive. In particular, future evaluations should focus on the long-run impact on firms' performance, the differential impacts on different type of beneficiaries (the so-called heterogeneity-of-impact analysis) and on the joint effect of innovation and export promotion policies (the so-called multi-treatment effect analysis). For this purpose, the Bank is currently working on a second round of evaluations of TDF in Argentina, Chile and Colombia using longer panel dataset to estimate the long-run effects on productivity. In addition, the operations in Uruguay and Panama have put in place a monitoring system that collects innovation survey information for beneficiary and non-beneficiary firms, generating data for additional rigorous quasi-experimental impact evaluations.

The strategic priority of **Protect the Environment, Respond to Climate Change, Promote Renewable Energy and Ensure Food Security** include four major areas of Bank activity: i) environmental protection; ii) response to climate change; iii) promotion of renewable energy; and iv) agriculture to enhance food security. Renewable energy has been analyzed under the Climate Change category, with other Bank activity related to climate change adaptation and mitigation. The Bank financing has been mostly focused on agriculture and food security, followed closely by growing activity in climate change.

The review shows the rationale behind IDB interventions aimed at promoting environmentally sustainable development is based on fairly well-established theoretical and empirical evidence. Several studies show how public intervention in both watershed management and response to climate change may have

significant impact on a variety of beneficiaries and on the long-run sustainability of growth in LAC.

Much has to be done however in terms of producing evidence on the actual effectiveness of specific interventions in these areas. Although several studies have assessed the importance of watershed management programs, only a few have adopted rigorous impact evaluation techniques, so that evidence on the effectiveness of alternative approaches remains inconclusive. In the case of climate change, the relative novelty of the issue and the uncertainty surrounding the impact of a changing climate means not only that governments have only recently incorporated this topic into their policy agenda, but also that impact evaluations are almost nonexistent. Furthermore, climate change is a cross-sectoral issue and thus so too are adaptation and mitigation initiatives, a fact which greatly complicates both the design and evaluation of these interventions.

For these reasons, the IDB needs to intensify its effort to produce robust evaluations in the areas reviewed in this chapter. In particular, it has a unique opportunity to forge an identity in climate change evaluation as its project portfolio expands. Future projects should incorporate evaluation methods that are flexible enough to encompass/respond to the uncertain impacts of climate change.

The review of the **IDB's work in LACs Less Developed Countries**, which concludes Part II of the DEO, shows that the Bank approved 40 projects in the five LDCs in 2008 and 2009. These covered all five strategic priority areas of the Bank and amounted to US\$918 million for the period. Taking a closer look in terms of number of projects, the Bank has emphasized transport infrastructure and fiscal sustainability, without question two core aspects that are preconditions to achieve adequate economic performance. It is important to stress that the Bank has focused its resources both due to its comparative advantages vis-à-vis the numerous donors working in these countries, and also based on demands by these countries.

The review found that an increasing technical support is needed in order to produce evidence on development effectiveness in LDC. In fact, about 50% of the Bank's 40 interventions in these countries for 2008 and 2009 were deemed to be satisfactorily evaluable at the moment of approval. For this purpose, the Bank has provided increasing technical assistance and resources to finance rigorous impact evaluations of key interventions. Examples of this work are three on-going impact evaluations for interventions in Guyana, Haiti and Nicaragua.



The *Development Effectiveness Overview 2008-2009* (DEO, 2009) is the first corporate report on effectiveness for the Inter-American Development Bank (IDB) since its realignment took place. This review assesses the Bank's progress in implementing its new policy on development effectiveness, the available empirical evidence on the effectiveness of programs financed by the Bank in the last two years, and the alignment of this lending with the institutional priorities proposed under the General Capital Increase (GCI).

Increasing development effectiveness of the Bank's work combines a two-pronged approach: a bottom-up one, which focuses on measuring the results of each development intervention; and a top-down one, which measures institutional-level results. The bottom-up approach was launched with the approval of the Development Effectiveness Framework (DEF) in 2008. The top-down approach is reflected in the proposal for a Results Framework for the GCI.

The DEF policy aims to increase the effectiveness of all of the Bank's products through: (i) setting standards and metrics for the evaluation of all development interventions; (ii) providing clear guidance to staff about analytical requirements for meeting the standards; (iii) aligning governance structures to comply with those set out as good practice standards; (iv) establishing results indicators to monitor progress in implementing the policy; and (v) having an action plan for the successful implementation of the framework. Besides demonstrating increased accountability for results, the DEF aims at improving the effectiveness of our development products by generating a body of knowledge about "what works" in meeting the region's development challenges.

At the Bank's Annual Meeting in March 2009, the Board of Governors called for Management to initiate a review of the need for a general capital increase of the Ordinary Capital and replenishment of the Fund for Special Operations (FSO). As part of this process, Management has produced a new institutional strategy and analyzed the nature and scale of the demand for IDB support, documenting the pertinence of five institutional priorities to guide the Bank's engagement in the coming years. The five proposed institutional priorities to focus the Bank's engagement and sharpen its effectiveness as development partner in the region, are: (a) Social Policy for Equity and Productivity, (b) Infrastructure for Competitiveness and Social Welfare, (c) Institutions for Growth and Social Welfare, (d) Competitive Regional and Global International Integration, and (e) Protect the Environment, Respond to Climate Change, Promote Renewable Energy, and Ensure Food Security. Alongside these sectoral priorities it is essential that the Bank *address the special*



Besides demonstrating increased accountability for results, the DEF aims at improving the effectiveness of our development products by generating a body of knowledge about “what works” in meeting the region’s development challenges.

The overall commitment to measuring results and producing evidence on what works in development interventions has resulted in an increase in the number of projects that incorporate rigorous impact evaluations.

needs of the less developed countries and foster development through the private sector. The DEO 2009 reports on the Bank's work on these priorities on Part II.

The processes described above reflect a strong commitment from the IDB to achieve results and to document them. The DEF's implementation is an ongoing process. Its implementation during 2009 included the adoption of the Development Effectiveness Matrix for all Bank's projects as a tool to improve the evaluability¹ of IDB's interventions and substantial efforts in building evaluation capacity in Bank's staff through training in impact evaluation methods.

These efforts and the overall commitment to measuring results and producing evidence on what works in development interventions has resulted in an increase in the number of projects that incorporate rigorous impact evaluations at project design. To show results from these evaluations, the projects need to be implemented and the evaluations carried out as planned. The main achievements of the two pronged- approach to date include the following:

- Scoring of ex ante evaluability of 100% of 2009 Sovereign Guaranteed Operations (SG) project proposals, as well as rating of expected development outcome and additionality of 100% of 2009 Non-Sovereign Guaranteed (NSG) operations before approval by the Operational Policy Committee (OPC) of the Administration, and subsequent consideration by the Board of Executive Directors.
- First round of external independent validation of reported results from 2008 Project Completion Reports (PCRs) for SG operations, and the second round of validation of reported results from 2007 Expanded Project Supervision Reports (XPSRs) for NSG operations², as the basis for assessing the achievement of program results defined by their outputs and outcomes.
- Design and implementation of key strategic impact evaluations, in such areas as: agricultural subsidies, financing for Small and Medium Enterprises (SME), computer technology in furthering education outcomes, teacher quality, tourism initiatives, among others.

¹ Evaluability, or the extent to which an activity or program can be evaluated in a reliable and credible fashion, is the basis for assessing compliance with evaluation standards set out in the DEF.

² OVE's validation report (RE-332-2) and Management' complementary note (RE-332-3) were considered by the Board of Executive Directors in October, 2009. Management has already submitted XPSRs for OVE's validation for the third (2008 operations) and fourth (2009 operations) rounds.

- Capacity-Building and Training Workshops for IDB technical staff and client capacity for measuring results, evaluating impact from development interventions, and using evidence for policy.
- Establishment of standardized definitions of key sector output indicators for projects and a common data collection methodology (Project Monitoring Report - PMR) for SG operations, to allow for Bank wide aggregate reporting of results. Development of the Guidelines for Project Supervision Report's DEM (PSR) for NSG operations used for monitoring the achievement of development results.
- Development of a proposal of a Results Framework for the Bank aligned with best practices being implemented by other MDBs.

Part I considers the implementation of our two-pronged approach for increasing the accountability of our work. Two annexes of this report complement the accountability exercise. Annex 1 contains the Annual Business Review (ABR) for 2009. These reports are a year-end compilation of the business reports prepared by management on a quarterly basis to monitor internal performance. Annex 2 includes the tables related to the Bank's Proposed Results Framework 2012-2015 on lending programs estimates, regional development goals and operational effectiveness and efficiency.

Part II of the report, Knowledge about the Effectiveness of IDB's Programs, provides an account of the empirical evidence supporting the potential effectiveness of development interventions in programs financed by the Bank in 2008 and 2009. Additionally, a special topic report will be published that focuses on the effectiveness of policies supported by the Bank in one particular development challenge of the region, namely *Assesing the Effectiveness of Agricultural Interventions*.

The Annual Business Review allows management to monitor internal performance.





PART I

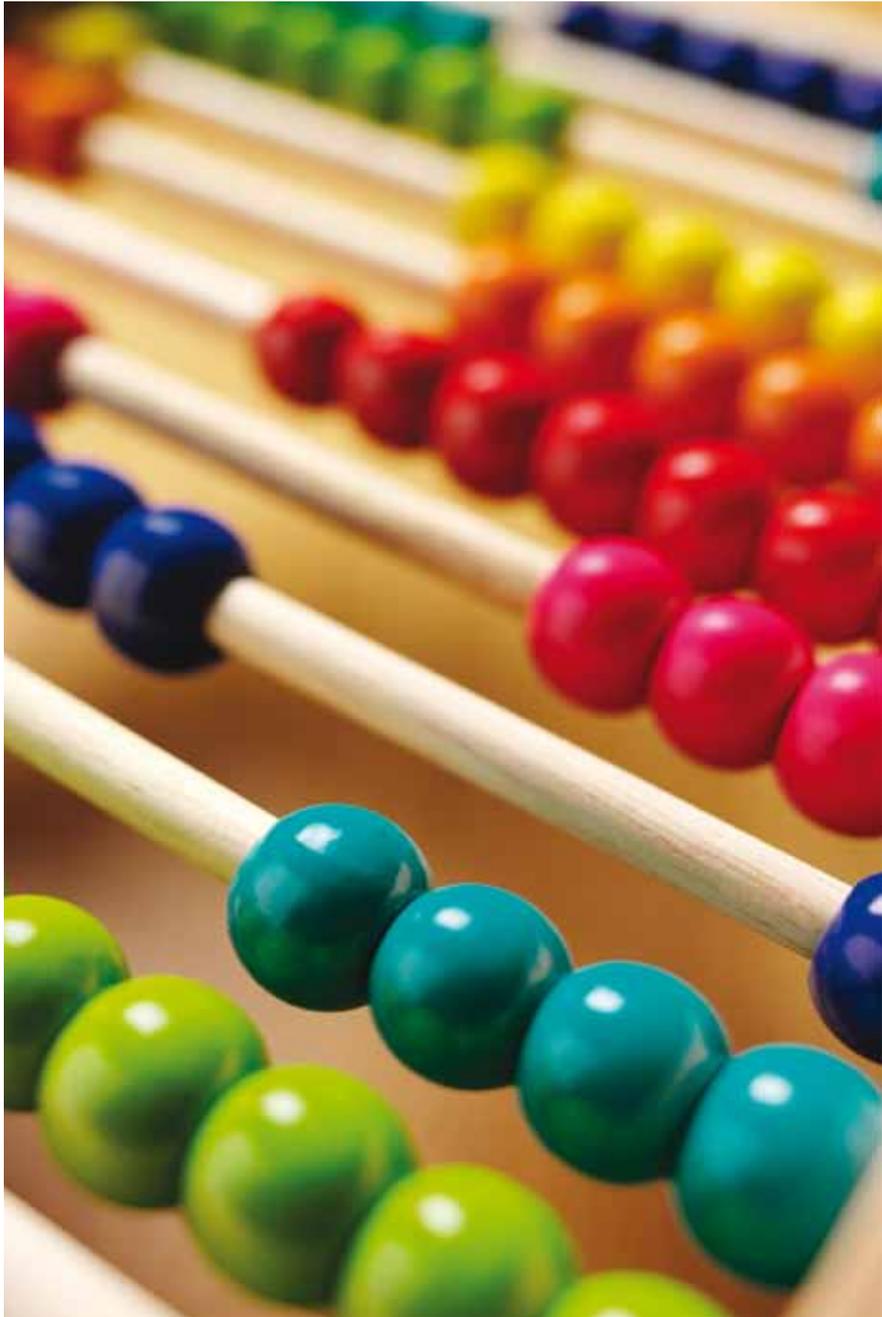
INCREASING THE EFFECTIVENESS OF OUR WORK

The Bank's management by results follows two approaches: a bottom-up one, which focuses on measuring the results of each development intervention; and a top-down one, which measures institutional-level results. Part I of the DEO reports progress on: (i) the implementation of the first approach since the approval of the Development Effectiveness Framework (DEF) and, (ii) the rationale of the Results Framework for the Bank, defined in the context of the General Capital Increase of Resources (GCI).





I
Chapter



Measuring Results of our
Development Interventions
Rigorously

APPROVED IN 2008, the DEF became an operational policy which adopted international standards for evaluating development interventions recommended by the OECD-DAC and the Evaluation Cooperation Group (ECG) to promote evaluation harmonization among Multilateral Development Banks (MDBs). Under the new framework, greater emphasis is placed on results, based on empirical evidence, while also improving the capacity of the Bank's interventions to extract lessons based on solid data, emphasizing evidence-based decision-making and providing a learning environment to understand what works and why. It includes efforts to build-up capacity for evaluation both internally and in the borrowing countries, as well as more solid and standardized monitoring. In this section we report on the progress in the implementation of the DEF in Sovereign Guaranteed Operations (SG), Non-Sovereign Guaranteed Operations (NSG) and Country Strategies (CS). The other core line of business of the Bank, the Knowledge and Capacity Building Products (KCP), will also be covered by the DEF provisions, however the Bank's Strategy for KCP is under consideration and the DEM for KCP has not been finalized. In any case, the strategy for KCP has among its key principles that all such products will be included under a common accountability framework, and will be subject to evaluation.

PERFORMANCE OF SOVEREIGN GUARANTEED OPERATIONS

Following the ECG's Good Practice Standards (ECG-GPS) for evaluation, through the DEF the Bank has defined an evaluation system, in which the Bank's management, as well as the independent evaluation office, have a central role. According to the Standards, the Office of Evaluation and Oversight's (OVE) role is to ensure the relevance, quality and impartiality of the products of the Bank's evaluation system, while the Bank's management areas also play a role by contributing to the development of evaluation standards and guidelines, and by preparing completion reviews for all operations in a timely manner, according to guidelines produced by the independent evaluation

office. Hence, under the DEF the first step that the administration needs to follow in order for the evaluation systems to work is to comply with the production of completion reports.

Completed operations undergo first cycle of independent validation of results. Historically, the Bank has had a poor record of compliance in the production of Project Completion Reports (PCRs) for its sovereign guaranteed loans. Increasing accountability for results included the adoption of the ECG standard by which all PCRs should be validated by the independent office of evaluation of the MDBs, and the conclusions reported to its Board. In order to ensure compliance, the administration rapidly changed its workload priorities to ensure that all projects that completed disbursement in fiscal year 2008 (the year of approval of the new policy), would have its PCR ready for validation.

Compliance with the production of PCRs rose to unprecedented levels. From historic low averages, production of PCRs rose substantially, and by June 30, 2009, 83% of projects ending in 2008 had produced a report. (see table 1) Following the DEF and the Evaluation Cooperation Group's Good Practice Standards, OVE is currently undertaking a validation of the projects that were completed in 2008 and whose completion reports were produced by June 2009. It is expected that OVE will report the finding of its validation to the Board of Directors in the first quarter of 2010.

The results of OVE's validation will serve as a baseline both of the type and quality of information contained in the completion reports. Based on their findings and in accordance with the ECG standards, OVE will need to produce, in consultation with Management, the standards and guidelines for the preparation of the completion reports. It is 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. However, as internal evaluation capacity and implementa-

TABLE 1

PCRs Completed for OVE Validation

Sector	Total Projects ending in 2008	PCRs Completed by Jun 30, 2009 and to be validated by OVE in 2009	PCR Completion Rate by Jun 30, 2009 %
Institutional Capacity of the State (ICS)	11	10	91
Capital Markets & Financial Institutions (CMF)	6	5	83
Fiscal & Municipal Management (FMM)	8	7	88
Natural Resources (RND)	10	8	80
Water (WSA)	3	3	100
Transport (TSP)	7	5	71
Climate Change (ECC)	1	0	0
Energy (ENE)	1	1	100
Integration (INT)	3	2	67
Education (EDU)	6	5	83
Social Protection & Health (SPH)	8	8	100
Science & Technology (SCT)	1	1	100
Gender & Diversity (GDI)	1	0	0
TOTAL	66	55	83

tion of performance tools grow, it is expected that results reported in PCRs will have more solid evidence to support them. To ensure that this occurs, the DEF has implemented an ex ante evaluability tool, which is analyzed below.

All operations approved in 2009 were rated for ex ante evaluability through the new performance instrument, the Development Effectiveness Matrix (DEM). To strengthen the focus on results since the earliest stages of preparation and design, the DEF has established a system in which evaluability of all development products of the institution is consistently and comprehensively measured at entry (before approval). Evaluability is being measured by a

set of development effectiveness matrices or DEMs, each one specifically designed for each development intervention (country strategies, public or private sector operations). These matrices, based on the Good Practice Standards for development interventions of the Evaluation Cooperation Group of the Multilateral Development Banks (ECG-MDBs), are fundamentally a checklist of analytical and informational requirements of seven development performance areas (see Box 1 for details). The DEMs allow an assessment of whether products meet a minimum set of information requirements such that reliable and credible monitoring and evaluation may be conducted during implementation, and reporting results from the interventions in a rigorous manner at completion is possible.

Box 1

What are the dimensions of Development Effectiveness Matrix for SG operations?

Strategic Alignment category includes: (i) an analysis of the project's information to determine its relevance vis-à-vis the Bank's strategic objectives, and (ii) how the project contributes to country level results.

Evaluability includes: (i) the extent by which the project provides an evidence-based assessment of the problem and how the proposed intervention will affect it, (ii) a monitoring and evaluation plan, (iii) an analysis of cost-efficiency of the proposed intervention, and (iv) an identification of risks and implementation of mitigation measures, with metrics for monitoring.

Additionality of the Bank's contribution by assessing the indirect improvements to management in the public agency executing the project, or alignment with the build up and use of country systems.

In order to obtain baseline data on the evaluability of Bank projects approved since 2008, in 2009, the Office of Strategic Planning and Development Effectiveness (SPD) completed a DEM at entry for all SG projects approved in 2008. In 2009, the DEM became an integral part of the project cycle, from design to approval: each intervention was rated for evaluability

at entry prior to Board approval. The DEM is completed by the project team and reviewed by SPD, which may provide support to teams to improve the project evaluability at entry. The final DEM reviewed by SPD is attached to the project document when it is approved by Management's Operation and Policy Committee (OPC), and by the Board for final approval.

TABLE 2

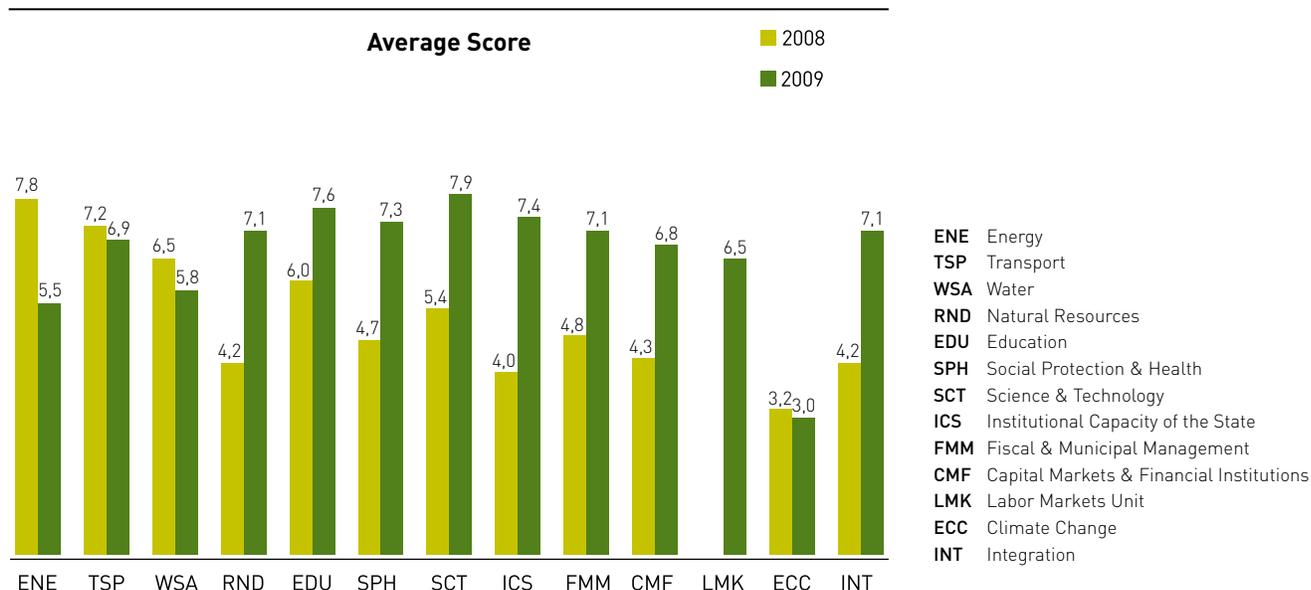
DEM Dimension

DEM Dimension	Year	Highly Satisfactory or Satisfactory (%)	Partially Satisfactory / Partially Unsatisfactory (%)	Unsatisfactory / Highly Unsatisfactory (%)
Strategic Development Objectives	2008	16.75	39.8	43.7
	2009	17.75	41.2	41.2
Country Strategy Development Objectives	2008	39.8	28.2	32.0
	2009	49.1	17.5	33.3
Program Logic	2008	35.0	42.7	22.3
	2009	69.3	18.4	12.3
Evaluation & Monitoring	2008	0.0	66.0	34.0
	2009	7.9	68.4	23.7
Economic Performance	2008	15.5	5.8	78.6
	2009	45.6	0.0	54.4
Risk Management	2008	40.8	9.7	49.5
	2009	87.7	5.3	7.0
Additionality	2008	28.2	0.0	71.8
	2009	62.3	0.0	37.7

Overall, DEM scores improved between 2008 and 2009. On a scale of 1 to 10, 10 being the highest, the simple average of the seven dimensions measured was 4.05 while the median was 3.76 in 2008; in 2009, the mean was 5.53 and the median 5.61. In terms of core DEM components, there were significant improvements in program logic from 5.39 to 6.74, in monitoring and evaluation from 4.00 to 5.00 and in ex-ante economic analysis from 1.99 to 3.96. The ratings also improved in country strategy development objectives. In sum, although values are low and need to be improved, there was a measurable increase in 2009.

Of particular interest within the DEM is the evaluability of the operations, as it provides with the explanation of how the project expects to affect the development outcomes, the metrics to measure progress and the provisions to perform monitoring and evaluation, as well as the economic analysis and risk management considerations at project design. The next figure shows the results for program logic by sector. There is an overall improvement, with ten sectors showing higher rating for logic in 2009 than in 2008.

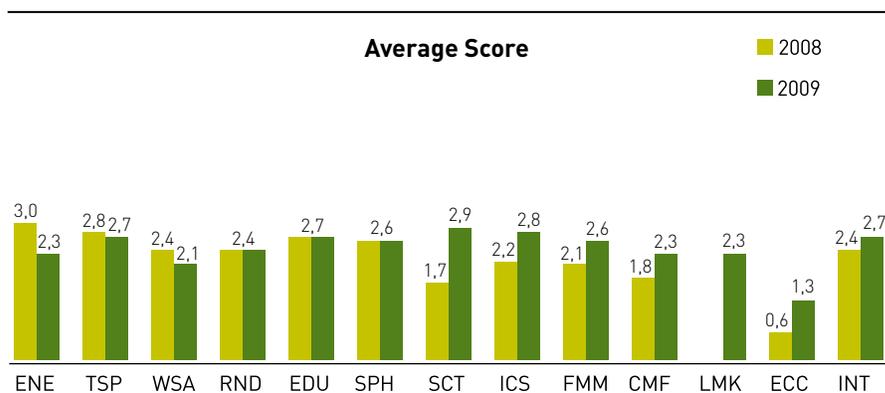
Fig. 1
DEM Program Logic Section



Within Program Logic, a set of indicators in the DEM measure the quality of the Results Matrix, a necessary component to do a proper output and outcome monitoring as envisioned in the PMR (see below). Although improvements in the quality of the Results Matrix are present in several sectors, it is important to strengthen this component and achieve the highest scores (maximum of 3) across the board, in order to define meaningful metrics to track progress.

A closer look at whether projects have the necessary monitoring and evaluation arrangements also shows progress but significant room for improvement and the need to achieve higher ratings consistently across sectors. All sectors are below a score of 7 out of 10, suggesting that during implementation and at completion it may not be possible to perform rigorous evaluations and demonstrate the results of the Bank's work. Although, as it will

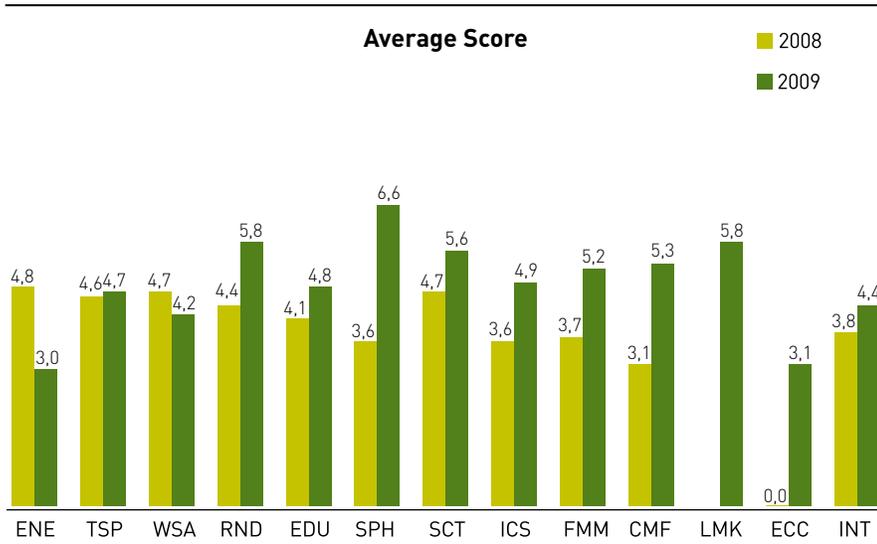
Fig. 2
Results Matrix Quality Subsection



be shown below, the number of projects with adequate evaluation designs has increased and SPD is providing support to project teams on evaluation matters, this is an area of great importance where

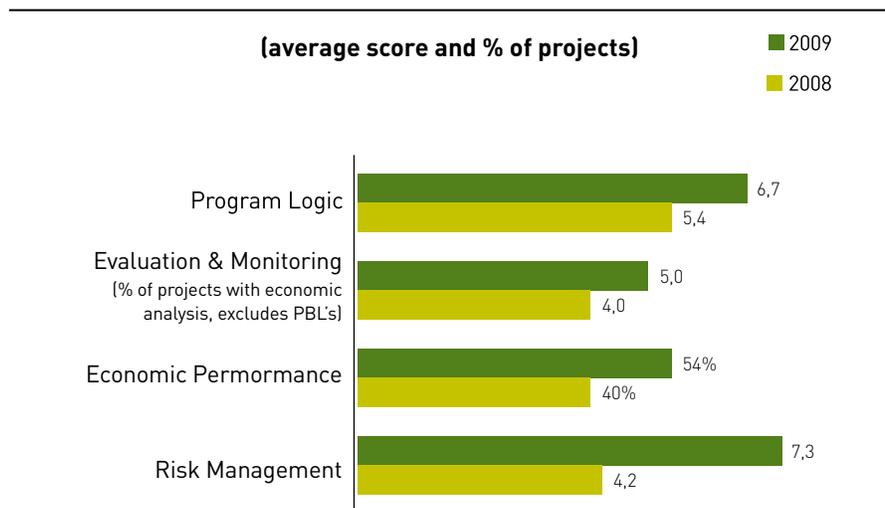
increased and substantial efforts are needed, as evaluation allows not only for proper accountability of the Bank's work, but is also a valuable tool for lesson learning and knowledge generation.

FIG. 3
DEM Evaluatime Monitoring Section



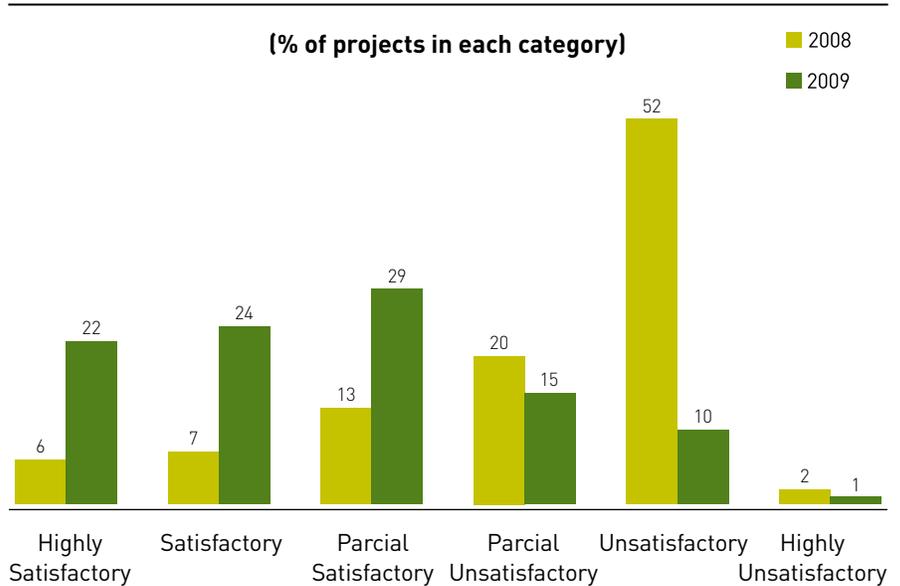
Summarizing several of the key components of the DEM, SPD has defined evaluability ratings¹. Before the implementation of the new policy (i.e. for those projects approved in 2008), evaluability scores were relatively low on all components of evaluability. However, it is important to note that most of the 2008 projects were prepared before the DEM instrument was implemented, and thus while projects were rated, project teams did not benefit from being able to incorporate into their analysis the informational requirements posed by the new standards.

FIG. 4
DEM Ratings



¹ Evaluability ratings are computed from the scores of the Development Effectiveness Matrix (DEM), with a weighted average of program logic and monitoring and evaluation (0.335 each) and economic performance and risk management (0.165 each).

Fig. 5
Evaluability Levels. 2008-2009



As shown in the Fig.5, evaluability levels have increased during 2009. Moreover, the graph below shows that the share of projects with unsatisfactory/highly unsatisfactory levels of evaluability decreased substantially, from 54% to 11%. Also, the share of projects with highly satisfactory levels increased by four times, to 22%.

Having improved the evaluability of Bank's projects is a necessary step toward increasing and documenting the development effectiveness of operations. It is necessary to increase and sustain evaluability ratings, which should reflect the mainstreaming of the evaluability dimensions into project preparation. Also, in the same way as the New Project Cycle (NPC) shifted the focus from approval to implementation, in terms of development effectiveness it is important to put special attention to the implementation of the monitoring and evaluation arrangements. The next two sections will focus on project monitoring and on ongoing efforts to strengthen impact evaluations.

To enable results-based management, monitoring of implementation shifted from inputs to outputs and outcomes. During 2009, the Bank designed and began implementing the Progress Monitoring Report (PMR) as the new monitoring tool for operations, replacing the Project Performance Monitoring Review (PPMR). The design of the new PMR sought to strengthen monitoring and introduce best practices. In the past, monitoring focused on inputs, i.e. procurement

of services, goods and works. In some cases targets were included, but monitoring and reporting on results was limited and was done at the end of the project, if at all. The new PMR strives to identify delays early during project implementation, and changes needed during execution, using a quantitative approach to track the achievement of a project's outputs and outcomes relative to its estimated time and cost parameters.

The PMR will help measure corporate performance and provide information of results delivery during project execution. It will collect most of the information for reporting on progress of the institution Results Framework (RF) outputs (see Part II, Chapter III). Furthermore, it will facilitate reporting on the links between project outputs and outcomes, and outcomes and priorities in country strategies. See Box 2 for the results of the first validation process and Box 3 for the PMR process flow.

Although information of outcomes and outputs is already collected in a project's results matrix, project monitoring was not properly linked to the results

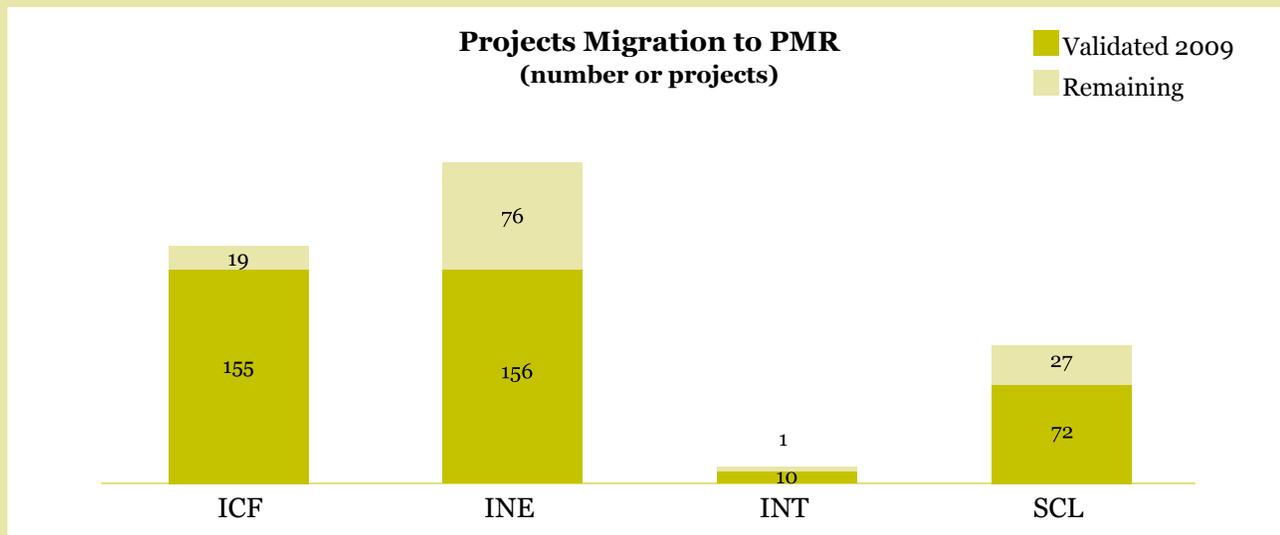
matrix. Monitoring outcomes and outputs, requires a gradual change which will provide the Bank with information to quantify results and to enable capturing of lessons. To facilitate this gradual change, SPD provided support to project teams including training sessions, individual support and two workshops in the countries with the participation of executing agencies. Between August and December, 323 people participated in the PMR training sessions on integrated project management. The workshops carried out in Colombia and Argentina with the executing agencies facilitated the discussion of the information that nee-

ded to be completed as well as the information that the executing agencies will need to provide to have a complete PMR. During the workshops some of the conclusions included the need to restructure some of the Results Matrix, and the need to clarify the links to the Results Framework. SPD will continue to provide support to countries and sectors to ensure that the PMRs have the necessary information to implement the new monitoring tool. The support will include recommendations on how to improve the data collected by the system, sharing good examples, and increasing knowledge on how to navigate the system.

Box 2

PMR First Validation Process

Although the system requires for PMRs to be validated twice a year, in March and September, the first validation phase was extended until December to provide ample time for users to become familiar with the new system. This first exercise focused on ensuring that information was correctly transferred to the new system. The PMRs should be validated first by Division Chiefs and later by Country Representatives. In the first validation process, 76% of migrated operations were validated.



The PMR system is being rolled out in stages. The first stage ending September 2009 included the migration of data for Sovereign Guaranteed (SG) projects

from the old system. Formats for Policy Based Loans, and Technical Cooperation, will be rolled out in 2010.

Box 3

PMR Process Flow

PMR at project design.

The Results Matrix identifies outcomes and outputs for the project. The DEMO entry provides an evaluability score including a subsection for completeness of the Results Matrix. Planned values to achieve each of the outputs are identified. This information should be uploaded in PMR system as a draft at the project approval stage. Changes to the planned values are possible during the life of the project, and are saved in different versions.

Monitoring project implementation with the PMR.

- *Who and when?* Team Leaders will use the PMR to monitor progress of outputs at least twice a year (March and September). The Team Leader will enter progress on outputs and the US dollar amount expended per each output (these costs include all sources of funds: IDB + Local Counterpart + Co-financing).
- *Qualitative information:* Team Leaders must provide additional information and write comments for those outputs that are falling behind. Information is collected in the "issues section" which includes a plan of action to address the factors why outputs were not achieved as planned. The issues section collects information on actions, who is responsible, the time by which the action should be completed and the resources necessary to implement the actions.
- *Quantitative information:* Team Leaders use the table of costs, other detailed costs, procurement plans, and information from the executing agencies to fill out this section.

PMR monitoring validation. PMR data is validated twice a year in March and September at two levels (Division Chief and Country Representative).

PMR Performance Index.

Each layer of management may monitor projects either at the detail level or at a more aggregated level.

- Team Leaders will monitor performance of their projects and be able to compare their projects with similar sector or country projects.
- Division chiefs will monitor performance of their sector portfolio. Information of other sectors may be available for reference.
- Representatives will track performance of their country portfolio. Information of other countries may be available for reference.

XPMR results validation.

Expanding Performance Monitoring Report (XPMR) is under construction. Once OVE validates the first round of PCR, adjustments will be introduced to meet OVEs recommendations.

PMR during project design. There are critical pieces of information that need to be determined during project design and which feed into the PMR for monitoring purposes. These include: (i) outcomes and outputs and their relationship; (ii) baseline data against which

project performance will be measured throughout project execution; (iii) unit of measurement; (iv) targets expected yearly as well as end of project target; and (v) costs related to each output. These pieces will be built with the following tables:



a. Table of Outcomes: It presents the level of correlation between each one of the outputs to be produced with each one of the outcomes to be achieved. It also includes the indicators that measure progress in the achievement of outcomes, with the baseline and unit of measurement.

b. Tables of Outputs and Planned Value: They lay out the core outputs of the project and the pace in which they are expected to be delivered. They are the “blue-print” against which project performance will be measured throughout project execution. Each one includes the following information.

i. Table of Outputs: It is filled out with information from the project results matrix and outlines the core outputs that make up for the total of project costs. Each output must have three basic elements: i) total units to be delivered by the project ii) a timeframe to start and finish the work, and iii) an associated annual cost.

ii. Table of Project Planned Value: It is filled out by specifying the same units of outputs to be produced per year including their associated costs. This information provides a time-phased budget baseline against which accomplishment of outputs will be measured throughout project execution.

Once the Project Planned Value (PPV) is completed, and data is filled out on planned progress, the system calculates a Performance Index. The system employs the Earned Value Method (EVM), a simple cost management technique that provides accurate, consistent, timely and comparable data to project teams and management, allowing them to oversee project performance at the individual or portfolio level. EVM compares the planned values of a project with the results achieved (earned value) and the actual costs.

Schedule and cost deviations from the Planned Value are converted into one single metric: The Project

Performance Index (PI). PI is a cumulative indicator that reflects the relationship between the physical outputs accomplished versus the real costs expended to accomplish such outputs, thereby monitoring the true cost performance of the project. PI represents a three dimensional measurement of project performance (scope, cost and schedule) and is derived from the above performance variances: $(CPI \times SPI)$. PI may be classified by thresholds where values between 1.0 and 0.8 mean “caution”, values below 0.8 mean “poor” and values over 1.0 mean good and excellent. The thresholds are used to classify projects on “Alert” and “Problem”.

Evaluation has shifted from reflexive comparisons to the use of more rigorous evaluation methodologies. Improving the evaluability at entry for projects, and monitoring performance based on quantitative indicators of progress will increase the accountability of the Bank and will allow to determine if we are doing things right. However, the ultimate objective is to achieve the development objectives and to increase our knowledge of which interventions work best, i.e. to do the right things. For this, the design of rigorous impact evaluations and their implementation has taken center stage.

To measure development effectiveness and increase knowledge, it is necessary to establish the causality between the intervention and net changes in key development indicators. The most effective way of doing this is by establishing a counterfactual by answering the question *what would have happened in the absence of the project?* This allows for impact evaluations, which measure the net effect of an intervention and not only trends (which can be established through a before/after analysis) or differences not attributable to the project (as in simple with/without analysis). Impact evaluations determine if a project worked by assigning attribution: it determines if the change in the outcome indicator was caused by the intervention. By doing so, it verifies whether the project logic was correct and/or if other mechanisms were at play. In times of crisis, often development indicators may

show lower values than what was originally planned. A rigorous impact evaluation may show that the indicator would have been even worse without the project. In good times, of course, is also important to correctly attribute positive changes to the interventions being analyzed.

In 2008, the Bank approved eight projects with rigorous impact evaluation designs (one experimental and seven quasi-experimental evaluation designs). This number increased to thirteen in 2009 (three experimental and ten quasi-experimental designs). Furthermore, SPD is partnering with project teams across the Bank in order to strengthen the design and implementation of impact evaluations. SPD may engage in the evaluation of projects at different levels according to the demands from project teams and the strategic relevance of a particular operation. SPD role may occur at three levels: advising teams on general evaluation questions; reviewing terms of references and/or results matrices and supporting the team in the definition of the evaluation design (sample size, definition of indicators); or a more substantive role, in which a SPD member participates as full team member, responsible for the evaluation component of the project. Currently, SPD staff is involved in over forty projects at different levels, working with eight sector divisions and also with the Multilateral Investment Fund (MIF).²

PERFORMANCE OF NSG OPERATIONS

The Structured and Corporate Finance Department (SCF) started implementing the ECG-GPS for Private

Sector Investment Operations in 2006. Based on the Evaluation Guidelines prepared by OVE, SCF has prepared self-evaluation reports called Expanded Project Supervision Report (XPSR) for its projects and the results of the XPSRs have been validated by OVE. This evaluation practice enhances harmonization of all the MDBs working on private sector/NSG operations, and each MDB's compliance with ECG-GPS is assessed by a benchmark exercise carried out by an independent consultant retained by ECG.³

In 2008, SCF overhauled its Development Effectiveness Framework by aligning assessment of development impact and additionality of projects at entry and monitoring to ECG-GPS. Strategic objectives behind the framework were: i) to create a tool to enhance the development outcome and additionality of SCF projects; ii) establish a systematic methodology to screen and select projects based on SCF strategic priorities, iii) design a system that can track progress toward fulfillment of SCF's development mission, and iv) enhance harmonization with other MDBs and ensure comparability with Inter-American Investment Corporation (IIC) and other MDBs.

The Development Effectiveness Matrix (DEM) will facilitate project teams to screen, communicate and measure development effectiveness of the projects at every stage of a project life. Since it is structured in accordance with the evaluation guidelines based on ECG-GPS, the use of DEM at entry is expected to enhance the evaluability of projects⁴. Figure below reviews seven dimensions of the NSG DEM.

² While all projects should have solid monitoring of costs, outputs and outcomes (measured at the appropriate beneficiary level), not all projects should have an impact evaluation. If causality is well established and the program is meeting its targets (in terms of outputs and outcomes) as expected, it is not necessary to do an impact evaluation, as there are opportunity costs of the financial and technical resources required to do solid impact evaluations. If, however, even when causality is established the outcomes are not being achieved, it is important to know why this is the case, and an impact evaluation may be required. For example, it is well established that improving water quality has important health impacts. However, an evaluation in Quito showed that improving water quality did not improve health in households where the mother had low education. Also, in projects that do an ex-ante economic analysis, it is important to repeat the analysis ex-post to verify that the ex-ante costs and benefits materialized and thus that the realized economic value of the project was as expected. To do an ex-post economic analysis, net incremental benefits are required, and this is precisely the purpose of impact evaluations, to measure the net benefits of a project. So, while the goal is not to have 100% of projects with impact evaluations, the number of projects with such arrangements is still too low, as there are still substantial knowledge gaps on what works. Even if, as reported in Part II, in some sectors the literature shows that the type of projects financed by the Bank have positive impacts, it is important to establish if the specific Bank supported interventions have positive impacts, and to generate evidence for the particular delivery mechanisms used in the Region and for the sectors where such evidence is missing.

³ The second benchmark exercise was carried out in 2005 and the third benchmark exercise is currently underway.

⁴ The evaluability of SCF operations will be assessed by OVE as a part of its evaluability exercise.

Fig. 6
DEM-SCF Development Performance Areas

Project or Company Performance	Measured by (i) the real after tax returns -FRR and ROIC- and by (ii) the project's contribution to other business goals and project company's prospect for sustainability and growth.
Contribution to Economic Development	Measured by the project's real ERR or EROIC. Other cost effective indicators will be utilized as proxies to track contributions to economic development over the life of the project.
Environmental impact and Corporate Social Responsibility	Company's overall environmental performance, including compliance with IDB's requirements, contribution address climate change, and focus on targeted population.
Private Sector Development	Project's contribution (positive or negative) to the country's private sector development and/or its development of efficient capital markets.
IDB Strategic Development Objectives	Measures how well a proposed operation fits with the overall objectives of the Bank and the specific developmental mandates of the Bank for SCF.
IDB Financial Additionality	Unique terms of the financing that were necessary for the project as well as to the degree of resource mobilization accomplished by the IDB, if any.
IDB Non- Financial Additionality	All other value added aspects of the IDB's participation that differs from financial ones, as IDB's role in improving the developmental impact/outcome of a project.

Following the approval, in March 2008, of the new framework by the Board of Directors SCF has taken several measures to support the implementation of the framework including training sessions to SCF staff, preparation of DEM guidelines at entry, development of a DEM database, inclusion of DEF section on the Bank's website for SCF⁵, retrofitting exercise of projects approved in 2007, and preparation of DEM Guidelines for monitoring Project Supervision Reports (PSRs).

Since its implementation a DEM has been incorporated in the Project Concept Document (PCD)⁶ and Loan/Guarantee Proposals (LGPs)⁷. In 2008, the DEM for SCF was used 67 times for project reviews, including 41 PCDs and 26 LGPs. In 2009, the DEM was used 45 times for project reviews, including 20 PCDs and 25 LGPs. Table 3 below summarizes the ratings of the SCF - DEM for projects approved in 2008 and in 2009, respectively.

⁵ The address to the section on the SCF development effectiveness is the following:
<http://www.iadb.org/resources/business/doingbusiness/largebanks.cfm#Development%20Effectiveness>

⁶ Under the new procedures for the NSG operations, Project Profile (PP) replaces the PCD.

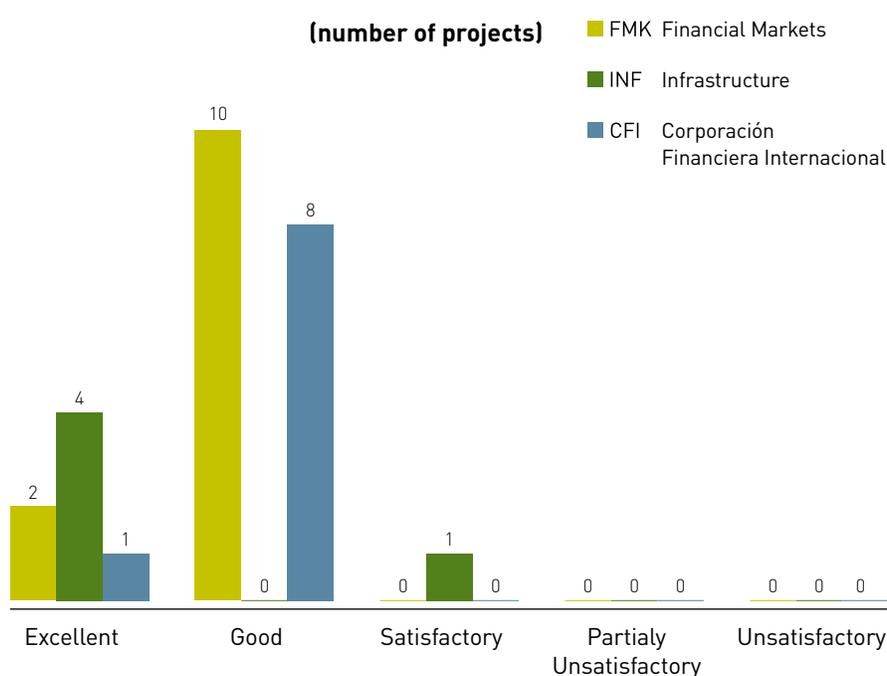
⁷ February 2009. "Update on SCF Development Effectiveness Framework. Technical Briefing for Board of Executive Directors". Inter-American Development Bank.

TABLE 3

Distribution of Ratings in Performance Areas 2008 and 2009 (%)

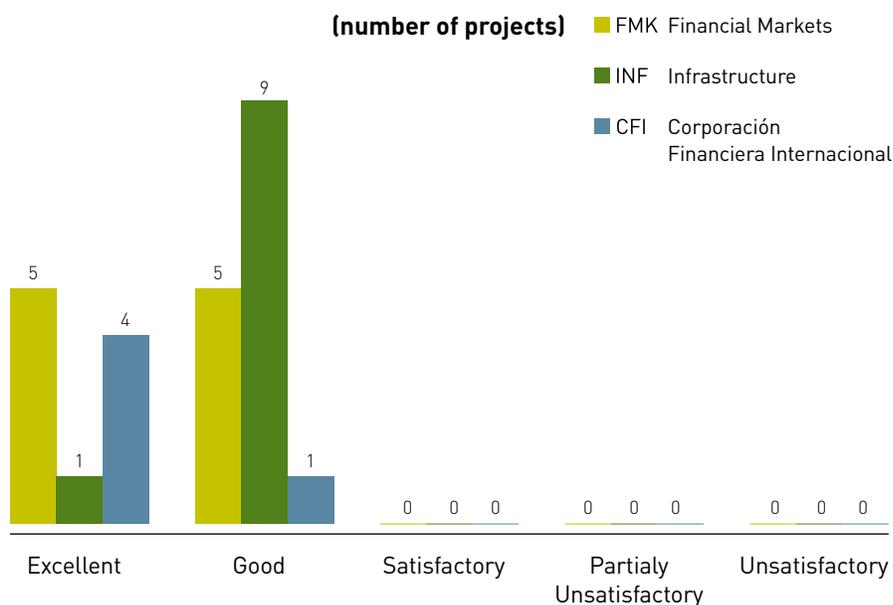
2008 Performance	Excellent	Good	Satisfactory	Partial Unsatisfactory	Unsatisfactory
Business Performance	27	58	12	4	0
Economic Development	31	69	0	0	0
Environmental and Social	62	31	8	0	0
Private Sector Development	19	73	8	0	0
IDB Strategic Objectives	23	65	12	0	0
Financial Additionality	27	69	4	0	0
Non Financial Additionality	15	58	27	0	0
Overall rating	27	69	4	0	0
2009 Performance	Excellent	Good	Satisfactory	Partial Unsatisfactory	Unsatisfactory
Business Performance	16	68	16	0	0
Economic Development	32	60	8	0	0
Environmental and Social	56	32	8	4	0
Private Sector Development	64	36	0	0	0
IDB Strategic Objectives	64	36	0	0	0
Financial Additionality	48	52	0	0	0
Non Financial Additionality	52	24	24	0	0
Overall rating	40	60	0	0	0

FIG. 7
NSG DEM Ratings 2008



The DEM allows the analysis of expected development outcome and additionality of SCF projects based on sectors and country groups. The tables below show the distribution of the comprehensive ratings by SCF's three operational divisions; however, it should be noted that the number of projects included in this statistics is still too small to draw meaningful conclusion.

FIG. 8
NSG DEM Ratings 2009



Box 4

Sector Specific Indicators for Lending to Financial Institutions

In 2008 and 2009, twelve SCF transactions for financial institutions were approved by the IDB to promote lending from these institutions to specific client segments, such as housing, SMEs, and microfinance institutions. Accordingly, their DEM included two sector specific indicators, increased outstanding portfolio and new clients for these specific segments. These indicators would allow the aggregation of the expected results, as shown in the figure below.

Aggregation of sector specific indicators for financial institutions:

		Expected results
Housing	New homes to be financed	10,020
	Increase of outstanding mortgage portfolio	US\$1,272 million
SME	New SME to be financed	22,392
	Increase of outstanding SME portfolio	US\$1,371.5 million
Microenterprise	New microfinance institutions to be financed	40
	Increase of outstanding Microenterprise portfolio	US\$150 million

In addition, given its strategic emphasis on climate change issues, seven SCF transactions were approved in 2008 and 2009 for the renewable energy projects, including wind power and bioenergy. One of the sector specific indicators included in DEM for this type of projects is increased power generation capacity, and they are aggregated as follows:

		Expected results
Renewable energy	Increased generation capacity	720.6 MW

As a part of 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 that the Bank’s contributions in the portfolio level.

SCF has also been conducting a DEM retrofitting exercise for those projects approved in 2007 under the previous framework.

Opportunity for the Majority Initiative (OMJ) operations use the Development Effectiveness Matrix to assess both their developmental outcomes, and their financial and non-financial additionality. OMJ's DEM is based upon the Good Practice Standards of Private Sector Investment Operations of the ECG-MDBs.

The design of OMJ's DEM follows that of SCF's with some adjustments to reflect the Initiative's mandate to identify business models that target majority populations, use innovative approaches, can be replicated and scaled. The use of the DEM entry for projects is currently being strengthened in order to enhance their overall evaluability and to screen for projects with greater developmental outcomes. Similarly, OMJ is also strengthening its analysis of project logic and the identification and measurement of the additionality of Bank contributions. In 2008 and 2009, two thirds of OMJ projects had an overall DEM score of "Good" and the remaining one third of "Excellent."

In 2010, efforts will be focused on designing and integrating impact evaluation frameworks in at least four OMJ projects, and more robust systems of monitoring and evaluation in all projects.

Monitoring Results. With the introduction of the new Development Effectiveness Framework for SCF operations, the expected development impact and additionality of projects (including those retrofitted to the DEM) identified by ex-ante DEM will be monitored annually as part of the preparation of PSRs by the Por-

folio Management Unit. Monitoring will continue to be made throughout the entire loan/guarantee life. To facilitate the monitoring exercise, the Guidelines for PSR DEM were prepared and were applied for 5 projects as pilot cases.

In accordance with the Guidelines, the PSR DEM will include the same indicators used in the DEM at the time of project approval, but adding three new columns: a) actual results, b) comparison of the actual results with the original expectations, and c) updated rating. The PSR DEM will be prepared by the SCF Portfolio Management Officer (PMO) and validated by the SCF Development Effectiveness Officer. The PSR DEM will be completed using information provided by the company in accordance with the Annual Review of Operations⁸ as well as additional research conducted by PMO. Some relevant information is also taken from the Credit Risk Classification System (CRCS) exercise, which is also reviewed at the time of PSR preparation.

For the comparison of 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 expectations¹⁰. As for qualitative indicators, when changes occur in the performance of the company/project, judgment is called upon to render the comparison.

The following table shows a sample PSR DEM, including two of seven performance and relevant quantitative and non-quantitative indicators as examples.

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.

TABLE 4

Monitoring Results the SCF Operations

Development Outcomes*	Original Quantitative Expectation	Actual Result	Comparison	Original Ratings	Updated Ratings
5 Rating Categories for all DEMs: Excellent, Good, Satisfactory, Partially Unsatisfactory, Unsatisfactory 4 Comparison Categories for the PSR DEM: Surpassed, Achieved, Partially Achieved, or Not Achieved	At approval (Ex-ante DEM)	As of this PSR	Compare results to original expectation		Rate the actual results to date
Project or Company Business Performance				Good	Excellent
(1) ROE	20%	25%	Surpassing	Good	Excellent
(1-1) Sector specific indicator –loan growth thru 2012	10%	50%	Surpassing	Satisfactory	Excellent
(1-2) Sector specific indicator- Full draw down of loan facility	100%	190%	Surpassed	Satisfactory	Excellent
(1-3) Sector specific indicator – Capital Adequacy (equity/total assets)	8,0%	13,0%	Surpassed	Good	Excellent

IDB's Role – Additionality**

Financial Additionality				Excellent	Excellent
(19) Provision of amounts, tenors and/or key terms & conditions not available in marketplace			Achieved	Excellent	Excellent
(20) Resource mobilization			Achieved	Excellent	Excellent
Comprehensive DEM Rating for PSR				Good	Good

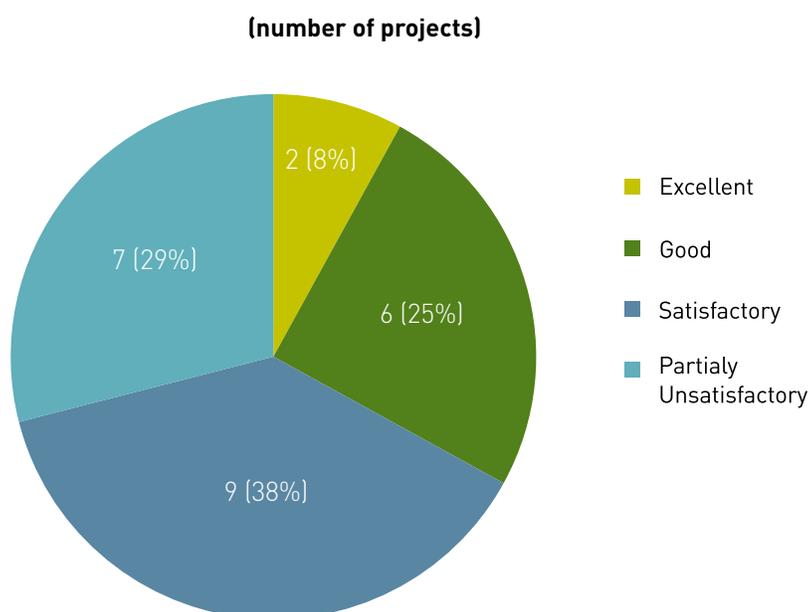
*Indicators in the 2 performance areas below are to be monitored annually in PSR DEM. Actual results are to be compared to original expectations in the ex-ante DEM and then the indicator ratings updated.

**Indicators in the 5 performance areas below are not expected to change frequently as many are ex-ante facts. The standard comparison will be "achieving" or "achieved" and the ratings will typically remain unchanged unless due to special circumstances the PMO determines otherwise.

During the first quarter of 2010, SCF's Portfolio Management Unit (PMU) will begin to include PSR DEMs in the Project Supervision Reports (PSRs) for those projects approved in 2007 which have over a year of project implementation history. Full implementation of this new monitoring instrument, will enable SCF to closely monitor the achievement of expected development results throughout the entire loan life of the project.

In 2009, as part of the transition, project monitoring exercises for the 2008 results used the previous monitoring framework, based on logical framework and PPMR, but applying the DEM 5 point-scale rating. The assessment of the development outcomes of 24 projects shows the following results:

Fig. 9
Development Outcomes. SCC



Self-Evaluation and Validation. The self-evaluation activities started in 2006, when OVE, together with SCF, developed self-evaluation guidelines based on ECG-GPS. The Guidelines define the timing of evaluation, coverage, process and interaction between evaluation office and SCF Management, scope of areas to be evaluated, evaluation rating criteria and reporting requirements. The self-evaluation report is called Expanded Project Supervision Report (XPSR).

With regards to the evaluation scope, the evaluation guidelines set four major areas, which are (i) Project development outcome, (ii) IDB's operation profitability, (iii) IDB's additionality, and (iv) IDB's work quality, and every area is rated based on a four scale rating (Exce-

llent, Satisfactory, Partially Unsatisfactory and Unsatisfactory). No overall comprehensive rating is provided.

The Board was provided with OVE's validation report for the first self-evaluation exercise of 2006 (with 5 projects) in August 2007, and the second self-evaluation exercise of 2007 (with 14 projects) in September 2009. For the 2007 exercise, following one of the OVE's recommendations from the previous exercise, SCF covered all the projects which were eligible for evaluation as well as those projects which were left out from the sampling of the previous exercise. In addition to the variety of sectors covered, it should be noted that 12 out of 14 evaluated projects had already been pre-paid. The table below summarized the main results

TABLE 5

Project Development Results Validated by OVE (%)

2006 Performance	Highly Satisfactory	Satisfactory	Unsatisfactory	Partial Unsatisfactory
I. Project Development Outcome	40	60	0	0
I.A. Company Business Success	40	40	20	0
I.B. Private Sector Development	40	60	0	0
I.C. Economic Development	60	40	0	0
I.D. ESHS Impacts and Sustainability	40	60	0	0
II. IDB's Investment Profitability	40	60	0	0
III. IDB's Work Quality	0	80	20	0
IV. IDB's Additionality	100	0	0	0
2007 Performance	Highly Satisfactory	Satisfactory	Unsatisfactory	Partial Unsatisfactory
I. Project Development Outcome	0	43	57	0
I.A. Company Business Success	0	29	42	29
I.B. Private Sector Development	7	57	29	7
I.C. Economic Development	29	29	42	0
I.D. ESHS Impacts and Sustainability	7	79	14	0
II. IDB's Investment Profitability	0	29	64	7
III. IDB's Work Quality	0	43	50	7
IV. IDB's Additionality	7	57	29	7

validated by OVE on the four performance dimensions of the projects for 2006 and 2007 exercises. For the detailed analysis of the evaluation results, please refer to OVE report (RE-332-2) as well as Management's Commentary Note (RE-332-3).

During 2009, the XPSR Guidelines and Evaluation templates have been updated by OVE in order to be in full compliance with the 3rd edition of the ECG-GPS. The third self-evaluation exercise took place in 2008 (9 projects) and the fourth self-evaluation exercise took place in 2009 (with 4 projects). Both exercises are currently in the stage of validation by OVE (as of January 2010).

DEVELOPMENT EFFECTIVENESS OF COUNTRY STRATEGIES

The development effectiveness matrix for country strategies (DEM-CS) was swiftly implemented during the second semester of 2009. Five country strategies were approved by the Board during the year: Guyana, Nicaragua, Guatemala, Belize and Barbados. The deployment of the DEM-CS began with the Belize country strategy, approved by the Board at the end of June 2009. Since then, the evaluability of country strategies submitted for Board approval was rated through the application of the DEM-CS. The original DEM matrix was fine-tuned for application to the Barbados and Paraguay country strategies in response to the Vice Presidency for Countries (VPC) decision to separately document the Bank's strategic orientation and the Bank's annual programming efforts.¹¹

TABLE 6

Country Strategy and Country Program: Two Separate Documents

I.		Country Strategy	Country Program
Purpose		Guides country programming	Implements Country Strategy
Elements		Strategic focus: priority areas for Bank support Results matrix Sector Diagnostics Financial envelope Country systems Donor coordination Risk assessment	Work programming: pipeline Feeds into Budget allocations Specific metrics with targets Definition of instrument mix (loans, KCPs, etc)
Time frame		Coincides with political cycle Long-term objectives	Annual First one within 3 months of country strategy approval
Ex ante Evaluability		DEM - CS examines: - Strategic relevance - Effectiveness (metrics, baseline, indicative targets) - Risk management	DEM - Programming examines: - Vertical logic - Alignment with CS objectives and expected results - Efficiency

¹¹ The Paraguay CS has been presented to the Programming Committee and is pending approval by the Board.

The DEM-CS examines three key dimensions of country strategies:

- a. **Strategic relevance** refers to whether country strategy objectives are consistent with country needs. It includes an analysis of (i) alignment of CS objectives with country needs and governments' plans and priorities; (ii) whether CS objectives take into consideration other development partners' interventions; and (iii) how Bank assistance intends to make use of a mix of Bank instruments.
- b. **Effectiveness** refers to whether the country strategy is likely to achieve its intended objectives. It includes an analysis of (i) whether Bank assistance is grounded on evidence-based sec-

tor diagnoses; (ii) whether expected results are consistent with country strategy objectives and include metrics for their monitoring; (iii) whether the fiscal needs of the country were assessed and the Bank's financing envelope estimated; and (iv) whether country systems were assessed and a determination made about their build up and use.

- c. **Risk Management** refers to the identification of issues that may negatively affect Bank assistance in the proposed areas of intervention. It includes an analysis of (i) risk factors; (ii) mitigation actions and (iii) monitoring mechanisms.

The DEM for the Country Program Document (CPD) will be rolled out in the first semester of 2010 together

TABLE 7

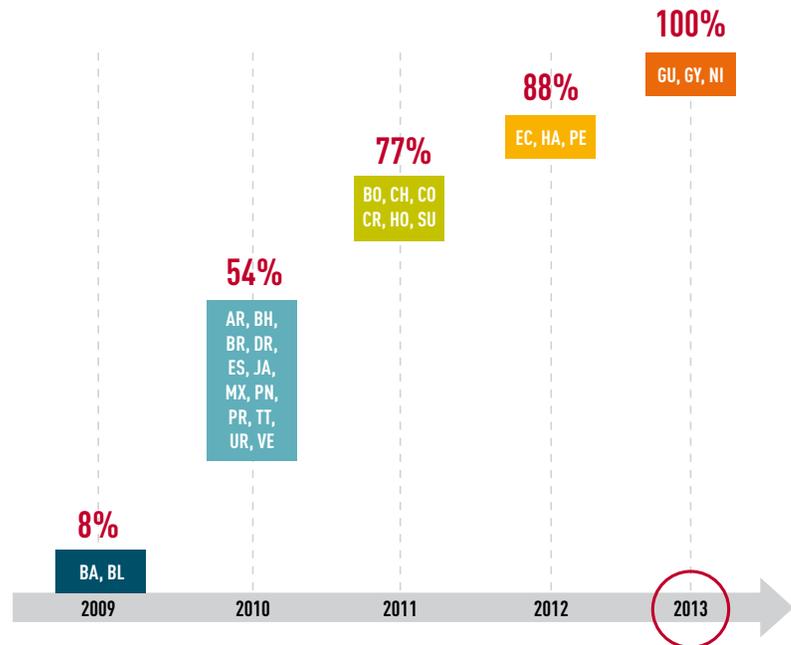
Country Strategies and Country Programs: Evaluability Dimensions Examined by the DEM

	Evaluability Dimension	Issues examined
Country Strategies	1. Relevance	<ul style="list-style-type: none"> - Alignment with country needs, government plans and priorities - Consideration of other development partners' interventions - Mix of Bank instruments selected
	2. Effectiveness	<ul style="list-style-type: none"> - Evidence-based diagnoses - Fiscal needs, financing envelope - Country systems (assessment, use and build up)
	3. Risk Management	<ul style="list-style-type: none"> - Identification of potential risks - Identification of mitigation measures - Monitoring
Country Programs	1. Relevance	<ul style="list-style-type: none"> - Alignment of country program with country strategy objectives and expected results
	2. Effectiveness	<ul style="list-style-type: none"> - Project interventions generate outputs whose aggregate is likely to lead to expected country strategy outcomes
	3. Risk Management	<ul style="list-style-type: none"> - Estimated cost of designing Bank interventions - Estimated cost of supervision of Bank interventions - FTEs required for design and supervision of Bank interventions

FIG. 10
Development Effectiveness Matrix for Country Strategies.
Timeline for Full Implementation (2009-2013)

with the first CPD. It will examine three principal issues: (i) degree of **relevance** in terms of the alignment of the proposed program with country strategy objectives and expected results; (ii) **vertical logic** of the proposed program or whether proposed interventions are likely to lead to expected outcomes; (iii) **efficiency** in terms of the estimated cost of delivering the country program.

It is still too early to evaluate the impact of the DEM application to country strategies as it will take until the year 2013 for the Bank to achieve 100% implementation of the new Country Strategy and Country Program model (see figure 10).



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

However, a review of the Barbados country strategy approved in 2009 with respect to the previous one suggests a more focused Bank intervention. As shown in

the table below, instead of seven areas of intervention, each covering a wide range of topics, the new strategy focuses on four concrete areas of work.

TABLE 8

Barbados: CS 2005-2008 - CS 2009-2013

	Country Strategy 2005-2008	Country Strategy 2009-2013
Areas for Bank Intervention	1. Support maintenance of stable macroeconomic conditions. 2. Support measures to improve efficiency and effectiveness of government revenue services.	1. Coastal zone management and climate change adaptation.
	3. Support institutional and policy reform and other initiatives to strengthen the environment for investment, international trade and local business growth.	2. Water and sanitation.
	4. Support improvement in transport, neighborhood and environmental infrastructure.	3. Energy.
	5. Support human capital strengthening through housing, education and training.	4. Education.
	6. Support improvements in results based management, accountability and efficiency.	
	7. Support capacity building and functioning of national statistical services.	
	8. Provide assistance to strengthen GOBA capacity to apply PPP options most effectively.	





II
Chapter



Demonstrating Results of
our Strategic Focus

AS EVIDENCED BY THE CREATION OF THE ECG IN 1996 AND the Paris Declaration in 2005, the international community has placed a strong emphasis in measuring the results of development aid in general and of the work of MDBs in particular. Hence, the definition of a Results Framework (RF) to measure performance at the aggregate level at the IDB has taken place in a context where other MDBs are going through similar processes.

The Results Framework proposal is an integral part of the General Capital Increase (GCI) discussions. Its detailed components and targets is a work in progress and will be approved within the GCI framework. The RF will provide the Bank with an accountability mechanism for measuring and informing on progress on institutional priorities. It includes best practices adopted by other multilateral and bilateral development organizations, including the Asian Development Bank (ADB), UK Department for International Development (DFID), the Canadian International Development Agency (CIDA), the US Millennium Challenge Corporation (MCC), and World Bank Group (WB), among others. The Results Framework aims to increase accountability of the Bank's work for contributing to equality of opportunities and sustainable growth in Latin America and the Caribbean (LAC). The RF is also built on one of OVE's recommendation:

"It is possible to measure performance against effort targets such as lending volume, but it is preferable to combine these with targets for actual results to be achieved so that the Bank can demonstrate both where effort was applied and what effect the effort produced."

The RF is based on the Bank's five institutional priorities, and will allow shareholders to monitor the Bank's contribution towards selected regional development goals as well as desired progress on output indicators and operational effectiveness and efficiency. Monitoring the set of indicators proposed will contribute to increased transparency and accountability.

The RF is an integral part of the Bank's efforts to use empirical evidence to manage for development results and is central to ensuring accountability for delivering results. The implementation of the RF will use the monitoring and reporting instruments already in place and described in the first section of this document, but it will also require promoting more emphasis on results throughout the Bank. The Bank's efforts to strengthen its capability to manage for development results through the Development Effectiveness Framework (DEF) is key for the implementation of the RF. Progress will be reported annually through this *Development Effectiveness Overview* (DEO) and an evaluation will be carried out at the end of the four year period to provide inputs for reviewing institutional priorities.

In this context, and following international best practices, the RF has four components:

Operational Effectiveness and Efficiency. Will provide guidance on relative priorities for lending and enable monitoring of the specific priority areas. These will measure performance against effort.

Output Contribution to Regional Goals. Provide data on development challenges in Latin America and the Caribbean region by tracking the progress on key development indicators in the five institutional priorities defined in the GCI.

Regional Development Goals. Will monitor the direct contribution of Bank interventions towards achieving regional development goals. These will measure performance against results.

Lending Program Priorities. Will monitor the Bank's development results and provide drivers for internal accountability instruments and performance measurement.

LENDING PROGRAM PRIORITIES

These targets are an expression of Bank highest priorities and mandates. To be meaningful and manageable, the number of said targets are limited and focused. The proposed lending targets for 2012-2015 will concentrate on: (i) support development in small and vulnerable countries, and (ii) help countries reduce poverty and enhance equity. Moreover, the Bank will also focus on (iii) assisting borrowers in dealing with climate change, renewable energy, and environmental sustainability; and (iv) increase regional cooperation and integration.

The targets include both Sovereign (SG) and Non Sovereign Guaranteed (NSG) and are expressed as a percentage of total lending and not the number of projects. Although, the number of projects is used by the Bank for internal workload and budget management, in order to measure efforts, the Bank considers using lending volume more representative. The baselines are an average of lending volumes for 2006-2009. The estimated lending volumes will be revised once the GCI is agreed.

Small and vulnerable countries are those with economies less than US\$55 billion, and with per capita GNI of less than US\$9,500: Barbados, Uruguay, Panama, Costa Rica, Suriname, Jamaica, Dominican Republic, Belize, Ecuador, El Salvador, Guatemala, Paraguay, Honduras, Bolivia, Guyana, Nicaragua, and Haiti. At all times, the pursuit of the lending volume targets are subject to risk assessment and prudence of debt constraints, and the first indicator's target was set taking into account these considerations.

Lending for poverty reduction and social equity had a specific target in the IDB-8 Agreement. Based on the Bank's Institutional Priorities the RF is innovative as it expands on the IDB-8 and includes in this category measures that improve the insertion of poor workers into higher productivity jobs (regulatory, fiscal, financial market reforms that aim at increasing firms' incentives to hire workers formally).

Addressing issues of climate change is a new area of emerging demand for the Bank. A Climate Change Strategy will be presented to the Board in 2010, which will help guide how to scale up support for actions for climate change mitigation and adaptation. It will foster development and use of public and private sector financial and non financial instruments to strengthen institutional, technical and financial capacity. The Climate Change Strategy will include issues for addressing growing demand of climate change, including the need to increase the knowledge base, strengthen frameworks and build capacity as well as develop guidelines and criteria for mainstreaming climate change mitigation and adaptation in IDB operations. Climate change lending targets will include (a) mitigation; (b) adaptation; and (c) sustainable practices.

Fostering regional cooperation and integration is important for making contributions to economic development and to reducing most acute intraregional asymmetries. To promote regional cooperation and integration loans may be approved for national or regional projects. Regional cooperation and integration also includes integration of financial and labor markets. Lending in this category includes five main areas: (a) infrastructure; (b) regional initiatives; (c) institutional strengthening; (d) regional public goods; and (e) capacity development.

REGIONAL DEVELOPMENT GOALS

These regional goals provide a picture of the key development challenges for the Region and where gaps have been identified (see *Annex 2* for full list of goals). They provide information on the longer-term development progress in the Region which cannot be solely attributed to the Bank's interventions as other partners in LAC work towards obtaining these same goals. Regional goals will be collected in country strategies, at the aggregate level and in projects.

Criteria to select indicators included: (i) relevance; (ii) whether it is a Millennium Development Goal (MDGs) or whether it has links to MDGs; (iii) Bank's compa-

rative advantage and future areas of expansion and; (iv) whether it is included in the results frameworks or used by other international cooperation partners. Of the 23 regional goals selected, 19 are either MDGs or used by other partners and out of the 24 outputs, nineteen are also measured by others. Identifying the indicators also used by others will facilitate dialogue and foster collaboration.

The Bank considers it important to track Regional Goals measured as outcomes to monitor longer term development progress in the Region to inform what the Bank's contributions and priorities should be. Tracking them will contribute to identify gaps or areas where the institutional priorities might need revision. Regional Goals will be collected, as appropriate, in country strategies and in projects.

OUTPUT CONTRIBUTIONS TO REGIONAL GOALS

Bank interventions generate outputs, which are deliverables produced during the execution of a project (see *Annex 2* for full list of output contributions). However, a successful project that has been able to achieve its outputs might still not be able to achieve its outcome as there are many intervening factors not in the control of the project. Therefore, Regional Goals cannot be solely attributed to the Bank's interventions. Because outputs are direct products and services that result from the execution of a project's activities, they are a better measure of the Bank's contribution.

The indicators selected represent the majority of the Bank's interventions and are not to be considered exclusive. Outputs will monitor the direct contribution of Bank interventions towards the achievement of the regional goals and will promote accountability of the Bank's resources. They are collected at project level, country and aggregate levels. Disaggregation of indicators by gender, Indigenous and Afro-descendants has been identified where pertinent. Although there are no current baselines for the indicators which will be disaggregated, sample of countries and projects will be selected in order to start collecting them.

Every effort has been made to link outputs with regional goals, but it should be noted that their relationship is imperfect at best, and the achievement of an output does not necessarily mean that it will affect the related outcome because of other intervening factors. Links between outputs and regional goals have been identified in the same priority areas. However, links should not be considered exclusive, as there are some outputs which also contribute to Regional Development Goals in other priority areas.

In addition, to associating an output with a regional goal, the Bank prepared technical notes for outputs and outcomes which include: (i) name of indicator; (ii) definition; (iii) in the case of a goal whether it is an MDG goal or target; (iv) baseline; (v) estimated programmed targets; (vi) level of disaggregation; (vii) source; (viii) frequency; (ix) rationale; (x) priority area and its links; (xi) the name of either the Regional Goal or output related; and (xii) whether it is used by another organization and the name of the organization. The notes, a good practice from other MDBs, have helped to generate discussions and to ensure consistency of the information measured.

OPERATIONAL EFFECTIVENESS AND EFFICIENCY

Indicators were also chosen for Operational Effectiveness and Efficiency, which are enabling conditions to achieve and monitor the Bank's development results. They will measure the Bank's efforts and serve for internal accountability. In addition, perception of the Bank's partners will be collected on the delivery of services.

There are three sets of indicators: effectiveness, efficiency and human resources (see *Annex 2* for full list of indicators). **Effectiveness indicators** are based on the Development Effectiveness Framework. Indicators aim to measure progress on setting clear standards and metrics for the evaluation of all development interventions. Effectiveness indicators are divided in three groups: (i) country strategies, (ii) loans (SG and NSG) and (iii) Knowledge and Capacity Build-

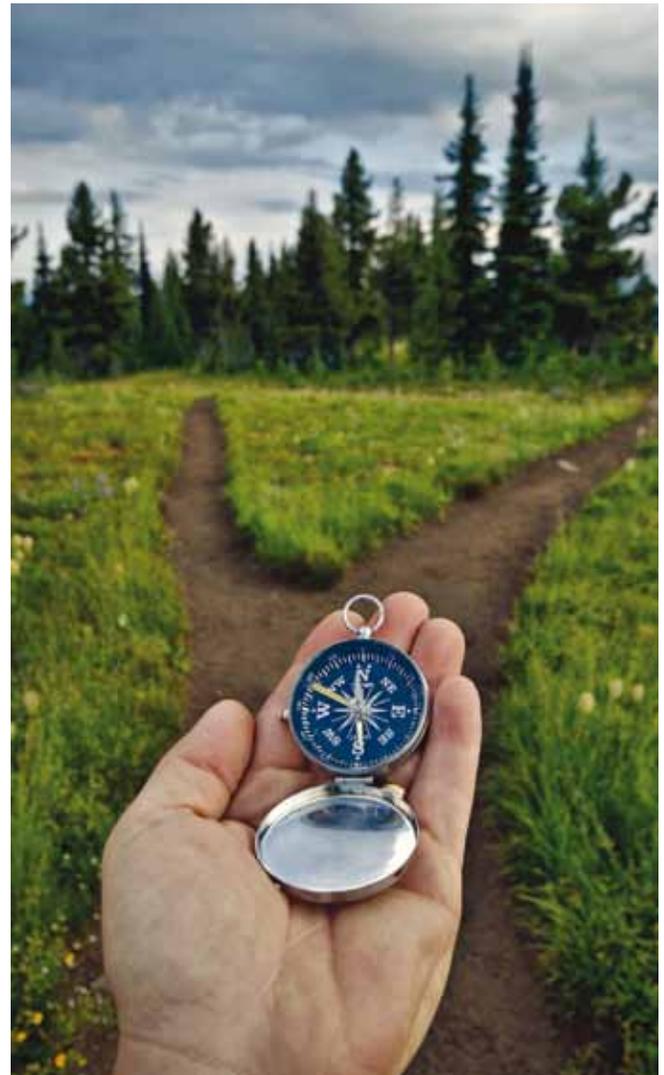
ding Products (KCPs). Indicators selected for country strategies will help understand how individual interventions contribute to country level goals, but are also important to ensure effective programming. Because the Bank's contribution to the region is not limited to its financial capacity, but also in its value added in delivering knowledge and non-financial products, it is also important to measure progress on KCPs.

Efficiency indicators are based on cycle times to address responsiveness to clients. Three indicators regarding budget describe, as a percentage of total expenses: (i) the expenses allocated to lending (the total cost of lending); (ii) the expenses on disbursement (the cost of the internal mechanisms that manage the delivery of lending resources); and (iv) the expenses on support functions (the cost of overhead, i.e. activities not budgeted to specific products). These measures address allocation efficiency at the most aggregate level. The Bank is committed to lower transaction costs for project preparation and implementation, reduced documentation requirements, and decentralization of decision making to country offices.

In terms of the **human resources** used to do its work, the Bank is committed to increasing the number of female executives and senior professionals. In addition, the Bank seeks to increase the number of professional staff based in country offices. The increase of professional staff in country offices will contribute to the increase of technical capacity and will allow the Bank to better respond to country needs.

BEYOND MEASUREMENT: THE RESULTS FRAMEWORK AS A MANAGING TOOL

Explicit targets are a necessary, yet not sufficient, element for accountability by results to happen. Results have to be managed, not only measured, to have an impact on day to day behavior. The proposed Results Framework is complemented by a series of instruments for programming, budgeting and business unit management, that are the vehicles to constantly monitor progress; evaluate, reconsider and reformulate targets



according to needs and priorities; and have all levels of the organization aligned to the corporate goals.

A series of reports are prepared on a regular basis to provide management with a picture of the Bank's performance as well as reporting on the Bank's contribution to development outcomes. The Quarterly Business Reviews (QBR), report on outputs, lending program priorities and organizational indicators on a quarterly basis. These reviews allow management to track the expected progress of the indicators included in the RF, and on the micro indicators for each unit reflected in the Balance Scorecards. This constant monitoring allows more timely identification of deficiencies and effective implementation of measures to address them. Annual Business Reviews (ABR) aggregate the results for the year reported in the QBRs, providing an overall performance review of the Bank for the purpose of reassessing priorities within a four-year planning, and two-year programming cycles. The ABRs for 2009 is included in *Annex 1*.



PART II

KNOWLEDGE ABOUT THE EFFECTIVENESS OF
IDB'S PROGRAMS

PART II OF THE DEO REPORT¹ PRESENTS AN ACCOUNT OF THE Bank's lending during the post-realignment period², its coherence with the institutional priorities proposed during the General Capital Increase (GCI) discussions, and the available evidence in development literature on the effectiveness of the types of programs financed by the Bank.

Since most projects approved during this period are still in the early stages of implementation, their potential effectiveness was assessed through a review of existing evidence from similar projects, not limited to those financed by the Bank. As will become clear, some sectors have substantial empirical evidence on their potential effectiveness while others have less. Subsequent editions of the *Development Effectiveness Overview* (DEO) will report on empirical evidence generated or being generated directly from Bank-financed interventions.

The GCI proposed five institutional priorities: (i) Social Policy for Equity and Growth; (ii) Infrastructure for Competitiveness and Social Welfare; (iii) Institutions for Growth and Social Welfare; (iv) Competitive Regional and Global International Integration; and (v) Protect the Environment, Respond to Climate Change, Promote Renewable Energy and Ensure Food Security. For each priority, a chapter in the report provides an initial assessment of the available evidence on the development effectiveness of projects; it discusses the logic (and evidence to support it) of the main interventions being proposed; and it identifies key knowledge gaps, where evaluation efforts need to be focused in pursuit of rigorous evidence. It also reports on some of the rigorous evaluation designs of strategic projects that are in the early stages of implementation and that have the potential to generate important evidence on their particular area. Future editions of the DEO will revisit those promising, ongoing evaluations and will report on the knowledge generated by them.



This report is divided into six chapters. After this introduction, the next five chapters focus on each of the institutional priorities proposed in the GCI, while the last chapter looks at the work of the Bank in the less developed countries of the region.

As shown in figure 11, in 2008 and 2009 the Bank approved 278 operations for a total of US\$26.8 billion. Of these resources, two of the institutional priorities received about 71% of the Bank's funds: infrastructure and institutions. Social policy accounts for 16% of the resources, followed by programs that promote agriculture, climate change, renewable energy and food security with 11%. The priority related to competitive regional and global integration represents 2% of resources. See figures 12 and 13 for details on the distribution of institutional priorities of NSG and SG operations. As shown in figure 14, NSG operations represented in overall 11% of IDB financing (4% in 2008 and 7% in 2009), and SG operations 89% (34% in 2008 and 55% in 2009).

¹ Bank's programs refer to Sovereign Guaranteed and Non-Sovereign Guaranteed operations.

² Includes all lending approved in 2008 and 2009.

FIG. 11
Institutional Priorities. 2008-2009

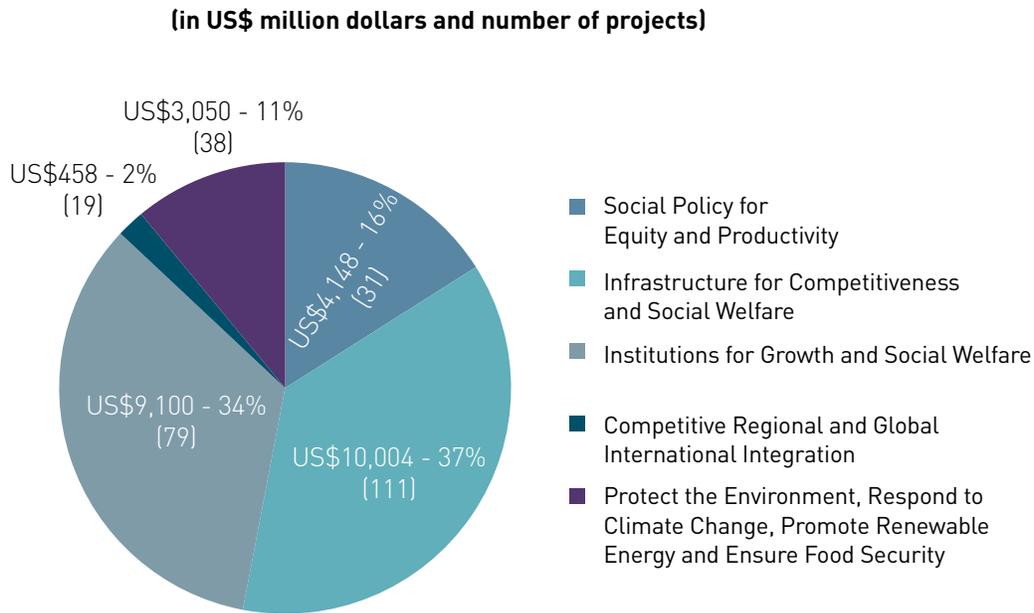


FIG. 12
NSG Financing by Sector. 2008-2009

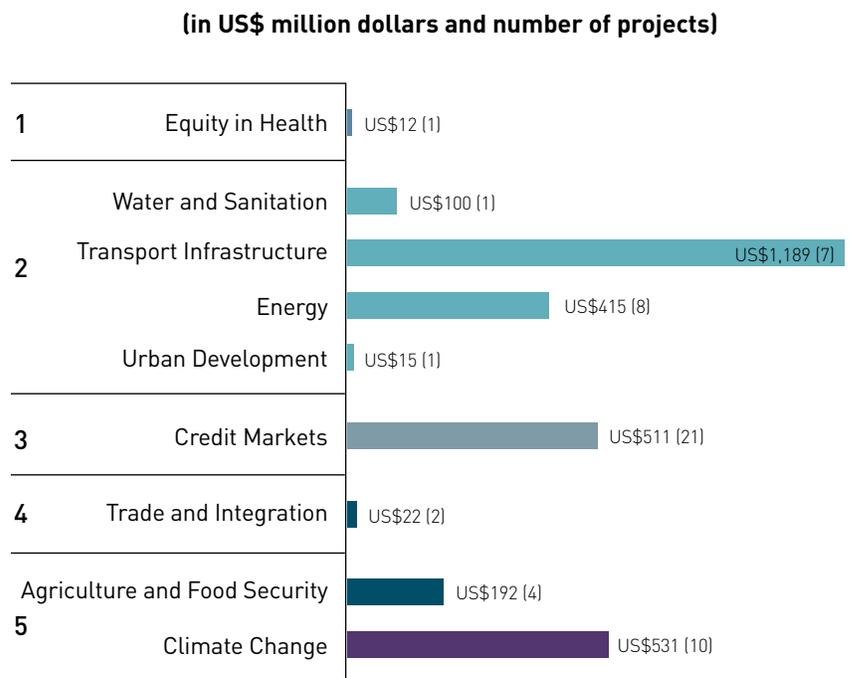


FIG. 13
SG Financing by Sector. 2008-2009

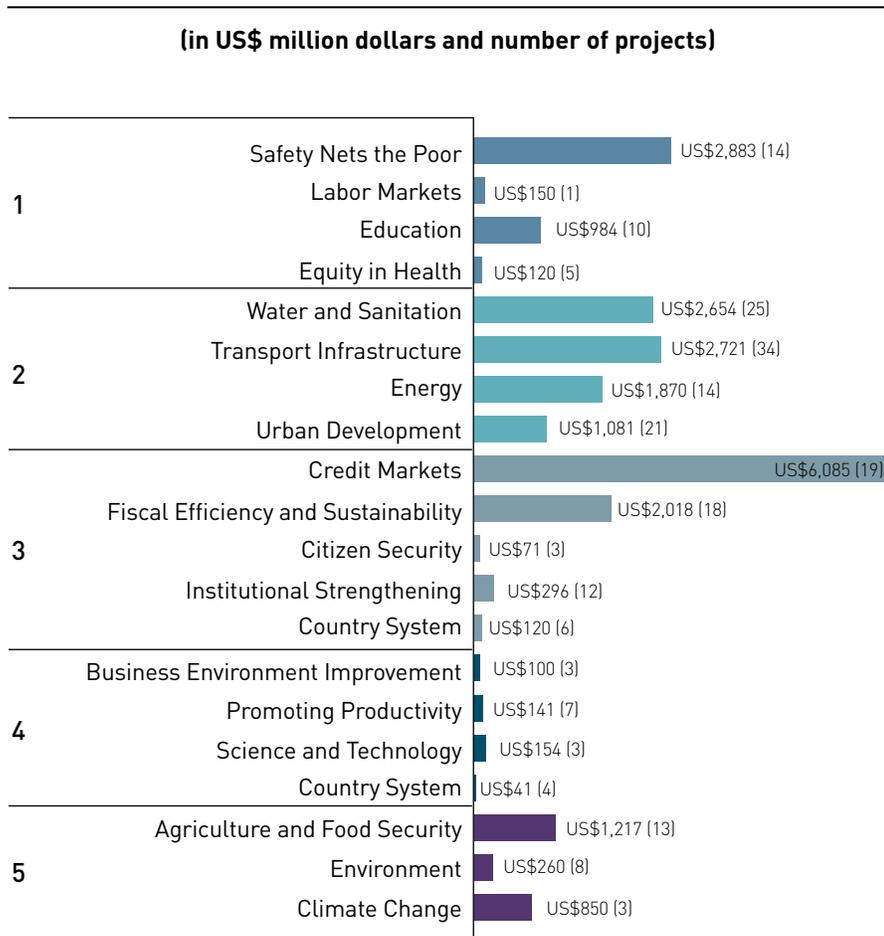
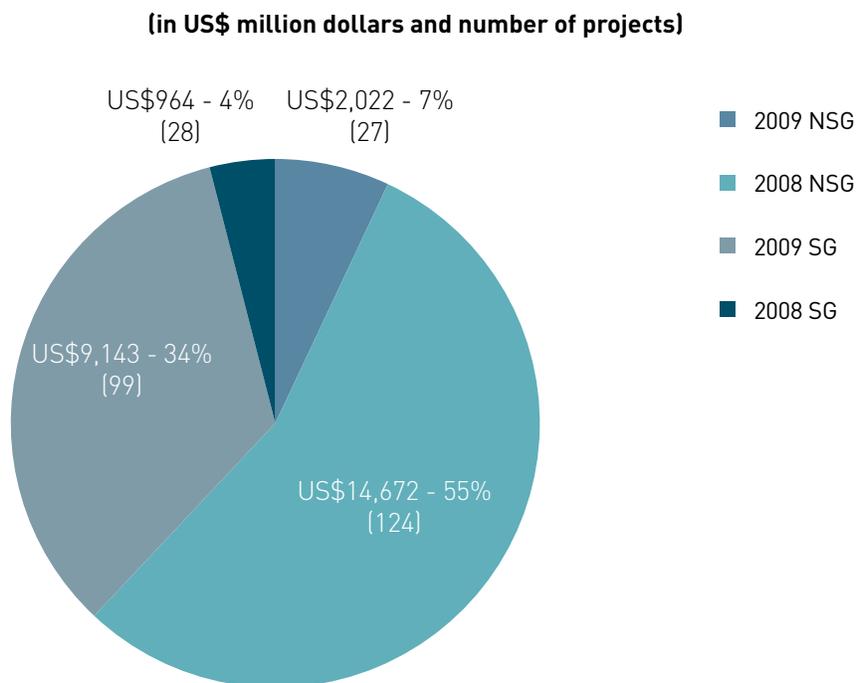


FIG. 14
NSG and SG Financing. 2008-2009



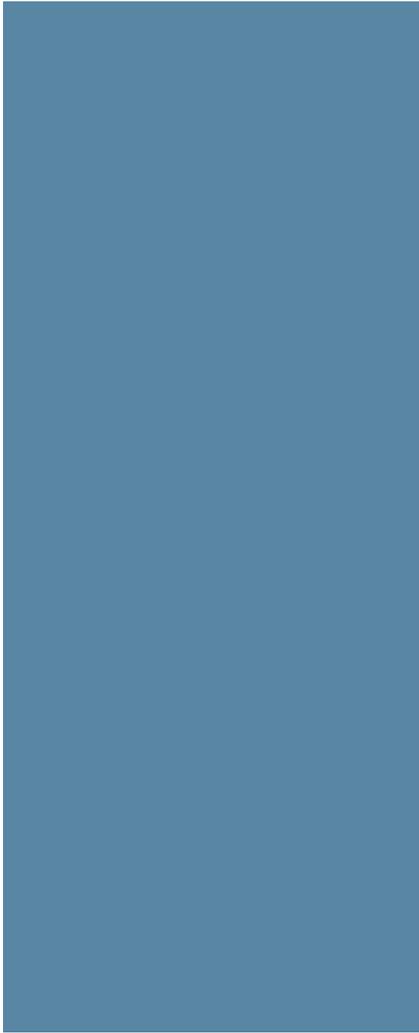


A unique feature of Part II is that the analysis of the projects logic was done by components of each operation, in order to identify with more accuracy the work that the Bank does in each of its institutional priorities. This allowed the more precise examination of the sector where the Bank has centered its efforts. As illustration, urban development projects components were classified in three broad categories: neighborhood upgrading, social housing and non-shelter urban development clusters; being the latter comprised by education, transport and water and sanitation components, among others. This component-analysis approach also allowed to identify the

strengthening of public sector institutions in projects from all five priorities.

However, for reporting purposes, financing and approval figures were estimated at the project level and not by components. Specifically, projects were categorized under the institutional sub-priority that more closely matched the objectives of most of its components. This means that the entire amount of funds of some projects was counted under a single institutional sub-priority, even if some of their components were related to other sub-priorities.





I
Chapter



Social Policy for Equity
and Productivity

OVERVIEW

Social indicators in Latin America have shown some improvement in recent years: poverty fell significantly from 221 million in 2000 to 180 million in 2008; net enrollment rates in secondary schools increased from 60 percent to 71 percent between 2000 and 2006, and infant mortality fell from 28.54 to 21.94 per thousand live births from 2000 to 2007 (CA-501-1). However these indicators are low both in absolute terms and relative to the average income per capita of the region (ECLAC, 2009).

A key reason for this unsatisfactory performance is the historically high level of inequality in the region. According to the average per capita income, most countries in the region would be considered middle-income. Nevertheless, the uneven distribution of income, reflected in unequal access to opportunities, leads to the widespread presence of poverty pockets and large groups of people with pervasively low incomes and dismal prospects of social inclusion. In addition, while social indicators have improved in terms of access to basic services such as health and education, this has not necessarily translated into similar gains in terms of human capital. The most salient example is in education, where access has increased substantially but quality, as measured by standardized tests (like PISA and OREALC), is still a pressing challenge. When individuals reach the labor market equipped with little or low-quality human capital, the chances of them generating enough income to rise above the poverty level are bleak, ensuring that future generations are trapped in an ever-increasing cycle of poverty.

In spite of recent improvements in some countries, income distribution remains very unequal and the

region has had the highest average Gini index in the world for the last 40 years (it fell from 55.80 to 52.49 between 2000 and 2007). Pervasive inequality explains why meeting the Millennium Development Goals (MDGs) is still a challenge. Although progress in the region has been positive, it is uneven across indicators, and between and within countries.

It was within this context of recent solid progress, accompanied by serious future challenges, that the first institutional priority was defined, aimed at promoting a social policy to enhance equity and encourage productivity in the region. Five key engagement areas were identified in pursuing this priority: (i) building well-articulated safety nets; (ii) improving the functioning of labor markets in order to achieve higher productivity and social security coverage; (iii) raising the quality and equity of education; (iv) promoting equity in health outcomes; and (v) tackling cross-cutting gender and diversity issues. Activities within these areas include traditional basic public goods, the provision of which is widely accepted as being a core function of the State (health and nutrition, education, equity in access to public services), as well as policies and regulations that will promote better social outcomes in the labor markets.

As shown in figures 15 and 16, the Bank has concentrated most of its projects in education, social safety nets and health³. In terms of financing, social safety nets were by far the most important sector in 2009. Figure 17 presents an interesting analysis, by including the components that were aimed at institutional and country system strengthening: 31% of project components had those goals. Finally, figures 18-21 show the regional distribution of projects by sector, showing that the Bank's work has spanned the whole region.

³ It is important to note that, as stated in the introduction to this appendix, projects were analyzed by components and then classified according to their most important component.

FIG. 15
Total Number of Projects by Sector

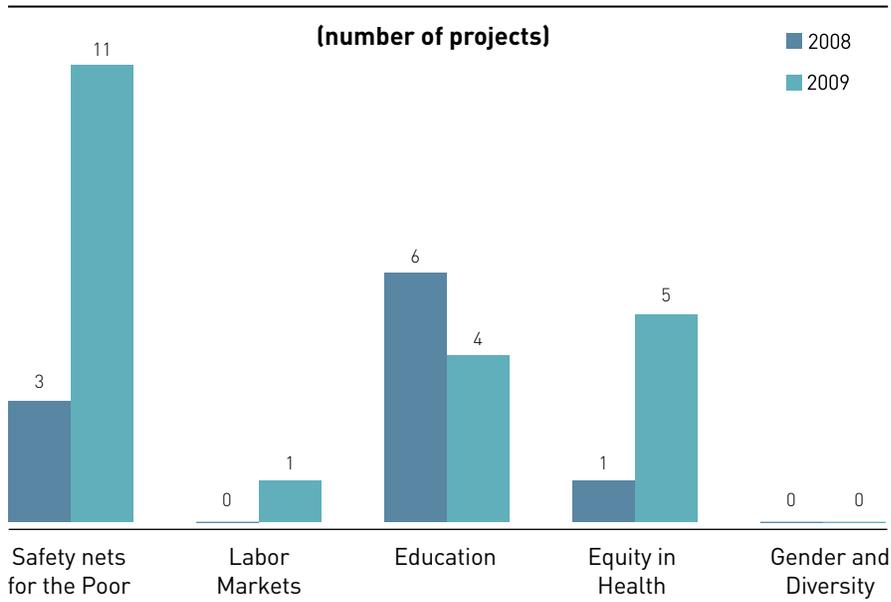
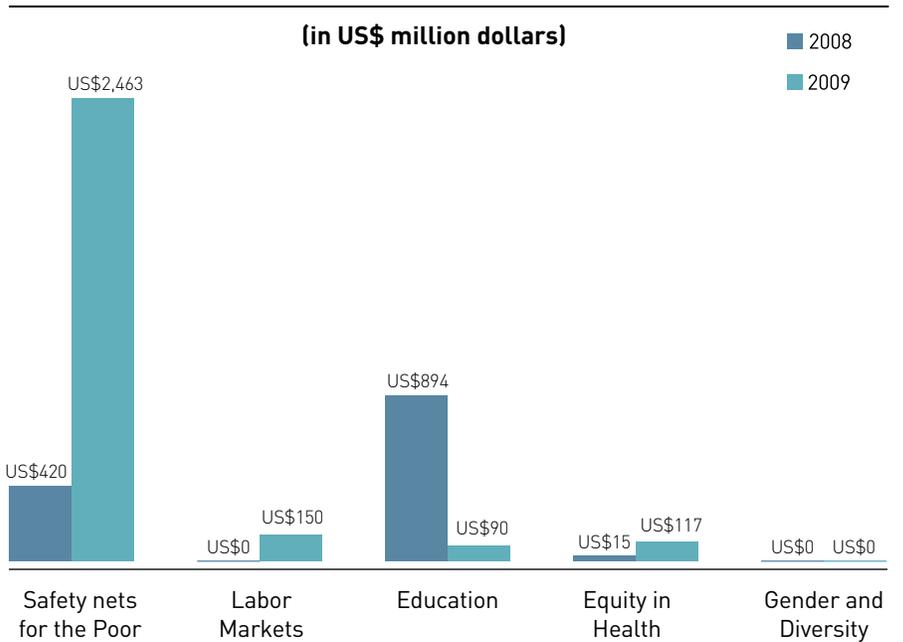


FIG. 16
Total Financing by Sector



Safety nets have played an important role in poverty-reduction strategies throughout Latin America. Building on Conditional Cash Transfer (CCTs) programs the IDB has aided in structuring social safety nets that include the rationalization of social programs and that need to promote social protection without hindering productivity. The challenge is not only to reach the homes of 200 million impoverished people and provide them with basic services, but also to promote policies to improve the quality of those services so that future generations are able to escape poverty. In 2008 and 2009 the Bank approved projects with components related to safety nets in Argentina, Brazil, Colombia, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua and Peru to the amount of US\$2.8 billion⁴.

FIG. 17
Project Components by Sector. 2008-2009

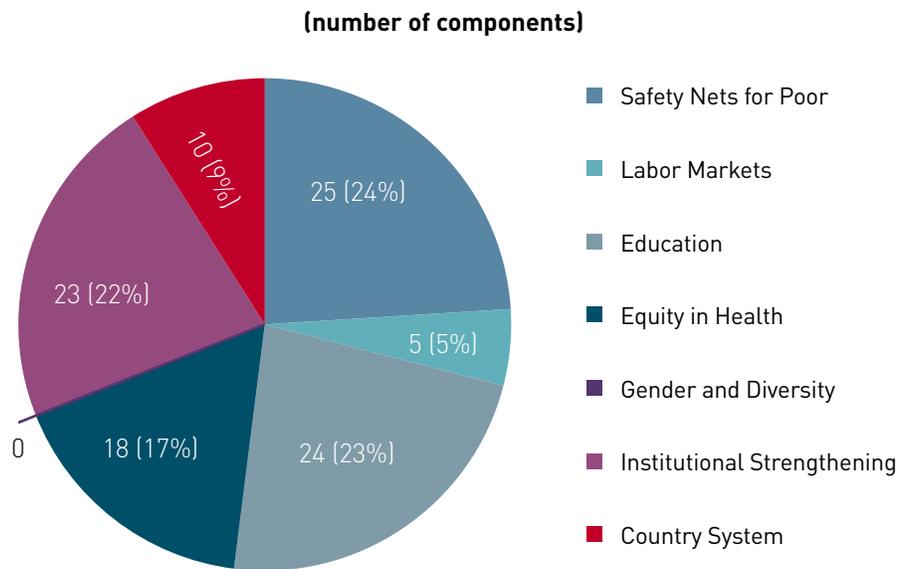
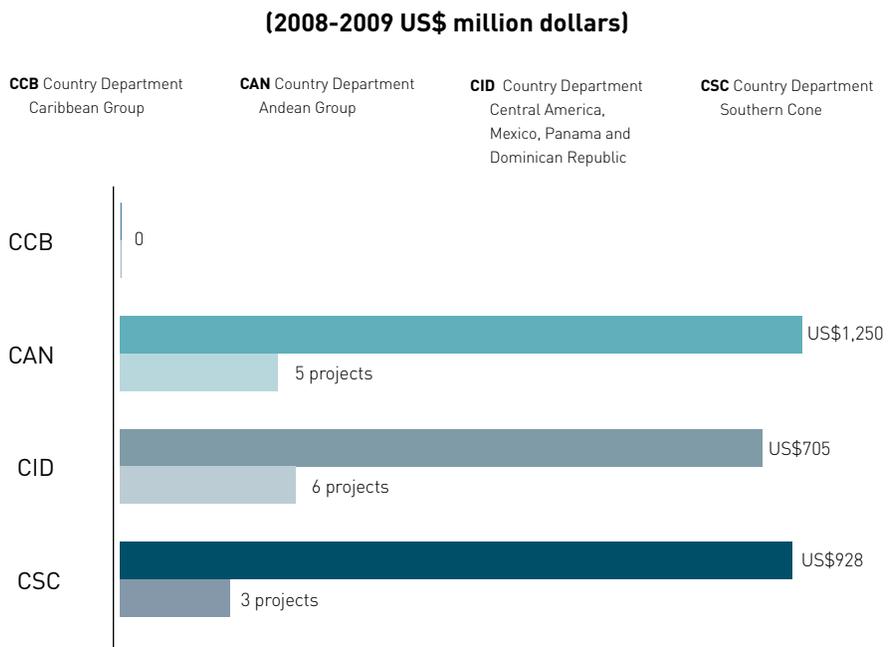


FIG. 18
Safety Nets for the Poor. Regional Distribution



⁴ AR-L1098, BR-L1053, BR-L1122, CO-L1026, DR-L1039, DR-L1043, ES-L1030, ES-L1040, GU-L1017, HO-L1032, ME-L1039, ME-L1052, ME-L1067, NI0155 and PE-L1072

Recent literature from the Organization for Economic Cooperation and Development (OECD) highlights the importance of life-long learning and suggests a life-cycle approach to education. Consistent with this view, the IDB has emphasized the early stages of education and the transition from school to work, where the greatest gaps exist in the region. Additionally, it has concentrated its efforts on promoting quality across all levels. Ten projects were approved in Argentina, Belize, Guatemala, Jamaica, Haiti, Mexico, Trinidad and Tobago and Uruguay for US\$984 million⁵ (see figures 19 and 20).

To promote adequate nutrition and health among the poorest in the region, the IDB has invested heavily in these areas. This has been done through components in several of the safety-net operations, as well as with stand alone projects in Bolivia, Brazil, Guyana, Haiti, Mexico and Peru, with financing reaching more than US\$119 million⁶.

In 2009 the Labor Markets Unit was created within the Social Sector Department, charged with developing a comprehensive policy agenda to improve the functioning of labor markets in terms of their capacity to foster the growth of

⁵ AR-L1038, AR-L1043, BL-L1004, BR-L1053, BR-L1122, GU-L1023, HÁ-L1040, JÁ-L1002, JÁ-L1005, JÁ-L1021, ME-L1039, NI0155, TT-L1005 and UR-L1058

⁶ BO-L1032, BR-L1177, GY-L1028, HA-L1042, ME-L1066 and PE-L1005

FIG. 19
Education Regional Distribution. 2008-2009

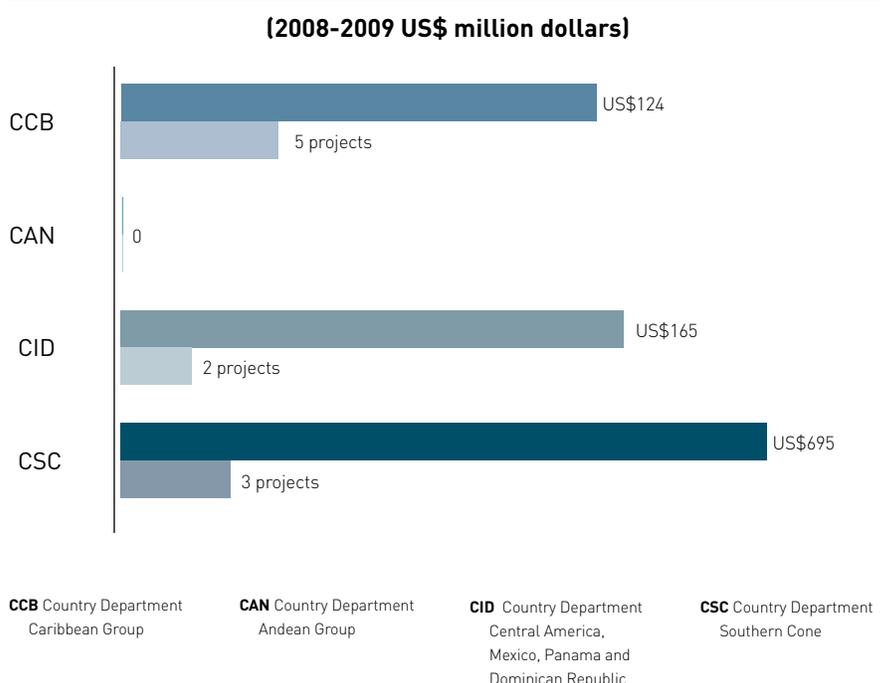
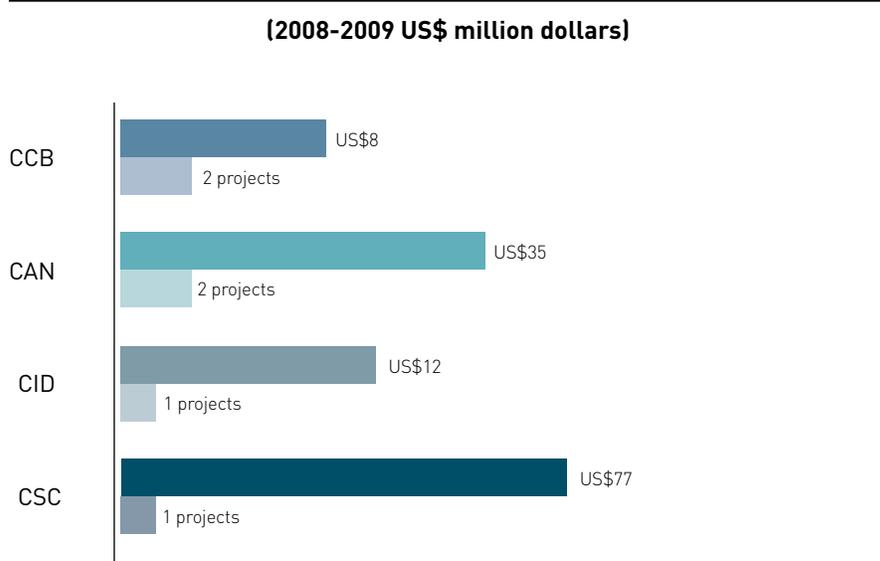


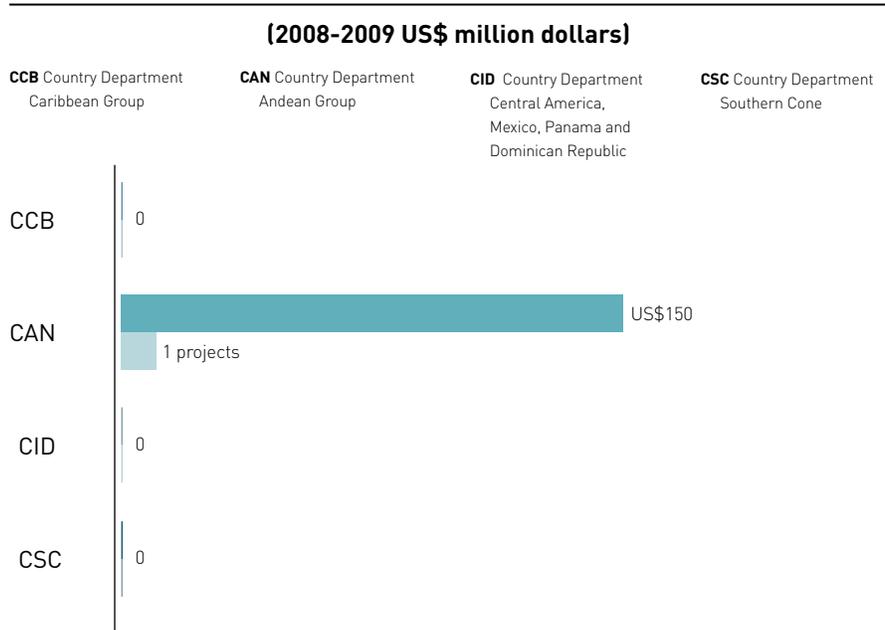
FIG. 20
Equity in Health Regional Distribution



productive employment. The IDB has significant experience in working in labor markets, particularly through active labor market policies (labor market intermediation and information systems, training of unemployed workers, training in SMEs). The goal of the new unit, however, is to address structural features of the labor market such as informality, unemployment protection and the reform of vocational-training systems. It also aims to promote labor-market reforms and institutions that focus on the protection of workers in lieu of jobs, as an incentive to job creation (see figure 21).

Although projects designed in the new in Labor Markets Unit were meant to follow after a two-year period of solid policy research and dialogue, the financial crisis that unraveled in 2008 and 2009 has posed urgent policy demands on the IDB, which in turn has responded by promoting a set of coherent short- and medium-term policies within its active portfolio [on-the-job training, intermediation and temporary employment programs] and by engaging in policy dialogue⁷. In 2009, the IDB approved a project with labor market-related components in Mexico for an amount of US\$150 million⁸.

Fig. 21
Labor Market Regional Distribution



The remainder of this chapter examines key IDB interventions in the areas of safety nets, education and health, and the empirical evidence available in the literature on the effectiveness of those interventions.

SOCIAL PROTECTION THROUGH CONDITIONAL CASH TRANSFERS

Conditional Cash Transfers (CCTs) are aimed at contributing to halting the transmission of poverty from one generation to the next by providing the poorest households

with cash incentives to send their children to school and ensure that they receive adequate healthcare. Direct cash transfers to such households give the children a chance of accumulating human capital and escaping poverty in a sustainable way, while easing the household's current poverty.

After more than a decade of implementation CCTs have become an efficient tool with which to fight future and current poverty.⁹ The mechanism of these programs is straightforward: households re-

⁷ These policies were outlined in the IDB publication *Social and Labor Market Policies for Tumultuous Times* (2009).

⁸ ME-L1084

⁹ It is important to consider that previous programs with the same objectives were largely based on generalized subsidies or in-kind distribution of goods that created distortions and inefficiencies, and those programs were rarely evaluated. So, the transparency of CCTs in terms of the logic of how they are supposed to work, and on their results, is by and large a significant improvement (see Levy, 2008).

ceive cash transfers as long as they fulfill certain conditions that are designed to increase the human capital of their youngest members (visiting health centers, taking nutrition supplements, attending school).

The basic notion behind CCTs is that the cash transfer is justified since it is usually lack of income that prevents poor households from sending their children to school and taking them for health care visits. However, the rationale for the *conditional* component of CCT is not as obvious, as from an economics perspective households are in the best position to optimize their behavior, and if the binding constraint to sending their kids to school is lack of income, then the cash transfer alone would solve the problem. Several arguments have been made in favor of such conditionalities,¹⁰ in the sense that poor households have incomplete information on the returns to schooling, and/or that their discount rate could be too high, leading to underinvestment in human capital. Also, traditional externalities to the returns to health and education may result in social benefits being higher than private benefits, which could also justify the use of conditionalities. Finally, political economy considerations may explain the use of conditionalities, as transfers tend to be more acceptable to the upper and middle classes when there is a notion that the beneficiaries are taking actions to justify the receipt of public funds. There is some evidence that unconditional cash transfers also have

positive effects, although not as strong as CCTs, and also that conditionalities may have an effect even if they are not enforced.¹¹ This is an area of ongoing research that will have important implications for the specifics of CCTs, as clearly conditionalities (also known as co-responsibilities) need to be pertinent and relevant to each particular context.¹²

The Bank has been a pioneer in the support of CCTs which have been widely and rigorously evaluated, in many cases through randomized control-trials producing clear and credible evidence of positive results.¹³ Consumption has increased due to the transfers and poverty has fallen accordingly (both in its prevalence and its intensity); in general results correlate with the size of the transfers.¹⁴ Household behavioral responses have reinforced some positive features of CCTs: transfers have not had a negative impact on the adult labor supply, child labor has decreased and consumption patterns have changed, presumably as a result of empowering women and changing their bargaining power within households. School enrollment has increased consistently across settings, with variations depending on initial enrollment levels and the size of the transfers (for example in Colombia it increased by 2% from a baseline of 92%, while in Nicaragua the baseline was 72% and the increase was of 13%¹⁵). Access to health has also increased, although not as consistently as in education. Overall, children of beneficiary households are checked by medical professionals

¹⁰ A recent literature review of the economics behind CCTs is provided in Chapter 2 of Fizbein and Schady (2009).

¹¹ Davis et al. (2005) compare an unconditional cash transfer program in Mexico, PROCAMPO, with the CCTs and find that the former also has positive albeit smaller impacts on human capital accumulation in poor households. Fizbein and Schady (2009) review papers that show that the notion of conditionality, even if it was not enforced, was enough to generate positive results.

¹² Clearly, requiring kids to attend school in Argentina where they already do so and in Haiti where there are not enough schools for them to attend does not make sense. As discussed below in this chapter, this issue has been evident when expanding CCTs to urban areas.

¹³ There is ample evidence on the impacts of CCTs, most of it based on rigorous experimental designs. A recent review with evidence from various countries within and outside LAC is provided by Fizbein and Schady (2009); see also Levy (2008) for Mexico, Madeiros, Britto and Soares (2008) for Brazil and Attanasio et al. (2006a) for Colombia.

¹⁴ In this sense, in CCTs “you get what you pay for” as the positive impacts are larger in countries where the transfers represent a larger share of household income.

¹⁵ See Attanasio et al. (2006b) for Colombia –*Familias en Acción*– and Maluccio and Flores (2005) for Nicaragua –*Red de Protección Social*.

more often and have higher vaccination rates than children whose families are not beneficiaries.

However, when looking at the impact of CCTs on ultimate health and education outcomes (achievement and cognitive development rather than school enrollment, child height-for-age rather than growth monitoring) the results are not consistently positive.¹⁶ In Mexico, for example, Parker and Behrman (2009) analyzed the impacts on educational attainment and standardized tests of long-term beneficiaries. They report an increase of less than one year of education (the range goes from 0.41 to 0.90 depending on the specific samples, age group and gender being analyzed) which with a base of about 8.2 years of education represents an increase of 4.9-10.5%. They also report significant impact on secondary completion and high-school enrollment rates for those aged 19-20 in 2007, of 29% and 26.5%, respectively. The impact on secondary completion is higher for girls than for boys, and high-school enrollment only holds for boys. Not surprisingly, there is no impact on college enrollment where the baseline was 2%. In terms of achievement, they revisit the 2003 data and show that there is only a significant impact on writing skills for girls aged 17-21 (of 5%). With 2007 data they find a 5.4% impact on math for those 19-20 and for girls. Overall, the results in terms of achievement are well below expectations.¹⁷ On a positive note, some evaluations in Ecuador and Nicaragua suggest that there are significant impacts in cognitive development when benefits are received in the first years of life, which con-

trasts with the analysis from Mexico where the sample studied consisted of those that started on the program when they were already enrolled in school.

Clearly CCTs alone are not enough to solve the education gap in terms of quantity and quality. Indeed, it is important to stress that they were not designed to be a “magic bullet”, rather they were meant to increase demand, in which they have succeeded. CCTs are being refined to maximize their impact on the accumulation of education,¹⁸ but complementary policies are required to improve school quality.

The Bank has recently financed a second generation of CCTs, addressing a new set of challenges, such as the move from rural to urban settings. Urban poverty differs from rural poverty, so the mechanisms through which CCTs work need to be reexamined.¹⁹ Targeting in urban areas has proven more difficult than in rural areas, as urban income poverty is very dynamic and the urban poor are more mobile and live in mixed neighborhoods. Family structures are different, with a higher share of single-parent families and smaller family networks. Also, school enrollment is higher in urban areas so the need for educational incentives in the early years is even lower than in rural settings. At the same time, opportunity costs are larger in urban areas, not only for older kids that can work for relatively higher wages, but also because of the time needed to fulfill the conditionalities. Overall, take-up has been slower in urban areas due to the difficulty in

¹⁶ See Fizbein and Schady, *op cit*.

¹⁷ In another evaluation, Mancera et al. (2009) report results from a preliminary evaluation that only includes data on test scores, and not on other data such as director and teacher questionnaires, socio-demographics, and inputs that are important when analyzing educational achievement. With these caveats, the results they present show that beneficiaries have lower achievement than nonbeneficiaries in similar schools, that indigenous beneficiaries have lower results than non-indigenous beneficiaries, and that the girl beneficiaries perform better in tests than boys. More than 30% of beneficiaries do not have basic language skills when they complete primary, and 55% of the beneficiaries that complete secondary education in the TV-based system lack basic language and reading comprehension skills. The results of this evaluation present a dismal situation that emphasizes the need for complementary public interventions to increase the quality of education. Having improved in terms of access to schooling, it is necessary to improve outcomes. Unless this happens, it is unlikely that the extra education that beneficiaries are achieving will have major impacts on their labor-market performance.

¹⁸ The structure of educational incentives has been subject to scrutiny, as it is argued that high enrollment rates in the first years of primary, pre-CCTs, do not justify transfer in those early grades, while high drop-out rates in key transition grades suggest that higher subsidies may be needed at those stages. These are some of the innovations currently being implemented and tested in several countries, for example in Colombia and Mexico.

¹⁹ What follows on the challenges for urban CCTs is based on Johansen et al. (2009) and on Ribe et al. (2008)

reaching intended beneficiaries, to other competing social programs and higher opportunity costs.

The Bank has worked with project teams in Mexico and Colombia (and is starting to do so in other countries such as El Salvador and Ecuador) in order to develop and test new approaches to reach the urban poor and having an impact on the accumulation of human capital of youngsters in those households. There is an operative research agenda that, through innovations and evaluations, will answer some of the most pressing questions concerning urban CCTs. The following are all currently being piloted: modified amounts in educational support transfers; payment mechanisms via debit cards; geographic targeting; modified nutrition strategies specific to health issues in urban areas (where obesity coexists with undernutrition); modified health package and delivery strategies; and modification of the contents of educational talks.²⁰

The Bank is also testing some potentially positive externalities of CCTs, for example by using the payment mechanisms of the transfers to promote financial inclusion of the poor.²¹ If by promoting access to formal financial institutions CCTs are able to contribute to increasing the income-generating capacity of poor households, their overall impact in reducing poverty will be maximized.²² These are promising potential supplements to the core objectives of CCTs that need to be verified, and pursuing them should not constitute a distraction from the core objective of CCTs.



Another common feature of recent CCTs (present in some of the original projects and a finding in many evaluations) is the recognition that low levels of usage of education and health services are due not only to low demand but also to scarce and low-quality supply. Hence, several recent projects include components aimed at strengthening the supply of services to meet the demand generated by the cash transfers. Additionally, projects that focus on health and education (examined below) also contribute to an improvement in the quality and quantity of the supply

²⁰ Also, recent CCTs include institutional-strengthening components at the country level, in the form of improving targeting mechanisms and coordination arrangements between the different government ministries and agencies involved in these projects that are, by definition, multi-sectoral. In El Salvador, Guatemala and the Dominican Republic the IDB has promoted the necessary dialogue between key social-sector ministries, thus helping to address coordination failures that are present in many development projects. Coordination failures have been identified in economic theory and analyzed as a market failure that needs to be addressed; coordination among public agencies is also a concern in the region, one in which the IDB has played an important role. See, for example, the OVE's Country Program Evaluation for Chile (RE-320).

²¹ See Francke y Cruzado (2009) and Tejerina and Westley (2007) for a discussion on the possibilities of using CCTs to promote financial inclusion.

²² Gertler, Martinez and Rubio (2006) argue that transfers from the OPORTUNIDADES program to households in rural Mexico resulted in increased investment in microenterprise and agricultural activities. These results suggest that cash transfers to the poor may raise long-term living standards, which are maintained after program benefits end. Recent studies have not been able to show persistence of these results, so this is an area that current and future evaluations need to work on.

of these core public services. This may be an important step in strengthening the quality and quantity of services available to the poor. To test the impacts of comprehensive approaches, including institutional coordination among different line ministries involved in the operation of CCTs and improved targeting mechanisms, evaluations need to link households with schools, clinics and other relevant administrative units, in order to verify that the comprehensive approaches achieve greater impact using multi-treatment and dosage-effect techniques.²³

CCTs have generated additional positive results, such as showing the need to improve health and education services; promoting the use of targeting mechanisms²⁴ in other social programs; and prompting the rationalizing of social programs (replacing ineffective and distortionary subsidies was at the heart of the Mexican CCT and has also occurred in Brazil, Ecuador, the Dominican Republic and El Salvador).

However, it is important to stress that CCTs should not be the sole element of a social protection system. They have one clear objective: to increase the accumulation of human capital in children of poor households. They are not designed to provide aid to poor households without children, or to increase the income-generating capacity of poor households. Nor are they meant to help households deal with other social problems such as unemployment, catastrophic health expenditures, or the myriad of

issues that affect youth-at-risk, particularly in urban areas. These, of course, are important issues that need to be dealt with. The challenge for the Bank is to consolidate the support, expansion and increased efficiency of CCTs, while developing innovative ways to deal with other challenges in the area of social protection.

EDUCATION

Education is central to the income-generating capacity of most adults in the labor market. In recent years LAC has achieved high levels of enrollment in primary education. According to United Nations Children's Fund (UNICEF), the latest net primary-school enrolment ratio for the region is 95% for girls and boys alike. Although some countries still need to make primary education available to all children, the more daunting challenge lies in access to pre- and post-primary education, and in increasing the quality of education at all levels. Inequality in education goes a long way to explaining income inequality in general and labor-income inequality in particular. Providing high-quality education to everyone, and in particular to the poor, is therefore a logical way to increase incomes and reduce inequality.

In this setting, the IDB has organized its engagement in education around three core areas: Early Childhood Development (ECD)²⁵, teacher quality and school-to-work transition.²⁶ Detailed below are several strategic

²³ For examples modeling multi-treatment and dosage effects, see Ibarraán, Sarzosa and Soares (2008) and Ruprah and Marcano (2007).

²⁴ For example, the assumption behind CCTs is that once children from poor households grow and try to join the labor force, they will be able to deploy the human capital they have accumulated (in part due to the program) and generate sufficient labor income to escape poverty. For this to hold, the overall economy needs to be growing and, perhaps as importantly, labor markets, institutions and regulations should promote the creation of high-productivity jobs for the poor. This is indeed a major challenge for the region, and the IDB has contributed with substantive analytical work through the flagship publications of the Research Department that focused on labor markets (2004, *Good Jobs Wanted*), and productivity (2010, *Productivity in Latin America*).

²⁵ During the 2008-2009 period the Education division approved three loans with components with ECD objectives, two of them coupled with infrastructure projects that would enhance the supply of preschool services. A third project focused on increasing access to quality early-childhood care and education services for three and four-year-old children from disadvantaged families through government, government-assisted and private initiatives/partnerships.

²⁶ Although education and learning have intrinsic value, from a social perspective the returns to education are measured by the ability of more educated individuals to achieve higher levels of well-being, in particular higher income and healthier lives. In this sense, the dismal performance of youngsters of poor households after they complete their formal education and join the labor market is a cause of deep concern. The purpose of the emphasis on school-to-work transition from an education perspective is precisely to understand the determinants of a successful transition, particularly for those that do not complete higher education and are entering labor markets with an ever-increasing demand for more skilled workers. A systematic analysis of the skills that characterize good jobs and the skills typically acquired by students in the formal education system will generate evidence of mismatches and suggest policies to subdue them; the Education division has proposed a thorough research agenda on these specific issues.

projects in which the Bank is testing relevant hypotheses that eventually will provide policy makers with the key elements required to design and implement high-impact projects.

1. PAININ²⁷: More than a decade working in Early Childhood Education in Nicaragua

PAININ is a comprehensive child-care program first implemented in 1996 with support from the Bank. It introduced an innovative and comprehensive ECD model in Nicaragua that consolidated services previously provided separately (e.g., preschool education; weighing and referral/counter-referrals to the health-care system) and integrated them with new services (e.g., early-childhood education), for children under the age of six. PAININ largely meets criteria associated with effective ECD programs as it provides services directly to children and parents, targets disadvantaged and young children, and integrates early stimulation with nutrition supplements and health referrals (Engle et al. 2007).

The PAININ delivery model was evaluated at the end of the program's first phase in 1999 (Arcia et al., 1999; Zúñiga, 2001). A positive effect on the growth and development of children in the program was documented. When compared with a control group, nutritional deficiencies in beneficiary children dropped by 80%. The percentage of children with severe malnutrition declined from 5.6% to 1.4%, while the share of PAININ children on the at-risk threshold declined by 13.8%. Improvements in child-rearing practices were also measured, with the percentage of beneficiary parents indicating that they played with their children or went for walks with them increasing by four points over the control group. Unforeseen positive effects were also noted; for example, net enrollment in primary schools in beneficiary areas increased due to local efforts to refer children to the school system and to increase

the number of children registered on the civil record.

During its second phase PAININ implemented a number of new policies, including improved targeting protocols and protocols for the oversight and promotion of children's growth; performance-based payment mechanisms for service providers; testing and consolidation of the mobile early-education system for remote rural areas; development of a monitoring and evaluation system containing records of all beneficiaries; and implementation of a graduate program in comprehensive child care. The results of the impact evaluation of PAININ II showed a net increase of 42.7 percentage points in the attendance rate in early education programs (ages 0-6) when compared to children in the control-group communities. There was also a net increase of 13.3 percentage points in preschool education attendance, and a net increase of 17.7 percentage points in first grade enrollment of six-year-olds who completed PAININ. In health care, there was a net increase of approximately 13 percentage points in prenatal examinations during the first trimester.

Although the evaluation of PAININ II revealed significant and positive impacts, particularly with regard to the use of education services, it also identified areas for further improvement. Foremost among these was the continued high level of anemia in beneficiary children and pregnant and lactating women. In response to evidence from various countries, PAININ III will replace food packages with nutritional supplements for children between six and thirty-six months, and for pregnant and lactating women. Following widely-documented best practices in the region, the nutritional supplements will be provided in the form of sprinkles. The impact of these supplements is expected to be significant and to have measurable effects on the levels of anemia in the beneficiary group.

²⁷ PAININ is the Programa de Atención Integral a la Niñez Nicaragüense. See Verdisco et al. (2007) for an overview of PAININ.



At the time PAININ III was being prepared, it was estimated that over 181,000 children were not attending preschool. The expansion of preschool thus figured prominently among the objectives of the program's third phase. Another adjustment was the introduction of a set of instruments designed for children with special needs, with a specific target of attending approximately 3,000 children with special needs.

PAININ is a good example of how impact evaluations can be used to improve the design and results of programs,²⁸ emphasizing both the broadest development impacts as well as highlighting concrete operational issues, something that is largely shared with the impact evaluations of CCTs. Clearly the IDB needs to

maintain the rigorous evaluation feature of PAININ in order to verify the challenges identified during previous phases, and to measure and enhance the overall development effectiveness of ECD interventions.

2. Departing from chalk and talk: experimental mathematics and science education in Argentina²⁹

In response to low achievement in science and mathematics, the Ministry of Education and the IDB are collaborating in the implementation of a pilot project to generate knowledge about pedagogical approaches that work in the delivery of mathematics and natural science

²⁸ The quintessential example is *Oportunidades*, where the evaluation agenda includes quantitative, qualitative and operational evaluations on a regular basis. PAININ is highlighted here precisely to show that in poorer countries with fewer institutional capabilities this is also the case.

²⁹ The description of this innovation is based on Näsland-Hasley et al., 2009.

ce education. The pilot seeks to identify pedagogical models to improve learning among students from the lowest socioeconomic strata. Prior to joining this initiative, schools used a highly-structured learning approach with lessons followed by all students at the same time.

Through the pilot, three guided inquiry-based models were tested in two Argentine provinces during the 2009 academic year³⁰ characterized by scientific reasoning, experimentation, group work and dialogue, and constituting a sharp departure from teacher-lead demonstrations and a simple transmission of concepts. Two were aimed at improving natural science education and the third took play-based mathematics approach. The three pedagogical models were tested through an experimental evaluation: schools were randomly assigned to either one of the treatment groups (PAC, CTC and Mathematics for All) or to the control group that receives the standard program in natural science and mathematics.

The evaluation has a quantitative and a qualitative component and considers a wide range of parameters including: (i) the effectiveness of the two teaching models in improving achievement; (ii) the teaching environment, including classroom dynamics and gender relationships among student groups; (iii) the teachers' subjective representations concerning the students' learning capacity; (iv) the teachers' subject area and pedagogical knowledge; and (v) the models' sustainability in terms of the cost of expanding them to the national level and the durability of pedagogical inputs.

The impact on learning is measured by a standardized test that was administered in March 2009 before the initiation of the pilot and was repeated again by the end of the pilot in December 2009. The test was designed to measure learning in mathematics and natural science with respect to the fourth grade curriculum, and includes both multiple choice and open-ended questions. The qualitative evaluation consists 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 teacher, principal and student surveys, interviews and classroom observation.

Besides providing the values against which the effect of the pedagogical models will be measured, the baseline data offer important information about the study population. The results from the baseline begin to paint a picture of what may be some of the problems with mathematics and natural science education at the primary level. Perhaps most importantly, teachers lack content knowledge and interest in teaching both subjects. At the same time, in mathematics, students are perceived as lacking interest and have problems focusing on the task. In natural science, students are described as interested, but still have an inability to focus on the task. Parents are perceived to lack interest in their children's education. In the face of the imposing demands of the global economy, recognizing this wide spectrum of weaknesses in mathematics and natural science education and identifying models to improve learning may help equip educators and students to answer the challenges ahead.

³⁰ The Natural Science models are *Ciencia y Tecnología con Creatividad* (CTC) and the *Programa de Alfabetización Científica* (PAC). Both aim to build knowledge through guided experiments. The CTC has been developed by Sangari Brazil for implementation under the less than optimal circumstances that often characterize education in developing countries, including limited pedagogical and content knowledge of teachers. It offers teachers an integrated package, including materials for experiments, teacher and student guides for each subject area, and step-by-step guidance. Teachers do not plan their own lessons, but receive constant tutor instructions on how to carry out each set of lessons. PAC gives the teacher a more prominent role, as it is not a set of predetermined lessons, but rather a framework that attempts to show how essential skills (scientific reasoning and sense making) can be integrated into primary-level natural-science education. The model offers numerous examples of how reasoning and sense making may be used in the classroom, but it does not provide the teacher with a step-by-step guide for each lesson. The teacher has to plan his or her lessons, and is required to research and identify appropriate texts (from newspapers to academic literature) that can be integrated into the lessons. This model requires more solid pedagogical foundation skills and hence a more rigorous initial teacher training. Mathematics for All is a play-based pedagogical approach that aims to give meaning to mathematics. Rather than teaching students to carry out complex procedures, the focus is on what the students can do with their mathematical knowledge. The model builds on children's natural proclivity to play, linking educational content to the rules of games such as lotteries, bingo, cards, addition and multiplication grids, and money counting. Students are encouraged to develop their own problem-solving strategies, justify their ideas and accept suggestions and critique from their peers.

3. Improving the quality of education in multi-grade single-teacher schools in rural areas with better teachers: Community Education in Rural Mexico

In many of Mexico's smallest, poorest and most remote communities, public education is not provided through the regular system managed by the Secretaría de Educación Pública (SEP) but rather through multi-grade single-teacher schools managed by Consejo Nacional de Fomento Educativo (CONAFE). Teachers at these schools are youngsters (mostly females under the age of twenty) that have completed their secondary education and elected to work with CONAFE for up to two years for a modest stipend and a grant to continue their education.

Although in relative terms the standardized tests show that students in these schools have similar levels of achievement to those in formal schools in rural areas, in absolute terms the results clearly show that improving the quality of education is still a key challenge. There is a growing literature in Mexico and elsewhere that shows that teachers play a central role in education, and although specific evidence for CONAFE is lacking, it is likely that in these schools the marginal impact of teacher quality is even larger (given the lack or low level of other inputs). This is supported by data regarding the high teacher drop-out rate within the school year and some deep concerns about the overall quality of teachers. With the IDB, CONAFE is trying out mechanisms to attract and retain better teachers, and an impact evaluation has been outlined that needs to be developed and implemented in order to generate evidence on the relative importance of teacher quality and on the effectiveness of the new incentive mechanisms.

HEALTH AND NUTRITION

There are three strategic priorities related to health and nutrition in the Social Protection and Health division (SPH): (i) to reduce inequality and improve the health of the poor; (ii) to address the demographic and epidemiological transition; and (iii) to increase the efficiency and quality of health systems. The Bank has a wide range of health interventions. Many of them are not stand-alone projects but rather components that either increase the demand for health services through conditionalities in CCTs or through education mechanisms, or that aim at strengthening the supply of health services by providing infrastructure and equipment.

The first priority, which centers on enhancing equity in access and improving the health of the poor, was the most important in terms of size in 2008-2009. Recent interventions have centered on maternal and child care including the promotion of exclusive breastfeeding during the first six months; nutrition strategies through policies and supplements; anemia; and the combating of neglected tropical diseases and other infectious diseases. These interventions have solid empirical evidence to support their efficacy, and the challenge is to implement them successfully and to measure their effectiveness in the LAC context.

For the poorest populations in the region, undernutrition is a common problem that has long-term health and development consequences. The nutrition component within CCT has been extensively examined,³¹ and lessons from rigorous impact evaluations have been incorporated into subsequent operations in order to enhance the benefits from these interventions. For example, when studies showed that food supplementation was more efficient through sprinkles than through other means such as tablets, syrup or fortified milk, the implementation changed to take this into account.³²

³¹ See Hoddinott and Bassett (2008) and Le Roy et al. (2009).

³² See Garcia-Guerra et al. (2008). This issue has been further analyzed through randomized control trials by the Mexican *Instituto Nacional de Salud Pública* (INSP) with the support of the IDB. "Efficacy of 3 Nutritional Supplements to Improve Diverse Outcomes in Children Under 2 Years of Age and Pregnant Women". See <http://clinicaltrials.gov/ct2/show/NCT00531674>.

Low nutrition is not only due to low levels of micro-nutrient ingestion, in itself a major concern, but also to high rates of intestinal and parasite infections. Helminth (or worm) infections are a common and serious concern due to the high morbidity rates they cause. Based on rigorous evidence on the best way to reduce infection rates, the IDB has financed deworming campaigns through the use of albendazole and has installed epidemiological surveillance mechanisms to track results. While the efficacy of these interventions has been tested, the implementation in specific contexts and the interactions with other key variables mean that results need to be monitored in order to validate efficacy and measure efficiency. In Haiti the Bank designed and financed a study to analyze the prevalence and determinants of soil-transmitted helminths, and to assess iodine deficiency levels. This will also serve as a baseline for the Child Health Weeks that will be financed in 2010.

A prominent example of the increasing emphasis on health interventions that promote equity is the recently approved Mesoamerican Health Initiative (MHI). By mobilizing resources from private donors, the initiative aims to help close the gap in health indicators for the most disadvantaged populations of Mesoamerica in the following areas: maternal and neonatal health, immunization, nutrition and vectors. The initiative is outcome-driven and will be characterized by promoting the use of results-based financing, a promising delivery mechanism which has been used extensively in health interventions.³³ The MHI will fund interventions of proven efficacy, for which evidence exists of their track records in improving health outcomes.³⁴ Outcome monitoring and impact evaluation will be

used to verify that their implementation in the target population (the poorest 20% of the population in Mesoamerica) also produces the desired results in a cost-efficient way. The effectiveness of the delivery mechanisms also will be assessed.

The Social Protection and Health division is also working on policies for the prevention and management of chronic diseases, developing specific operational knowledge to address the increasing prevalence of Noncommunicable Diseases (NCDs) that affect countries as they go through demographic and epidemiological transitions.³⁵ In this sense, LAC as a region faces the joint challenge of addressing NCDs that are common in relatively developed countries (diabetes, cancer, cardiovascular and chronic respiratory diseases) along with those diseases afflicting poorer communities (like anemia and diarrhea). Specific approaches to preventing NCDs need to be incorporated in health strategies.

Given the growing role of the health sector in the region, the potential for an enduring contribution by the IDB is large. However, in order to meet this challenge it is important for the Bank to measure, document and learn from the effectiveness of its interventions. This is true in any sector, but it applies particularly to health, an area in which the Bank has been criticized in the past.³⁶

OTHER SOCIAL SECTOR POLICIES

Social policy is another area in which the IDB collaborates with countries in the region. In the last two years social-policy programs have been signed with

³³ For a discussion on results-based financing for health, see Eichler and Levine (2009).

³⁴ The MHI will fund interventions such as promotion nutritional supplementation during pregnancy, exclusive breastfeeding and vaccination for which there is ample evidence of efficacy. These interventions were defined by working groups formed by experts and lead by researchers from the Mexican *Instituto Nacional de Salud Pública* (INSP) as well as by health experts from the IDB and from the Bill and Melinda Gates Foundation.

³⁵ This was a recommendation of OVE's recent evaluation of the Health Sector (RE-324).

³⁶ OVE's review for 1995-2005 showed that the Bank followed a conceptually flawed model that had slim chances of achieving lasting effects.

Belize, Colombia, El Salvador, Guatemala and Peru, providing important financial support to central governments while aiming to maintain coverage and increase efficiency of social spending, particularly among the most vulnerable groups. While budget support has been evaluated as a positive development instrument,³⁷ the Bank needs to promote the use of public expenditure-tracking surveys in order to verify that social spending is in fact being protected. The efficiency of spending also should be assessed.

CONCLUSIONS

The IDB is supporting projects with strong evidence of development effectiveness as well as innovations that will generate new evidence in the near future on their effectiveness (CCT adaptations to urban areas, new mechanisms to provide health services for the poorest populations, novel ways of teaching math and science to low-income children). It has an ambitious research and evaluation agenda on improving CCTs (for example by testing different schemes for edu-

cational incentives in urban areas in Colombia and Mexico) and moving beyond CCTs for social protection (by strengthening targeting mechanisms and integrating supply policies to enhance the impacts of CCTs in countries where the Bank is financing such programs, and promoting the rationalization of social programs into coherent and more efficient social policies based on evidence being generated with support from the Bank in Peru).

The Bank is also working on, among other things, the design of labor policies to promote equity and productivity (recent labor market profiles prepared for several countries such as El Salvador and Honduras focused on these issues), school-to-work policies to improve labor-market insertion of graduates (including research of labor market insertion of young adults in Chile and Argentina, and evaluation of technical secondary education in Mexico), delivery mechanisms of health for the poor (the Mesoamerican Health Initiative will test and evaluate promising alternatives) ,and improving teacher quality.

³⁷ See the *Evaluation of General Budget Support* (2006), commissioned by the OECD- DAC Network on Development Evaluation and written by the International Development Department, School of Public Policy, University of Birmingham. Available at <http://www.oecd.org/dataoecd/42/38/36685401.pdf>



II
Chapter



Infrastructure for
Competitiveness and
Social Welfare

OVERVIEW

Economic growth in Latin America and the Caribbean has lagged behind other world regions largely because of limited productivity growth over the last few decades (Daude and Fernández-Arias, 2009). One key factor affecting productivity growth is social infrastructure (Blyde et al. 2006). Only competitive firms can create and sustain jobs with higher labor productivity, but these firms need to operate within a basic infrastructure to enhance their competitiveness in a globalized world.

Improved infrastructure is of particular benefit to poorer households, whose quality of life can increase immensely through greater access to public services and the economic opportunities that infrastructure provides. For this reason a key institutional priority of the IDB is to expand infrastructure investment, to help close the productivity gap and improve social welfare.

Within this institutional priority three areas were originally identified as priorities for investment: i) water and sanitation, ii) energy and iii) transport. A fourth area, iv) urban development, has been added, because of the clear links between infrastructure investment and improved living conditions for poor urban households. These four areas represent key fields in which public investment is justified given that there are large welfare effects from investments

such as water and sanitation, transportation, energy delivery, and urban upgrading; that improving social welfare is a key development objective; and that there is a potential for underinvestment by the private sector in key, high-risk and long-term industries like energy production.

As shown in figure 22 and 23, Bank activity has been strongest in

Transportation, whether measured by the number of projects approved or by Bank financing in 2008-2009. Bank activity in Water and Sanitation ranks second followed by Energy and Urban Development. When considered in terms of project components, Bank activity is strongest in terms of institutional strengthening as shown in Figure 24, reflecting the cross cutting nature of this type of component.

FIG. 22
Total Number of Projects by Sector

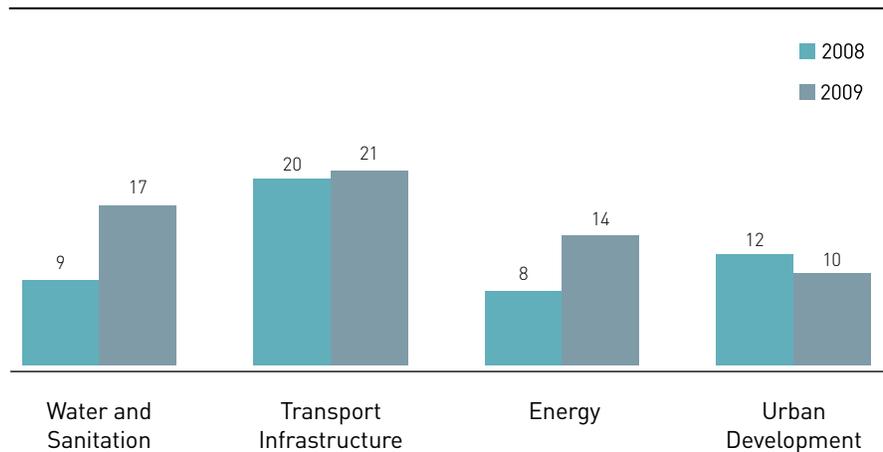


FIG. 23
Total Financing by Sector

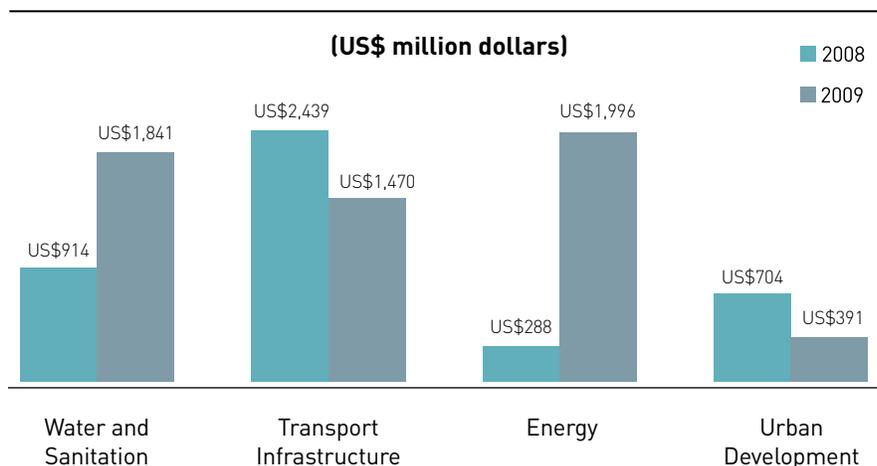
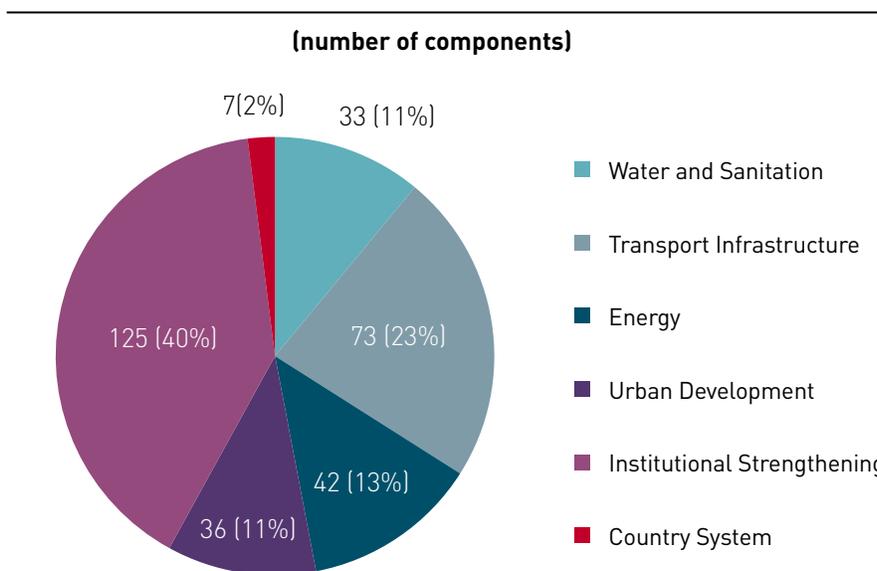


FIG. 24
Project Components by Sector

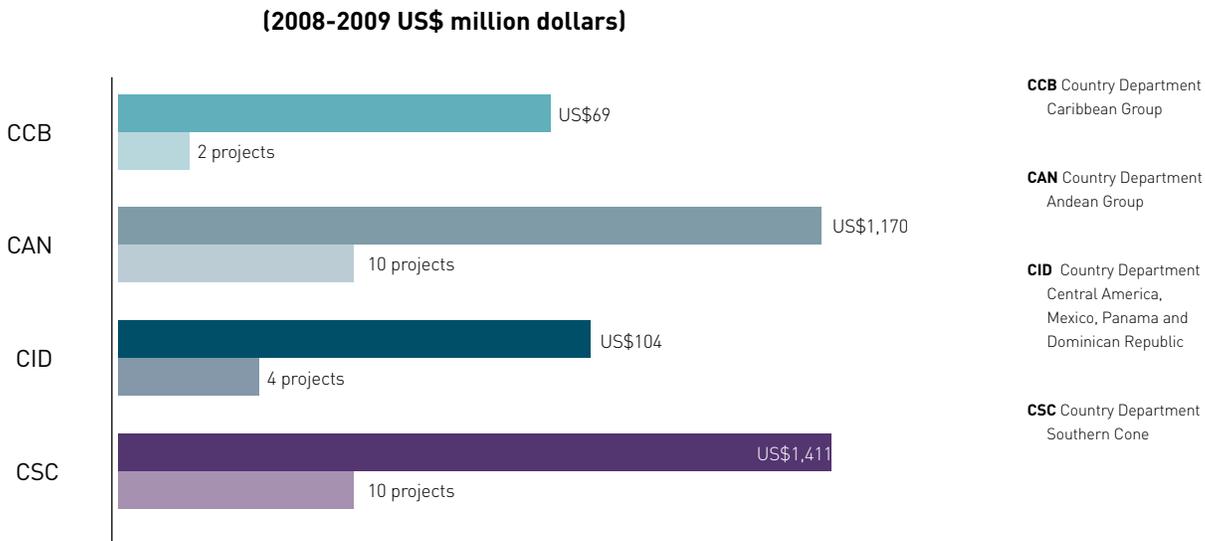


Water and sanitation are a priority area for investment since the region falls short of universal coverage in potable water by 172 million people and in sanitation services by 239 million people, most of whom are in the most vulnerable segments of the population. Greater access to water and sanitation improves human welfare, while the corresponding improvements in health and reduced time required to obtain potable water are likely to induce greater labor productivity. From 2008-09 the Bank financed twenty-five projects in water and sanitation in fourteen countries for a total of \$2.7 billion dollars³⁸.

³⁸ AR-L1080, BA-L1015, BL-L1006, BO-L1034, BR-L1006, BR-L1065, BR-L1158, BR-L1164, BR-L1166, BR-L1217, CH-L1026, CO-L1028, CO-L1034, CO-L1066, CO-L1079, GU-L1039, HA-L1039, NI-L1010, PE-L1040, PE-L1052, PE-L1057, PE-L1070, PE-L1077, PN-L1053, PR-L1022 and UR-L1017

FIG. 25

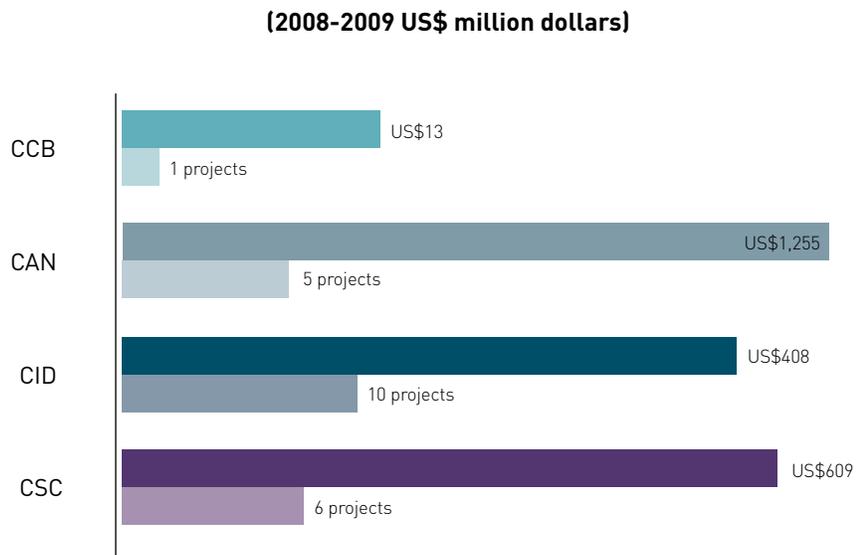
Water and Sanitation Regional Distribution



Access to sustainable sources of energy contributes to increasing labor and capital productivity and directly affects people's welfare. Investment in this area tends to be high cost and high risk and generally requires long-term planning, making it difficult for the private sector to invest in sufficient levels without some government support. The IDB financed twenty two energy projects in 2008-09 in thirteen countries, for a total of \$2.2 billion dollars³⁹.

Transportation is critical to improving productivity. Low transport costs bring huge benefits and dense transportation networks are crucial both for balanced regional development and in preventing the geographic isolation of entire communities. Inhabitants of rural areas need transportation to access social services such as health and education, and productive opportunities, including jobs and input and output markets. The IDB has financed forty-one projects in sixteen countries in the transport sector between 2008 and 2009, for a total of \$3.9 billion dollars⁴⁰ (See figure 27).

FIG. 26
Energy Regional Distribution



³⁹ AR-L1095, BO-L1022, BO-L1043, BR-L1028, BR-L1074, BR-L1192, BR-L1193, CH-L1056, DR-L1026, GU-L1018, HA-L1032, HO-L1019, ME-L1068, ME-L1076, NI-L1022, NI-L1036, PE-L1061, PN-L1031, PN-L1033, PN-L1054, VE-L1021 and VE-L1026

⁴⁰ AR-L1045, BH-L1024, BL-L1010, BO-L1031, BR-L1018, BR-L1031, BR-L1051, BR-L1079, BR-L1161, BR-L1162, BR-L1181, BR-L1228, BR-L1231, CH-L1052, CO-L1019, CO-L1022, CO-L1065, CO-L1076, CR-L1022, CR-L1023, CR-L1037, DR-L1030, EC-L1065, GY-L1027, HA-L1024, HA-L1028, HO-L1018, HO-L1033, JA-L1015, JA-L1016, JA-L1022, JA-L1027, NI-L1035, PE-L1069, PN-L1032, PR-L1019, SU-L1006, UR-L1004, UR-L1022, UR-L1025 and UR-L1054

FIG. 27
Transport Infrastructure Regional Distribution

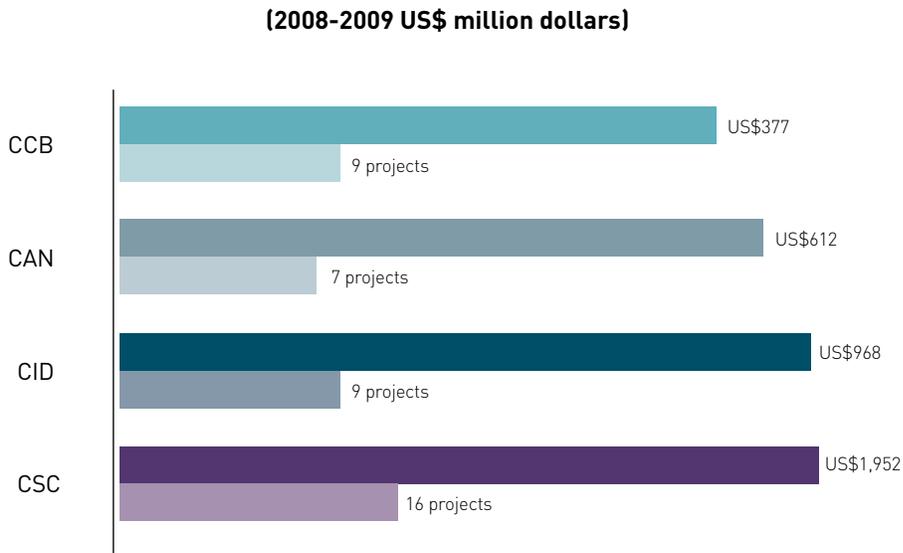
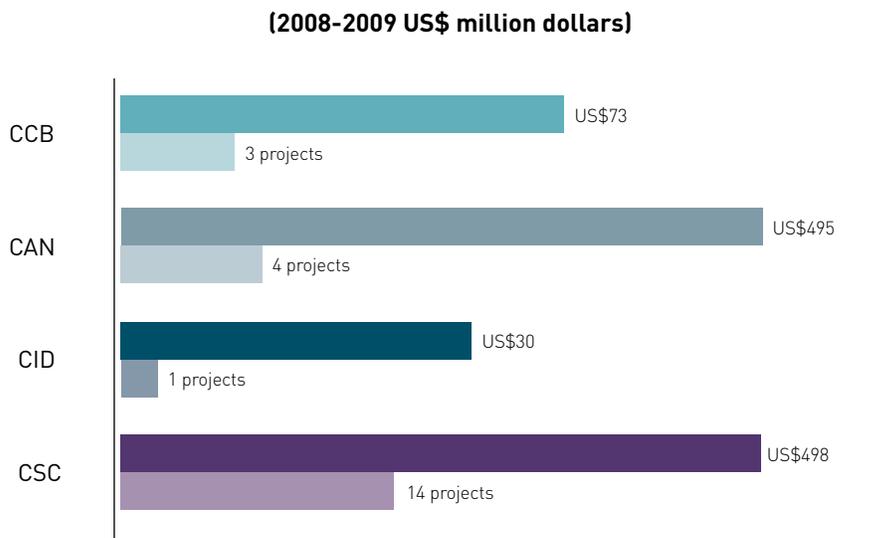


FIG. 28
Urban Development Regional Distribution



With rural-to-urban migration increasing steadily in the region, urban areas are having trouble providing sufficient levels of infrastructure to meet the expanding demand. Failure to address issues raised by this population shift creates the risk of a range of social ills, from abject poverty to increased insecurity. The IDB has financed twenty-two projects in ten countries in the urban development sector between 2008 and 2009, for a total of one billion dollars⁴¹.

⁴¹ BA-L1002, BO-L1038, BR-L1057, BR-L1077, BR-L1078, BR-L1083, BR-L1084, BR-L1085, BR-L1087, BR-L1088, BR-L1099, BR-L1104, BR-L1171, CH-L1032, CH-L1033, CO-L1018, EC-L1031, EC-L1074, GY-L1019, PN-L1002, SU-L1015 and UR-L1009

This chapter examines Bank interventions in the areas of water and sanitation, energy, transport and urban development, and the empirical evidence available in the literature on their effectiveness in achieving their intended results.



Water for 3,000 Rural Communities, which finances rural water and sanitation interventions

WATER AND SANITATION

The Water and Sanitation Initiative (WSI), was developed in 2007 to focus Bank activities on the key ingredients necessary to improve outcomes related to water and sanitation, such as improved health indicators related to water-borne diseases and reduced time spent obtaining water. The WSI grouped Bank activities into the following four clusters:



Water Defenders, which finances protection of water sources, decontamination and treatment of waste water

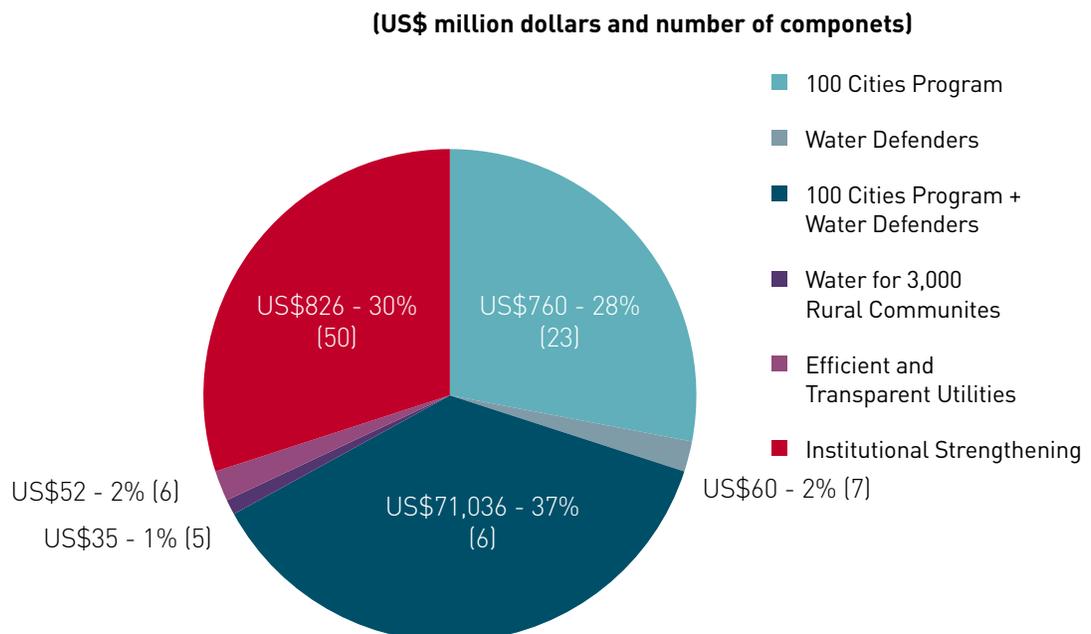


100 Cities Program, which finances water and sanitation interventions in cities of more than 50,000 people



Efficient and Transparent Utilities, which is geared toward strengthening water utility companies, and developing a performance-measuring system

FIG. 29
Project Components by WSA Priority Areas 2008-2009



100 Cities Program

The Bank approved 17 projects with at least one component supporting the 100 Cities Program, totaling US\$760 million (28 percent of total sector lending). Projects were located in highly-populated cities across the region, adding projects in 73 cities for 2008 and 2009. Projects included expansion of potable water supply systems in Haiti (US\$1 million)⁴², waste management in Chile (US\$150 million) and a new waste disposal facility in Belize (US\$9.6 million)⁴³, among others. Since urban and rural interventions focus on similar outcomes in terms of health and time savings, the effectiveness of these types of intervention are discussed in the next section.

Box 5

Water and Sanitation Program for the Municipio of Pasto (CO-L1028)

The Municipio of Pasto project in Colombia (US\$50 million) incorporates all four of the Water and Sanitation Initiative's components. For the urban component, the strategy is to support Empresa de Obras Sanitarias de Pasto S.A.E.S.P., EMPOPASTO, in improving and expanding the sewer system and reducing operating costs and the vulnerability of the water supply system. This component includes construction of wastewater interceptors and collectors for cleaning up the streams flowing into the Pasto River, as well as rehabilitation and construction of sewer networks in high-priority areas to be covered by the Municipal Mobility Plan. In addition, to reduce the vulnerability of the supply system, the project includes an unaccounted-for water-control program that includes a survey of networks and equipment, hydraulic modeling, defining sectors, provision of equipment, macro- and micrometers, construction of the Piedras system drinking-water plant with a treatment capacity of 250 liters per second, water pipes including interconnection to the existing system and storage tanks for distribution to the city's expansion areas. The intervention represents an overall upgrade of the urban water and sanitation system.

⁴² HA-L1039

⁴³ BL-L1006

⁴⁴ CO-L1028, GU-L1039 and PR-L1022

Water for 3,000 Rural Communities

Under this cluster of activity the Bank seeks to increase access to water among rural communities by financing investments in water and basic sanitation as well as technical assistance in the operation and management of the systems. This type of intervention typically includes a strong outreach component to support community organization before the investment is executed, both during construction and, if possible, after project completion. Under this initiative, the Bank approved in 2008 and 2009 US\$35 million. Furthermore, some components were found to support the 100 Cities Program as well as the Water for 3,000 Rural Communities Initiative, adding US\$1,036 million. During 2008 and 2009 the Bank had approved projects in 724 of the "3,000 Rural Communities", with key projects in Colombia (US\$3.8 million), Guatemala (US\$42.5 million) and Paraguay (US\$8.8 million)⁴⁴.

Box 6

Water and Sanitation Program for Rural and Indigenous Communities -- PAySRI (PR-L1022)

The operation in Paraguay is of particular interest since it aims to increase access to drinking water and sanitation services in rural and in indigenous communities in Paraguay, which are the poorest among the poor in the country. The scope of the operation includes extending the coverage of water and basic sanitation systems to communities without such services, and promoting their sustainability. The program's goal is to construct systems in 400 rural communities with 32,000 families and forty indigenous communities with 3,200 people. Additionally, the operation includes the development of a pilot program for solid-waste management which will finance the formulation of solid-waste plans, citizen awareness-raising campaigns, school education, technical and environmental feasibility studies and either equipment or the collection and final disposal of wastes. It is hoped that by the end of the project, ten communities will have successfully implemented a solid-waste management plan. Finally, the operation aims to strengthen the project-execution capacity of Servicio Nacional de Sanamiento Ambiental (SENASA), Paraguay's National Environmental Sanitation Service.

There is a vast amount of research on the impact of water interventions, both on their direct support of MDG targets regarding health and child mortality, as well as on their effect on education, quality of life and cost saving (Kremer and Peterson, 2007). Evidence has shown that many of the neglected diseases in Latin America are often preventable through improved environmental health (Holveck et al. 2007) Water-quality treatment has repeatedly been found to have a significant impact on health (Galiani et al., 2002). Furthermore, sanitation interventions have been shown to be equally effective in terms of health outcomes (Waddington et al., 2009). There is also evidence to suggest that supplying water through pipes induces savings, as piped water is less costly than other more distant and expensive alternatives (Galiani et al., 2007). The value and impact of integrated projects, where education on basic hygiene or other ameliorations are included in the project design, are still debated. Nevertheless, there is evidence to support the effectiveness of such components (Galdo and Briceño, 2005).

Water Defenders Program

Over ten projects have been approved as part of the Water Defenders Program in 2008 and 2009, totaling US\$60 million under this initiative, besides the components supporting both 100 Cities Program and Water for 3,000 Rural Communities (US\$1,036 million). These projects include: rehabilitation and expansion of wastewater treatment plants in Brazil (US\$483 million)⁴⁵, and a Waste-water Treatment Plant (WTP) in Medellin, Colombia (US\$351 million)⁴⁶, among others.

⁴⁵ BR-L1166

⁴⁶ CO-L1034

⁴⁷ The Bank also financed projects dealing with sector reform, for a total of US\$52 million during the same period; these projects, however, are not formally considered part of the Water Initiative (WSI).

Box 7

Medellín River Sanitation Program (CO-L1034)

The later intervention consists of treating wastewater in Medellín's metropolitan area and reducing the contamination of bodies of water in the watershed. Additionally, it supports the training plan to strengthen institutional development. The project consists of works execution for the Medellín River Sanitation Program, including the following components: (i) the Bello WTP; (ii) the North interceptor sewer of the Medellín River and connections between the collector sewers and the North interceptor sewer; and (iii) institutional development. The Bello WTP will have the capacity to treat an average volume of five cubic meters, with a design horizon to meet the challenges up to 2020 and secondary treatment through an activated-sludge system. The North interceptor sewer will extend for approximately 7.7 kilometers using pipes with an internal diameter of between 1.8 and 2.4 meters. The institutional-development component will include a training plan to be implemented within the framework of the program and execution of the plan to implement International Financial Reporting Standards (IFRS). With these interventions the project aims to remove organic loading and other contaminants from the Medellín River to allow: (i) the use of its neighboring areas for noncontact recreational purposes, urban development and landscaping around the river, and land development; (ii) the reduction of waterborne diseases; and (iii) the use of water in industrial activities. Its second aim is to support institutional strengthening of the utility.

Efficient and Transparent Utilities

From 2008-09, Bank interventions within this cluster focused on improving the overall ability of water utilities to efficiently deliver water and sanitation services to the population, accounting for US\$826 million⁴⁷.

There is markedly less research available regarding the impact of institutional strengthening of public utilities, with most of the available inputs referring to the effect of rational-pricing policies on the availability of service (World Bank, 2003 and Wilder and Romero, 2006). The World Bank concluded in its 2003 review that having appropriate indicators and monitoring

results carefully is essential to determining the actual impact of reforms, and that such monitoring is an effective tool for formulating credible strategies in future.

Summary

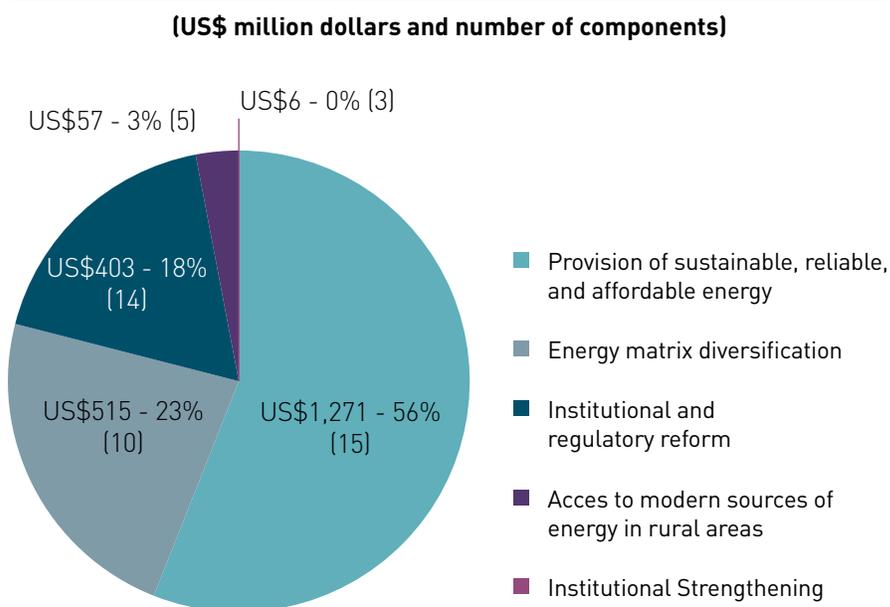
Generally, the stated goals of Bank interventions in the water and sanitation sector are concerned more with outcomes (such as number of water connections) than with actual impact (such as improvements in health). Thus far, the effectiveness of Bank interventions in this sector rests on the assumption that improvements in the quality of the water and cost savings will result in health and savings benefits.

ENERGY

The energy sector is a complex one, as it includes energy generation, transmission and distribution. While often integrated in a single public utility, generation has been increasingly separated, since distribution is a natural monopoly while energy generation need not be so. Of course, energy generation is complicated by the long-term, costly and high-risk nature of investment that is required, thereby often requiring government support. Energy financing can be clustered into the following four types of interventions: (i) the provision of sustainable, reliable and affordable energy; (ii) access to modern energy sources in rural areas; (iii) institutional and regu-

latory reform; and (iv) diversifying the energy matrix. The figure below presents the breakdown of financing in this area. Each of these areas is discussed below along with the evidence of the effectiveness of these types of interventions.

FIG. 30
Project Components by ENE Priority Areas 2008-2009



1. Provision of Sustainable, Reliable and Affordable Energy

Investments in the provision of sustainable, reliable and affordable energy in the 2008-09 period make up over 60 percent (US\$1.2 billion) of the loan portfolio⁴⁸. Excluding supplementary financing initiatives, the majority of investments are supported by specific investment operations. At a component level, interventions can be divided among investments in the generation, distribution and transmission of electricity. A small component also supports the transportation and storage of hydrocarbons.

⁴⁸ One project (EC-L1040) is completely devoted to the storage, transportation and management of hydrocarbons.

Because electricity investments are an intermediate good in a complex economic chain, measuring impact of interventions can be difficult (ADB, 2004). The Energy Sector Management Assistance Program (ESMAP, 2000) concludes that it may be unrealistic to expect economic growth and poverty reduction solely through the provision of energy infrastructure alone. For these reasons, ex-ante analysis is the starting point for estimating the effects of a generation or transmission intervention. IDB interventions have included an ex-ante Cost-Benefit Analysis (CBA) of project outcomes and assessment of their financial viability. The CBA usually consists of three outcome indicators: (i) expected energy unserved; (ii) reduction in physical losses in the system; and (iii) reduction in costs due to optimization of the system. Expected unserved energy is unique in that it captures the probability of involuntary interruptions and the probable size of the interruptions. The indicator can be thought of as a proxy for the costs and consequences of energy insecurity or energy rationing (Energy Markets Outlook, 2007).

Measuring the impact of energy distribution, on the other hand, tends to be much more consumer oriented. There is considerable literature promoting the benefits of energy projects for the poor, but there are few empirical studies that rigorously evaluate their impact (ADB, 2004). Moreover, most of the existing studies focus on the benefits of rural electrification (see IEG, 2008). Within the cluster, project DR-L1026 has formulated a concrete evaluation indicator (cash recovery index) to capture project impact across energy producers and users. To measure the impact from the producer side, the project will use a cash recovery index, which measures the percentage of energy purchased by the distribution company and the percentage paid for by its consumers. On the consumer side,

a community-participation approach will be used to restore trust between electrical companies and consumers.⁴⁹ The impact of this component should be reflected through consumer-payment rates and the removal of illegal connections⁵⁰. If payments increase, the next logical step is to study the mechanism driving the change and the effect of the intervention on poverty levels.

At least five of the projects, primarily oriented towards increasing the provision of energy through generation and transmission, fall under the Sustainable Energy and Climate Change Initiative (SECCI). Many of the projects list the reduction in Greenhouse Gas (GHG) emissions as a desired outcome. However, project documents are not clear on how existing or avoided GHG emissions are to be measured. For example, the IDB is providing US\$12.5 million for the rehabilitation of the Peligre hydroelectric plant in Haiti⁵¹. The project was expected to reduce carbon-dioxide emissions by 70,000 tons per year. Including an explanation of the methodology used to calculate this figure would be useful for stakeholders and other sectors within the Bank considering similar mitigation projects. Moreover, developing further capacity and standard methodologies in this area may have spillover effects into other sector evaluations, particularly climate change-based interventions.

2. Access to Modern Energy Sources in Rural Areas

The IDB financed two projects in rural electrification for US\$65 million⁵² in 2008 and 2009. The projects include transmission and distribution of electricity to rural users. A small component (US\$5 million) is geared towards creating incentives for investment in

⁴⁹ Barnes (2004a) lists this type of intervention as a best practice in creating an enabling environment to foster and sustain energy projects.

⁵⁰ Ideally, this impact should be assessed using rigorous statistical methods (propensity score matching, instrumental variables, etc.) to deal with causality issues.

⁵¹ HA-L1032

⁵² BR-L1028 and GU-L1018

renewable energy. Benefits expected under the project include the improvement of living conditions and productivity gains for the rural population.

The traditional theory on energy consumption and poverty posits that households ascend an energy ladder, moving from crude sources all the way up to electrici-

ty (Barnes and Floor, 1996). According to this theory, the welfare gains from rural electrification can be large. Benefits include improved outcomes in health, education, time saving, and productivity effects. However, Foster (2000) points out that empirical work suggests a complex relationship between energy consumption and benefits. Households often simul-

TABLE 9

Potential Benefits Due To Rural Electrification

Country	Benefit/Author	Year	Result
Lighting and appliances			
India	World Bank	2002a	Fans commonly used in households with electricity
Peru	Carrasco	1990	In areas with street lights, fewer attacks occurred at night
Education			
Colombia	Velez, Becerra, and Carrasquilla	1983	Educational level of heads of household higher for families with electricity, even after controlling for income
India	Barnes	1988	Literacy and school attendance linked to village electricity-adoption rates
Philippines	World Bank	2002b	Ability to read in evening strongly correlated to the use of electricity
Nicaragua	Kulkarni and Barnes	2004	School attendance, literacy and access to electricity are correlated
Costa Rica	Barnes	2007	Communities with electricity benefit from public lighting (e.g., educational institutions are open at night)
Migration, fertility and health			
Colombia	Velez, Becerra, and Carrasquilla	1983	Regions with electricity have more migration than areas with none
Bangladesh	Barkat et al.	2002	Low fertility levels and presence of household electricity strongly linked
Mexico	Barnes	2007	Electricity can improve provision of public health-care services by keeping the cold-chain intact and allowing centers to stay open longer
Economic			
Colombia	Barnes	1988	Electrification had little impact on agricultural development
Mexico	Barnes	2007	Electrification increased agricultural productivity which in turned raised agricultural incomes
Bangladesh	Khandker, Barnes and Samad	2009	Gain in total income due to rural electrification between 9-30 percent

taneously consume a blend of energy sources across the energy spectrum. Thus, impact evaluations must consider the whole spectrum of a household's energy consumption and how interventions may affect interrelated energy prices (Foster, 2000). Moreover, as the ADB attested in 2004, despite the lofty gains promoted under electrification schemes, there are few empirical studies that adequately measure these effects. Where they exist, there is a wide range of outcomes (see Barnes and Waddle, 2004). This may be due to the difficulty in establishing causality. Recent studies (Khandker, Barnes and Samad, 2009) have employed propensity score-matching and instrumental-variable techniques to control for endogenous effects. The table below summarizes numerous studies measuring changes in living conditions and productivity due to rural electrification projects.

The ADB (2004) and the IEG (2008) conclude that rural electrification can deliver a wide array of benefits of the sort mentioned above; however there is a need to develop tailor-made methods to evaluate rigorously all of the claimed benefits (see Foster, 2000 for a complete review). Indicators that capture the effect of energy projects on the non-economic dimensions of poverty, such as safety, security, and social participation, should also be considered (ADB, 2004).

IDB rural-energy projects mainly discuss outcomes in terms of supply-side input indicators (national-electricity coverage and kilometers of transmission lines). Often the listed objective of the program is to improve living conditions and contribute to poverty reduction but this is rarely directly measured. Examining specific household and community-level indicators that may be influenced by rural electrification before, during and after project implementation would help contribute to an understanding of their actual impact. This will be particularly true as econometric techni-

ques are refined to establish causality between rural-energy interventions and realized benefits (Khandker et al., 2009).

3. Institutional and Regulatory Reform

About 18 percent of all lending is focused on institutional and regulatory-reform projects with the objective of improving efficiency within the sector. The two projects that account for US\$250 million⁵³ are policy-based loans to promote institutional, legal, and regulatory reforms to strengthen local utility companies. Expected outcomes include: (i) improved regulatory management, credibility and accountability; and (ii) the introduction of policies to promote renewable energies, bioenergy and energy efficiency. The initiatives align well with Barnes's (2004b) list of best practices for setting up effective institutional structures. There appears to be no single correct institutional model, but successful ones tend to have i) a high degree of operating autonomy and accountability and ii) dynamic leadership and competent staff. PN-L1033 project includes a specific component to ensure that skilled staff is in place to set up and implement coherent energy policies.

4. Diversification of the Energy Matrix

Energy-matrix diversification comprises 23 percent of the loan portfolio for a total of US\$515 million, with the majority of interventions funded through private-sector loans. Two of these loans in Brazil (BR-L1170 and BR-L1108) are financing the development of ethanol and sugar mills with the aim of improving competitiveness in these industries. Two other loans in Brazil (BR-1192 and BR-1193) are funding the development, construction, operation and maintenance of coal-fired plants, with the aim of diversifying Brazil's electricity generation. The loans include an agreement with a

⁵³ PE-L1061 and PN-L1033

sponsor to develop and implement a GHG emissions-reduction plan as well as a pilot-scale carbon-capture project.

The aim of policy-based loan PE-L1061 is to diversify the energy matrix of Peru through the development of hydrocarbon and renewable-energy markets. Expected benefits include energy conservation and efficiency and climate-change mitigation through the development and use of renewable energy. Since energy-diversification projects are relatively new, particularly those with climate-change mitigation components, the literature, thus far, offers little guidance on the effectiveness of such projects.

5. Summary

Given the size and scope of the energy-sector portfolio, there is ample opportunity to explore new methods of assessing the effectiveness of energy interventions. While ex-ante analysis is common there are few cases of ex-post verification of costs and benefits or analysis of whether costs and benefits deviated from expectations. Other development institutions, such as the World Bank, are moving beyond traditional results matrices and outputs towards indicators to capture demand-side welfare gains from electrification. This process requires the collection of household data ex ante and ex post and the application of advanced econometric techni-

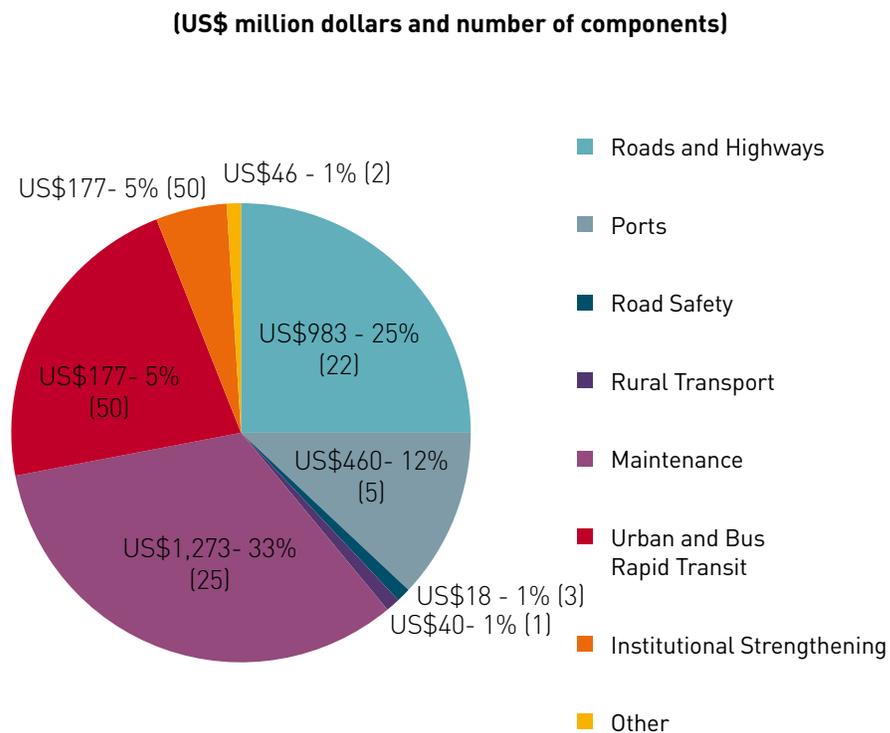
ques to address selection bias, as it occurs with impact evaluations in other types of projects. Within SECCI projects, project documents that include a description of the methodology used for measuring existing GHG and avoided GHG emissions could be useful for all sectors (see the section on climate change for a discussion of GHG accounting tools).

TRANSPORT

Investment in transportation infrastructure is largely motivated

by the benefits of lower transport costs, which can be measured by lower transaction costs in market interactions and in the delivery and receipt of public services. Transport interventions can be broadly divided into six clusters: (i) urban and Bus Rapid Transit (BRT), (ii) roads and highways, (iii) rural transport, (iv) ports, (v) road safety, and (vi) maintenance. What follows analyzes the logic of projects and the evidence to support them for BRT, roads and highways, and rural transport.

FIG. 31
Project Components by TSP Priority Areas 2008-2009



1. Urban and Bus Rapid Transit (BRT)

BRT is a term applied to a variety of public-transportation systems that use buses lines to provide a faster service than an ordinary bus line. The most common benefit of BRT is an improvement in the level of service, particularly in terms of speed, capacity and reliability. GHG emission reductions may also be a by-product of BRT, but measuring emissions reduction remains a difficult process. This cluster also includes other type of urban transportation such as the subway.

The IDB's involvement with BRTs dates back to 1995 when it helped to launch a BRT in the city of Curitiba, Brazil. Designed to provide citizens with a reliable and fast bus-transportation system, the intervention has been widely flagged as a success (Levinson et al. 2002). Until 2000, Curitiba had the only BRT system in LAC. Since then, the IDB has supported a number of projects with Urban and BRT components. In 2008-09, it financed: (i) infrastructure works needed to prioritize operation of the Federal District Mass-Transit System in Brazil (US\$90.6 million)⁵⁴; (ii) infrastructure projects for enhancing two corridors by introducing exclusive and preferential mass-transit lanes in Montevideo, Uruguay (US\$78.8 million)⁵⁵; (iii) technical and institutional assistance services to advise and support the Transport and Telecommunications Ministry in the institutional design of the Santiago Metropolitan Authority of Transport, in Chile (US\$1.5 million)⁵⁶; and (iv) expansion of the São Paulo subway, under a non-sovereign guarantee (US\$129 million)⁵⁷.

A number of project evaluations have been performed on BRTs. The US evaluations find that BRTs have primarily served to reduce travel times and improve

services for existing and new riders, most of whom switched from local routes to BRT routes (Baltes and Hinebaugh, 2003; Cham et al. 2006). Of studies carried out in LAC, Targa and Rodriguez (2004) note that Bogota's BRT system has reduced average annual travel times by 32 percent and significantly diminished accident and air pollution levels along the bus corridors. They also consider the land-development benefits of BRT systems. Using a hedonic price model they calculate that the value of access to Bogota's BRT is capitalized in rent prices. Rental units located further away from BRT stations have cheaper rental rates compared with those closer to BRT stations, all else being equal.

The IDB evaluates project success based on outputs related to BRT. Reductions in operating costs for the public-transport system, an increase in safety and better efficiency are common indicators by which success is measured. These do not measure the ultimate objective of reducing transaction costs for riders.

2. Road/Highway Improvement and Maintenance

Improvements in road quality and maintenance of existing roads seek to lower transport time and thus cost-of-transportation. During 2008-09 the IDB approved eighteen operations with road-improvement and maintenance components. Fifteen countries from the four regions of LAC received support in this area. The types of projects included (i) rehabilitation works and long-term road maintenance in Uruguay (US\$1.2)⁵⁸; and (iii) routine maintenance works on roads through the implementation of performance-based maintenance contracts in Jamaica⁵⁹ (US\$70 million), among others.

⁵⁴ BR-L1018

⁵⁵ UR-L1025

⁵⁶ CH-L1052

⁵⁷ BR-L1079

⁵⁸ UR-L1025

⁵⁹ JA-L1022

Transport projects (except rural roads) utilize the Highway Design and Standards Maintenance Model (HDM) as their standard method of ex-ante economic evaluation. HDM provides a basis for prioritizing investments and selecting the type of intervention necessary. None of the projects reviewed included provisions for conducting an ex-post economic analysis. Instead, project success is typically measured in terms of outputs i.e., number of kilometers rehabilitated. Reassessing a project's economic performance ex post is necessary to validate the assumptions and to determine if the implementation of the project allowed for benefits to materialize (i.e. if delays or cost overruns existed, whether they affect the overall profitability of the project).

Even if highway improvements are a complete success and meet all project goals, lack of maintenance can greatly diminish their intended benefits. Once investments are completed, Bank projects may finance the initial implementation of maintenance components. However, the main responsibility for road maintenance lies with government counterparts once projects have been executed and Bank financing has been disbursed. Given the Bank's longstanding relationships with member countries in the transport sector and the multiphase nature of many loans, thorough monitoring and supervision of how maintenance is being conducted on previously-financed Bank projects should be a must before considering new projects. Stage five of The Santa Catarina State Highway Program in Brazil was approved in 2009 (US\$50 million)⁶⁰. However, the project documentation does not indicate whether an evaluation of stage four was conducted beforehand and whether investments at previous stages have been properly maintained.

3. Rural Transport

In rural areas, well-functioning roads are a key asset as they connect households to markets and techno-

logies, and reduce transport and opportunity costs. When these costs remain low, rural households are better able to market their goods and services, making them more competitive. Moreover, rural roads provide access to services such as hospitals and schools, which are essential for human-capital development and poverty alleviation. The IDB is supporting at least four rural-transportation projects that include components dedicated to improving rural roads in Costa Rica, Paraguay and Peru.

Box 8

National Rural Roads Program - Second Stage, Phase II, (PR-L1019)

The objective of loan PR-L1019 (US\$65.6 million) in Paraguay, is to enhance the competitiveness of national producers and improve living conditions in rural areas through upgrading and maintaining the level of service on priority local roads. The loan is supporting the second phase of the project and appears to have incorporated lessons identified from the first phase, such as the importance of the participation of local governments in the selection and prioritization of the project. Moreover, economic and social evaluations from the first phase report that the project has temporarily created direct jobs for 2,441 people and indirect employment for roughly 5,000 people in the area of influence. Loan CR-L1023 (US\$60 million) is financing the improvement of the Cantonal Road Network (RVC) and bridges with the aim of improving the quality of life and raising income levels of the canton's inhabitants. The expected outcomes include: (i) continuous serviceability of the roads rehabilitated under the program; (ii) reduced travel time; and (iii) higher volumes of traffic. Poverty reduction is included as an expected medium-term outcome.

The impact-evaluation literature on rural roads is growing, particularly as researchers apply advanced econometric methods to establish causality between road interventions and impacts. Early studies (Ahmed and Hossain [1990]; Binswanger, Khandker and Rosenzweig [1993]) look at agricultural-based indicators

⁶⁰ BR-L1051



(production, input use) and find that roads increased these outcomes. Levy (1996) considers the socioeconomic effect of rural roads five to ten years after project completion and finds that impacts extend beyond road-use efficiency into improved education and health outcomes, such as increased enrollment rates in schools.

Van de Walle and Cratty (2002) find that road rehabilitation significantly increased the availability of freight services and that time savings were much more pronounced among the poorest households. Escobal and Ponce (2002) move beyond the traditional indicators of time savings and cost reduction and consider the impact of rural roads on consumption and income. Households near rehabilitated roads are found to have increased non-agricultural income opportunities. Also, income expansion is not matched by increases in consumption but rather is reflected in augmented levels of savings, particularly in livestock holdings. Khandker, Bakht and Koolwal (2006) point out that the full impact of road improvements occurs slowly over time, making long, panel data ideal along with careful selection of control areas. Their study estimates the traditional impact indicators (such as savings in transport costs, agricultural-input prices, consumption) as well as the effect on poverty of the intervention and finds a reduction in poverty of about five percent due to road improvements.

Of the three IDB interventions reviewed in the cluster, all include poverty reduction among the objectives. Most results frameworks rely on indicators measuring the cost of transport and the time savings achieved under the rehabilitated roads network. Gannon and Liu (1997) assert that such indicators are suffi-

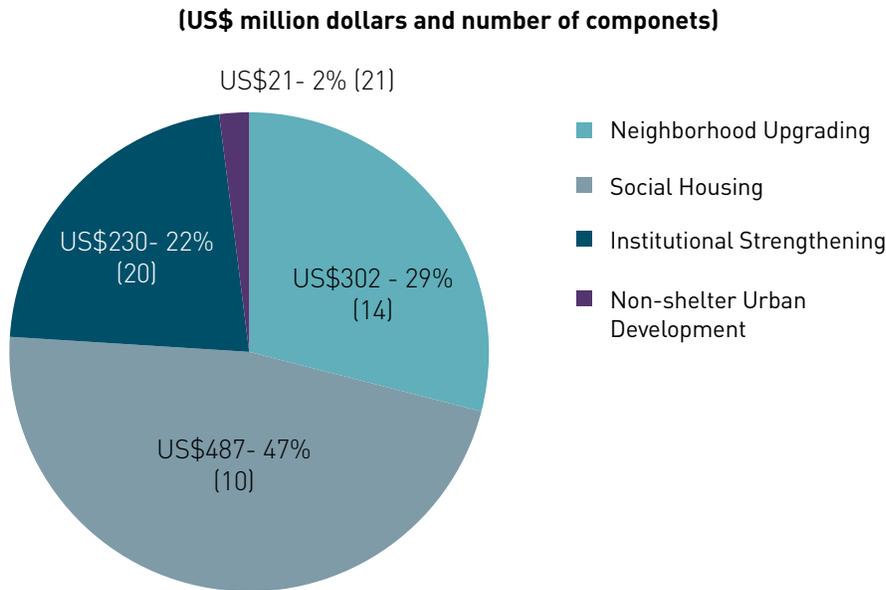
cient for transport projects aimed at improving accessibility to basic social services. However, to assess a project's impact on poverty alleviation, panel data is needed from households both within and outside the project-intervention area. Immediate cost and time savings are short-term impacts of road projects, but long-term effects on employment, productivity and income cannot be captured by standard transport surveys [Khandker et al. 2006].

URBAN DEVELOPMENT

The object of operations in this sector is to improve the living conditions of people residing in urban areas. Urban-development programs use an integral approach to the needs of the urban area involved, and thus these programs differ widely in complexity and scope. They usually include multiple works in basic services (water, sanitation, waste disposal, and electricity), infrastructure (transport, drainage, environmental protection, community centers, schools, and health centers) and housing. Critical to these programs is the strengthening of the city/municipal/regional government's management, governance and finances in order to manage urban infrastructure and services.

From 2008-09 projects or components approved by the IDB in the urban-development sector can be grouped into four clusters: (i) neighborhood upgrading, (ii) social housing, (iii) non-shelter urban development, and (iv) institutional strengthening. This section describes the interventions that Bank operations have typically used in each of the three first clusters, and presents the results that the impact-evaluation literature has shown regarding these types of interventions.

FIG. 32
Project Components by Urban Development Priority Areas 2008-2009



1. Neighborhood Upgrading

The limited supply of affordable housing for low-income families, the lack of access to formal credit markets, and the scarcity of resources has forced low-income families to seek housing solutions through the informal market and the formation of squatter settlements. These settlements are characterized by unclear or insecure land tenure and a significant lack or absence of basic infrastructure services, including access ways, potable water, drainage, sanitation, electricity and social services.

The intervention model used by IDB operations to improve the living conditions of households in these under-served neighborhoods is to provide basic services (potable water, sanitation, and electrical connections), basic infrastructure (such as drainage systems, public lighting, primary roads, works to contain and mitigate

environmental risks, garbage collection facilities), social and community facilities, and land titling. Training for established community organizations in the settlement, and provision of resident health and environmental education, are also provided.

Some projects include urban and social facilities (parks and green areas, sports fields, community centers), and either construct or leave land available for future building of required schools and health facilities. In some cases the projects provide households with sanitary modules containing a bathroom and laundry area. In 2008-09 the Bank approved eleven operations that included neighborhood-upgrading components for US\$302 million⁶¹. Half of these projects were in Brazil and the rest were distributed among all the regions (Barbados, Bolivia, Colombia, Panama and Uruguay).

⁶¹ BA-L1002, BO-L1038, BR-L1057, BR-L1077, BR-L1078, BR-L1083, BR-L1084, BR-L1088, CO-L1018, PN-L1002 and UR-L1009.

The IDB has played an important role in the generation of knowledge on the impact of these interventions either through undertaking its own impact evaluations or financing outside experts to evaluate these programs. One rigorous impact evaluation was that of the *Mi Barrio* Program in Peru, financed by the IDB in 2003. The evaluation, financed by the loan, used a quasi-experimental approach with double difference (comparison on beneficiaries and non-beneficiaries before and after the program) using panel data (Instituto Cuanto, 2009). Results revealed that the project's most significant impact was on sanitation. There was a substantial increase in the number of dwellings with in-house potable water and sewerage connections in the treatment group compared to the control group. Significant increases were also noted in the number of households with toilets and discharge systems. No impact was seen in electrical connections.

The results also showed a change in the behavior of beneficiaries as a result of the project. First, there was a significant reduction in the number of households burying, burning or throwing away their solid waste randomly where they saw fit. Secondly, the inclusion of green areas and open sports facilities in the project had a significant impact on the number of beneficiaries exercising outdoors. On the other hand, no impact was seen in participation in community activities and neighborhood problem-solving. An interesting result of the evaluation was that the project did not have an effect on investments in household improvements. This is may be because the project did not provide land titling and thus did not provide the beneficiary with the necessary land-tenure security to stimulate residential investments (Field and Torero, 2004).

Similar results are seen in an impact evaluation of the Favela Bairro Program (Soares and Soares, 2005). Using a quasi-experimental approach with census data, the evaluation showed that the program had a

significant impact on sanitation and garbage collection variables. There was a substantial increase in the beneficiaries' coverage of water, sewerage and garbage collection. An intended outcome of the program was a reduction in the incidence of diseases caused by lack of sanitation. The evaluation revealed that the proportion of diseases related to lack of sanitation did slightly decrease; however, this decrease was not significantly different than the one observed in the control group. The effect of sanitation on the incidence of child mortality under the age of one was also examined and a significant correlation was not seen. Previous research on this aspect in Rio de Janeiro corroborates this result. Campos (2008) and Szwarcwald et al. (1999) also did not find robust evidence linking child mortality with the proportion of children living in shanty towns (favelas). A policy implication of this result is that infrastructure upgrading alone does not reduce child mortality without the presence of health services and health education.

An impact evaluation of the slum-upgrading program *Chile Barrio* (DIPRES 2007) showed that this kind of program can trigger additional investments and upgrading in the community⁶². The program provided targeted neighborhoods with in situ land-titling, basic infrastructure, a sanitary unit and a dwelling or improvement of existing dwelling. The impact evaluation showed significant differences between control and treatment groups regarding their satisfaction with their housing and neighborhood conditions. In addition, significant improvements were also noted regarding factors not directly provided, such as public transportation, public telephones, police and security, preschools and community cleaning services.

An important element of squatter-upgrading programs is the provision of land titles to beneficiaries, included in all such Bank projects since 2008. Among the benefits of tenure security is a significant rise in

⁶² This evaluation used a quasi-experimental approach with difference in difference and cross-section matching estimators.

residential investment. Field (2004) shows that land titling in urban-squatter neighborhoods is associated with a 68 percent increase in the rate of housing renovation compared to the baseline level, a large portion of which is financed without credit. Thus, a lower threat of eviction clearly increases beneficiaries' incentives to invest in their homes.

Among the arguments used for providing land titles to program beneficiaries is that it increases the household's access to credit in the formal sector. A quasi-experimental impact evaluation of a nationwide land-titling program in Peru (Field and Torero, 2004) revealed that land titling did not automatically make collateral-based lending accessible to most applicants requesting credit from the formal-credit market. The evaluation showed that credit rationing by private lenders remained unchanged. An increase in credit access was seen for construction-material-in-kind, which helps raise the housing investments resulting from tenure security.

2. Social Housing

To address the housing deficit for low and low-middle income groups, the Bank finances interventions that assist low-income families obtain a new home or improve their existing dwelling. In 2008-09 seven projects were approved that included these interventions⁶³, accounting for a total funding of US\$487 million. Two mechanisms were used to provide low and low-middle income families with housing. One was to deliver a targeted up-front subsidy. These subsidies were usually complemented with family savings or credit, and were utilized to either purchase a new or existing home in the market, or build or improve a home on the family-owned lot. A second mechanism

involved either the construction of a dwelling or the provision of serviced lots/sites and services, with the understanding that the family would gradually build the dwelling as their financial conditions permitted.

Of the seven operations approved in 2008 and 2009, four included components that provided up-front subsidies to purchase new dwellings in the market, and five included subsidies for home improvements. Of the five projects that offered housing solutions, two included the provision of fully-built dwellings and the other half the provision of sites and services.

The impact evaluation of Chile's Progressive Housing Program (Marcano and Ruprah, 2008) is of particular importance since it has been replicated in several countries in LAC including Colombia, Peru, Mexico, Nicaragua, and Panama. The program, which required savings for eligibility, targeted the two lowest-income quintiles of the population and provided a voucher and mortgage. In addition, it aimed to reduce inefficiency by providing construction through the private sector. The program had positive and significant effects regarding access to electricity, sewerage, and potable water. No statistically-significant effects were seen on welfare indicators such as school attendance, poverty or employment. In addition, the targeted population was underrepresented, revealing that this type of program package (voucher, mortgage, and savings requirement) is not appropriate for the poorest segment of the population. The evaluation concluded that if a program wants to target the extreme poor a full subsidy should be considered.

The Office of Evaluation and Oversight (OVE) is presently concluding a thematic evaluation of ten housing programs in six Latin American countries⁶⁴ designed

⁶³ BA-L1002, CO-L1018, EC-L1074, GY-L1019, PN-L1002, UR-L1009 and SU-L1015

⁶⁴ Chile, Colombia, Costa Rica, Dominican Republic, Nicaragua, and Peru.

to increase homeownership. These also required the beneficiary to have savings and provided an up-front subsidy and a public mortgage, or required the applicant to obtain a private mortgage, to purchase a dwelling for a maximum given price⁶⁵. Impact estimates included the following outcomes: quantitative and qualitative housing shortage, homeownership, secure housing, the quality of the housing solution, overcrowding, access to basic services (potable water, sewerage, and electricity), labor-market status, income, credit access, and education.

The preliminary results of the evaluations show that most of the programs' declared primary objectives of reducing both the quantitative and qualitative housing shortage (particularly the quality of floors) and increasing homeownership and regular tenure, were achieved by the majority of programs⁶⁶. On the other hand, increased access to basic services (potable water, sewerage, and electricity) and a reduction in overcrowding were not found in the majority of programs. Almost no programs had an impact on education, as measured by attendance rates, although three had a positive effect on the attendance rates for girls aged ten to fourteen. Practically no programs had an impact on labor status (as measured by the occupation ratio and average hours worked). Likewise, no impact on access to credit (via formal or informal institutions) was observed in any of the programs.

The evaluations also produced two interesting findings regarding targeting. First, they showed that most of the IDB's social-housing programs are not targeted at the poorest by design. Seven of the nine projects evaluated had household-income cut-offs that were above the country's poverty line, and in only two of the projects did the majority of the beneficiaries fall below the poverty line. In all the other programs, between

fifty and ninety eight percent of households had incomes above the poverty line.

3. Non-shelter Urban Development

The IDB's non-shelter urban-development projects support local and state governments in an array of interventions, ranging from revitalizing a city's downtown area, to financing diverse investments in urban areas. Typically these projects provide urban areas with a package of infrastructure and services that address the most urgent needs identified by the municipality to improve quality of life in the city in question.

In 2008-09 non-shelter urban-development lending financed the following: urban transport, social infrastructure, drainage, sanitation, environmental protection, upgrading of dilapidated city centers and heritage protection. A total of fourteen urban-development operations included investments in these areas totaling US\$230 million of Bank financing. Approximately 43 percent of this amount financed municipalities throughout Brazil through the PROCIDADES program.

At the appraisal stage the socioeconomic viability of these operations typically examines the viability of each type of investment included in the program on an individual basis and, depending on the investment, uses cost-benefit or cost-effectiveness analysis. The socioeconomic viability of the investment package as a whole is not analyzed ex ante. The rationale behind this approach is that if the parts are economically viable then the entire investment package is viable. Following this logic, this investment package should induce a greater impact than it would by providing it piecemeal through sectoral interventions. There is no evidence available to determine if this is the case, probably due to the difficulty encountered in defining

⁶⁵ The methodology used to estimate the impact of these programs was a single difference propensity score- nearest neighborhood matching.

⁶⁶ Six, seven, nine, and five of the ten programs evaluated, respectively.

a control group (Bamberger and Hewitt, 1986; Asesorias para el Desarrollo, 2002). Such a control group entails the identification of a city that is highly comparable to the city that has benefited from the program. This is particularly difficult given the uniqueness of cities and their constant state of flux.

Nevertheless, having evidence on the effectiveness of these urban-development projects is important for future operations in the urban sector. Impact-evaluation work at the Bank should attempt to measure the impact of non-shelter urban-development projects, and to compare the impact of providing urban infrastructure in an integral fashion versus in a piecemeal manner as a sectoral investment. At a minimum, the ex-ante economic appraisals should be repeated at project completion and some years down the road, to verify that the projected benefits took place and to analyze how the implementation (time and cost) affected the overall ex-post economic assessment.

4. Summary

Although impact evaluations of programs in the social housing and neighborhood-upgrading clusters have been undertaken more need to be done, particularly in non-shelter urban-development programs. As of the end of 2009 a total of seven operations (both approved and in preparation) contained plans and budgets for such evaluations: five neighborhood-upgrading programs (El Salvador, Colombia, Argentina, Guyana, Mexico), two programs with social-housing components (Ecuador, Guyana) and one program to rehabilitate a city center (Bolivia).

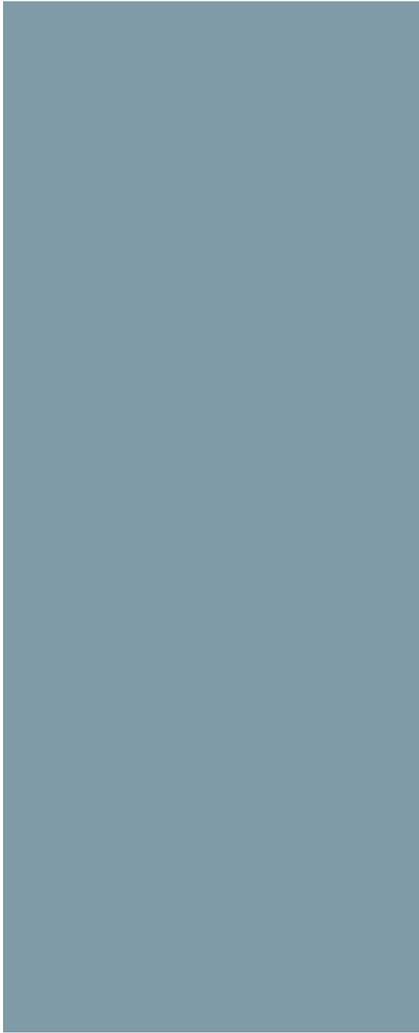
CONCLUSIONS

The motivation for investing in infrastructure is to both to provide the basic foundations on which a productive economy can develop, and to improve the quality of

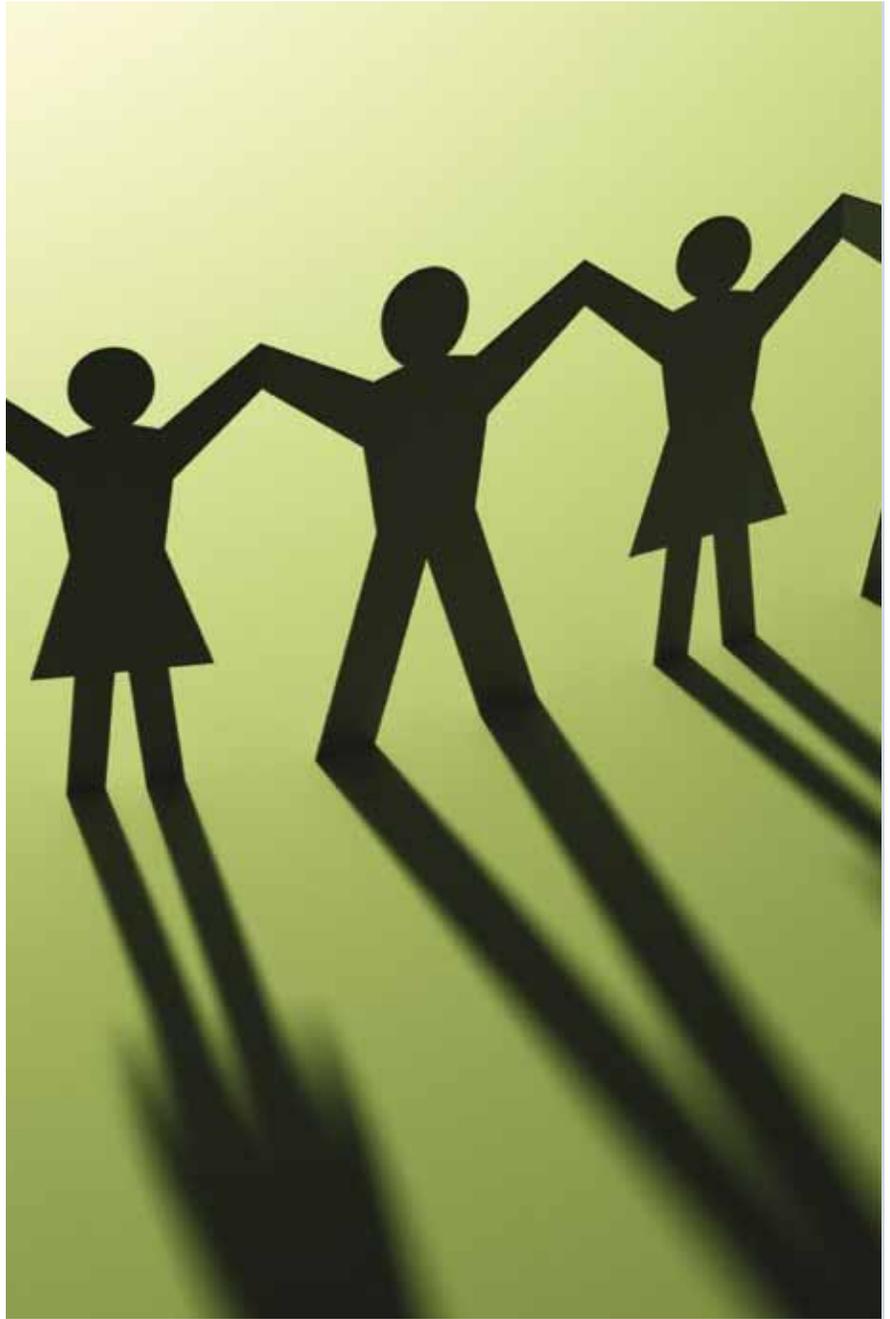
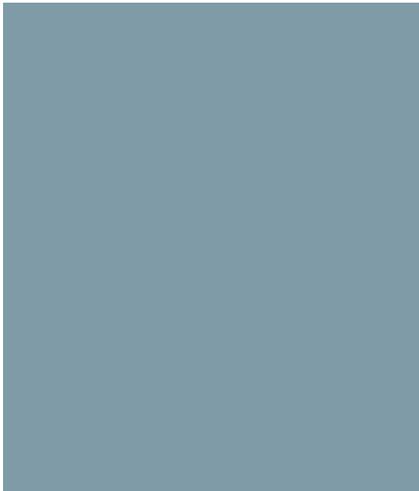
life and productivity of vulnerable populations in particular. In the GCI process it has been pointed out that “*the Region needs to step up investments in productive infrastructure to close the gap with other emerging markets*”. Hence, measuring and documenting the best interventions is essential. However, evaluations of the development effectiveness of Bank-funded infrastructure projects only attempt to measure outcomes directly on rare occasions, be it those related to the impact on the economy or those related to the impact on social welfare. External studies of other projects provide justification for the investment in some areas but within the Bank, these studies are limited. When evaluations of infrastructure projects are conducted, there is a tendency to focus on ex-ante measures of the costs and benefits of predicted project outputs. This assumes both that the realized costs and benefits of the project will reflect those that are predicted and that obtaining these outputs will necessarily lead to higher-level outcomes. If evidence from similar projects in the same or similar countries showed this was the case, this would be a reasonable assumption. But the lack of any such evidence raises questions about such assumptions.

During 2009 awareness grew of the need not only to increase the quantity and quality of ex-ante evaluations of project benefits, but to expand the effort to include ex-post reporting of benefits realized. There have been initial attempts within the Bank to expand the evaluation of project impacts towards the construction of counterfactuals, particularly in the area of urban-development and housing programs (OVE’s evaluation of housing programs in six Latin American countries to conclude and Marcano and Ruprah’s evaluation in Chile). These developments are encouraging and suggest a desire to assess development effectiveness and adjust project approaches based on lessons learned from such evaluations.





III
Chapter



Institutions for Growth
and Social Welfare



OVERVIEW

Institutions, defined as the effective rules of the game accepted and followed in a society, are a key element in achieving the goal of equitable and sustainable social development. As stated by the Nobel laureate Douglas North, “Institutions form the incentive structure of a society and the political and economic institutions, in consequence, are the underlying determinant of economic performance”.⁶⁷

The Bank’s first institutional priority emphasizes the importance of accumulating high-quality human capital. People have an inherent human right to health, nutrition and education in order to develop both individually and collectively. Such ‘human capital’ is also fundamental for sustainable economic growth. The second priority focuses on the basic infrastructure required for the economy, and society at large, to operate efficiently. The Bank’s third priority on institutions is based on the centrality of how a country’s society, economy and government are organized and interact with each other in explaining long term development.

Strong and effective institutions are determining factors for sustainable development. Institutions should provide, among other things, a regulatory framework that supports the functioning of markets; a stable macroeconomic environment; and legal predictability and security. Institutions shape the nature and quality of public policies. As discussed in the report on Economic and Social Progress in Latin America on *The Politics of Policies* (IDB, 2006), a universal set of “correct” policies does not exist. In fact, policies are contingent responses to current conditions. What might work at one time in a given country might not work at

another time or in a different place. Therefore, institutions are what shape the characteristics and quality of public policies.

According to the IDB (2006), Latin America and the Caribbean (LAC) is underperforming with respect to the rest of the world in the quality of its public policies; only South Asia and Sub-Saharan Africa rank lower. Furthermore, this indicator can also be associated with aspects of development to give evidence of the relevance of institutions. Based on Berkman et al. (2008), it can be shown that the Policy Index has a significant partial correlation of 0.37 with economic growth and of 0.27 with human development change. When examining Latin America alone, the correlation increases to 0.52 and 0.41 and is always significant. Also, evidence suggests that the quality of policy implementation is largely determined by a country’s institutions and is at least as important as the quality of the policies themselves, yet another reason to pay special attention to institutions.⁶⁸

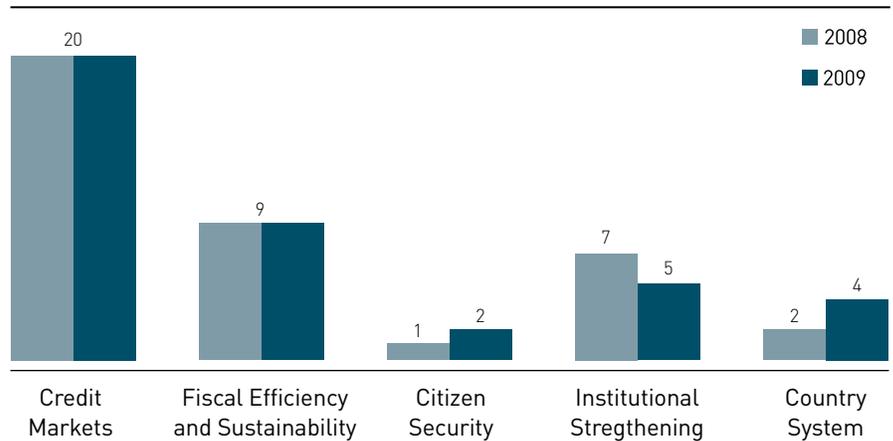
The Bank has a long history of promoting and supporting the creation, functioning and reform of institutions throughout the region.⁶⁹ This chapter analyzes the core challenges for IDB-financed interventions in three strategic areas of institutional development in the region: (i) financial access for Small and Medium Enterprises (SMEs), (ii) citizen security and (iii) anti-corruption. It also analyzes the existing evidence to support them and includes a first approximation as to how sector institutions might be strengthened, an important component in many of the Bank’s projects that has not been properly examined. While the IDB has worked on many other important institutional issues in the region (such as fiscal efficiency and sustain-

⁶⁷ Furthermore, “Institutions are the humanly devised constraints that structure human interaction. They are made up of formal constraints (rules, laws, constitutions), informal constraints (norms of behavior, conventions, and self imposed codes of conduct), and their enforcement characteristics. Together they define the incentive structure of societies and specifically economies.” See North’s Nobel Laureate Acceptance Speech (1993).

⁶⁸ Accordingly, the international community renewed its commitment to building a particular set of institutions, the country systems in Accra in 2008, in particular those at the core of the management-for-results agenda, such as in financial, budgetary, and procurement areas.

⁶⁹ See the IDB’s New Operational Framework and the Working Papers for the GCI.

Fig. 33
Total Numbers of Projects by Sector



nability institutional strengthening and country systems, see Figures 33 – 35), these three illustrate the type of work being done and the challenges lying ahead.

Small and medium firms face diseconomies of scale and other market failures related to asymmetric information that make it challenging for them to access credit markets and expand successfully. In LAC, SMEs operate in a difficult institutional environment characterized by shallow financial markets, difficult and costly formalization procedures, very limited risk protection, and insufficient technological and logistical resources to access markets. Regarding financing, small-sized enterprises in the region obtain around 18 percent of their investment funding from formal financial institutions, compared to around 31 percent in OECD countries; in the case of medium-sized enterprises, the numbers are 22 percent and 35 percent respectively. Also, 46 percent of small and 41 percent of medium-sized enterprises in the region report that limited access to credit represents a significant obstacle to their growth (compared to 19 percent and 13 percent, respectively, in OECD countries).⁷⁰

Fig. 34
Total Financing by Sector

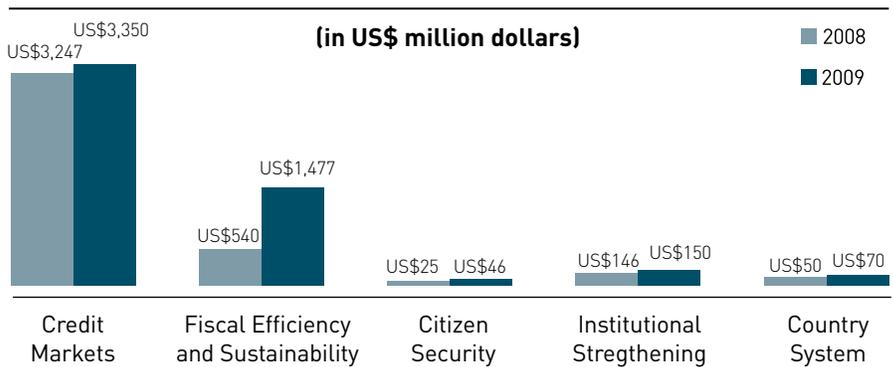
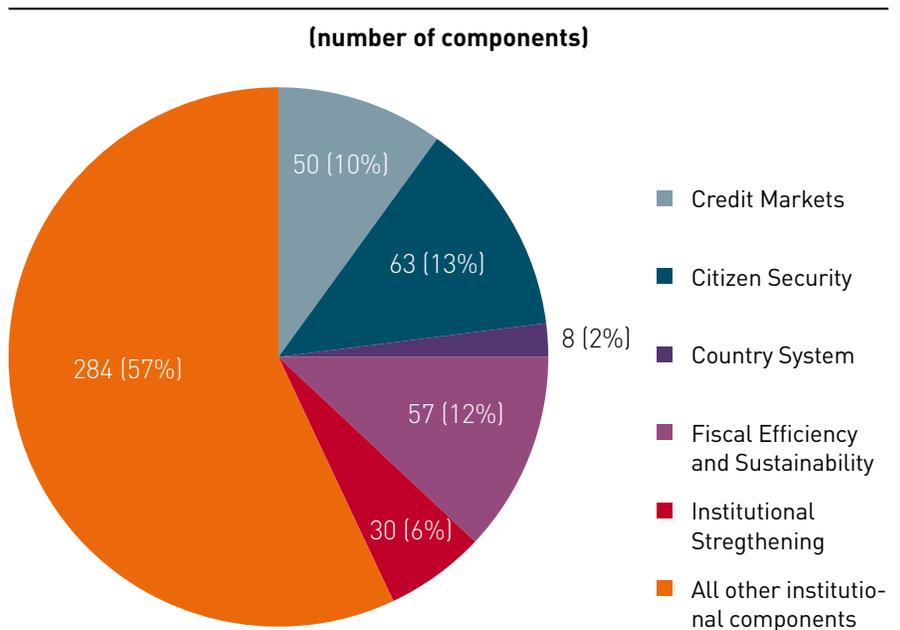


Fig. 35
Projects Components by Sector. 2008-2009



⁷⁰ See the First Working Paper for the GCI (CA-501) and the 2010 DIA, *The Age of Productivity, Transforming the Economy from the Bottom Up*.

Violence is a serious obstacle to development in LAC, one that has been shown to hinder growth and disproportionately affect the poor. Fear of crime raises economic costs, impedes peaceable coexistence in a democratic society, inhibits new investment, raises the cost of doing business, saps funding from other public policy priorities, and erodes trust in institutions, especially those responsible for the rights and obligations of individuals. Statistics for LAC as a region are quite stark: the homicide rate in LAC is twenty eight per one hundred thousand people, second only to the Southern and West African regions. However, if the Caribbean region is singled out, this has the highest homicide rate in the world (thirty).⁷¹

Regional averages hide dramatically different situations at the country level: while Chile, Uruguay and Argentina have relatively low homicides rates (1.9, 5.0 and 5.1 respectively), El Salvador, Jamaica, Honduras and Guatemala have rates close to or higher than 50. During 2000-08, Central American countries experienced a sustained increase in the homicide rate, while Brazil, Mexico and, in particular, Colombia displayed a drop. Not surprisingly, fear and insecurity are constantly among the most serious concerns for LAC citizens in perception studies.⁷² These numbers seem to confirm the multifaceted nature of violence and crime. Different factors explain violence and crime across different countries and cities, so policy responses need to be tailored to their specific context.

Corruption has a pervasive and widespread negative effect on development. There is ample evidence that it hinders economic development, interferes with the proper allocation of public funds, and undermines the

legitimacy of the political system and the viability of the state. Corruption is a broad phenomenon covering a range of ills: bribery, extortion, misappropriation of funds, illicit enrichment, nepotism, influence peddling and misuse of information or property, to name a few. Its size and impact are difficult to measure because it often leaves no paper trail and countries do not always have reliable accounting systems. Nowadays there are better corruption indicators than 20 years ago but these still face technical limitations.⁷³

An accurate measurement of corruption in many countries, including Latin America, is not possible. However, new and improved indicators show that corruption is an important development challenge for the region. According to these figures Latin American countries, compared with other middle-income countries, tend to be more corrupt than the average country, with two exceptions: Barbados and Chile.⁷⁴

ACCESS TO CREDIT AND SMALL AND MEDIUM ENTERPRISE PRODUCTIVITY

The SME sector is very important in Latin America and the Caribbean, as these firms employ over two-thirds of the workforce. Its ability to generate productive jobs is therefore crucial if living standards are to increase in a sustainable way over the long term. Insufficient access to credit is a major factor that hinders the growth, in terms of size and productivity levels, of SMEs. 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.⁷⁵

⁷¹ See World Bank/UNODC, 2007.

⁷² Latinobarometro, 2009, "Informe de Corporacion Latinobarometro", November 2009.

⁷³ Comparisons among different countries and over time are difficult and disclosure policies limit accessibility to data.

⁷⁴ An analysis of the period 2003-07 of the World Bank's Control of Corruption indicator shows that Barbados, Chile and the Bahamas have corruption levels similar to the high-income country (HIC) average (1.36). Transparency International's Corruption Perceptions Index for 2003-08 highlights Barbados, Chile and Uruguay as close to HIC's average (7.4). It has no data for the Bahamas.

⁷⁵ See Ibarrarán et al. (2009) and Tan (2009) for a recent review on such literature.

The economics literature identifies two main channels through which SMEs contribute to the economy (Biggs, 2002; Levine, 2005). The first is job creation, as SMEs are believed to be more labor intensive than larger firms. Their expansion should generate more jobs when compared to growth driven by an expansion of larger capital-intensive enterprises, and boosting employment contributes to poverty reduction. The second channel is innovation and entrepreneurship. SMEs are thought to enhance competition and entrepreneurship, which create positive spillovers for the economy. The entry of small firms, and the threat of new firm entry, intensifies competition and productivity growth throughout the economy.⁷⁶

Having established the importance of the SME sector, the main economic justification for public support is the existence of market failures (mainly due to asymmetric and/or incomplete information) that might stunt their growth (Ibarrarán, Maffioli and Stucchi, 2009). Stiglitz and Weiss (1981) pointed out that due to asymmetric information and agency problems, banks have difficulty distinguishing good risks from bad risks and monitoring borrowers once funds have been advanced. Because of this, lenders may choose to offer an array of interest rates that would leave significant numbers of potential borrowers without access to credit, a phenomenon known as *credit rationing*. Although this argument was not specific to SMEs, their characteristics (large variance in profitability, difficulty in separating the financial situation of

the firm from that of its owners etc.) are such that these problems affect them more severely than larger companies (OECD, 2006). By removing information asymmetries that preclude access to financing, economic policy may enhance the growth of the most efficient firms, leading to a net gain in productivity.⁷⁷

Another variable that affects SMEs' access to finance is that small firms tend to demand relatively small loans. Credit policies that determine access to credit and the terms of a loan are influenced by a fixed-cost component associated with due diligence and monitoring.⁷⁸ This scale problem constitutes another market failure that might warrant public intervention.

During the period 2008-09 the IDB approved sixteen projects to improve access to credit markets for SMEs⁷⁹ by making long-term financial resources available to them. Total financing by the Bank for that period was US\$4.7 billion in SG operations and US\$309 million in NSG.

The Bank has focused on mitigating the impact of market failures and information asymmetries that constrain firms from gaining access to formal credit to finance their operations, which can ultimately affect their performance. If left unattended, a reduction in credit would have large negative implications for economic growth and employment, over and above those associated with the fundamentals of economies as a whole. The main instrument used by the IDB to

⁷⁶ It is important to mention that the evidence on these hypotheses is inconclusive (Beck, Demirgüç-Kunt and Levine, 2005). Some studies argue that SMEs have a higher rate of job destruction, and as a result the net job-creation rate is higher for large firms. Large firms also provide better job quality. As to innovation and competition, the direct evidence does not support a pro-SME approach. Moreover, productivity studies show that total factor productivity is actually highest for medium-sized firms and that the smallest firms are the least efficient. Furthermore, as noted in Paulson and Townsend (2004) entrepreneurial talent and investment are complements rather than substitutes. This implies that the burden of being constrained falls disproportionately on more capable entrepreneurs.

⁷⁷ Nevertheless, some caution regarding this statement is needed. In particular, as pointed out by Prescott and Townsend (1984a and 1984b), information problems per se do not justify interventions. In other words, a Pareto efficient allocation might be compatible with the existence of competitive equilibrium in markets with private information.

⁷⁸ See BDC and CFIB (2001) Toivanen and Cressy (2000). Also, Wynant and Hatch (1991), Haines and Riding (1995), and Thompson Lightstone (1996, 1997, 1998) found empirical evidence that small firms face particular challenges with terms of credit and access to bank loans (Industry Canada, 2002).

⁷⁹ BR-L1178, BR-L1180, CO-L1078, CO-L1082, CR-L1033, DR-L1040, ES-L1029, GY-L1016, GY-L1021, ME-L1017, ME-L1051, NI-L1046, PN-L1048, PR-L1024, PR-L1032 and UR-L1052.

improve access to credit for SMEs is global credit lines. Through these, the Bank provides medium and long-term financing via central banks or development agencies operating as second-tier financial institutions, which then on-lend to SMEs by assigning resources to the most viable projects. This scheme builds on the idea that central banks and development agencies have a deep understanding and knowledge of the local markets and hence help to improve the allocation of financial resources.

An example of this type of intervention is the first and second CCLIP channeled through the Banco Nacional de Desenvolvimento Economico e Social, the Brazilian Development Bank (BNDES) since 2004. The main objective of the credit line and the program was to support increased competitiveness and job creation in micro-, small and medium-sized enterprises by channeling medium and long-term financing for investment projects for expansion, modernization, and diversification of the productive activities of undertakings that satisfy the feasibility requirements

Although the Bank mainly focuses on addressing the consequences of information asymmetry problems such as moral hazard, adverse selection and limited commitment, it is also committed to helping countries facing extraordinary, temporary, external shocks; particularly when the shocks are large, exogenous, and may have systemic impacts on the region, such as the most recent global economic crisis. In 2008 the Bank launched the Liquidity Program for Growth Sustainability to support efforts by governments to miti-

gate the effects of the financial crisis on macroeconomic stability, economic growth and employment. The program provided liquidity via regulated financial institutions facing reduced access to foreign credit lines and interbank credit, so that they in turn could provide trade-credit lines to SMEs and maintain firms' access to working capital.

Empirical evidence of the effectiveness of specific programs financed by the Bank is scarce. Hence, findings from impact evaluations of similar programs (in particular subsidized provision of credit and guarantee schemes) were analyzed in order to answer two questions: (i) do these programs succeed in improving access to credit and increasing the levels of investment? and (ii) does having access to credit improve the performance of beneficiary firms?

The available evidence suggests that programs aiming to increase access to credit by SMEs, in particular guarantee schemes, can result in greater formal financing by such firms.⁸⁰ There is also evidence that firms that gained access to formal credit were credit constrained, and lifting this barrier allowed them to improve their performance, although on this second question the results are more varied.⁸¹ As shown in section V below, evidence suggests that targeted credit and matching grants effectively support SMEs in overcoming the financial constraints that hamper their ability to innovate. Paravisini (2008) analyzed the effect of a targeted-lending program on small Argentinean firms. The results suggest that only seven cents of each dollar lent with program funds would

⁸⁰ Regarding the provision of subsidized access to credit and the use of guarantee schemes, Aivazian, Masundar and Santor (2003) found that the World Bank's Small and Medium Industries program in Sri Lanka led to a relaxation of credit constraints and higher levels of investment for firms that received the subsidies. They also showed that the public guarantee lowered the SMEs' borrowing cost to a substantial extent. Uesugi, Sakai and Yamashiro (2008) examined the impact of the Special Credit Guarantee Program (SCG) in the Japanese small-business sector and found that credit allocation, particularly in terms of long-term loans, increased more among SCG users than non-users.

⁸¹ Aivazian, Masundar and Santor (2003) found that relaxing financing constraints did not affect the absolute or relative economic efficiency of the group of firms that received loans from the SME program. Banerjee and Duflo (2004) show a significant acceleration in the rate of growth of sales and profits for beneficiary firms that received a direct credit. Uesugi, Sakai and Yamashiro (2008) show that profitability improves among the less risky users of a guarantee scheme, while there is no significant change among risky users. On improving access to credit and fostering productivity of microenterprises, Cotler and Woodruff (2008) studied a lending program designed to serve clients (small retail enterprises) of the largest snack-food company in Mexico (Bimbo). They found that the loans had positive impacts on the smallest firms, but negative impacts on larger firms, which is consistent with the hypotheses that smaller firms have higher returns to capital and face greater credit constraints.

not have been provided to beneficiary firms in the absence of the program, implying that targeted-lending programs can be used by banks to reduce their lending costs without necessarily substantially increasing the amount of loans they provide.⁸²

The available evidence suggests the importance of efficient targeting, as not all public resources increase the total amount of credit provided to SMEs equally, and not all SMEs benefit in the same way from access to credit. For these reasons, and to learn which specific instruments and programs work best in the region, it is important for the Bank to develop rigorous impact evaluations to assess the effectiveness of the programs that it supports. This will contribute to building a body of evidence on the effect these programs can have on SME development, on growth, employment and ultimately on reducing poverty and inequality.

The Bank is currently developing methodological guidelines and training activities to support the adoption of state-of-the-art impact evaluation techniques in the areas of access to credit and SME productivity. In addition, it is initiating pilot impact evaluations of the effect of credit policies on microenterprises and SMEs in Brazil, Chile, Paraguay and Peru. In Chile and Paraguay the studies are still at the design stage. In Chile, the study aims to evaluate the impact of different public credit and guarantee programs, mainly managed by the state agency CORFO, on SMEs' performance. In particular, it intends to measure the impact on productivity and employment. In Paraguay, the Bank has defined an evaluation project to assess the impacts of the *Agencia Financiera de Desarrollo* (AFD) on access to medium long-term credit, emplo-

ment creation, investment and productivity. In Brazil the Bank is building upon previous related work⁸³ to produce initial evidence on the effect of public credit policies on firms' financial constraints, investments, employment generation, productivity, and growth. Although preliminary, results show heterogeneous, positive effects on employment, R&D investment, and productivity. Results also show that in Brazil, coverage has increased over time on firms of all sizes. In Peru, in the context of a project with MIBANCO, the Multilateral Investment Fund (MIF) is designing a randomized trial to evaluate the effectiveness of different combinations of access to microfinance promotion and training to develop the skills and capacities of female entrepreneurs.

CITIZEN SECURITY

The Bank has supported countries of Latin America and the Caribbean in their efforts to prevent violence and criminal activity since the mid 1900s. From 1998 to 2006, the IDB approved ten projects with a total funding of more than US\$200 million. During 2008-09, the Bank approved citizen security programs in Argentina, Jamaica and Trinidad and Tobago, with a total funding of almost US\$45.5 million.⁸⁴

Crime and violence are key challenges for the region. They not only have a detrimental effect on the lives of citizens, but also a significant impact on prospects for economic development. As Ban Ki-moon, Secretary-General of the United Nations, recently put it: *"Without development we will not have security, and without security we will not achieve development."* The relevance of the topic led the United Nations Development

⁸² An interesting alternative intervention to improve access to credit is the promotion of credit bureaus. In a recent evaluation in Guatemala, De Janvry et al. (2008) analyzed the impacts of a new credit bureau by examining its effect in two parts: what happens when a lender observes new information about borrowers, and what happens when borrowers become aware that lenders can observe this information. The authors found that firm's awareness of monitoring by the bureau led to a modest and temporary increase in repayment rates among lenders and to microfinance groups rejecting worst-performing members.

⁸³ These include a study partially supported by the IDB (Ribeiro E. P. and De Negri J. A. 2009): "Estimating the Causal Effect of Access to Public Credit on Productivity: the case of Brazil", presented at the LACEA-LAMES Conference (2009) and a study supported by IPEA (Ottaviano, G. and Souza, F. (2008). O efeito do BNDES na produtividade das empresas. In De Negri (org). Inovação e Crescimento das empresas. Brasília:IPEA).

⁸⁴ AR-L1074, JA-L1009 and TT-L1003.



Programme (UNDP) to concentrate its 2009-10 Human Development Report (HDR) for Central America on insecurity. The IDB identified this as a key development challenge since the mid-1990s and has supported the region with projects and analytical work since then, as it will continue to do in the coming years.

The traditional response to crime and violence relied on coercive treatment through the use of the police, justice and prison systems. However, attitudes to crime and punishment have changed over the last two decades. Firstly, violence is now recognized as a multifaceted and complex phenomenon with multiple causes and consequences, manifesting itself at different levels (individual, family, community). Secondly, it has become increasingly clear that reduction strategies need to be complemented with prevention strategies, with a special focus on community participation.

Citizen Security Interventions (CSIs) 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 and. They are an example of the more intelligent approach to crime called for in the HDR for Central

America, a refreshing contrast to lengthy debates on whether a hard or a soft approach is more efficient.

Following Moser et al. (2005), the large array of policy responses to crime and violence can be grouped in the following five categories: (i) criminal justice (including the police system, the judicial process and the penal system); (ii) public health (which identifies risk factors and maps crime and violence in order to prevent and control it); (iii) conflict transformation (which examines the way institutionalized, systemic and arbitrary violence can create pre-conditions for future social violence); (iv) environment transformation (which looks at the possibility of preventing crime by modifying the physical environment); and (v) social-capital development (which aims to reduce crime and violence by promoting civic values, trust, cooperation, and social engagement within communities).

These approaches are not mutually exclusive. Behavior is directly influenced by a combination of predisposition and incentives, and indirectly influenced by the physical environment. Crime occurs due to a combination of individual (micro) and contextual (macro) factors. Micro factors indicate an individual's propensity or disposition to commit criminal acts; macro factors are the context in which crime may occur. There has been a marked evolution towards cross-sector violence-reduction interventions, based on the assumption that to be effective and sustainable, policy approaches have to be combined. This is why the Bank has emphasized a comprehensive approach including prevention (via public health, social capital development and environment transformation) and control (through criminal justice). For example, in the three projects approved during the period 2008-2009, the social capital components represent 50 percent of investment funds, the criminal justice components about 16 percent and institutional and capacity-building components the remaining 34 percent.

Using a combination of public health and social capital development approaches, in Trinidad and Tobago the Bank is supporting the creation of Community

Action Officers and training local residents to become Community Peace Promoters. Community actions include community mobilization and violence-prevention services. These capacity-building activities include parenting skills, community conflict resolution, vocational and social skills training for youth, situational crime prevention, and other public education campaigns. A similar approach is being implemented in Argentina to promote community participation in the analysis and design of new and effective interventions. In Jamaica, the Bank's program will promote community governance through the active participation of different community-based organizations in Community Action Committees.

A criminal justice approach is also used. In Trinidad and Tobago, the IDB program is financing the rehabilitation of police stations to increase public confidence and enhance police-citizen interaction. A program in Argentina targets domestic violence. In order to foster more equitable social relations between genders (a key suggestion from the UNDP's HDR), social and situational programs will be implemented, including training of police officers. Another community-level scheme is the establishment in Jamaica of Community Justice Tribunals, which serve as a means of supporting restorative and community justice policy.

These three interventions also include financing for developing the institutional capacity of national and local governmental bodies. In Argentina and Jamaica, the Bank will support the collection, processing, and analysis of timely and reliable information through national statistics on crime and violence. In Jamaica, a review of appropriate rules and procedures, and suitable standards of judicial performance will also be supported.

Interventions following the CSI framework have, as discussed above, some support at the theoretical level. However, the question of whether, when and why 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. There is some evidence supporting the development of justice tribunals at the local level. In a recent evaluation conducted by OVE, Soares and Sviatschi (2009) evaluated one IDB-financed program in Peru whose objective was to extend the coverage of the judicial system to marginal areas by offering "one-stop" service centers. They found that improving access to formal justice reduced the incidence of conflicts by about 4 percent and the proportion of conflicts solved by informal judicial mechanisms by about 10 percent. In addition, results suggest that the program was effective in increasing the supply of attorneys in the areas where the program intervened (about a 10 percent increase in comparison to the control areas). However, the justice modules did not have an impact on the time taken to resolve conflicts.

In terms of social capital components, an attempt to measure the impact of these interventions on social capital creation is presented by Attanasio, Pellerano and Phillips (2009). They study the intervention *Desarrollo y Paz* in Colombia, a community-driven peace-building initiative implemented in some of the poorest and most violent regions of Colombia. They show that social capital can be effectively measured through the use of a behavioral index of contribution to a local public good in a field experimental setting. Additionally, results show that this type of program can contribute to building social capital and creating new aptitude for conflict management in communities affected by violence. However, they do not analyze whether increasing social capital resulted in lower levels of violence in the community. Finally, regarding the public health approach, in an attempt to find the most cost-effective solutions to crime and violence in LAC, Cohen and Rubio (2007) conclude that three out of four programs are interventions treating risk factors, namely: programs for at-risk mothers and young children under the age of five; programs to deal with youth and gang violence; and domestic violence prevention and control.

While the available evidence on the effects of individual interventions similar to those being promoted

by the Bank is inconclusive, there is no empirical evidence to support specific interventions in the integral way that has characterized the Bank's approach to the problem. Interventions approved in 2008 and 2009 represent a new opportunity to focus on solid impact evaluation design. In order to be able to attribute any change in outcome indicators to individual interventions, rigorous evaluation designs should be used, moving beyond the traditional naïve analysis that simply compares indicators before and after the intervention. These interventions lend themselves to such evaluation designs. Also, because they have similar components, comparing evidence from different settings in LAC will represent a contribution to existing knowledge on their effectiveness. Additionally, if the bank wants to be able to demonstrate that the total effect is greater than the sum of its parts, and that a sequence of interrelated interventions should ensure higher degrees of sustainability, more advanced evaluation designs, including multi-treatment and dosage effects models, need to be applied to the specific needs of CSIs.

In this context, the Strategy Development Division (SDV) has partnered with the Institutional Capacity of State Division (ICS) to incorporate rigorous evaluation design into some projects to find out what works in terms of crime prevention in Latin America. In particular, the evaluation of the project in Trinidad and Tobago 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 rates of homicide, robbery, wounding and shooting. The evaluation will focus particularly on the twenty-two communities targeted by the program. It will pilot different rapid-impact projects (such as the creation of safe community spaces, conflict resolution, and public education campaigns) in different

communities, allowing a clear comparison of the different interventions. Finally, a novel way of measuring social capital will be included in the evaluation strategy of the program.

STRENGTHENING ANTI-CORRUPTION IN PUBLIC SECTOR ENTITIES

Programs to reduce or prevent corruption around the world expanded significantly during the 1990s as recognition of the detrimental effect corruption has on development grew (Bryane, 2004). In 2009 anti-corruption was a flagship of the IDB's work in the institutional capacity sector. This effort is represented in the Action Plan to Support Countries in their Efforts to Fight Corruption and Foster Transparency (PAACT), approved in November 2009. Since 2000, the Bank has approved four loans to increase transparency in government procurement processes and fiscal systems, and to fight corruption in the public sector⁸⁵, representing a total of \$61.8 million dollars, and in 2008 and 2009, the Bank approved a loan to fight corruption in Bolivia for \$5 million⁸⁶, which objectives are to reduce impunity of corrupt activities, expand social control, increase government accountability, and reduce the tolerance levels of civil servants and citizens' regarding corruption.

According to the Norwegian Agency for Development Cooperation (NORAD, 2009), anti-corruption approaches fall into the following five broad categories: (i) legal enforcement, (ii) specialized anti-corruption agencies, (iii) public administration reform, (iv) public sector delivery, and (v) community oversight and participation.

The Bank's latest anti-corruption project in Bolivia will implement two of the above approaches: (i) specialized anti-corruption agencies and (ii) community oversight and participation. In terms of specialized

⁸⁵ NI-0143, BR-L1026, HO-0176 and BO-L1047.

⁸⁶ BO-L1047.

anti-corruption agencies, the literature notes that Hong Kong's model is difficult to reproduce elsewhere (OECD, 2003; Heilbrunn, 2004; and NORAD, 2009). When established in 1974, Hong Kong's Independent Commission Against Corruption (ICAC) lacked credibility, but prosecution of a senior police officer improved public perception. This was only possible due to the existence of an adequate legal enforcement framework, the right incentives, and the political will to exert the draconian mandates of the ICAC.

Other countries such as Argentina, Chile, Australia, Bosnia-Herzegovina, Guinea, India, Mauritius and South Korea have also endorsed anti-corruption agencies based on the Hong Kong model, but there is no rigorous empirical evidence that soundly demonstrates their effectiveness. Several case studies point out that political will, adequate financial resources, independence from politics and integrity of staff are key factors in creating successful anti-corruption agencies (U4, Anti Corruption Resource Centre, 2005; Heilbrunn, 2004; and OECD, 2003). However, no impact evaluation has yet verified the importance of these factors.

Regarding community oversight and participation, experimental and quasi-experimental impact evaluations have been undertaken to test the effectiveness of these types of interventions vis-à-vis programs that focus on audits. Ferraz and Finan (2009) used audit reports from an anti-corruption program in Brazil to construct new measures of political corruption in local governments and test whether electoral accountability affects the corruption practices of incumbent politicians. They document less corruption in municipalities where mayors can be reelected. Mayors with a reelection incentive misappropriate 27 percent fewer resources than those without.

Outside Latin America, a randomized experiment in Indonesia related to corruption in road construction projects demonstrated that traditional audits are more effective in reducing missing expenditure than community awareness and participation (Olken, 2007).⁸⁷ By contrast, a quasi-experimental evaluation looking at community monitoring of local officials managing a school grant program in Uganda shows that public access to information can be a powerful deterrent to local corruption (Reinikka and Svensson, 2003). Specialists suggest that citizen monitoring may be effective only when individuals have a personal stake in ensuring that they get what they want, such as food, education or health services. Citizen monitoring may be less or not at all effective in the provision of public goods such as infrastructure projects, where incentives to change corrupt behavior are significantly lower.⁸⁸ It has also been found that information must be presented in a relevant and understandable format, and produce a sense of empowerment, if corruption is to be reduced (NORAD, 2009). It also needs to be effectively diffused, taking into account people's education, abilities and power distribution in their societies (Fjelstad and Isaksen 2008).

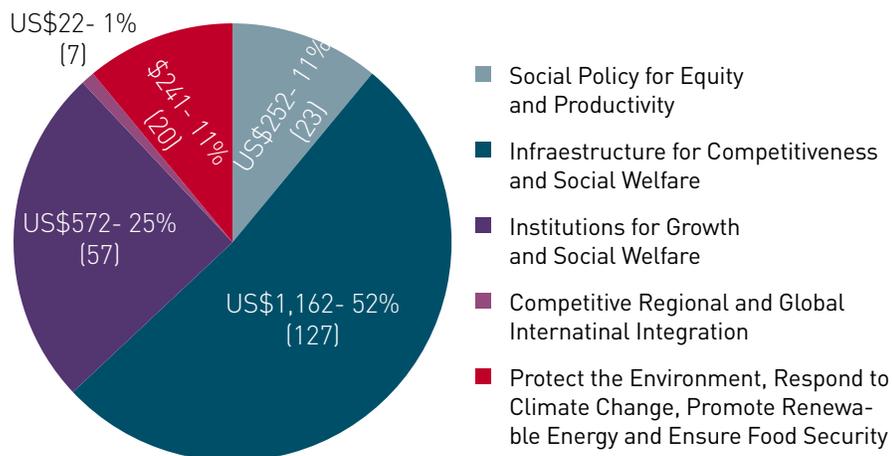
Empirical evidence on anti-corruption strategies is scarce and shows mixed results, so little is known about what works best in terms of combating corruption. With important exceptions, anti-corruption commissions have not been able to demonstrate effective and sustained results, backed by credible and sound evidence. Community oversight and participation is more promising but seems to be conditional on how information is presented and on the nature of goods and services provided. A solid evaluation design for two community participation components provides an ideal opportunity to increase knowledge about the sort of interventions that work in this challenging area.

⁸⁷ The study shows that grassroots participation in monitoring of the projects reduced missing expenditure in wage payments but not in material losses related to the construction of roads. However, since the latter accounts for a greater amount than the former, the impact of community participation on the overall corruption levels was actually negative.

⁸⁸ In the case of the Indonesian study, the entire village would benefit from a reduction in road construction corruption, with small individual benefits thus reducing the incentive to demand a change to corrupt practices. On the other hand, a small group of workers that stands to gain personally from reduced corruption in wage payments is more likely to prompt/demand/force a change of behavior. (Olken, 2007; Fjelstad and Isaksen, 2008; and NORAD 2009).

FIG. 36
Cross-Sectorial Institutional Strengthening

(financing in US\$ million dollars and number of components)



STRENGTHENING OF PUBLIC SECTOR INSTITUTIONS

In 2008 and 2009, the Bank's support for strengthening public sector institutions totaled US\$2.2 billion, of which 52% was in infrastructure loans, 25% in loans related to growth and social welfare, 11% in social sector loans, and another 11% in environment, climate change, renewable energy and food security loans. That means that 11.35% percent of total lending in 2008 had institutional development components and 8.21% in 2009.

These components are rarely evaluated, either ex ante or ex post. To close this gap, the Office of Strategic Planning and Development Effectiveness (SPD) commissioned an ex-ante analysis of the institutional-strengthening component in a sample of projects approved in 2008 and 2009. The analytical framework

used to review institutional-strengthening components considers four fundamental dimensions of institutional change in the public sector.⁸⁹ First, the *strategic objective or vision* considers whether the program is coherent and consistent in its diagnosis and proposed solution. It looks at whether the program is focused on one institution or has a systemic goal, and on whether the component has a final purpose or is instrumental to achieving the project's outcome. Second, the *strategic management or leadership* considers the need for a clear definition of who is in charge, and is defined by either central or sector leadership. The third consideration is who supports the strengthening process, who forms part of the *coalition for change*. The coalition may be broad or reduced, intra-governmental or a more inclusive social coalition. The final consideration is *implementation capacity* which analyzes the risk that the institution will not be able to function under the new arrangements.

⁸⁹ The analytical framework used in this report to describe the Bank's interventions in sector institutional change is derived from the document *Managing Change in OECD Governments: An Introductory Framework* (2008).

A sample of twenty projects that cover the Bank's five strategic priorities was analyzed within the framework described above. The strategic objective of the strengthening components was found to be clearly stated within the projects, with a coherent framework that identified the problem, the objectives to be pursued and the activities undertaken. Nevertheless, in a small number of programs the analysis showed a heterogeneous set of objectives, which diluted the focus of the reform and reduced the coherence between institutional change and sector objectives. Projects concerned with specific reforms to institutions have an intra-organizational and instrumental vision. Projects in sectors such as transport, water and sanitation, and science and technology, which seem to be concerned with one particular institution, are characterized by a vision that is both systemic (i.e. it affects multiple institutions or organizations) and aimed at achieving an end result.

Leadership was clearly identified in the sample group, tending to be mostly based in the sector agency. A small number of sector projects presented a central leadership structure, with the strategic management placed in the Ministry of Finance, although the vision was assessed as aiming at a final result. This arrangement points to resource allocation and fiscal power as the main leadership characteristics for implementing these programs and achieving the development objective, rather than sector policy knowledge.

Identifying the *change coalition* requires an analysis of the behaviors of political actors, both internal and external to the institution. From a descriptive standpoint, all projects in education, science and technology and capital markets involve abroad social coalitions, while transport and agriculture sector projects present broad but intra-governmental coalitions, and energy interventions have reduced coalitions within the government. From an analytical standpoint, the Bank's interventions provide little analysis of the political context in which the projects are designed and implemented. This analysis is necessary to build coalitions that support change and to identify stake-

holders within the public sector that might derail the achievement of the vision. The Bank's interventions tend to assume that government actors, involved directly or indirectly with the project, are on board with the vision for change. The literature on the political economy of institutional change has widely discussed the heterogeneity of positions within a government hierarchy. Key to the success of an intervention is the identification of strategies to strengthen the coalition in support of change and mitigate resistance from other groups.

The Bank's approach to an institution's ability to implement change fails to analyze the capacity of the sector agency to manage the proposed change, and identify the "quick-wins" that are fundamental in establishing a successful sequence of actions. Additionally, the sustainability of institutional change depends on the capacity of the agency to function under a new organization and with new instruments. The Bank addresses this challenge by focusing on building technical capacity to use new instruments, neglecting the capacity to adapt to and operate in a new organizational environment (otherwise referred to as cultural change). This is a necessary condition for change to be efficient, effective and sustainable.

In summary, the Bank's approach to reforming sector institutions tends to focus on a model of intervention that is based on formal structures, and which concentrates on the technical coherence of the diagnosis and the proposed solutions. Incorporating analyses of political-organizational considerations, capacity-for-change management, and the cultural change process would do much to reinforce the likelihood of obtaining positive and sustainable results.

CONCLUSIONS

The Bank has devoted substantial resources to the strengthening of key institutions in its partner countries, and needs to step up to the challenge of measuring the effectiveness of these interventions. By doing so, it will accumulate knowledge about what works

and make the most of two of its core advantages: its regional nature and potential for cross fertilization. Just as the Bank's work in the social sector is a reference point, in the institutional realm it needs to document the effectiveness of its interventions in order to increase its relevance as a development partner. To be clear, it is likely that the Bank has played an important role in the areas mentioned above and also in other institutional challenges such as tax administration, and the strengthening of country systems in accordance with the Paris Declaration on Aid Effectiveness; but the reality is that it has not been able to show those results. While institutional topics are complex, the benefits of having solid evaluation designs are great, and concrete efforts need to be undertaken to acquire these.

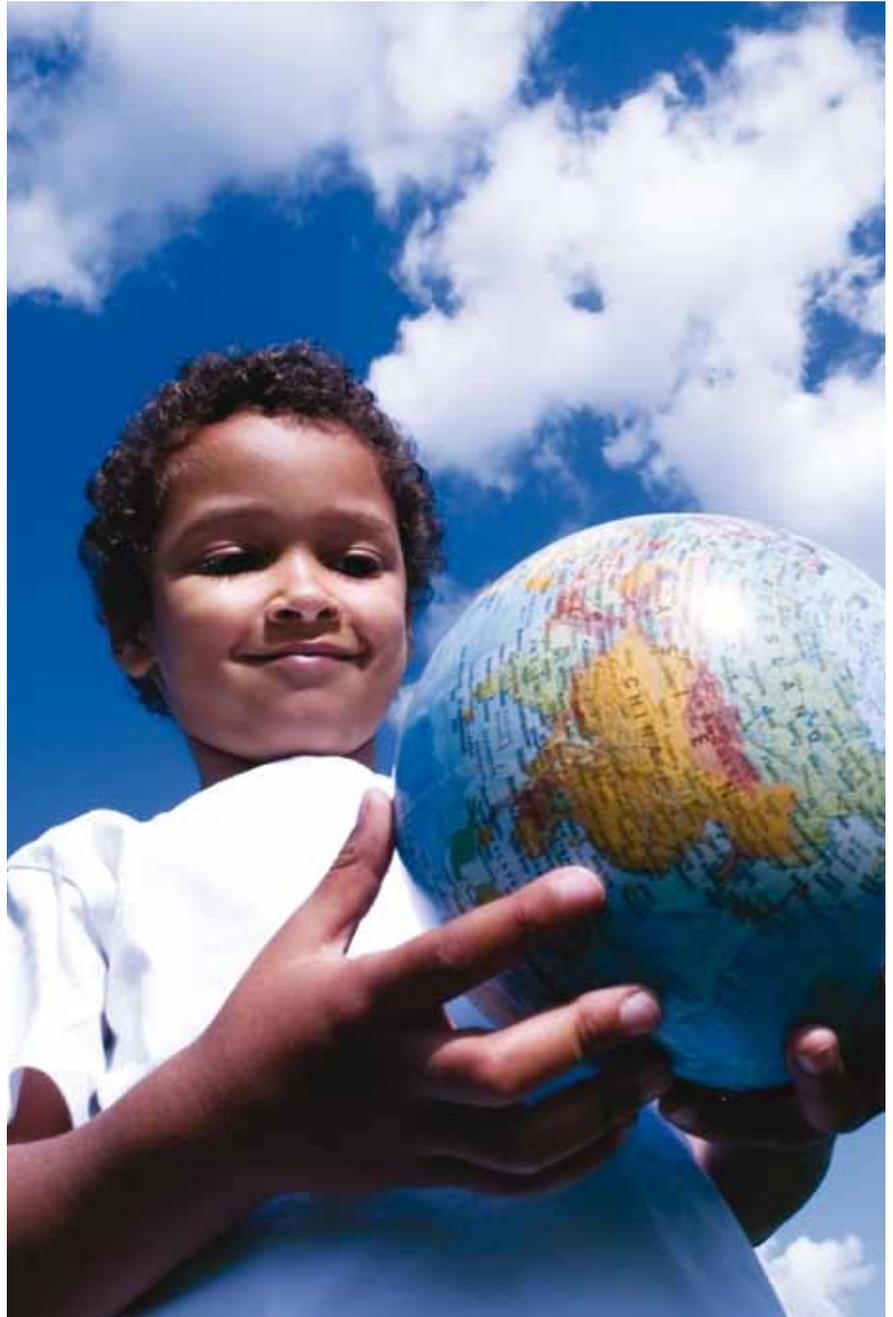
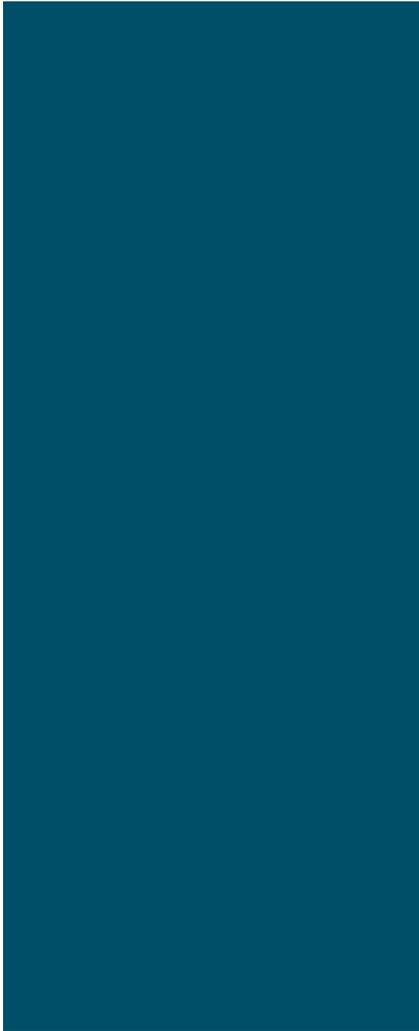
In two of the three topics reviewed in this chapter (credit to SMEs and citizen security), mainstream evaluation methodologies can be applied with minor modifications. Where firms instead of households are the final beneficiaries (and other agencies act as intermediaries) the design and implementation of the evaluation presents more challenges. Nevertheless, there are rigorous evaluations that show that it is possible to overcome these challenges. The Bank has begun working on such evaluations and needs to increase and sustain its effort in this area.

For most interventions in citizen security, rigorous evaluation design could be applied, at least in specific areas such as training, prevention, and environment

improvement. It is also necessary to test the holistic aspect of the Bank's integrated approach. The Bank's support of crime observatories and its focus on generating credible data on crime and violence will aid in the design and implementation of evaluations. The Bank should therefore pay particular attention to these efforts.

Anti-corruption programs in particular and those focusing on changing the internal dynamics of institutions in general, do pose particular evaluation challenges. The definition of valid counterfactuals is not straightforward and structural models (analytical descriptions of the determinants – and their interrelationships—of the performance of institutions) are not common. The Bank has two options available, both of which it should exploit. The first is to apply existing frameworks to the evaluation of institutional reform projects, such as those reviewed by Thoenig (2000) and by Larbi et al. (2005); or those used by the Independent Evaluation Group (2008).⁹⁰ Although they are not proper impact evaluations per se, these frameworks allow to measure progress in achieving institutional change to be measured. Secondly, the Bank should form partnerships with other development agencies working on these topics. The Global Development Network, for example, focused on these issues in its recent tenth annual meeting in Prague. The evaluation of the Paris Declaration has also generated a methodological debate on how best to evaluate these types of projects.

⁹⁰ See IEG, 2008; Larbi, et al. 2005, and Thoenig, 2000.



IV
Chapter



Competitive Regional and Global International Integration

OVERVIEW

Increasing competitiveness and, more specifically, productivity are two of the most urgent needs of the LAC economies. As extensively discussed in 2010 IDB report *The Age of Productivity: Transforming Economies from the Bottom Up*, most LAC economies seem to suffer a chronic productivity growth deficit that over time has generated an increasing development gap between LAC, developed economies and, more recently, some other emerging economies. This scenario is certainly the result of a combination of many market, coordination, and policy failures, currently being tackled by the IDB through a variety of interventions. Achieving higher productivity is an objective shared by most of the IDB's institutional priorities. This chapter focuses on Bank interventions specifically aimed at fostering the international competitiveness and productivity of LAC economies.

The IDB has historically played a key role in supporting productive development policies (PDP) in LAC.⁹¹ In 2008-09, the Bank consolidated this role by financing projects aimed at improving business environment, supporting local productive development, fostering innovation activities, and promoting export and trade. Pro-

jects were approved in fourteen countries for a total amount of financing equal to US\$458 million.

This chapter focuses on four areas of intervention in which the IDB has implemented its strategic priority of

fostering competitiveness in LAC: (i) business environment improvement; (ii) clusters and local development promotion; (iii) technology adoption and innovation; and (iv) export and investment promotion, and trade enhancement.

FIG. 37
Total Financing Project by Sector

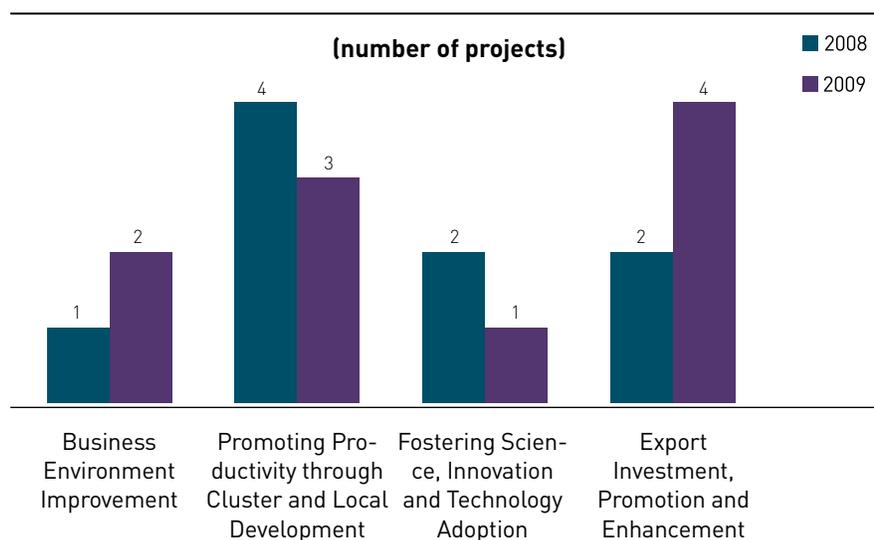
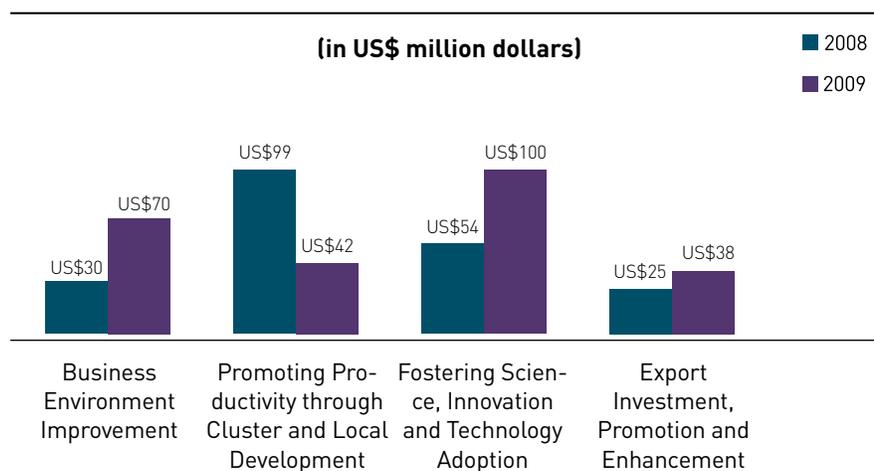
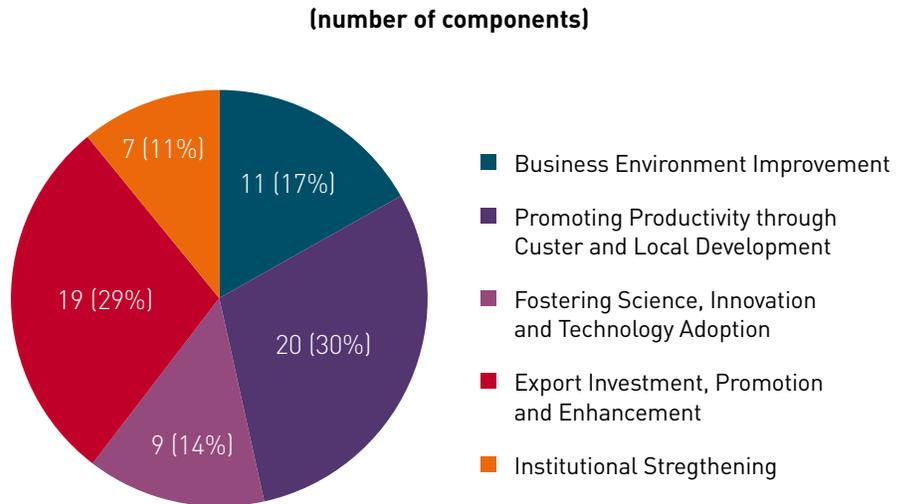


FIG. 38
Total Financing by Sector



⁹¹ According to Melo and Rodríguez-Clare (2006), PDP are those policies that "aim to strengthen the productive structure of a particular national economy".

FIG. 39
Project Components by Sector 2008-2009



Although the use of rigorous impact evaluation techniques is much more recent in this area than in the social sector, an increasing number of studies and evaluations have analyzed the effectiveness of PDP in LAC. The IDB has contributed significantly to the diffusion of these techniques, in particular in the areas of innovation and export promotion policies. Since 2005, the IDB Evaluation Office (OVE), the Strategy Development Division (SDV) and the Science and Technology Division (SCT) have evaluated the impact of innovation and research policies in Argentina, Brazil, Chile, Colombia and Panama.⁹² Since 2007, the IDB Integration Department (INT) has evaluated the effectiveness of export promotion policies in Peru, Costa Rica, Uruguay, Chile, Argentina and Colombia. Currently, SDV in collaboration with SCT is conducting impact evaluations of innovation in Chile and Colombia and OVE is conducting evaluations of Small and Medium-sized Enterprise (SME) policies in Argentina, Chile and Colombia.

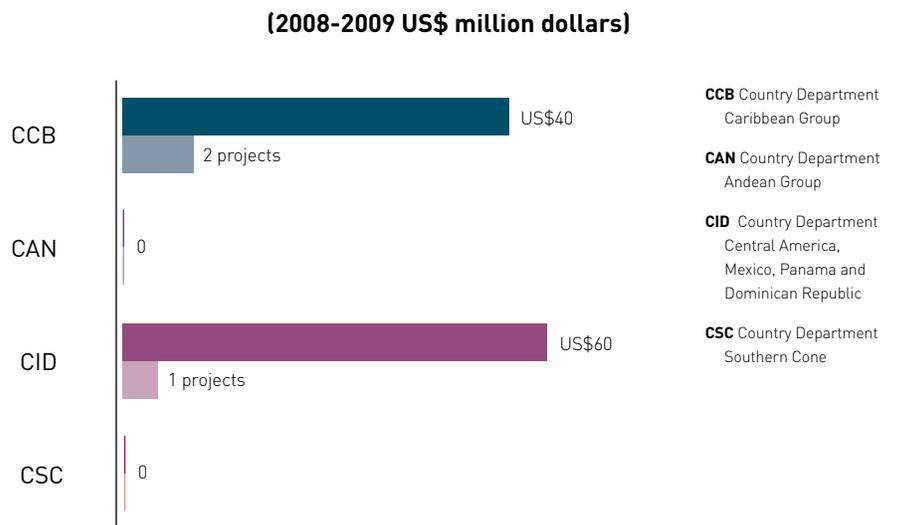
BUSINESS ENVIRONMENT IMPROVEMENT

Business Environment (BE) is a commonly-used term to descri-

be the local economic conditions that foster or retard the birth and growth of firms (Bittlingmayer et al. 2005), including relevant government policies, taxation regimes, interactions between employers and labor unions, inflation rates and so forth.

Since 2004, the IDB has been developing a specific initiative focused on promoting BE development.⁹³ During 2008-09, the IDB maintained its support of this area through three operations in Barbados, the Dominican Republic and Jamaica for a total amount of financing equal to US\$100 million.⁹⁴

FIG. 40
Business Environment Improvement Regional Distribution



⁹² See De Negri, Borge Lemos and De Negri (2006a, 2006b), Benavente, Crespi and Maffioli (2007a, 2007b), Binelli and Maffioli (2007), Hall and Maffioli (2008), Chudnovsky et al. (2006 and 2008), Maffioli and Ubfal (2010).

⁹³ IDB, Business Environment Initiative (GN-2288). For a summary of the activities undertaken under this initiative between 2004 and 2008 see Pienknagura (2008).

⁹⁴ BA-L1007, DR-L1014 and JA-L1001.



An increasing number of studies has shown how vital is the development of a stable and efficient business climate to achieving greater entrepreneurial dynamism. A good business climate not only provides opportunities and incentives for firms to invest and expand, but also allows the dynamic forces of private initiative and innovation to flourish. Private sector growth, therefore, depends largely on the way government policies and behavior shape the business climate, and how competition in the marketplace disciplines productive factors. Businesses look at local factors such as property rights, regulation, taxes, finance, infrastructure, trade, labor markets, corruption, and other areas to evaluate opportunities and incentives to invest. Governments can play a key role in shaping the business climate by implementing policies that remove unnecessary costs, risks, and barriers (IDB, 2005).

Such policies are usually aimed at removing inefficiencies created through regulation, taxation or other distortions introduced by public activities. Regulations are generally justified as an important way for governments to serve the public interest and address externalities or market failures. However, they can also carry costs in terms of delays or expenses needed to meet requirements that too often have little bearing on the rationale of the intervention. The issue therefore is not that regulations per se need to be

minimized, but that unnecessary red tape should be reduced (World Bank, 2009).

In general, cross-country comparisons reveal a positive correlation between favorable business environment and outcomes such as the creation of new firms and economic growth. For instance, Klapper, Laeven and Rajan (2004) found that regulations hamper the entry of new firms into the market, especially in industries that should have high entry. Additionally, value added per employee in naturally high-entry industries grows more slowly in countries with onerous regulations on entry. Bureaucratic entry regulations are neither benign nor welfare improving, leaving aside the enforcement of intellectual property rights and those rules that lead to more stable financial sectors. Loayza, Oviedo and Servén (2005) studied the relationship between regulation and economic growth. They found that high levels of regulation are associated with lower growth, although these results depend on the quality of regulation. This is due to the distortionary effects of regulation on firm dynamics and the incentive that regulation may create for firms to work in the informal sector.

The IDB intervention model in this area is based on five pillars: (i) promoting dialog between the public and private sectors; (ii) reducing transaction costs to facilitate the creation of new enterprises and promote

investment (e.g. by simplifying the administrative procedures needed to open a business or obtain licenses); (iii) improving the regulatory framework (both in general or in particular sectors like the labor market or competition rules); (iv) strengthening the secured transactions framework (by promoting interventions related to property rights, land registration, etc.); and (v) institutional strengthening and improvement of the investment climate.

The interventions approved in 2008-09 reflect this general approach. For instance, in Barbados the Bank is supporting staff training, administrative simplification and process re-engineering to achieve systemic improvements in the operations of the Town and Country Development Planning Office. In addition, the operation aims to improve business development services by evaluating existing institutional arrangements and financing a reform process to streamline business development service institutions. In the Dominican Republic, the Bank is supporting the reform of administrative systems to facilitate business opening and registration. As to tax and expenditure reform, in Jamaica the Bank is implementing an operation designed to reduce the distortions of the tax system, simplify tax administration and rationalize expenditure. Finally, in Barbados the Bank is promoting interaction between government and private sector by redesigning the Commission on Competitiveness and helping create a National Competitiveness Strategy.

Although cross-country comparisons may shed some light on the effectiveness of BE development policies, the most relevant evidence comes from impact evaluations of specific programs to improve the business climate. The literature has mainly focused on the impact of regulation and regulatory reforms on productivity and investment.

Nicoletti and Scarpetta (2003) investigated empirically the regulation-growth link using data covering a large set of manufacturing and service industries in OECD countries over the past two decades and found that reforms promoting private governance and competi-

tion (where these are viable) tend to boost productivity. In manufacturing, the gains to be expected from lower-entry barriers are greater the further a given country is from the technology leader. So, regulation that limits entry could hamper the adoption of technologies, possibly by reducing competitive pressures, technology spillovers, or the entry of new high-technology firms. At the same time, both privatization and entry liberalization are estimated to have a positive impact on productivity in all sectors.

Alesina et al. (2003) estimated the impact of regulation on investment based on data from OECD countries. Their results suggest that tight regulation of the product markets has had a largely negative effect on investment, and the data for sectors that have experienced significant changes in the regulatory environment suggest that deregulation leads to greater investment in the long run. The component of reform that plays the most important role is liberalization, while industry-level measures of privatization do not seem to affect investment significantly.

Evidence from the report *The Easy of Doing Business in APEC* (World Bank, 2009), shows that regulatory burden has a particularly high negative effect on capital investment in those industries that depend heavily on external finance. Conversely, investment in such industries is relatively higher when credit information is better, contract enforcement is simpler, the time required to close a business is shorter, and labor-hiring regulations are more flexible. Although the results vary when using different econometric techniques, some impacts remain always significant (e.g., the positive impact on new-business creation of shortening the time needed to open and register a firm; and access to credit).

Kaplan, Piedra and Seira (2007) analyzed the impact of simplifying registration procedures in Mexico. Their results showed that new-firm registration increased in eligible industries, although most of the effects were temporary. This suggests that the program was more effective in registering existing firms than in spurring

the creation of new ones. Using panel data from the Mexican employment survey, Bruhn (2008) also found that the same reform increased the number of registered businesses in eligible industries. Contrary to the previous results however, she also found that unregistered business owners were not more likely to register their business after the reform. Employment in eligible industries increased, and people who were previously unemployed or out of the labor force were more likely to work as wage earners after the reform. The results also show that competition from new entrants lowers prices and decreases the income of incumbent businesses.

PROMOTING PRODUCTIVITY THROUGH CLUSTERS AND LOCAL DEVELOPMENT

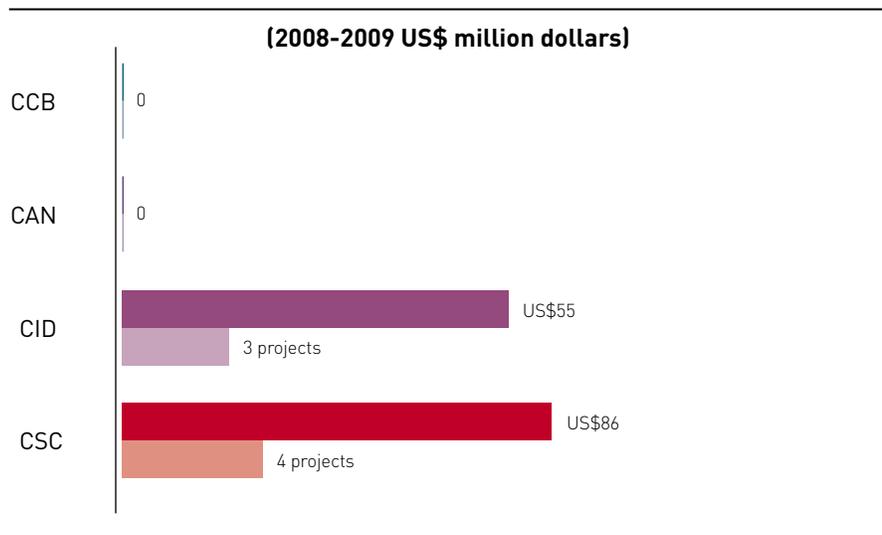
As part of a general strategy to foster growth, an increasing number of policies in LAC have focused on particular sub-national areas characterized by agglomerations of specialized productive activities, often identified as industry clusters. The specific characteristics of these clusters range from simple agglomerations of firms operating in the same or related industries, to more complex forms of industrial organization, characterized by productive specialization, pools of specialized and skilled workers, networks of specialized service-providers, supportive institutional systems and a systematic interaction among agents that could lead

to joint investment in collective goods and services.⁹⁵

The IDB has significantly supported the recent diffusion of the cluster approach in LAC. During the period 2008-09, the IDB approved eight projects which included intervention based on the cluster approach, for a total amount of financing equal to US\$141 million.⁹⁶ In Argentina, the IDB is promoting the competitiveness of industry clusters in the Norte Grande region. In the same country, the IDB project with the Ministry of Science and Technology provides for a specific line of financing to support innovation activities in industry clusters. In Belize, the Bank

has adopted a cluster approach to promote sustainable tourism in three localities.⁹⁷ In Permabuco and Minas Gerais, Brazil, two IDB operations are supporting the development of fourteen clusters with the cooperation of the state governments, the State Federation of Industries and Serviço Brasileiro de Apoio as Micro e Pequenas Empresas, the Brazilian Agency for Micro and Small Enterprises (SEBRAE). In Guatemala, the Bank is financing technical assistance to promote cluster development and boost productivity in key sectors and regions. In Barbados, the Bank is supporting a pilot program to introduce a cluster development model to the country's

FIG. 41
Promoting Productivity through Clusters and Local Development Regional Distribution



⁹⁵ Definitions of industry clusters are abundant in the literature. The simplest definition is derived from the work of Michael Porter, who defines clusters as "a geographic concentration of competing and cooperating companies, suppliers, service providers, and associated institutions" (Porter, 1990).

⁹⁶ AR-L1063, AR-L1013, BA-L1007, BL-L1003, BR-L1020, BR-L1021, GU-0163, PN-L1012.

⁹⁷ San Ignacio area, the Abergris Caye and the Placencia Peninsula.

private sector. Finally, in Panama the Bank is supporting the sustainable development of three tourism circuits in the Colón Province.

The idea of promoting the formation and development of clusters is based on the assumption that firm-level productivity benefits from agglomeration. These so-called agglomeration economies have been well documented in the literature since the seminal work of Marshall (1920).⁹⁸ Agglomeration economies originate from a set of positive externalities that are simultaneously industry specific and location specific.⁹⁹ These externalities are mainly due to knowledge spillover, input sharing and labor-market pooling. In the first case, several studies have documented that certain non-codified industry-specific knowledge is spatially bound in the location in which it originated, because its transmission requires direct social interaction or even the transfer of the human resources that generated it (Feldman and Audretsch, 1999). Therefore, gains from knowledge spillovers may only be realized among same-industry, locally-concentrated firms.¹⁰⁰

Evidence shows that input sharing leads to industry-specific and location-specific externalities when there are benefits from specialization among input suppliers, increasing returns in the production of the intermediate goods, and gains from the proximity of such goods suppliers and final users (Fujita, Krugman and Venables, 1999). These conditions are very likely to occur in the cases of industry-specific services, such as business consulting, machine repair, and quality certification. Labor pooling generates ex-

ternalities because the concentration of an industry in a certain location allows workers to specialize in industry-specific skills without the fear of not finding a job that matches those skills in their area of residence. Finally, it is worth noting that the effect of agglomeration economies is not only static, but also dynamic because a higher rate of learning by doing and by interaction encourages a higher rate of productivity growth and a more intensive and effective process of innovation (Rodríguez-Clare, 2005).¹⁰¹

Agglomeration and clustering are particularly relevant in the case of tourism. Almost by definition the tourism industry is geographically concentrated because of its dependence on the natural or cultural attractions of a specific territory. In addition, the strong complementarities among services and products boost the effects of externalities, making coordination among local agents even more important. Additionally, the industry requires infrastructure to facilitate travelers' movements, and utilities to make possible their stay. Finally, the sustainability of a tourism district may also be affected by negative agglomeration externalities, particularly when it depends on the local natural heritage of a territory.

So, if agglomeration and clustering are so relevant, why is public intervention needed to promote them? It is a well-known result in economic theory that in the presence of externalities, the market fails to assign the resources optimally. As originally pointed out by Rosenstein-Rodan (1943), the investment of one firm can have a positive effect on the profitability of

⁹⁸ Because of Marshall's seminal work, this phenomenon is often referred to as Marshallian externalities. In more generic terms, the literature has also referred to the concept of industry-specific local externalities (ISLE). Henderson, Kuncoro and Turner (1995) refer to these types of industry-specific externalities that arise from regional agglomeration as "localization externalities", in particular when firms operate in related sectors and are closely located.

⁹⁹ The literature has also identified potential negative externalities (agglomeration diseconomies) such as crime, pollution and congestion (Wheeler 2003).

¹⁰⁰ This argument was first introduced by Marshall (1920), followed by Arrow (1962), and then Romer (1986) and later formalized by Glaeser et al. (1992) as the Marshall-Arrow-Romer (MAR) model. The endogenous growth theory (Romer, 1986; Lucas, 1988; Krugman, 1991) underlines the importance of knowledge spillovers and externalities in inducing self-reinforcing, increasing returns-to-scale within a geographically-bounded region supporting the agglomeration of economic activities. A stream of empirical literature that started with the seminal contribution by Glaeser et al. (1992) has sought to examine the respective roles of specialization and diversity regarding local and regional development (Greunz, 2004).

¹⁰¹ The existence of agglomeration economies has also been empirically documented. See for example Ellison and Glaeser (1997), Hanson (2001), Rosenthal and Strange (2003), Wheeler (2003) and Rodríguez-Clare (2005).

the investment of another firm, and this is particularly true when geographical proximity and industry complementarities cause agglomeration economies. In this context, coordination failures could lead a local economy or a cluster to low-investment equilibrium, because the local agents, government included, fail to coordinate their investment decisions.¹⁰² Public coordination, regulation and investment are also clearly needed when negative agglomeration externalities occur. Cluster policies, therefore, primarily aim at addressing the coordination failures that could hamper the growth potential of a local economy.¹⁰³

The IDB has adopted a comprehensive approach to cluster development, supporting actions that range from the cluster identification, to the financing of infrastructure, club goods and other services. The Bank's intervention logic is based on the assumption that potential coordination failures emerge at the very preliminary stage of the development of an industry cluster, and that public intervention is needed to facilitate the interaction among the local private and public agents. For this reason, the first stage of the Bank's projects usually includes the preparation of a Local Development Plan (LDP) aimed at coordinating and prioritizing the various investments needed for the development of an industry in a specific area.¹⁰⁴ In this way, the Bank's operations aim at shifting the investment decisions of the cluster's actors towards an equilibrium where local industry-specific and location-specific externalities are accounted for.

The Bank operations pay particular attention to investments in knowledge creation and technology adoption, which are two of the major sources of industry-specific and location-specific externalities. In Argentina, the IDB

focuses on supporting technology-intensive clusters. Since the third Technological Modernization Program, the Bank has supported the creation of a specific line of financing for comprehensive programs in research development and innovation, prepared by groups of enterprises, research centers and organizations located in productive clusters. In Pernambuco, Brazil, the cluster-development centers play a central role in the Bank operation, which devotes a significant part of its resources to funding technical assistance and training activities related to the development and adoption of new technologies. In addition, the operation includes resources for the development of an Information and Communication Technologies System (ICT), integrated at cluster level. Similarly, the Minas Gerais operation devotes most of its resources to funding training and technical assistance related to the adoption of new technology and practices.

The IDB intervention model also provides for the co-financing of public infrastructure and club goods. At this stage, in addition to reducing coordination costs, the Bank funding works as a catalyst for new investment projects, both private and public. This is particularly clear in the case of the tourism operations in Belize and Panama, where the Bank's operations finance infrastructures such as visitor facilities, waterfront improvements and fundamental public utilities, such as water, sanitation and waste management. The Norte Grande operation also finances strategic local infrastructure, either with its own resources or with the resources of complementary Bank interventions in the area.¹⁰⁵ In addition, these operations co-finance the purchase of machinery, equipment and facilities to be collectively used and managed in technology centers by groups of firms located in the

¹⁰² For a review on coordination problems in development, see Hoff (2000).

¹⁰³ As discussed by Maffioli (2005) and Rodríguez-Clare (2005) in some cases the coordination problem should be addressed only by an agent that maximizes the overall social return of a cluster (or network) and not by those agents that maximize their individual payoff, even when they consider the agglomeration or network externalities.

¹⁰⁴ The LDP is also referred to as Competitiveness Strengthening Plan (CSP), Pernambuco and Minas Gerais Programs, or Competitiveness Improvement Plan, Norte Grande project. In Belize, Destination Management Plans (DMP) for the three targeted tourism districts were defined during the project preparation.

¹⁰⁵ For instance, the Norte Grande Infrastructure and Energy programs.

clusters. In this way, industry-specific productive assets become club goods for the firms involved in the cluster development plan.

Finally, the IDB's cluster projects also provide technical assistance to improve adoption of technologies, access to foreign markets, and access to credit. In Argentina, for instance, the Bank is promoting the creation of a network of local facilitators, who will be responsible for improving the access of Norte Grande companies to existing technological and business development services. In Brazil, the operations in Minas Gerais and Permanbuco support the adoption of technologies, environmentally-sustainable production practices, and best practices in the areas of commercialization, logistics and management. In Panama, the IDB project supports the adoption of environmentally-sustainable production practices, with the aim of mitigating the effects of local economic activities on the natural and cultural heritage of the Colón Province.

Although there appears to be general consensus on the benefits of policies that promote the creation of productive clusters, rigorous empirical evaluations of the impact of such policies are scarce and, therefore, inconclusive.

Falck, Heblich & Kipar (2008) analyzed the impact of the Cluster Initiative, implemented by the Bavarian State Government in 1999 to foster cooperation among industries and support regional competitiveness. Looking specifically at the innovative behavior of companies, they found that the introduction of the Bavarian-wide cluster policy increased the likelihood of innovation by a firm in the targeted industry, but that this effect was driven mainly by the increase in

the likelihood of large firms to innovate. A cost-benefit analysis is needed to determine if the program was a valuable investment.

Martin, Mayer & Mayneris (2008) studied the impact of the Local Productive Systems (LPS) policy¹⁰⁶ on firms' Total-Factor Productivity (TFP) and on firms' employment. Their findings suggest that the policy did not succeed in reversing the relative decline in productivity for the targeted firms. They detected a very weak and transitory positive effect for single-plant firms. The policy did have a positive, if modest and transitory, effect on the employment of firms involved in the LPS policy. The authors interpreted it as a cautionary tale for policy makers intending to commit large amounts of public money to such policies.

Nishimura and Okamuro (2009) examined the effects of the Industrial Cluster Project (ICP), implemented in Japan in 2001, on the Research and Development (R&D) productivity of participants. The authors found that participation in the cluster project alone had no significant effect on the R&D productivity of firms. However, their results suggest that the cluster participants that collaborate with national universities in the same cluster region significantly improve their R&D productivity.¹⁰⁷ The conclusion drawn from these findings is that in order to improve the R&D efficiency of local firms, it is important to construct a wide-ranging collaborative network within and beyond the clusters, rather than focusing on the network at the narrowly-defined local level.

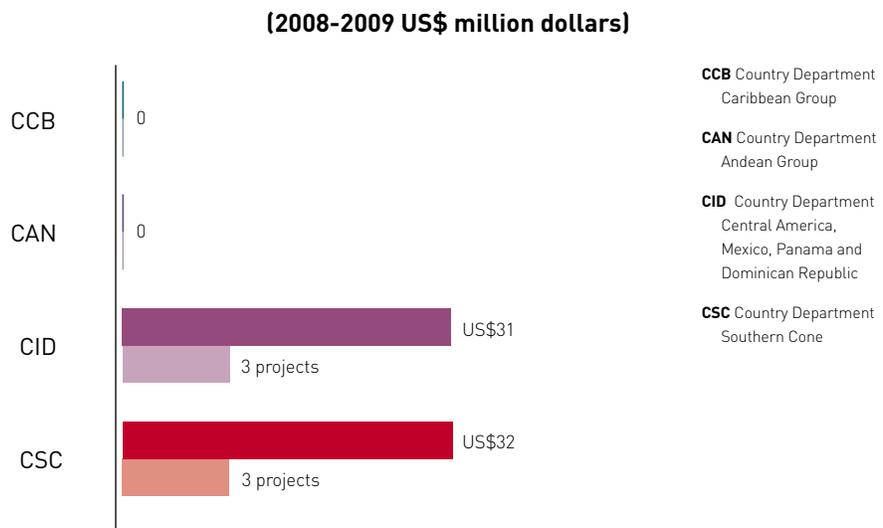
Although most of the IDB's cluster projects are too recent to show any results, including those approved before 2008¹⁰⁸, they have devoted increasing attention

¹⁰⁶ This program was implemented by Délégation Intéministerielle à l'Aménagement du Territoire et à l'attractivité Regionale, the French Regional Policy Agency (DIACT) in 1999 to encourage cooperation among firms and to increase the competitiveness of firms in the cluster.

¹⁰⁷ On the regional impact of universities, the literature finds strong evidence of local academic-technology transfers, although the impact of these transfers on local development is vague. See Varga (1997) and Agrawal (2001) for reviews.

¹⁰⁸ Between 2005 and 2007, the Bank has supported three cluster projects in Brazil (Bahia, Sao Paulo and Paraná), three in Argentina, (Rio Negro, Mendoza and San Juan) and another four in Chile, Honduras, Panamá and Uruguay.

FIG. 42
Export Investment, Promotion and Trade Enhancement Regional Distribution



and resources to a monitoring and evaluation component. The already referred to projects recently approved in Brazil and those previously approved in Argentina and Chile are implementing information systems that will generate information which will be connected to other existing statistical and administrative datasets to evaluate the impact of the IDB intervention with quasi-experimental evaluation techniques. For this purpose, The Capital Markets and Financial Institutions Division (CMF) and SDV divisions have recently defined a joint work plan for the implementation of this methodology in a couple of pilot experiences during 2010-11.

FOSTERING SCIENCE, INNOVATION AND TECHNOLOGY ADOPTION

Another key pillar of the new wave of PDP in LAC is the promotion of science, innovation and technology adoption. This effort addresses a persistent and, in some cases, increasing technological gap between LAC and developed economies, and, in some cases, between LAC and other fast-growing emerging economies. Recent evidence shows that although Science and Technology (S&T) in LAC has been progressing in absolute terms, it has fallen behind in relative terms.¹⁰⁹ Cross-country comparisons show that many indicators in LAC are lower than expected given the level of income per-capita.¹¹⁰

Of particular concern is the persistently low participation of the LAC productive sector, especially private firms, in R&D investment. This does not necessarily mean that LAC firms do not innovate at all. Recent statistics from LAC countries where innovation surveys are available show that the percentages of firms that are innovating in some way are not so far from the OECD average. Therefore, the low investment in R&D most likely reflects the fact that innovation activities in LAC still focus on the adaptation of existing technologies or on nontechnology-based

innovations.¹¹¹ The LAC model of technological development seems to ignore that the development of internal capacities complement rather than substitute the adoption of foreign technology. This approach could cause severe problems in future if the lack of internal R&D produces such a wide knowledge gap that the capacity to absorb external technology is undermined.

The IDB has traditionally led the initiative in this area, financing major national S&T programs throughout the LAC region.¹¹² During 2008-09, the bank approved three

¹⁰⁹ This statement certainly holds when input variables such as R&D investment levels are observed: according to the UNESCO science report in 2005 (UNESCO 2005), LAC economies account for just a small fraction of the world expenditure in R&D and this share even contracted between 1997 and 2003 (from 3.1% to 2.6%). Overall investment in R&D has always been low in the LAC region and it has not significantly improved over time. Between 1991 and 2003, the R&D investment rate increased only slightly (from 0.49% to 0.57% of GDP). Consequently, not only has the gap with highly developed economies not narrowed, but the region has also fallen behind other emerging areas such as East Asia and Eastern Europe, where in 2003 the R&D/GDP ratio reached 1.2% and 0.97% respectively.

¹¹⁰ For instance, between 1997 and 2006 R&D investment trends remained stagnant and LAC stabilized at about 2.6 percent of global R&D, while China alone reached 8 percent.

¹¹¹ For a complete discussion on this topic, see IDB (2010) chapter 10 "The importance of ideas: Innovation and Productivity in Latin America".

¹¹² In particular, the IDB has historically played a key role in the design, financing and implementation of innovation policies in Argentina, Chile, Colombia, Panama and Uruguay.

operations specifically aimed at supporting innovation in three countries of the region, for a total amount of funding equal to US\$154 million.¹¹³

The literature that discusses the importance of S&T in development and growth is too vast to be summarized in this context.¹¹⁴ The role of technology in determining the level of development of an economy and its growth potential has been at the center of the debate among economists of different schools since the very foundation of economics as an independent subject of empirical and theoretical research. Although theories have sometimes disagreed on the mechanism through which technological advancements spread within and between economies, a wide consensus has emerged on the central role of innovation in determining the dynamics of economic development, growth and the catching-up process of emerging economies. In particular, the development of new or improved products and the adoption of new production processes and business practices have been identified as among the main sources of productivity increase both at firm and systemic level.

The literature has also extensively debated the role that public policies play in S&T. The prime, and most accepted, justification for S&T policies comes from the need to correct market failures caused by the “public good” nature of knowledge.¹¹⁵ In this view, nonappropriable benefits associated with the creation of knowledge make private investment fall short of social optimal levels. To respond to this problem, the public sector usually plays a major role in financing investments in scientific research. Different intervention models, not necessarily mutually exclusive, are

adopted, ranging from the establishment of public research organizations to the provision of research grants through competitive processes and Intellectual Property Rights (IPR).

Asymmetry of information in the financial and knowledge markets provides another key justification for public funding of research and innovation activities. The asymmetry of information between the lender and the borrower on the technical contents of innovation projects limits the availability of private funding. In the knowledge markets, the asymmetry of information between providers and potential adopters on the benefits and risks of a specific technology may lead to lower adoption rates than socially desirable. A number of policy instruments address the financial constraints in innovation, including public subsidies, tax incentives, targeted credit lines co-managed by financial intermediaries and public agencies specializing in the screening of innovation projects, and even public venture capital organizations. To respond to the failures in knowledge markets, governments also use a variety of instruments, ranging from technology extension systems to specialized public technology centers.

The intrinsically high uncertainty of research and innovation outcomes is another reason for public intervention in S&T. Projects with a significant component of basic research are unlikely to produce results with commercial application in the short run. Although this may discourage private investments, the projects could still have a high social return because of the skills and knowledge produced during their development, apart from their final achievements.¹¹⁶ To mitigate this problem, governments use grants and

¹¹³ AR-L1073, PN0158 and UR-L1030.

¹¹⁴ For a recent survey on this topic see Fagerberg, Srholec and Verspagen (2009).

¹¹⁵ Since the seminal works by Nelson (1959) and Arrow (1962), scientific and technological knowledge has been defined as a durable public good, i.e. nonexcludable, nonrival and cumulative. Furthermore, the nonrival and cumulative character of new knowledge intensifies the difficulty of creating incentives that can compensate for the nonappropriable benefits. Finally, the uncertainty and indivisibility of knowledge investments cause an even greater suboptimality in the allocation of resources.

¹¹⁶ The uncertainty could be both technical and commercial in nature. In the former case, it is not clear ex ante if the research projects will be able to achieve the technical solution to certain problems. In the latter case, the uncertainty is related to difficult assessment of the final users' willingness to pay for a product or services that cannot be tested yet.

subsidies to reduce the financial risk of innovation to the firm via cost-sharing. They also use public procurement to reduce uncertainty and to signal to private investors the profitability of the project.

Several coordination failures can also require public interventions. The low appropriability of the investment in research activities causes externalities that may benefit firms or agents operating in the same sector, including potential competitors (free riding). In this situation, the coordination of investment decisions may lead to a better equilibrium, either because more investment projects become profitable, or because costs are not duplicated in separate efforts that lead to identical results. The creation of research groups or consortia, for instance, allows such groups to internalize some externalities of the research results, reducing the potential duplication of investment in developing knowledge with low direct commercial application. In this case, public intervention is often required to reduce the transaction costs that may hamper the formation of the consortia and to regulate their activities in order to achieve the desired balance between cooperation and competition.¹¹⁷

Lack of systemic coordination and government failures also call for specific policy interventions. These interventions focus on so-called National Innovation Systems (NIS),¹¹⁸ and are aimed at addressing issues related to the dynamic and collective nature of the innovation process,¹¹⁹ such as the promotion of linkages among the members of innovation systems and the improvement of the systemic absorptive capacity. They also promote the coordination of innovation po-

licies with other public interventions that may affect research and innovation activities.¹²⁰

To respond to these challenges in the LAC region, the IDB has, over time, adopted a comprehensive approach to S&T policies. It addresses typical market failures but also supports the development of both national and subnational systems of innovation. In particular, the Bank finances various policy instruments to promote scientific research and to support innovation in the private sector, including competitive research grants, matching grants, horizontal subsidies, guaranteed loans, targeted credit lines, and procurement programs. It also supports the reinforcement of the absorptive capacity of the region via the development of human capital with scholarships for post-graduate studies, incentives for the insertion of post-graduate students into the business sector and incentives for scientists based on performance. Finally, the Bank finances the modernization or replacement of deteriorated research infrastructures.

The three projects recently approved in Argentina, Panama and Uruguay reflect this comprehensive approach and include the following components: (i) financing for scientific research, (ii) financing for private-sector innovation, (iii) development of human capital, and (iv) strengthening of the national innovation system.

In terms of private sector financing, the three operations use similar instruments, though they differ slightly in terms of targeting. In Argentina and Uruguay, the operations use different lines of financing for different groups of beneficiaries. In Argentina, Fondo

¹¹⁷ The regulation may allow and encourage firms to coordinate their R&D investment during the first stage of a project (e.g., the basic research stage) and then force them to engage in Cournot or Bertrand-type competition in the second stage (e.g., prototype development). On this topic, see among others Martin and Scott (2000).

¹¹⁸ Several definitions of NIS have been proposed over time (see among others Lundvall, 1992). In general these definitions share two key concepts: (i) the importance of interactions among organizations in the innovation process and (ii) the influence of institutions in translating innovation inputs into outputs. The concept has more recently been expanded at subnational level (Regional Innovation Systems [RIS]) and at industry level (Sector Innovation Systems [SIS]).

¹¹⁹ In this regard, the evolutionary literature criticizes the public good argument by claiming that learning and transmission costs could significantly diminish both the non-rival and cumulative character of knowledge (Pavitt 2005). Therefore, the rationale for the public support of S&T has to be found in the dynamic and evolutive nature of the knowledge-creation process. Public investment in S&T should foster systemic learning capabilities by training scientists (Salter and Martin 2001), developing new methods (Rosenberg, 1992), creating knowledge networks (Lundvall, 1992) and increasing the systemic capacity to solve problems (Patel and Pavitt, 2000).

¹²⁰ For instance, competition policies may affect the creation of research consortia and the implementation of intellectual property-right policy.



Tecnológico Argentino, the national innovation fund (FONTAR) provides for credit lines co-managed by a specialized public agency and financial intermediaries to target large firms. In this way, the firms benefit from the technical validation of their innovation projects by the public agency. Both in Argentina and Uruguay, more standard matching grants target new firms and SMEs, which are certainly more likely to be financially constrained. Finally, specific matching grants target projects proposed by industry clusters and groups of firms and organizations. In this case, the targeted financing aims also at creating incentives to overcome coordination problems.

The Panama operation differs because it focuses only on three sectors (logistics, bioscience and information and communication technologies), which were pre-identified by the government for their strategic relevance. The logic here is to concentrate resources in those sectors where the country has shown some comparative advantage. Matching grants are mainly designed for the private sector, but some financial incentives are also devoted to promoting cooperation between firms and research organizations.

In terms of human capital development, the three operations finance scholarships for graduate studies and grants to attract talent from abroad. In Argentina and Uruguay, the operations also support academic research, in Argentina through a consolidated fund for competitive research grants (the Fondo para la Investigación Científica y Tecnológica, FONCYT) and in Uruguay through the financing of research projects of strategic public interest. In Panama, the operation supports special programs aimed at improving basic science education, increasing young people's awareness of the importance of science, and identifying young scientific talent.

Finally, the three operations include actions aimed at strengthening coordination among key organizations

in the NIS and the implementation of the National Strategic Plan for S&T Development.

An increasing number of studies have analyzed the effectiveness of policy instruments adopted by the IDB, in particular those aimed at fostering private innovation activities. Most of these studies focus on the so-called "crowding-out" problem, where public funding simply substitutes private resources without inducing any additional investment. Crowding out potentially originates from information asymmetries between the public administrator and the potential beneficiary of the grant. If a firm's preferences are not observable, subsidized public funding may attract and benefit firms that, although they have already reached their desired level of R&D investment, still seek low-cost financing for other types of investment. The potentially positive effect of the public funding is thus undone by an internal transfer of private funds to other investments with no real increase in R&D spending. As Wallsten (2000) states, if R&D investment has short-run diminishing returns and the firm has an equilibrium level of self-funded R&D investment, public funding will cause the firm to reduce its own expenditure by the whole amount of the subsidy while leaving its total R&D investment unchanged.

Although the results are not totally conclusive, the majority of studies tend to reject the full crowding-out hypothesis. David, Hall and Toole (2000) and Klette, Møen and Griliches (2000) provide a comprehensive review of the main empirical studies measuring the impact of public funding on firms' investment in innovation during the 1990s. According to David et al., two-thirds of the studies report that public R&D funding did not substitute private R&D investments. In the last decade, this kind of analysis has proliferated, thanks to the increasing availability of data, providing some additional insights into the effectiveness of public support of private innovation. Aschhoff (2009) provides an updated review of the most significant results

of these studies. Most of them confirm the absence of full crowding-out effects, and some also show evidence of multiplier effects on private investments.¹²¹ Some studies focus on the potential heterogeneous effect of public financing, suggesting that subsidies are more effective for smaller firms, which is consistent with the financial constraint argument.¹²² Finally, other studies address the relationship between the amount of subsidy received and size of impact, i.e. the so-called “dosage effect”, and find evidence of higher effects of larger subsidies.¹²³

Fewer studies analyze the effect of public support on innovative output (patents, numbers of new products and sales of new products) and firms’ performances. Although some positive effects are detected, the results are still inconclusive. The main difficulty in this case is that a longer time horizon is required to detect these effects. In fact, while crowding-out or multiplier effects can be detected almost in conjunction with the receipt of public financing, other effects are detectable only after the innovation and learning process has come to an end. This implies that rigorous impact evaluations of these effects may require panel data for a minimum period of five years after the receipt of public financing.

Until lately, most evaluations have focused on developed countries, mainly because of the lack of data in developing countries. For this reason, the literature on Latin American countries is relatively recent, although growing. For instance, Benavente (2004) evaluated Fondo Nacional de Desarrollo Tecnológico y Productivo, the Chilean National Innovation Fund (FONTEC) and found it had a positive impact on the R&D expenditure of manufacturing firms. Sanguinetti (2005) evaluated the impact of the Argentinean FON-TAR program. He found that it had a positive effect on

firms’ R&D expenditure, but no effect on total innovation expenditures.

Hall and Maffioli (2008) synthesized the results of a series of evaluations of Technology Development Funds (TDFs) in Argentina, Brazil, Chile and Panama,¹²⁴ carried out by the OVE between 2005 and 2007. The studies reviewed consider four levels of potential impact: (i) R&D input additionality, (ii) behavioural additionality, (iii) increases in innovative output, and (iv) improvements in performance. The evidence shows quite conclusively that TDFs do not crowd out private investment and have a positive effect on the intensity of R&D. In addition, TDFs induce in beneficiary firms a more proactive attitude towards innovation. However, the studies do not find consistent effects on patents or new product sales and the evidence on firm performance is also mixed, with positive results in terms of growth, but little corresponding impact on measures of productivity. Because this can be due to the short time period in which the evaluations were conducted, the IDB is currently undertaking a second round of impact evaluations based on longer panel data in Argentina, Chile and Colombia.

Few studies have analyzed the impact of public funding on scientific research; those that have, have focused on developed countries. Arora, David, and Gambardella (1998) evaluated the effect of an Italian program funding academic biotechnology research and found a low average elasticity of research output with respect to funding. Arora and Gambardella (2006) assessed the impact of National Science Foundation (NSF) funding on basic economic research in the US, finding a positive impact on young economists. Jacob and Lefgren (2007) showed that postdoctoral fellowships from the National Institute of Health (NIH) increased publications and citations by about 20 percent in the

¹²¹ These studies include Fier (2002), Licht and Stadler (2003), Czarnitzki and Hussinger (2004) and Hussinger (2008).

¹²² These studies include Lach (2002), González, Jaumandreu and Pazó (2005) and González and Pazó (2008).

¹²³ Aschhoff (2009).

¹²⁴ The survey includes the following studies: Chudnovsky et al. (2006) Binelli and Maffioli (2007), Benavente et al. (2007), De Negri J., Borges Lemos and De Negri F. (2006a) and De Negri et al. (2006b).

five years following grant application, but did not find a significant impact for NIH research grants. Finally, Goldfarb (2001) measured the impact of a NASA aerospace engineering program and found a positive effect on the number of publications, though there was evidence that higher quantity was achieved at the expense of quality.

Evidence from developing countries is even more limited and mainly consists of evaluation projects financed by the IDB. Chudnovsky et al. (2008) evaluated the impact of subsidies on the academic performance of researchers in Argentina. They found that the FONCYT had a positive and statistically significant effect on academic performance, especially on young researchers. Comparing the five-year window pre- and post-subsidy, the difference between scientists supported by the program and those not supported by it was about one article. Maffioli and Ubfal (2009) expanded this analysis, evaluating the impact of the FONCYT program on collaboration among scientists in Argentina. They found a positive and significant impact, measured in terms of co-authorships, although limited to those scientists that had a high level of collaboration ex ante (the so-called “star scientists”). Benavente, Crespi and Maffioli (2007a) analyzed the effectiveness of Fondo Nacional de Desarrollo Científico y Tecnológico, the Chilean National Science and Technology Research Fund (FONDECYT). The results did not show any significant impact either in terms of publications or in terms of quality of publications. Although the study showed that the program was effective in selecting the best projects in terms of expected quality, the authors concluded that the FONDECYT’s lack of impact at the margins was probably due to targeting problems in terms of both researchers and research projects.

EXPORT AND INVESTMENT PROMOTION AND TRADE ENHANCEMENT

A final group of PDPs includes those interventions aimed at fostering the insertion of LAC economies into global markets. These include the negotiation and implementation of trade agreements and the adoption of export and investment promotion policies.¹²⁵ Being one of the few organizations that operates in the entire LAC region, the IDB has traditionally played a major role in these areas, in particular through the activities of its Integration Department (INT).

The benefits of integration and globalization are multiple and have been widely discussed in the empirical and theoretical literature. In particular, the literature has shown that international integration is strongly correlated with productivity growth and, therefore, with rapid and sustainable economic growth. The extraordinary success of East Asia, particularly China, is a testament to the power of trade in general, and of exports in particular, to boost economic growth. In particular, while productivity leads to exports (as clearly established in the empirical literature) there are also important feedback effects driven by higher volumes through static and dynamic economies of scale.

In addition to fostering their integration into regional and international markets through trade agreements, many governments adopt active policies to promote export activities and foreign investments. Export promotion is economically justified on the basis of market failures, primarily in the form of information externalities.¹²⁶ More precisely, there is a potential for free riding on firms’ successful searches for foreign buyers. Third parties may obtain important be-

¹²⁵ Other fundamental components of this set of policies are those infrastructural interventions aimed at facilitating the international trade via reduction of transport costs. On this topic, see chapter II of this report.

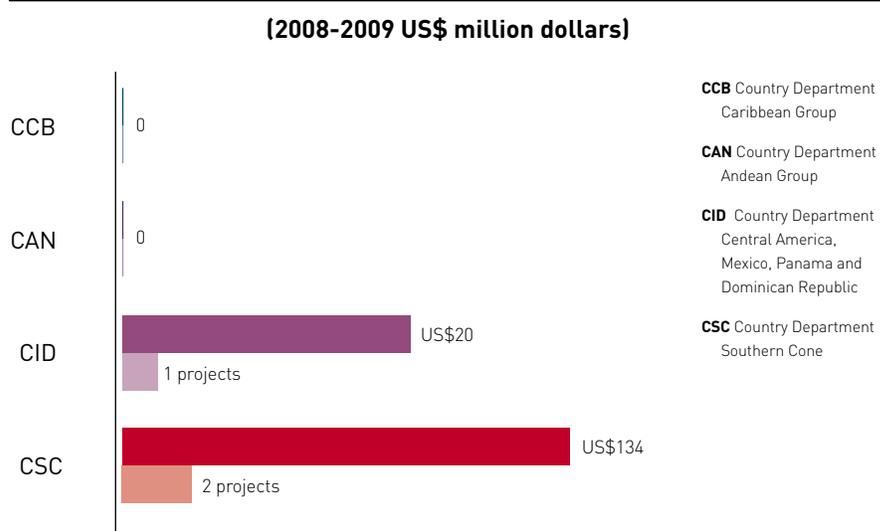
¹²⁶ Externalities may also originate from managerial practices, training activities, technological change, and production linkages. Thus, exporters are likely to adopt efficient and competitive management styles and to provide employees with higher-quality training, which may potentially benefit non-exporting firms via turnover of managers and employees. In addition, externalities related to technological development may be extensive due to the imperfect tradeability of technology. In particular, exporters may transfer knowledge, provide suppliers with technical assistance and facilitate access to new and improved inputs by firms in downstream industries. Export promotion might also contribute to addressing other market failures, such as coordination failures between complementary industries and imperfect information and higher uncertainty associated with trading with countries where different legislations are in place (see Kessing, 1967; Feder, 1983; Westphal, 1990; Edwards, 1993; Trindade, 2005; Álvarez and López, 2006; and Lederman et al. 2006).

nefits from the initial investments in information gathering by some pioneering firms, without incurring these costs, thus devaluing the potential benefits to be derived from their searches.¹²⁷ This is particularly true when companies attempt to enter a new export market or to trade a new product. Private returns from these exporting activities would accordingly be lower than the corresponding social returns and investment would then be suboptimally low.¹²⁸

The IDB intervention model in this area includes a variety of policy instruments: strengthening of institutional ability to negotiate and implement trade agreements; strengthening of export promotion and investment attraction agencies; administrative simplification for export and investment activities; “investment aftercare” services; financing for SMEs’ internationalization and promotion of linkages between multinationals and local firms.

During 2008-09, the bank supported four operations specifically aimed at fostering export and trade in Argentina, Guatemala, Nicaragua and Uruguay for a total amount of funding equal to US\$63

Fig. 43
Fostering Science, Innovation and Technology Adoption Regional Distribution



million.¹²⁹ All these operations included technical assistance and training for strengthening the ability to negotiate trade agreements, and devoted a significant share of resources to the strengthening of the public organizations and institutions responsible for export promotion activities (27 percent in Argentina, 37 percent in Guatemala, 48 percent in Nicaragua and 33 percent in Uruguay). In addition, the four operations provided for technical assistance in the area of

trade agreement negotiations. The operations in Argentina, Guatemala and Nicaragua also included resources for providing financial support to the internationalization process of SMEs, which are more likely to be constrained when it comes to financing such processes. Finally, the operation in Nicaragua also specifically tackled the problem of supporting the adoption of international product quality standards, such as the traceability of bovine meat.

¹²⁷ Information asymmetries on product quality may also create a case for trade policies [see Schmalensee, 1982; Mayer, 1984; Bagwell and Staiger, 1989; Bagwell, 1990; Bagwell, 1991].

¹²⁸ It is worth noting that the existence of a case for public intervention does not warranty in itself that it should be undertaken. For this to be the case, such action should be welfare improving from the social point of view, i.e., the potential associated social benefits should exceed the corresponding social costs.

¹²⁹ AR-L1092, GU-L1037, NI-L1016 and UR-L1015.

An increasing number of studies present evidence on the potential effectiveness of strengthening the capability of designing and implementing trade agreements. The recent IDB report *Bridging Regional Trade Agreements in the Americas* (2009)¹³⁰ shows, based on econometric evidence, that regional economies would significantly augment their gains from trade through improved convergence among their manifold common-trade agreements. The study shows that the current web of agreements has been a positive force for the region, but it has also created complexities, with overlapping trade rules and regulations that increase the transaction costs for entrepreneurs and enterprises aiming to operate region-wide. In particular, restrictive product-specific rules-of-origin undermine aggregate trade and the beneficial effects of Regional Trade Agreements (RTA). By contrast, the combined effect of regime-wide variables that instill flexibility into the application of product-specific rules-of-origin boosts trade. The study concludes that Bridging RTAs would enable the LAC economies to pursue multinational export strategies, pool production, and harness region-wide production possibilities, as well as to score competitiveness gains in the global export markets.

Overall, the empirical evidence seems to confirm that export promotion policies, by attenuating information problems, can reduce transaction costs, thus fostering trade. First, a group of analyses finds a positive relationship between the level of expenditure in trade promotion and aggregate export outcomes. Thus, Coughlin and Cartwright (1987) report that state export promotion spending positively affected total state exports in the US in 1980. Consistently, using data on a cross section of countries for 2005, Lederman et al. (2006) present evidence showing that the size of the budget of export promotion agencies is positively related to countries' total exports. A second group of studies shows that export promotion abroad seems

to positively affect countries' aggregate trade outcomes. Based on a sample of 22 developed economies for the years 2002-03, Rose (2007) showed that the presence of diplomatic missions positively correlates with exports. Hence, the Foreign Service also could be seen as playing a role in developing and maintaining these markets. Importantly, according to Gil et al. (2008), offices of Spanish sub-national export promotion organizations do have a significant impact on total regional exports.

Thirdly, a few recent papers have used firm-level data to evaluate more rigorously the impact of public policies on firm export behavior in developed countries. Görg et al. (2008) analyze a sample of manufacturing firms in Ireland over the period 1983-2002 and conclude that grants aimed at increasing investment in technology, training, and physical capital, when large enough, are effective in increasing total exports of already-exporting firms but not in encouraging new firms to enter international markets.

Until very recently, evidence for the region was notoriously scarce and limited to two studies on the case of Chile. Alvarez and Crespi (2000) examined the impact of activities performed by Chile's export promotion agency, ProChile on a sample of 365 Chilean firms over the period 1992-1996. They found that instruments managed by this agency had a positive and direct effect on the number of markets and indirectly, after a period of four years, on diversification of products. Alvarez (2004) investigated whether ProChile's trade promotion instruments affect the probability of becoming a permanent export on a sample of 295 Chilean manufacturing firms. His results suggest that trade shows and trade missions do not significantly affect this probability, but exporter committees do.

The IDB has also significantly contributed to this debate. The forthcoming report *Odyssey in Outer Space:*

¹³⁰ See Estevadeordal, Suominen, Harris, and Shearer (2009)



Finding the Way in World Markets (2010) thoroughly and consistently investigates for the first time the impacts of export promotion in several Latin American and Caribbean countries and presents robust evidence of positive effects on the primary variable of interest, exports. The first part of the report presents an organizational characterization of the entities tasked with export promotion in over 35 countries and regions, based on an extensive survey and more in-depth case studies from six countries in the region: Peru, Costa Rica, Uruguay, Chile, Argentina, and Colombia. It concludes that specialized export promotion agencies with their own network of foreign offices perform better than traditional diplomatic representations, in particular in terms of export differentiation.

The second part of the report offers a unique contribution towards improved evaluation practices by estimating the impact of export promotion activities on alternative measures of firms' export performance (e.g. total exports and diversification in terms of destination countries and products). The estimates are performed using impact evaluation techniques applied to datasets of firm-level export data for the six countries listed above.

Four main conclusions emerge from the analysis. First, trade assistance has large effects on the exten-

sive margin of firms' exports, i.e., when firms attempt to increase the number of destination countries and/or to expand the set of goods exported and, specifically, when they pursue entering an entirely new country or product market. Second, export promotion actions are more likely to generate larger export gains when products traded are more differentiated, i.e., when information barriers are the highest. Third, export support has stronger effects on the export performance of firms that are relatively small and whose previous involvement in international markets has been limited, as they face tighter limitations in accessing relevant export information. Finally, bundled support services entailing a systematic accompaniment throughout the export process, from the beginning of commercial contact to the establishment of business relationships seem to be more effective in enhancing firms' export perspectives than individual actions. In particular, firms combining counseling, missions and fairs, and trade agendas have significantly higher export growth, along the country and product extensive margin, than if they had used each of these services separately.

CONCLUSIONS

Wide theoretical and empirical evidence reasonably justifies IDB interventions in the strategic area re-

viewed in this chapter. Several market and non-market failures hamper the potential growth of productivity and competitiveness of LAC economies and IDB projects provide valuable support in overcoming those impediments. Policies aimed at improving business environment and promoting clustering, innovation and internationalization processes may significantly mitigate the effect of burdensome bureaucratic costs, asymmetry of information, non-appropriability problems and coordination challenges.

Although the number of rigorous evaluations has increased in the last years, the evidence on the potential effectiveness of these policies is still scarce and, therefore, somewhat inconclusive. In some cases, such as innovation and export promotion policies, the available evidence suggests that IDB interventions will have a significant positive impact on the outcomes of their final beneficiaries. In other cases, such as in the cluster policy, the available evidence does not allow the formulation of strong predictions.

The Bank, therefore, needs to intensify its effort to produce internal evidence on the effectiveness of productive development policies. For this purpose, the SDV and CMF divisions have planned a joint work program on cluster and BE policies that includes: (i) methodological guidelines to support the adoption

of state-of-the-art impact evaluation techniques; (ii) training to increase the ability of Bank specialists and government counterparts to define rigorous impact evaluation plans; (iii) pilot impact evaluations of IDB projects in these areas of intervention.

In the case of innovation and export promotion policies (areas where the Bank has already pioneered the adoption of rigorous impact evaluation techniques in LAC) the Bank effort should focus on producing more studies to confirm previous findings and to bridge the knowledge gap where the available evidence is still inconclusive. In particular, future evaluations should focus on the long-run impact on firms' performance, the differential impacts on different type of beneficiaries (the so-called heterogeneity-of-impact analysis) and on the joint effect of innovation and export promotion policies (the so-called multi-treatment effect analysis). For this purpose, the Bank is currently working on a second round of evaluations of TDF in Argentina, Chile and Colombia using longer panel dataset to estimate the long-run effects on productivity. In addition, the operations in Uruguay and Panama have put in place a monitoring system that collects innovation survey information for beneficiary and non-beneficiary firms, generating data for additional rigorous quasi-experimental impact evaluations.



V
Chapter



Protecting the Environment,
Responding to Climate Change
and Ensuring Food Security

OVERVIEW

The environment in which we live has a direct influence on our well-being. The quality of the air we breathe, the availability of water to drink and use, and the existence of biodiversity are all directly linked to human welfare. The natural resource base is the foundation for much of human production, particularly agricultural. It plays a critical role in our ability to produce food and is particularly crucial to poor rural households, who rely on it for their food security. Protecting the environment is, therefore, of critical importance for the people living in LAC because of the amenities it provides and its link to production and productivity.

Four major areas of Bank activity are included under this institutional priority: environmental protection, response to climate change, promotion of renewable energy and agriculture to enhance food security. Renewable energy has been analyzed under the Climate Change category, with other Bank activity related to climate change adaptation and mitigation. Figure 44 shows the distribution of projects approved in the past two years under this institutional priority. Figure 45 shows how Bank financing has been mostly focused on agriculture and food security, followed closely by growing activity in climate change. Finally, figure 46 shows a detailed distribution of project components by sectors.

FIG. 44
Total Number of Projects by Sector

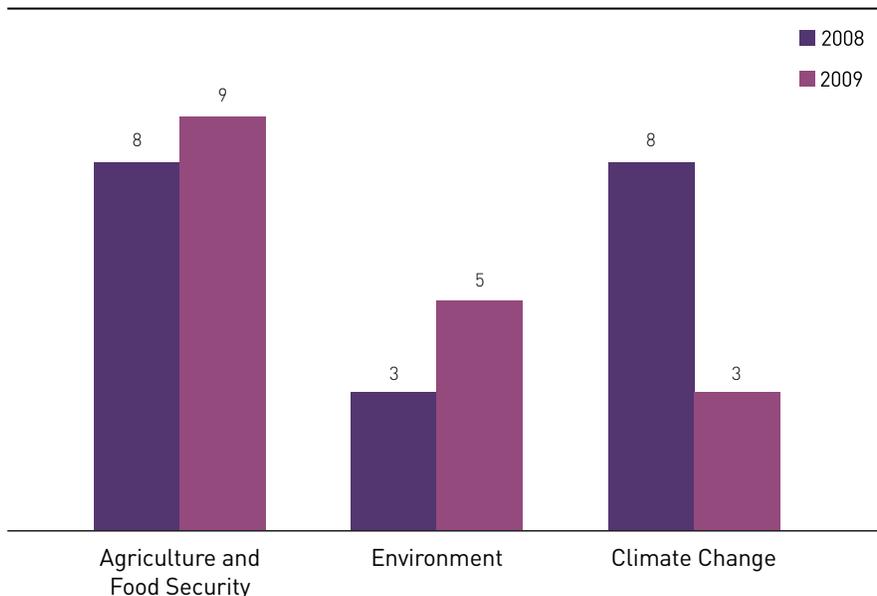


FIG. 45
Total Financing by Sector

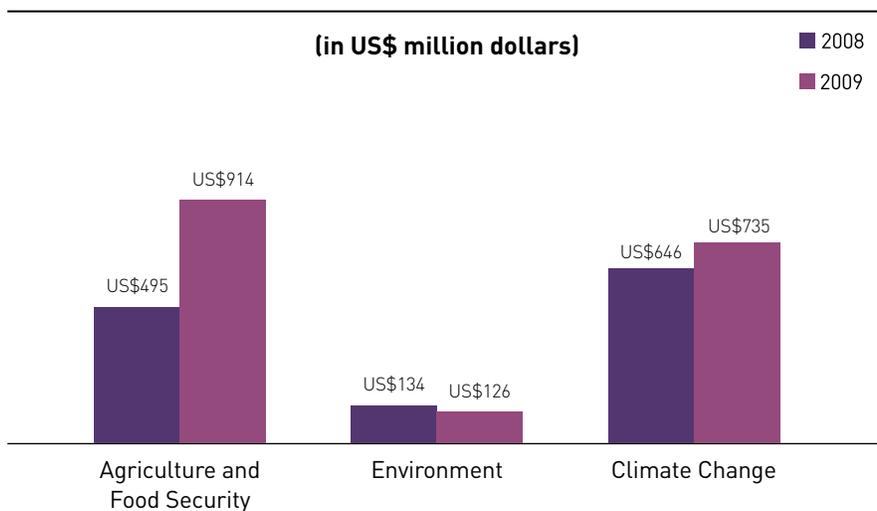
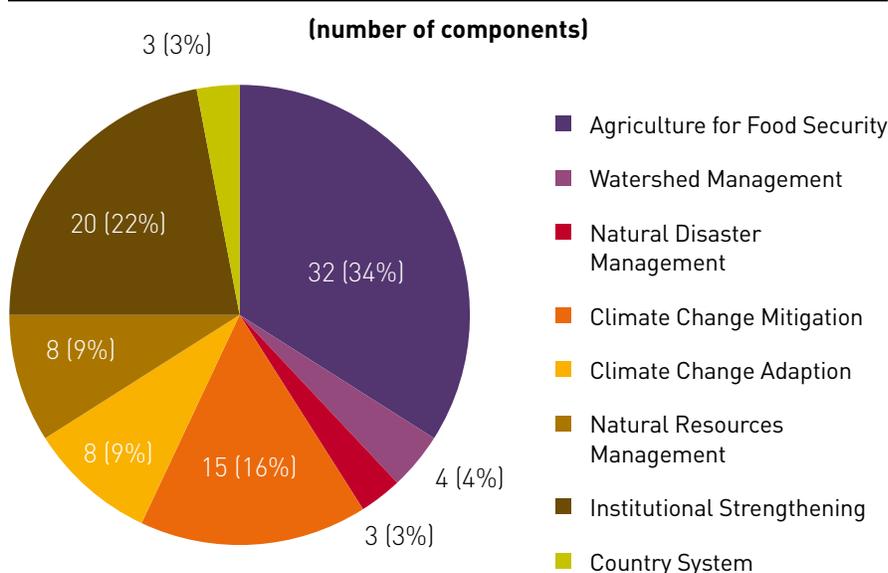


FIG. 46
Projects Components by Sector 2008-2009



This chapter focuses on environmental protection, response to climate change and promotion of renewable energy. Fostering agricultural production for competitiveness and food security is the subject of a special report that complements the *Development Effectiveness Overview*.

**ENVIRONMENTAL PROTECTION:
WATERSHED MANAGEMENT**

As population growth continues to rise, the world’s natural resources are becoming increasingly stretched. This is particularly true in the case of water resources, which face demands from household, agricultural and industrial users. Various simulations show that continued neglect of water-related investments and policies could produce a water crisis, which could lead in turn to a severe food crisis.¹³¹

Although the LAC region is well endowed in terms of water resources, accounting for 31 percent of the world’s renewable fresh-water resources, the risks connected to watershed mismanagement are serious. Agriculture tops the list in fresh water withdrawal in LAC.¹³² Failure to properly manage watersheds may lead to a severe reduction of agricultural productivity due to land degradation and inappropriate on-farm water use. In addition, watershed mismanagement may also generate significant negative externalities for downstream users, such as water contamination. Land erosion meanwhile creates severe risk of landslides for both rural and urban settlements and can lead to siltation of dams, reducing their ability to generate hydroelectric power.

Such serious potential consequences have led LAC governments to seek to improve watershed manage-

¹³¹ See Rosegrant et al. 2002.

¹³² According to AQUASTAT 2003, agriculture accounts for 71 percent of fresh water withdrawal in Latin America and 64 percent in the Caribbean.

ment through investment in infrastructure, regulation (through the establishment of watershed authorities) and the diffusion of water conservation practices to final users.

The IDB has supported the efforts of LAC governments in adopting an intervention model that covers the overall spectrum of concerns related to watershed management: agricultural irrigation and drainage, environment preservation, and natural disaster prevention and relief. The IDB approach typically includes the financing of infrastructure for the physical improvement of watersheds, the institutional strengthening of the authorities responsible for watershed management and the provision of training and technical assistance on preservation practices for the final users of the water sources.

The project portfolio approved in 2008-09 reflects this general approach. IDB-financed six projects with at least one component in watershed management for a total of US\$136.3 million.¹³³ The majority of financing supported components that are largely structurally based, or geared towards engineering and the physical improvement of the watershed. The rest of components strengthen national or local institutional capacity.

The use of watershed management interventions in different contexts (such as agricultural development, natural disaster prevention and environmental protection) implies that the expected impact may vary greatly. For example, within a national irrigation program in Bolivia (BO-L1021), watershed management is expected to increase the efficiency in use and distribution of water for cropping, thus resulting in increased productivity, agricultural income gains and enhanced food security. In Haiti and Honduras, natural disaster prevention and relief projects have a different focus, anticipating that watershed management

initiatives will provide enhanced vegetative cover and reduce flooding, thereby reducing the risk from extreme weather events and the damage such events may cause. Finally, in Bolivia (BO-L1053), watershed management activities are expected to reduce runoff and enhance the ecological functions of watersheds.

Given the vast differences in expected outcomes, and the necessary impact indicators, it is difficult to quantify fully and measure accurately the impact of a watershed management intervention. Moreover, spatial linkages, externalities and temporal dimensions of watershed activities further complicate the process (Kerr and Chung, 2001b; Gottret and White, 2001).

Despite the difficulty of measuring the impact of interventions, an emerging thread of literature provides useful critiques of existing evaluations and lessons for future evaluations. Focusing on India, Kerr et al. (2000) note that historically, most impact evaluations of watershed management interventions have been qualitative in nature and lacking in rigorous quantitative methods. Pattanyak (2004) presents a rigorous method for evaluating a watershed intervention by applying a three-stage approach to estimating a shadow price on water collection. However, the study largely focuses on the downstream economic outcomes rather than environmental or natural disaster-prevention outcomes. Hope (2007) considers the impact of a watershed intervention on households by using propensity score-matching to analyze social outcomes. While these studies are useful for interventions targeted at marginal households, they provide few lessons for impact evaluations focused on environmental or natural disaster-prevention outcomes.

Within the context of LAC (specifically Honduras, Nicaragua and Colombia), Gottret and White (2001) suggest that integrated natural-resource management interventions, such as watershed management sche-

¹³³ BL-L1009, BO-L1021, BO-L1053, HA-L1041, HO-L1031 y PN-L1019.

mes, require a more holistic impact assessment that evaluates economic, environmental, social, and organizational changes. They propose a “paths of development impact” that maps out research outputs, intermediate outcomes, and development impacts while also using participatory approaches to empower local stakeholders. Darghouth et al. (2008) echo several of Gottret and White’s suggestions, but also emphasize the importance of tracking downstream environmental outcomes. Projects must establish baseline information against which project impacts can be measured. Due to the spatial nature of watershed interventions, Geographic Information System (GIS) databases and/or remote sensing systems are often needed to capture biophysical changes. However, monitoring and evaluation systems should be selective and as low cost as possible. For institutional development components, a range of techniques may be necessary, such as looking at leadership changes in local user groups or the enactment and enforcement of water and natural resource management laws by the government.

The IDB has also contributed to this literature. In particular, studies have been conducted by the IDB’s Office of Evaluation and Oversight (OVE) on the performance of Programa Ambiental de El Salvador, the Environmental Program of El Salvador (PAES). The program was developed with the goal of improving household income through improved soil productivity, the adoption of conservation technologies and product diversification. Using a quasi-experimental approach with matching techniques, Bravo et al. (2006) conducted the impact evaluation of the program. The authors found that PAES beneficiaries significantly increased the area in which they applied conservation methods between 2002 and 2005, while the results confirm that the project intervention, measured by the frequency of extension visits and years with the project, was positively associated with adoption. Likewise, and focusing more on the degree of output diversification experienced by PAES participants, Bravo et al. (2006b) found that farmers involved with the program significantly increased the number of agricultural activities on their farms

over a three-year period. The results of these evaluations are further confirmed by Bravo and Cocchi (2007) who find that crop diversification and soil conservation practices exhibit a strong positive association with the length of farmers’ involvement with PAES and their participation in social organization.

The main lesson from the review of environmental protection interventions is that watershed management activities have multifaceted outcomes and thus often require multifaceted impact evaluation approaches. Whether the project is aimed at reducing poverty and establishing food security or preventing and/or mitigating the damaging effects of extreme weather events, projects should be clear in determining expected outcomes, the mechanisms or theories by which the outcomes will be achieved, and the externalities associated with the project.

RESPONSE TO CLIMATE CHANGE

The increase in man-made Greenhouse Gas (GHG) emissions, mainly due to the release of carbon dioxide (CO₂), is responsible for observed increases in global average temperatures (IPCC 2007a). Increased global temperatures are affecting all facets of life. Higher temperatures will increase the magnitude and frequency of extreme weather events. Societies will face more intense but less frequent rainfall, while droughts will increase in intensity and frequency. Small island states will be exposed to rising sea-levels and more intense tropical storms. And high-altitude states will face repercussions from melting glaciers and shrinking water bases. Because much uncertainty remains about the exact impact of climate change, societies must be able to hedge against a wide range of possible climate outcomes. To respond to climate change, governments can choose to *adapt* to current and projected impacts of climate change and/or to *mitigate* their output of GHG emissions, thereby reducing the rate and magnitude of climate change (IPCC 2007b).

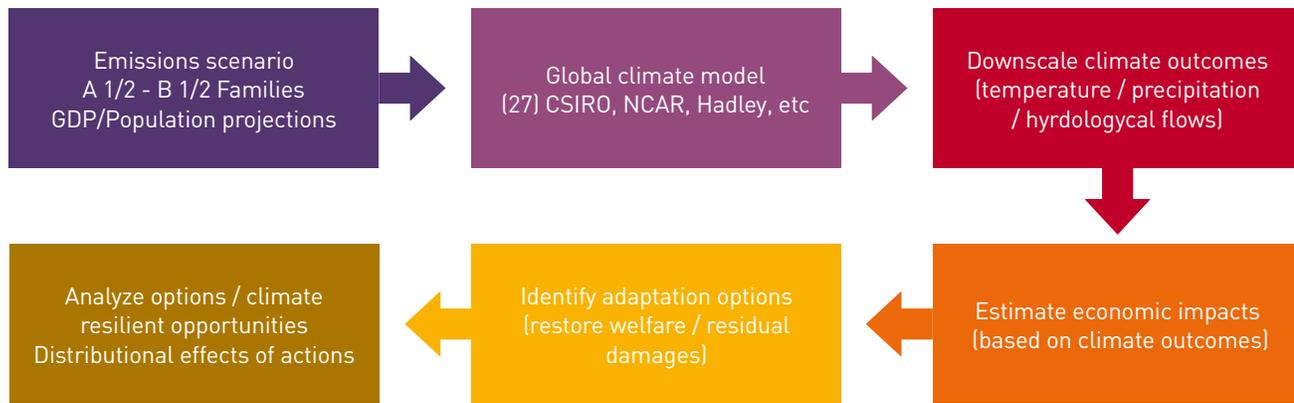
Climate change interventions still lack completed impact evaluations, mainly because of the novelty of the-

se types of projects; most are still in the relatively early stages of implementation. This evaluation gap points to the importance of ensuring that policies in this area, including IDB projects, incorporate a solid monitoring and evaluation plan that can determine their level of effectiveness on the basis of rigorous evidence. It also provides an excellent opportunity for the Bank to develop expertise in this emerging field of evaluation.

The justification for climate change policies is well reflected in the analytical framework commonly used for their design (see figure 47). The analysis typically in-

volves a series of incremental assumptions to estimate the effects of a warming world on different sectors of an economy. The first step involves the selection of an emissions scenario (see IPCC, 2007a) along with an economic and demographic growth path.¹³⁴ When this scenario is played out under the assumption of no climate change, it is commonly called the *baseline* scenario.¹³⁵ The *with climate change* scenario incorporates shocks generated by a changing climate. The differences in development between the baseline and the climate change scenario can be thought of as the impact of climate change.

FIG. 47
Climate Change Analysis Framework



So-called global circulation models (GCM) are then used to simulate the climate, conditional on the emissions scenario chosen in the first stage. Since GCMs operate on a global scale, projections are commonly downscaled to regional levels. Projected climate variables, usually precipitation and temperature, are then incorporated into economic models in various ways to estimate impacts from climate change. These models may analyze the entire economy (computable general equilibrium models) or be narrowly focused on a single sector or even output. For example, in the

¹³⁴ This stage is also the entry point for mitigation projects undertaken today and in the future, as they have the potential to alter the emissions scenario.

¹³⁵ The World Bank's Economics of Adaptation to Climate Change study highlights the importance of selecting a proper baseline.

agriculture sector, detailed crop models (such as the Decision Support System for Agrotechnology Transfer or DSSAT) simulate crop yields incorporating projected temperature and precipitation levels.¹³⁶

After impacts have been estimated and at-risk sectors identified, adaptation options to reduce vulnerability to climate change are then considered and selected. Depending on budgetary constraints, adaptation may be undertaken to restore welfare either (i) to pre-climate change levels or (ii) to levels possible when the benefits equal or outweigh the costs. Any remaining climate change effects, even after proper adaptation, are known as residual damages. The final step is the ex-ante evaluation of selected adaptation options. Forecasting the distributional effects of adaptation actions is important for understanding how climate change will influence different segments of the population. Sensitivity analysis tests adaptation options under different climate outcomes (wet/dry scenarios) to determine which options are the most robust.

It is worth noticing that institutions play a crucial role in each step of the climate analysis described above. This is particularly true for the data-intensive and technically intense stages (GCM modeling, downscaling, estimating economic impacts). Moreover, because the analysis is largely recursive (with each step building on the prior one) well-developed institutional capacity is fundamental in the early stages. In the latter stages data availability, often lacking at the local level, can greatly limit the conclusions drawn.

In 2008-09, the Bank approved fourteen loans with components financing policy responses to climate change for a total of US\$1.3 billion.¹³⁷ Two of the loans, valued at US\$600 million, are supporting

Mexico's climate change agenda. Another loan, for US\$250 million, is supporting the development of Colombia's climate change agenda.¹³⁸ The IDB is also funding a disaster risk prevention and mitigation project in Honduras¹³⁹ for US\$19 million. Given the inter-related nature of climate change adaptation and disaster planning and mitigation, future climate change clustering might include disaster prevention projects. Moreover, because climate change is cross sectoral, many energy projects contain components (SECCI initiatives) linked to climate change. Including technical cooperation projects, the IDB climate change portfolio consists of thirty projects with a total portfolio value of over US\$1 billion.

The Bank's approach to responding to climate change includes three groups of interventions: (i) those related to creating institutional frameworks and the capacity to deal with climate change issues; (ii) those related to adapting to the effects of climate variability; and (iii) those related to mitigation of green house emissions. This general approach is well reflected by operations approved by the Bank in 2008-09.

Recent IDB loans for climate change initiatives include measures focused on capacity building and institutional knowledge generation. This approach corresponds to a general trend across Multilateral Development Banks (MDBs) projects in this area. Because the issue is relatively novel among government planning offices and the potential effects of climate change are even less certain, climate change-related interventions tend to develop institutional capacity and knowledge first. Consistently, the majority of IDB financing for technical cooperation supports institutional development components.

¹³⁶ This stage is often the entry point for adaptation projects in that they are concerned with reducing vulnerability to climate change.

¹³⁷ AR-L1989, BL-L1010, BR-L1107, BR-L1108, BR-L1170, BR-L1173, BR-L1194, CO-L1063, DR-L1038, ME-L1053, ME-L1058, ME-L1069, PE-L1089 and PN-L1056.

¹³⁸ CO-L1063.

¹³⁹ HO-L1031.

Box 9**IDB Supports Institutional Development for Climate Change**

The Programa Especial Cambio Climático, Program in Support of Mexico's Climate Change Agenda (ME-L1053) is a US\$200 million loan to support the development and implementation of Mexico's Special Climate Change Plan (PECC) for 2008-12. A key component of the loan is the development of the necessary institutional framework to implement the PECC. This will largely be accomplished through the promotion of climate change analytical activities at the national and state level and by strengthening the Department of the Environment and Natural Resources, which heads the Interdepartmental Commission on Climate Change (CICC).

Source: Program in Support of Mexico's Climate Change Agenda loan documents

Institutional structures are critically important for adaptation and mitigation interventions at all levels of government. Without an enabling environment in place, bottlenecks in existing institutional structures or weak regulatory frameworks can limit the impact of interventions. Moreover, well-functioning legal frameworks enhance a government's ability to enact policies that reduce emissions, increase energy efficiency and stimulate investment in low-carbon growth technologies. Thus, when assessing the effectiveness of a climate change intervention, evaluations should go beyond looking at adaptation and mitigation impacts and also consider the influence of institutional initiatives.

Recent IDB climate change loans also include components for adaptation which are mainly concerned with identifying vulnerable sectors and formulating adaptation strategies. Adaptation interventions increase the resilience to current and long-term climate variability as well as develop the adaptive capacity of societies. Even if GHG emissions were to stabilize today, adaptation interventions would still be needed due to the momentum of a changing climate. In Mexico, for instance, an adaptation component is focused on developing pilot adaptation projects in vulnerable areas and establishing an early warning system for a priority sector.

To complement these adaptation measures, IDB operations often provide for mitigation measures as well. Mitigation interventions are mainly designed to reduce the sources of GHG emissions and thus, they provide a critical complement to the adaptation measures in responding effectively to the impacts of immediate and long-term climate change. In LAC, energy production and use along with land use change are the largest source of emissions. Thus, most mitigation projects are focused on the energy, transport and forestry/agricultural sectors. The Bank has financed three climate change projects with mitigation components over 2008-09. Financing to Colombia (CO-L1063) is helping increase the country's participation in the international carbon market and promoting energy efficiency measures to encourage more use of renewable energy sources. In Mexico, ME-L1053 is financing a component for promoting a sector agenda for mitigating emissions.

Box 10**IDB-Financed Technical Cooperation for Mitigation**

The Caribbean Carbon Neutral Tourism Program (RG-T1640) and the Development of Climate Change State Action Plan for Yucatan (ME-T1119) are among numerous mitigation-based, technical cooperation projects financed by the IDB. The Caribbean program: (i) supports the development of methodologies to measure the carbon footprint of the tourism industry; (ii) develops and demonstrates mechanisms for gaining carbon financing; and (iii) facilitates the financing of climate resilient development measures. The Yucatan project focuses on building capacity in mitigation and adaptation planning and knowledge generation. Among its major components is the development of a methodology and data collection system for tracking GHG emissions.

Below are three examples of the types of Bank intervention on renewable energy:

- **Gerdau Açominas Investment Program:** Gerdau Açominas S.A. in Brazil is the largest slab steel producer in Latin America. In 2008, the Bank approved an A Loan of US\$50 million and mobilized additional US\$150 million through B Loans to finance the company's capital investment program to modernize its Ouro Branco mill, located in Minas Gerais. As part of the intervention, the Bank will fund a technical cooperation to assess the carbon footprint and energy efficiency options for one of the company's steelmaking plants.
- **Usiminas Energy Efficiency Investments:** Usinas Siderúrgicas de Minas Gerais S.A. (USIMINAS) is a major Brazilian steel producer. In 2008, the Bank approved an A Loan in the amount of US\$21 million and mobilized additional US\$179 million through B Loans to finance new energy efficient investments in power generation and related equipment, involving energy generating turbines using excess heat and gases produced by the steel making process, a water treatment center for the water going into the boiler and a water recirculation system. This equipment will make it possible to recycle water and gases produced by the steel making process. As part of the intervention, the Bank will fund a technical cooperation to develop energy efficiency and emission reduction benchmarks and provide USIMINAS with an energy balance, energy indicator and carbon footprint analysis.
- **Loma Negra Environmentally-related investments:** Loma Negra is the largest cement producer in Argentina. In 2008, the Bank approved an A Loan of US\$20 million and mobilized additional US\$105 million through B Loans to finance a long-term capital expenditure program to expand facilities and upgrade environmental systems. Environmental investments include installation of new systems for cooling gas released from kiln ovens and new filters to reduce and sequester the gas and dust expelled from the kiln ovens and mills; installation of a new mill which will operate more efficiently and is expected to reduce energy consumption by 30%. Additionally, new equipment will transport the captured dust and add it into the production process again.

A subcomponent will analyze a portfolio of projects/programs that may be demonstrative in terms of their contribution to the reduction of GHGs. The loan's policy matrix discusses outputs of the component, but there is no discussion of impact or how emissions reduction will be measured.

In partnership with SECCI, Structured and Corporate Finance Department (SCF) has provided financing to cover capital expenditures related to the introduction of clean technologies and energy efficiency initiatives to reduce their clients' carbon footprint.

As mentioned before, the impact evaluation literature on climate change policies is quite sparse for a number of reasons. Firstly, these projects have only recently entered many MDBs lending portfolios and

NGO operations. Secondly, uncertainty surrounding the short and long-term effects of climate change complicates the process of assessing impact and increases the timeframe needed to evaluate results. Climate change is a gradual process, thus evaluations that follow the traditional project cycle may miss crucial impacts if they are measured prior to significant climate events. This point is particularly pertinent to projects focused on reducing the vulnerability and adaptive capacity of societies to extreme weather events. If an expected extreme weather event does not occur prior to the evaluation, the impact may differ substantially from an evaluation conducted after an extreme event. Finally, because a changing climate influences all sectors, evaluators must consider a broader range of indirect effects that may contaminate the impact of the original project.



Despite the lack of completed evaluations, an emerging thread of literature exists on how to prepare an impact evaluation of adaptation interventions. The World Bank's Adaptation to Climate Change Guidance Notes¹⁴⁰ and the United Nations Development Program's Adaptation Policy Framework¹⁴¹ provide many lessons learned, best practices, and useful resources for planning and evaluating adaptation projects. The former work focuses on adaptation projects in the agricultural and natural resource management sector, while the latter provides a general framework for evaluating an adaptation program.

Adaptation projects typically focus on increasing resiliency to current and long-term climate variability in addition to developing the adaptive capacity of beneficiaries under current and predicted climate changes. Both soft and hard adaptation interventions are often used.¹⁴² Soft adaptation measures aim to create behavioral change through local, regional or state institutions and policies. For example, an intervention creating new zoning requirements for coastal development may be considered a soft adaptation measure. In practice, evaluating soft interventions is difficult because benefits must be inferred from changes in behavior, rather than measuring physical outputs. Hard adaptation measures, in contrast, are often physical or engineering solutions to climate-induced problems. The construction of sea dikes is considered a typical hard adaptation option. Because there is a direct relationship between the inputs and outputs of the intervention, measuring the impact is more straightforward. Finally, when evaluating adaptation projects, practitioners should be cognizant of the potential co-benefits. For example, an agricultural-based adaptation project that focuses on enhancing soil quality and moisture retention may also increase the amount of carbon sequestered. If evaluators do not allow for the measurement

of potential co-benefits, they may underestimate the true level of project benefits.

A well-designed impact evaluation should incorporate a flexible design to handle the dynamic nature of climate change. Projects may also use experimental designs to allow for robust estimation of project impacts (see box below).

Box 12

Adaptation Evaluation: Using an Experimental Design

The World Bank and the UNDP, with the Global Environment Facility (GEF), are financing Kenya's Adaptation to Climate Change in Arid and Semi-Arid Lands (KACCAL) project (World Bank, 2009c). The main goal of the project is to enhance communities' ability to plan and manage climate change adaptation measures. A unique feature of the project is its experimental design. Certain communities will receive adaptation interventions while others will not. To estimate the impact, climate vulnerability of "treated" communities, or those communities receiving adaptation interventions, will be compared to climate vulnerability of the "control" communities, or those communities not receiving an intervention. Over time it will be possible to gauge whether the adaptation interventions employed in treated communities increase the resilience to climate shocks, as measured by monetary and non-monetary indicators. Where feasible in LAC, a similar program design may allow for rigorous impact evaluation.

Source: Kenya: Adaptation to Climate Change in Arid and Semi-Arid Lands (KACCAL) project documents emissions.

At the core of adaptation-based evaluations is the collection of baseline data related to the project and climate. Data on climate risks and conditions, socio-

¹⁴⁰ See World Bank, 2009a.

¹⁴¹ See UNDP, 2004.

¹⁴² See World Bank, 2009b.

economic conditions, and institutional structures should be collected before a project starts, when possible. After assessing the existing adaptive capacity of individuals, communities and institutions, outcome indicators can then be selected bearing in mind the nature of the intervention and the possibility that results will depend on climate outcomes. Evaluations should typically be conducted: (i) during the advanced stages of project implementation to assess the impact under current climate variability; and (ii) at regular intervals after project completion to assess the impact under long-term climate variability (World Bank, 2009).

Like adaptation interventions, mitigation projects rely on a mixture of soft and hard measures. Unlike adaptation projects, evaluating mitigation projects does not require continuously-updated climate data. This is particularly true for hard mitigation interventions that, for example, replace an older, less efficient technology with a cleaner, more efficient one. Mitigation interventions often have dual objectives: to enhance the welfare of beneficiaries and to reduce the source of emissions. Evaluating projects requires collecting baseline data on outcome indicators of interest. However, measuring and reporting emissions is not straightforward. There are a variety of GHG accounting mechanisms and, depending on the project and scope of emissions, different accounting measures may be needed. The World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD) have developed the Greenhouse Gas Protocol,¹⁴³ which is widely used by the private sector and governments.

CONCLUSIONS

The rationale behind IDB interventions aimed at promoting environmentally sustainable development is

based on fairly well-established theoretical and empirical evidence. Several studies show how public intervention in both watershed management and response to climate change may have significant impact on a variety of beneficiaries and on the long-run sustainability of growth in LAC.

Much has to be done however in terms of producing evidence on the actual effectiveness of specific interventions in these areas. Although several studies have assessed the importance of watershed management programs, only a few have adopted rigorous impact evaluation techniques, so that evidence on the effectiveness of alternative approaches remains inconclusive. In the case of climate change, the relative novelty of the issue and the uncertainty surrounding the impact of a changing climate means not only that governments have only recently incorporated this topic into their policy agenda, but also that impact evaluations are almost nonexistent. Furthermore, climate change is a cross-sectoral issue and thus so too are adaptation and mitigation initiatives, a fact which greatly complicates both the design and evaluation of these interventions.

For these reasons, the IDB needs to intensify its effort to produce robust evaluations in the areas reviewed in this chapter. In particular, it has a unique opportunity to forge an identity in climate change evaluation as its project portfolio expands. Future projects should incorporate evaluation methods that are flexible enough to encompass/respond to the uncertain impacts of climate change. Through mitigation projects, the IDB has the opportunity to develop technical abilities and a standardized system for measuring GHG emissions.

¹⁴³ See Greenhouse Gas Protocol (GHG Protocol) is partnership between the World Resources Institute and the World Business Council for Sustainable Development.



VI
Chapter



The IDB's work in LACs
Less Developed Countries

LATIN AMERICA AND THE CARIBBEAN (LAC) IS A REGION OF marked inequalities, both within and between countries.¹⁴⁴ This inequality is most clear in the significant development gaps that exist between Middle Income Countries (MICs) and the Less Developed Countries (LDCs) of the Region. Countries such as Bolivia, Guyana, Haiti, Honduras, and Nicaragua have a per capita GDP that is only a quarter of the regional average,¹⁴⁵ with poverty rates that are nearly twice as high as the average for the region as a whole.¹⁴⁶

The IDB's support to less developed countries in the Region has focused on designing special programs and products tailored to their specific needs. The IDB has the ability to lend to these countries under pricing and repayment conditions that are consistent with debt sustainability frameworks through the Fund for Special Operations (FSO). For Haiti, since 2007 the Bank is providing resources only through grants.

LDCs in the Region face the challenge of coordinating a large number of donor programs. These, although necessary to ensure relevant levels of resources for social investment, provide additional pressures on LDC's already limited capacity (see box 13 on Haiti coordination). Therefore, to lift the most vulnera-

ble LAC countries from stagnation and volatility requires a coordinated effort of the development community at large that is rooted in the probability of achieving the desired outcomes. Capacity building in this group of countries is necessary (see box 14 on Honduras SWAP), but not sufficient to ensure effectiveness. It needs to be accompanied by attention to the impact of the interventions on the most vulnerable groups to ensure that limited resources are placed where they are most effective in the context of each country.

The overall framework for working in these challenging environments is provided by the 2005 Paris Declaration on Aid Effectiveness (see box 15). The Declaration, signed by the Bank, establishes the principles in order for donors and governments to improve the effectiveness of development assistance, particularly in less-developed countries that are highly dependent on donor funds. The way assistance is delivered has implications on the likelihood of effectively lifting these countries out of poverty. Building country ownership, capacity for managing resources, and reducing transaction costs are all relevant elements of delivering development interventions that have a sustainable impact on social and economic outcomes for

¹⁴⁴ From a total of 227 countries, 14 of the twenty most unequal in the world are in Latin America, with Brazil only behind Namibia. Within Latin America, only three countries (Argentina, Brazil and Mexico) account for 73% of the total income generated in the region.

¹⁴⁵ In fact, Bolivia, Guyana, Haiti, Honduras and Nicaragua have an average GDP per capita of US\$1115.2, US\$1090.3, US\$490.9, US\$1253.8, and US\$870.1, respectively for the period 2000-2009. Those figures compare with the (simple) average for the region for the same period at US\$4551.6.

¹⁴⁶ Inequality is also pervasive in these five countries. Haiti is the fourth most unequal country in the world, and the other countries for which there is data (Bolivia, Honduras and Nicaragua) are also in the top twenty more unequal countries in the world.

Box 13**The Bank's on-going Challenge to Assist Haiti**

The recent catastrophic earthquake in Haiti, the most vulnerable and poor country in the Western Hemisphere, has brought renewed awareness to the need to have effective mechanisms to coordinate international assistance. Recent actions on coordinating support for Haiti are an example of the importance of these processes.

On April 14, 2009, under the auspices of the Inter-American Development Bank, the Government of Haiti convened its international partners for the third conference on Haiti's economic and social development, under the title *Towards a New Cooperation Paradigm for Growth and Development*. This conference signaled the beginning of a new partnership between Haiti, major donors and other stakeholders, with a high level of participation that was a clear demonstration of solidarity and support.

At the conference, agreement was reached on an updated development strategy for Haiti that both addresses the challenges faced by the country and attempts to take advantage of the positive aspects of the current situation. The strategy included a renewed partnership agreement to govern how the Government and donors would coordinate their actions more coherently. Donors committed to: (i) ensure that their assistance program is aligned with the Haitian Government's defined priorities and (ii) prioritize the national budget as a tool to channel financial assistance. The conference helped mobilize a total of US\$353 million of new funds (additional to current donor programs) of which US\$196 million is slated for the 2009/2010 fiscal year.

The conference also engaged non-governmental organizations on how to pursue further alignment with country priorities, starting with improved platforms for information sharing, in order to promote sustainability and build country capacity. Given the strategy targets for job creation, the conference set the basis for initiatives from private charitable organizations, such as the Clinton foundation (that is setting up a Haiti fund) to consider how best to cooperate with IDB and other multilaterals to further private sector development activities.

The IDB, as the largest multilateral donor to Haiti, has a key role to play in the process of reconstruction of the city of Port-au-Prince. The Bank will continue to support the Government, working with other donors, to coordinate and monitor the reconstruction efforts, aiming to enhance the effectiveness of development aid in Haiti. The IDB is currently working with other donors to shore up support for Haiti's reconstruction and is actively discussing additional financing opportunities with donors interested in co-financing to increase the amount of resources and relevance of the sectors where the Bank has comparative advantages. The IDB already administers about US\$125 million on behalf of other donors, a clear recognition of the ability of the Bank to partner with Haiti.

these countries.

In 2008 and 2009, the Bank approved 40 projects in the five LDCs. These covered all five strategic priority areas of the Bank and amounted to US\$918 million for the period. The figures 48-50 show the distribution by priority sector and country. The Bank has invested substantial resources to develop the physical capital and institutional arrangements that, as seen in chapters II and III, are important factors for economic development to take place.

Since 2004, the IDB along with several international development partners (World Bank and Swedish International Development Cooperation Agency, SIDA) have supported the Government of Honduras' efforts to improve public sector management. Through the implementation of two coordinated programs in the sector prepared by the IDB, the World Bank and SIDA, Honduras was able to implement an integrated financial management system aligned to good international practices. The program also supported improvements to tax administration, the implementation of fiscal and monetary statistics manuals; and support for strategic planning.

Given the progress achieved, in 2008 the government developed a Public Sector Reform Program based on a medium-term strategic framework for the sector. The framework, described in the "Strategic Paper for the Modernization of the Public Sector", has two main objectives: (i) to improve the capacity of the state to provide quality services to address the needs of the population and (ii) to improve citizen's trust in public institutions.

In line with the principles of the Paris Declaration and the Accra Agenda for Action, the government requested that international resources to support the reform program be implemented through a sector-wide approach (SWAP). The main advantages of this approach are: (i) it provides a single framework for implementation, budget execution and Monitoring and Evaluation, reducing duplicity of instruments and decreasing transaction costs; (ii) it promotes national leadership and strong focus on results; (iii) it strengthens inter-institutional coordination and facilitates integration of individual project reforms into a coherent package of mutually reinforced and sequenced reforms; and (iv) it provides a platform for coordination, harmonization and alignment to donors that wish to support public sector management reforms in Honduras.

In 2008, the IDB approved a Program that aims to consolidate the reforms undertaken since 2004, under the umbrella of the Strategic Framework of the Government of Honduras. The new Program aims to consolidate achievements in the areas of: (i) tax administration; (ii) fiscal and monetary statistics; and (iii) public financial administration. To support other areas of the Program, the World Bank and Sida will provide resources for: (i) results-based management; (ii) human resources; (iii) procurement; and (iv) internal and external control, will be financed with resources from the World Bank and SIDA. The World Bank is scheduled to approve a US\$20 million loan in 2010, while Sida approved a US\$1.7 million grant to support internal and external control reforms.

FIG. 48
LDC. Total Projects and Financing by Country. 2008-2009

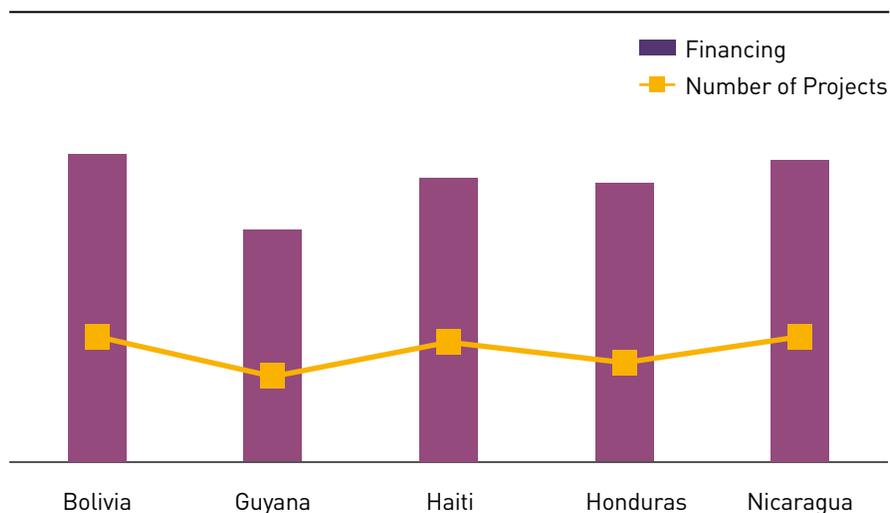
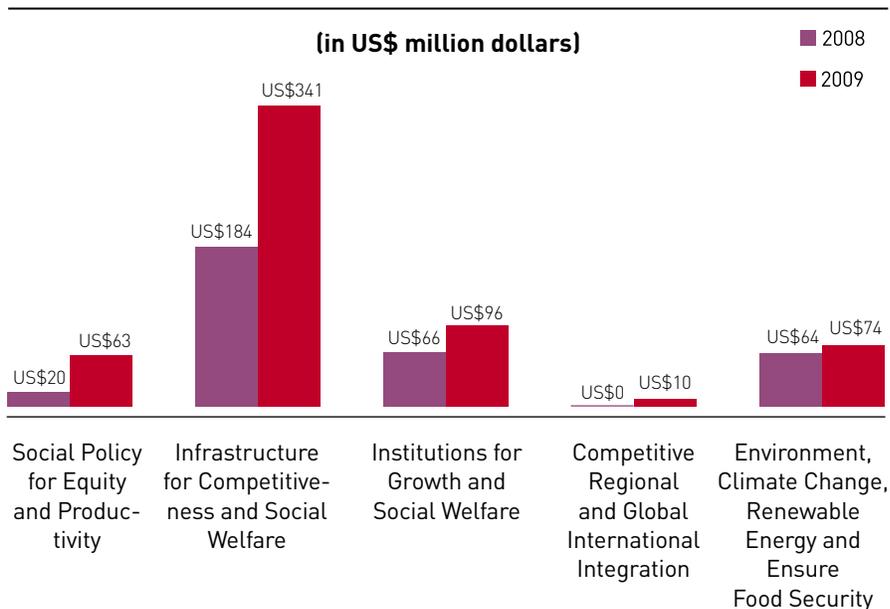
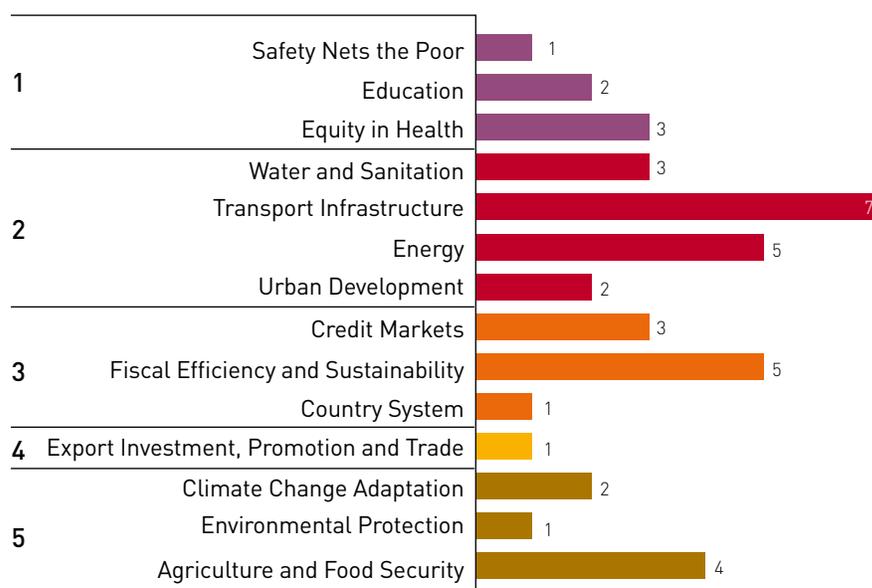


FIG. 49
LDC Bank Financing by Institutional Priority Area



Taking a closer look in terms of number of projects, the Bank has emphasized transport infrastructure and fiscal sustainability, without question two core aspects that are preconditions to achieve adequate economic performance. It is important to stress that the Bank has focused its resources both due to its comparative advantages vis-à-vis the numerous donors working in these countries, and also based on demands by these countries. For example, in Haiti the government signaled its determination to work with the IDB primarily in infrastructure and fiscal management, sectors where the IDB has consolidated as the focal point among donors.

FIG. 50
LDC Number of Projects by Sector 2008- 2009



The Paris Declaration on Aid Effectiveness, signed in 2005, establishes the principles for effective delivery of development resources. The PD emerged from the realization that availability of development financing was a necessary but not sufficient condition to lift countries out of poverty and place them on a sustainable growth path. Partners and donors agreed that under what leadership and conditions those resources are delivered has a direct effect on their effectiveness. The five principles of the PD- Ownership, Alignment, Harmonization, Managing for Results, and Mutual Accountability- are monitored through a series of indicators that have specific targets to be achieved by 2010.

The IADB has been committed to implement the principles of the PD through specific actions:

Ownership – This principle is based on the need to have *developing countries set their own strategies for poverty reduction, improve their institutions and enhance transparency*. The Bank, particularly with the 2007 realignment, has increased its country focus through strategies that aim to define specific outcomes that contribute to country priorities, moving more technical people to the field to ensure effective and efficient response to partner needs.

Alignment – *Donor countries align behind these objectives and use local systems*. The Bank has historically designed its programs based on country objectives. The Development Effectiveness Framework includes a review of the alignment of each intervention to country priorities. In addition the Results Framework maps each output contribution of the Bank to a Regional development goal. In parallel, the Bank has approved a strategy to increase its use of country systems by defining a set of necessary conditions for each system that are based on internationally recognized standards.

Harmonization – *Donor countries coordinate, simplify procedures and share information to avoid duplication*. The Bank has harmonized procurement documents with several donors over the last years. In addition the Bank has participated in the design of joint Budget Support

Matrix in Haiti and Nicaragua, meaning that the Bank will structure all its budget support resources in line with the Budget Support Conditionality Matrix agreed between the government and the donor community. Also, the Bank has entered into programs in SWAP operations with the World Bank and other donors in Brazil, Colombia, Ecuador, Honduras and Panama.

Results – *Developing countries and donors shift focus to development results and results get measured*. The Bank has refocused its monitoring instruments to measure outputs and outcomes, not merely financial execution. This is an important distinction, as it provides information of the likelihood of achieving the stated development objectives of each intervention.

Mutual Accountability – Donors and partners are accountable for development results. The Bank's Results Framework is meant to be an accountability instrument for the Board of Directors and other stakeholders to monitor the delivery of the agreed outputs, the focus on certain types of development support, and the Bank's organizational performance.

The Accra Agenda for Action (AAA) of 2008 marked the mid-term review of the Paris commitments. Accra recognized that progress had been achieved, but challenges remained to reach the targets set in Paris. The AAA set a new series of actions that donors and partners committed to in order to accelerate progress towards the Paris goals. The AAA centered on four specific areas for action: (i) **predictability**, requiring that *donors provide 3-5 year forward information on their planned aid to partner countries*; (ii) **country systems**, *partner country systems will be used to deliver aid as the first option, rather than donor systems if these are deemed to meet internationally recognized standards*; (iii) **conditionality**, *donors will switch from reliance on prescriptive conditions about how and when aid money is spent to conditions based on the developing country's own development objectives*; and (iv) **untying** – *donors will relax restrictions that prevent developing countries from buying the goods and services they need from whomever and wherever they can get the best quality at the lowest price*.



Effectiveness of the Bank's Interventions. In these countries the need for evidence to guide policymakers, and provide them with tools to effectively lead, cannot be overstated. About 50% of the Bank's 40 interventions in these countries for 2008 and 2009 were deemed to be satisfactorily evaluable at the moment of approval. The Bank aims to assist LDCs in generating evidence of the effect of their programs by providing technical assistance and resources to finance rigorous impact evaluations of key interventions. Examples of this work are three on-going impact evaluations for interventions in Guyana, Haiti and Nicaragua.

The *Second Low Income Settlement Program* in Guyana, approved by the Bank in 2008, aims to improve the quality of life of low-income families, through better access to housing, through infrastructure development in existing and new housing schemes (provision of services to lots) and other pilot interventions within the formulation of a National Housing Policy and Strategic Plan. The evaluation of the project, designed jointly with the government of Guyana, will focus on the level of occupancy achieved in existing sites vis-à-vis the level of infrastructure provided, the level of ownership of lots by low income beneficiaries, community participation and involvement, and the

uptake of lots in new schemes (that is, how quickly lots are taken up after the provision of services). The evaluation will be conducted following a randomized experimental design.

The *Improving Child Survival and Building Blocks for Social Safety Nets* project in Haiti, approved in December of 2009, focuses on core early childhood interventions that include delivery of micronutrients, de-worming, and promotion of best practices for breastfeeding, all recognized as being important entry points to achieve improved social outcomes. In an effort to reach the greatest number of children, particularly the most vulnerable, the delivery of micronutrients and de-worming drugs will be done twice-yearly through the Child Health Weeks (CHW), and will target children 6-59 months of age. While the project will finance national CHW in 2010, in late 2009 the Government of Haiti carried out CHW in some communities with the greatest need. This provided the opportunity to do a baseline study in a number of sites in order to determine the prevalence of soil transmitted helminthes (STH) and to assess the levels of iodine deficiency for future comparisons. The design of the baseline study included a short household questionnaire that captured relevant information

that will allow for a much better understanding about the dynamics of STH, prevalence rates, as well as the availability of de-worming in those areas. Follow up on those same sites will take place to measure the impacts of the CHW. Additionally, following a similar approach as the one described above, the Bank is supporting efforts to strengthen and measure the health impact of water projects in Haiti (as reported in Part II, Chapter II).

The *Social Protection Network Program (SPN)* in Nicaragua was implemented between 2000 and 2007 with financing from two IDB concessional loans. Like other Conditional Cash Transfer (CCT) programs, its primary objective was to generate a sustained decrease in poverty in some of the most disadvantaged areas of the country. Although evidence on the short-run impact of CCTs is massive and mostly consistent across countries, evidence of the impact of these programs on final (or long-term) outcomes in health and education¹⁴⁷ is mixed.¹⁴⁸ A first evaluation of SPN in 2005 using a locality-level randomized design (randomly selected intervention and control groups, and a matched comparison group after the control was given the program) showed that it led to increases in household expenditure for food and education, improvements in the diet of beneficiary households, substantial increases in school enrollment (13%), current attendance (20%), and a decline in working children aged 7-13 (-5.6%). These results were accompanied by an improvement in the nutritional status of beneficiary children under age 5, noticeable in a decline of 5.5% in the number of stunted children, more than

1.7 times faster than the rate of annual improvement seen at the national level between 1998 and 2001 (Malluccio and Flores, 2005).

In 2009, the IDB began work on a new impact evaluation of the SPN to address the long-term effects questions that are not fully covered by the existing literature on CCTs. In particular, two questions are central to the study: (a) the potential differential impact of early versus late interventions on education and labor market outcomes (the long-term outcomes); and (b) whether beneficiary households maintain higher levels of investment in human capital (nutrition, vaccinations, health care, and education) after demand-side incentives are withdrawn. The evaluation exploits the existing randomized design and original impact evaluation framework used in 2005, and revisits the original treatment, control, and comparison areas, re-interviewing the same households to extend the household panel, which separates out length of exposure versus age of exposure.

These three evaluation designs are part of the Bank's efforts to build new knowledge to inform the policy discussion on the design, sustainability and impacts of development programs in LDCs through rigorous evaluations that measure the net effect of these programs. In the current context of reduced external aid and financial flows to these countries, caused by the pressures posed by the world economic crisis, targeting investment to effective programs is crucial to achieve positive development results.

¹⁴⁷ These outcomes include achievement and cognitive development and child height for age.

¹⁴⁸ See the extensive review of the evidence in Fiszbein and Schady (2009).



I
Annex



2009 Annual Business Review



Table of Contents

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This document provides an analysis of the 2009 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.

Abbreviations

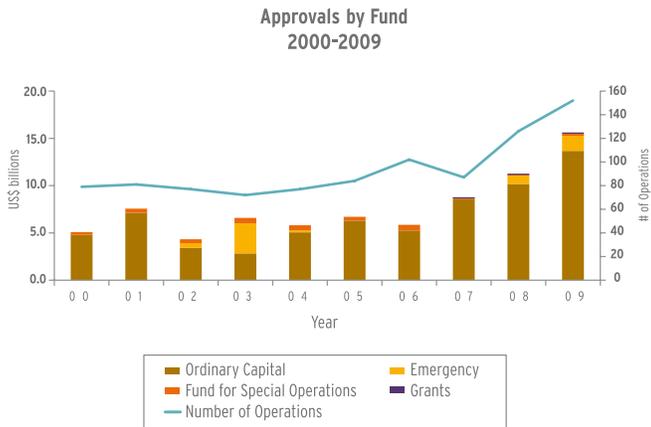
BDA	Budget and Administrative Services Department
C&D	Countries from Group C & Group D
CAN	Country Department Andean Group
CCB	Country Department Caribbean Group
CCLIP	Conditional Credit Line for Investment Projects
CID	Country Department Central America, Mexico, Panama and Dominican Republic
COF	Country Office
CSC	Country Department Southern Cone
EDU	Education Division
FSO	Fund for Special Operations
FTE	Full Time Equivalent
FMM	Fiscal and Municipal Management Division
GCM	Grants and Co-Financing Management Unit
GEF	Global Environment Facility
HQ	Headquarters
HRD	Human Resources Department
ICF	Institutional Capacity and Finance Sector
INE	Infrastructure and Environment Sector
INT	Integration and Trade Sector
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
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
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

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.

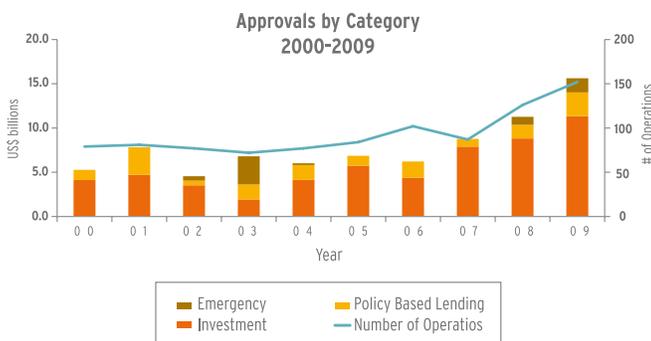
1.1 LENDING (SG AND NSG)



- Lending approvals reached a record high of \$15.6b¹, 38% increase from \$11.3b in 2008. Number of operations reached 153, 21% increase from 126 approved in 2008.

- Fund for Special Operations (FSO) approvals reached \$228.1m, a 66% increase from the \$137m approved in 2008. Approvals in 2009 represented 85% of FSO allocated for the year due to the carry over into 2010 of resources for Honduras.

1.2 LENDING BY CATEGORY



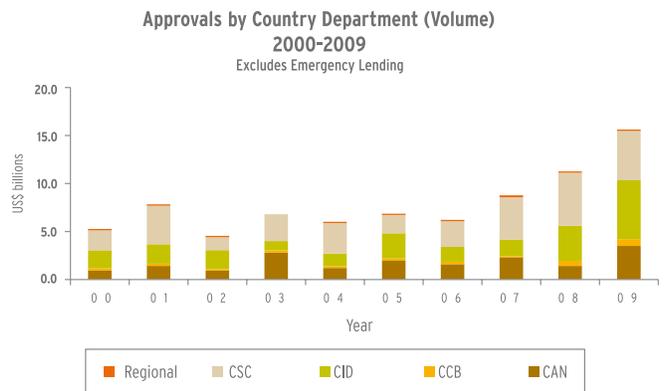
- Investment approvals reached \$11.3b in 2009, a 28% increase from \$8.8b in 2008. Policy Based Lending approvals reached \$2.7b, 73% increase from \$1.5b in 2008. Emergency Lending reached \$1.6b, 78% increase from \$900m in 2008.

- Sovereign Guaranteed investment operations account for \$10.4b of investment approvals, 76% increase from \$6.7b in 2008.



- The 4 year Average Investment Lending approvals reached \$8.1b in the 06-09 period, 21% increase from \$6.7b in 05-08.

1.3 LENDING BY COUNTRY DEPARTMENT



- Approvals for CSC countries reached \$5.2b, 5% decrease from \$5.5b in 2008. Number of operations reached 51, 4% decrease from 53 in 2008.

- Approvals for CID countries reached \$4.8b, 78% increase from \$2.7b in 2008. Number of operations reached 45, 32% increase from 34 in 2008.

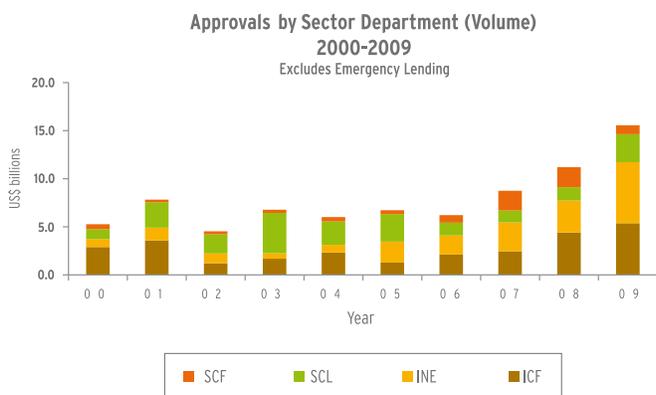
¹ Five of these operations amounting to \$1.3b were presented to the Board in 2008, and became effective in 2009.

- Approvals for CAN countries reached \$3.5b, 91% increase from \$1.4b in 2008. Number of operations reached 32, 100% increase from 16 in 2008.

- Approvals for CCB countries reached \$402m, 31% decrease from \$528m in 2008. Number of operations reached 17, 11% decrease from 19 in 2008.

- INE approvals reached \$6.3b, more than 100% increase from \$1.4b approved in 2008. Number of operations reached 56, 27% increase from 44 in 2008.

1.4 LENDING BY SECTOR

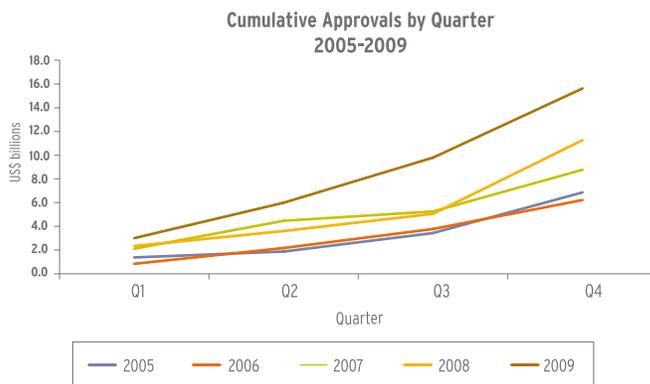


- ICF approvals reached \$5.4b, 20% increase from the \$4.4b approved in 2008. Number of operations reached 43, 8% increase from 40 operations in 2008. ICF also approved the first contingent loan for Natural Disasters for Dominican Republic with \$100m of Ordinary Capital.

- SCL approvals reached \$2.9b, more than 100% increase from the \$1.4b in 2008. Number of operations reached 21, 61% increase from 13 in 2008.

- SCF approvals reached \$0.9b, 55% decrease from \$2b in 2008. Number of operations reached 24, same level in 2008. SCF also approved 14 operations under the Trade Financing Facility Program for \$0.2b.

1.5 LENDING APPROVALS BY QUARTER



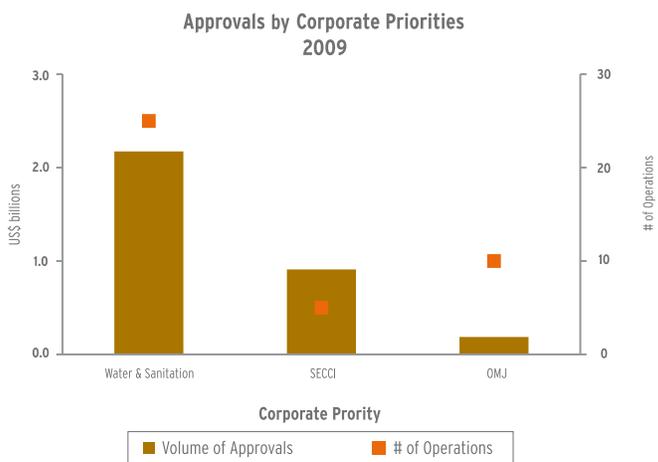
- Volume of lending approved in the last quarter of 2009 reached \$8.7b, 48% increase from 5.8b in 2008.

- Number of loan approvals in the last quarter of 2009 reached 83, 24% increase from 67 in 2008.

- Volume of lending approved in the last quarter of 2009 as a percentage of total lending reached 55%, 4 percentage points increase from 51% in 2008.

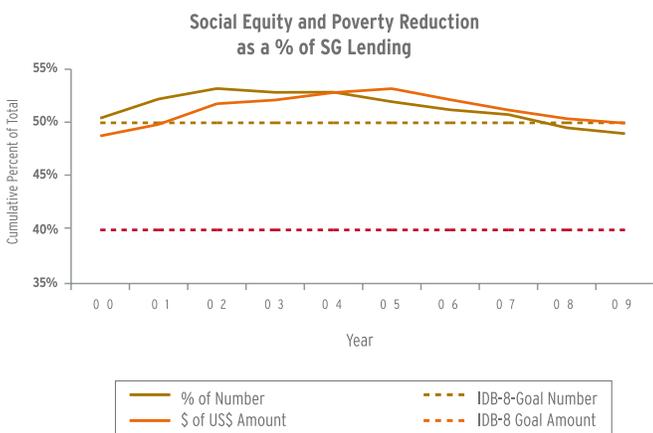
- Number of loan approvals in the last quarter of 2009 as a percentage of total number reached 55%, 2 percentage points increase from 53% in 2008.

1.6 LENDING BY CORPORATE PRIORITIES

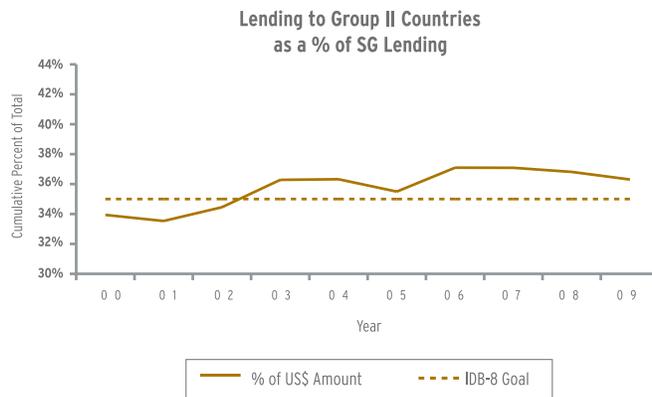


- Water and Sanitation approved \$2.2b, 5% above the estimated \$2.1b. Number of operations reached 25, 25% over the estimated 20 for the year.
- Protecting the Environment and Responding to Climate Change approved \$0.9b, more than triple from \$0.3b in 2008. Number of operations reached 5, 25% increase from 4 in 2008.
- OMJ initiative reached approvals for \$0.2b, 71% decrease from \$0.7b in 2008. Number of operations reached 10, 43% increase from 7 in 2008.

1.7 GOALS OF THE 8TH REPLENISHMENT

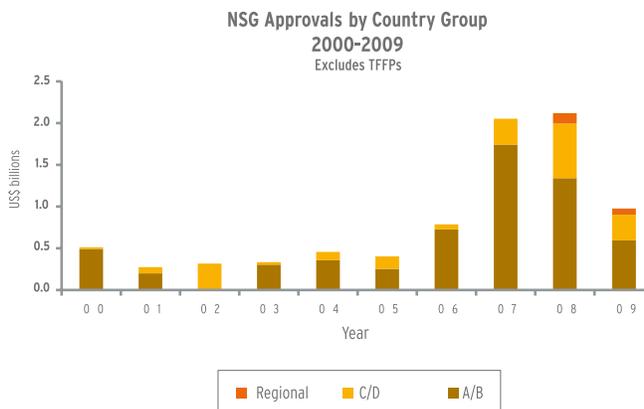


- Cumulative levels for SG volume and number of approvals for operations for Social Equity and Poverty Reduction are at 50% of volume (10 percentage points over the indicative goal of 40%) and 49% of number (1 percentage point below the 50% indicative goal).



- Cumulative SG lending approvals for Group II countries remained at 36% of volume (1 percentage point above the 35% indicative goal).

1.8 NSG LENDING TO GROUPS C & D

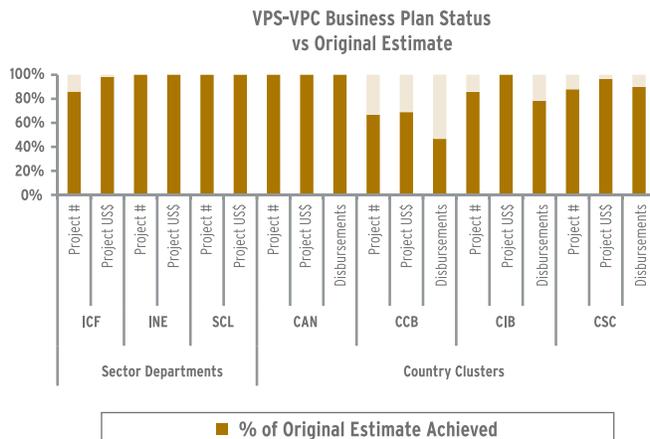


- NSG approvals for C & D countries represented 31% of total NSG volume (\$1b) and 40% of number of operations (30) in 2009. In 2008, 31% of total NSG volume (\$2.1b) and 37% of the number (27) were for C&D countries in 2008.

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.

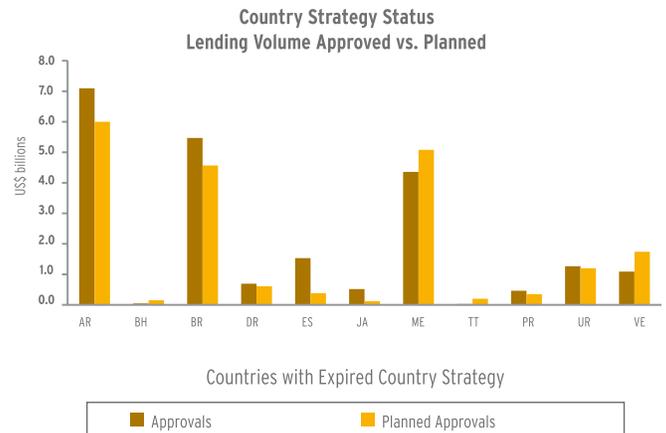
1.9 BUSINESS PLANS ESTIMATES



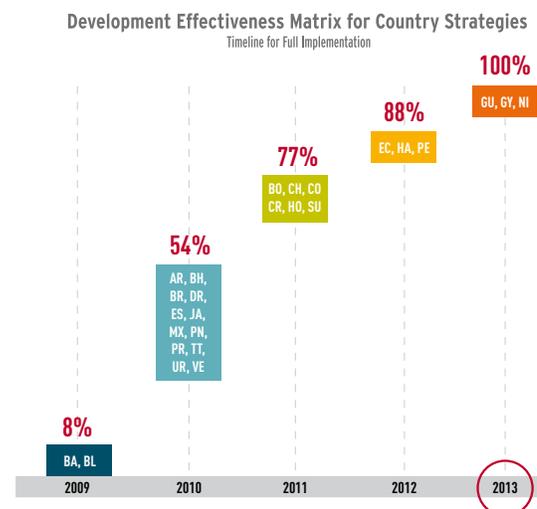
- By year end 2009, CAN reached 100% of operational estimates²; CCB reached 67% in number of projects, 69% in volume and 47% in disbursements; CID reached 86% in number, 100% in volume, and 78% in disbursements; CSC reached 88% of number, 96% of volume and 90% of disbursements.
- For Sectors, INE and SCL reached 100% of loan projects estimates (number and volume). ICF reached 98% for volume and 86% in number of loan operations approved.

² Country Departments and Sectors prepared estimates for loan projects (number and volume). Disbursements estimates were prepared under leadership of Country Departments.

2.1 COUNTRY STRATEGIES AND DIALOGUE

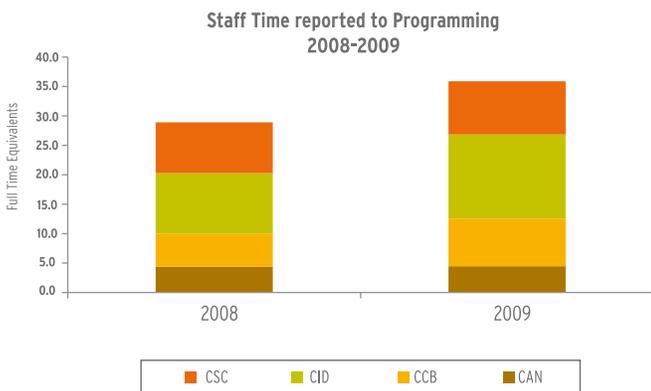


- By year end 2009, 11 (42%) of the Country Strategies (CSs) had expired. Lending approvals volume exceeded the planned CSs base scenario in 7 cases (Argentina, Brazil, Dominican Republic, El Salvador, Jamaica, Paraguay and Uruguay).



- From five country strategies approved in 2009, two had a Development Effectiveness Matrix (DEM) score (Barbados and Belize). A full cycle of Country Strategies with DEM scores is expected to be completed by the year 2013.

2.2 PROGRAMMING ACTIVITIES



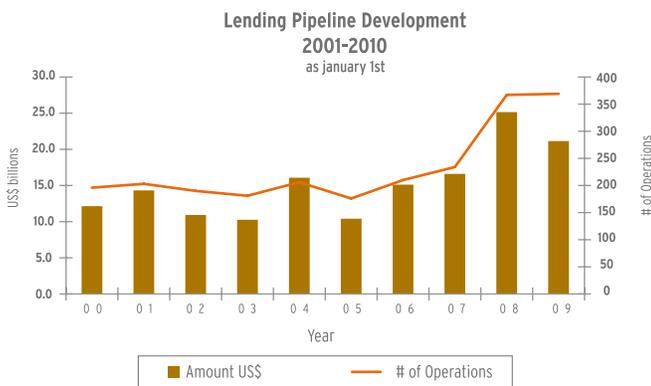
- Staff time reported to Programming products and activities in 2009 reached 37 FTEs, 26% increase from 29 in 2008.

- Non-Personnel expenditures in Programming products and activities reached \$1m, 71% increase from \$0.5m spent in 2008.

- There were 57 Programming missions (Policy Dialogue, Country Strategies, and Portfolio Management) realized in 2009, 16% decrease from 68 in 2008.

- Staff Time reported to Programming products and services in COFs reached 22.3 FTEs, 30% increase from 17.2 reported in 2008.

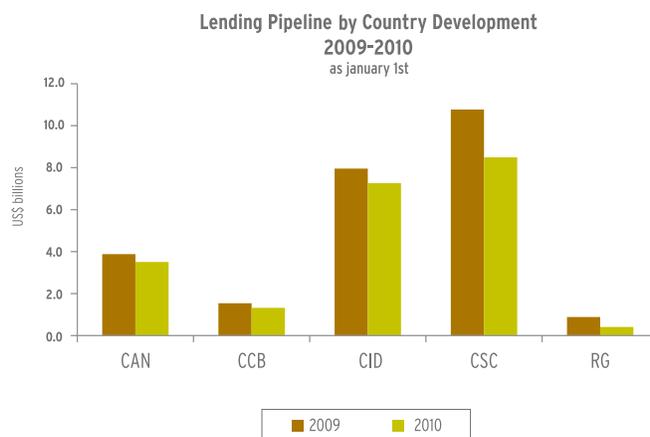
2.3 PIPELINE DEVELOPMENT



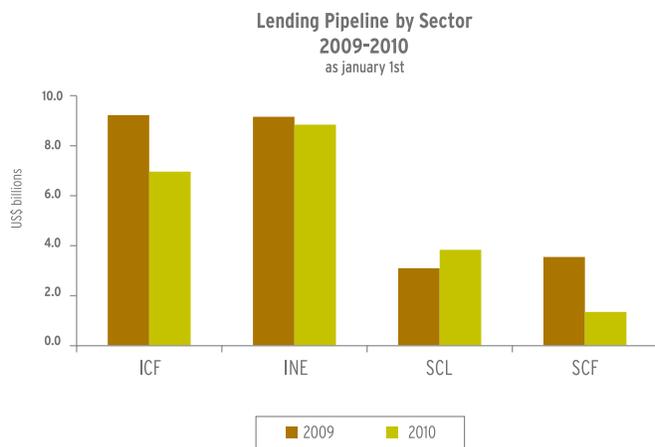
- As of January 1st 2009, the pipeline had 367 loan operations for \$25.1b. This included \$2.4b in Policy-based Lending (PBL), and \$20.9b in SG and NSG investment.

- As of January 1st 2010, the pipeline had 369 loan operations for \$21.1b. This included \$3.8b in Policy-based Lending (PBL), and \$17b in SG and NSG investment.

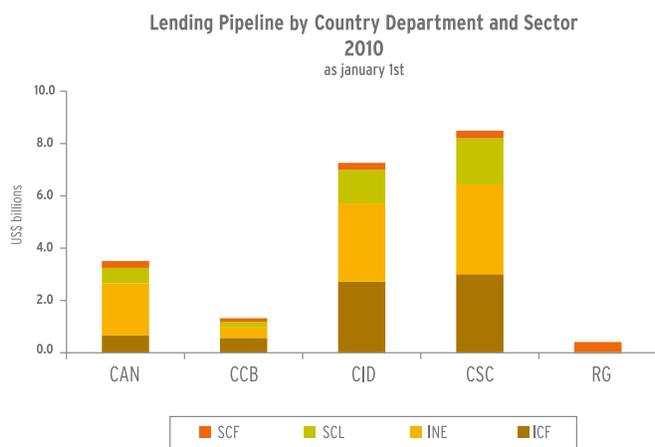
- The 2010 category A pipeline has 178 operations for \$9.4. This includes \$2b in Policy-based Lending (PBL), and \$7b in SG and NSG investment.



- Lending pipeline as of January 1st 2010 for **CAN** amounts to \$3.5b, 10% decrease from \$3.9 in 2009; for **CCB** amounts to \$1.3b, 13% decrease from \$1.5b in 2009; for **CID** amounts to \$7.3b, 9% decrease from \$8b in 2009; and **CSC** amounts to \$8.5b, 21% decrease from \$10.8 in 2009.

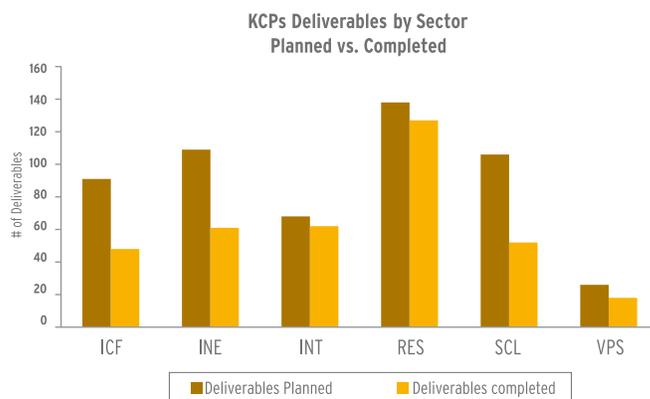


- Lending pipeline as of January 1st 2010 for **ICF** amounts to \$7b, 24% decrease from \$9.2 in 2009; for **INE** amounts to \$8.8b, 4% decrease from \$9.2b in 2009; for **SCL** amounts to \$3.8b, 23% increase from \$3.1b in 2009; and **SCF** amounts to \$1.4b, 60% decrease from \$3.5b in 2009.



- Operations in pipeline based on volume, are distributed in **CSC** and **CID** (75% of pipeline), 6% for **CCB**, 17% for **CAN** and 2% Regional. For Sectors, **ICF** and **INE** account for 75% of pipeline while **SCL** accounts for 19% and **SCF** for 6%.

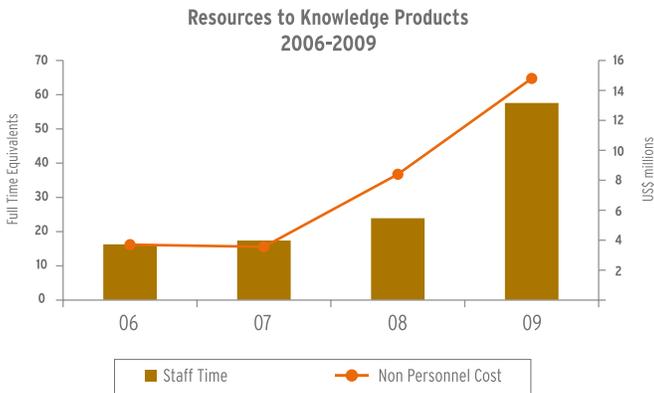
2.4 KNOWLEDGE AND CAPACITY BUILDING PRODUCTS³ (KCPs)



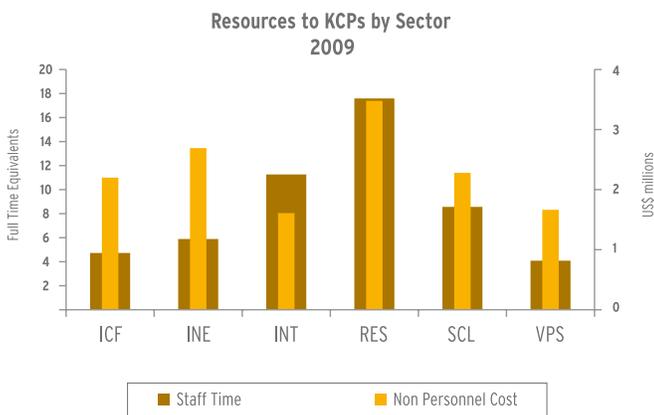
- Sectors worked on 109 **KCPs** as of December 2009. **ICF** was responsible for 27 (25%), **INE** for 25 (23%), **SCL** for 20 (18%), **RES** for 19 (17%), **INT** for 12 (11%) and **ESG** and **VPS** for 6 (6%).
- For each **KCP** approved by **VPS**, the sectors responsible planned a number of deliverables⁴ to be completed in 2009. As of December 2009, Sectors completed 368 (68%) deliverables of 538 planned.
- **RES** and **INT** completed 127 (92%) deliverables of 138 planned while **INT** completed 62 (91%) of 68 planned. **ICF**, **INE** and **SCL** completed 161 (53%) of 306 deliverables estimated.

³ In previous years, Country and Sector knowledge was generated mainly through independent research papers, studies, notes and seminars. In 2009 is the first year of implementation of Knowledge and Capacity Building Products through a programmatic approach.

⁴ Deliverables are intermediate outputs such as sector studies and notes, seminars, technical networks, and databases, among others, that make up a KCP.

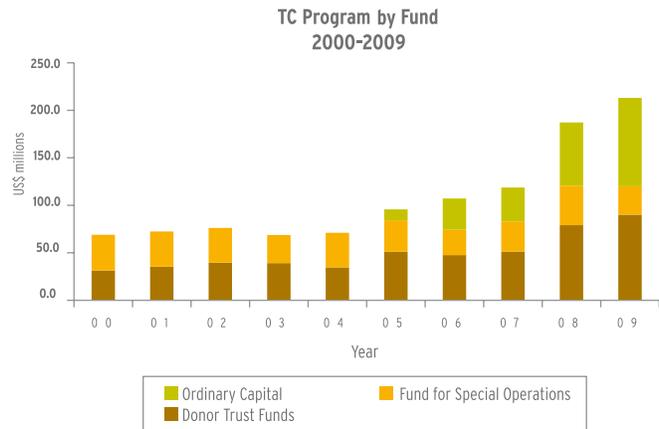


- Non personnel expenditures for KCPs reached \$14.8m, increase more than doubling the \$4.9m spent in 2008.
- Staff time reported to KCPs in 2009 reached 57.6 FTEs, 141% increase from 23.9 reported in 2008.
- Non-Personnel expenditures amounted to \$14.8m, a 76% increase from the \$8.4 reported in 2008.



- Execution of Non personnel resources (consultants and travel) by **VPS** to the **KCP** program in 2009 reached \$13.9m, 93% of the resources budgeted. By sector, **SCL** executed 100% of the budgeted resources, **INT** 96% and **ICF**, **INE**, **ESG** and **RES** averaged 91%.

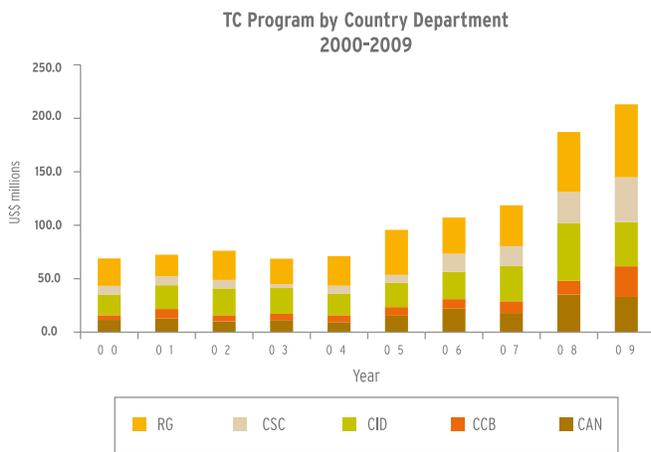
2.5 TECHNICAL COOPERATION PROGRAM



- TC approvals reached \$213m, 14% increase from the \$187m approved in 2008. Number of operations reached 451, 12% decrease from 510 in 2008. Average size of TCs approved reached \$472K, 29% increase from \$367K in 2008.
- TC financed with FSO approvals reached \$29.9m, 28% decrease from \$41.6m in 2008. Number of operations reached 111, 22% decrease from 143 in 2008. Average size of FSO TCs was \$269K, 8% decrease from 291K in 2008.
- TC financed Donor Trust Funds (DTF) approvals reached \$90.1m, 14% increase from \$79.1m in 2008. Number of operations reached 200, 27% decrease from 274 in 2008. Average size of DTF TCs was \$451K, 56% increase from \$289K in 2008.
- Investment Grant Operations⁵ financed by the Spanish Fund for Water and Sanitation amount to \$150m in 3 operations, 35% of the available \$431m of the Fund.

⁵ 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.

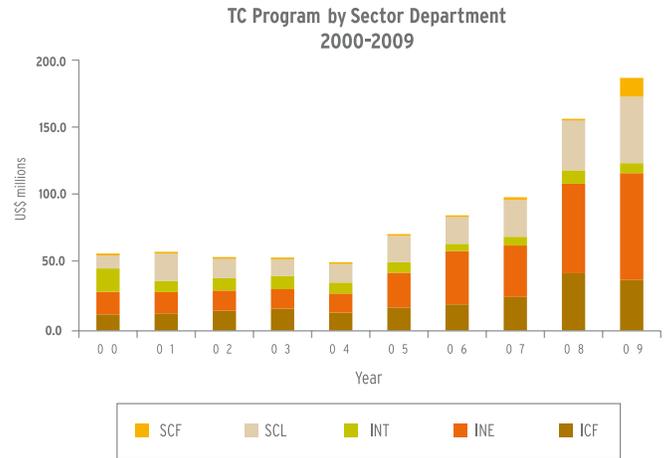
- Special programs financed with Ordinary Capital (OC) approvals reached \$93m, 40% increase from \$67m in 2008. Number of operations reached 140, 51% increase from 93 in 2008. Average size of OC TCs was \$664K, 7% decrease from 715K in 2008.



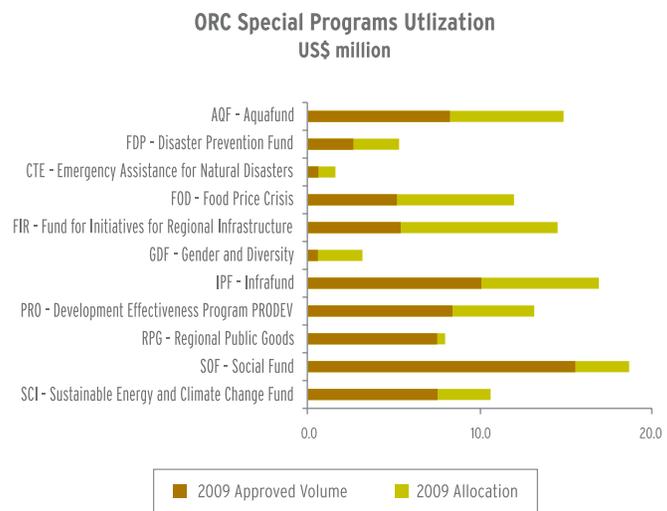
- TC approvals for **CAN** countries reached \$33m, 6.2% decrease from \$35.1m in 2008; for **CCB** countries, approvals reached \$28.7m, more than 100% increase from \$12.9m in 2008; for **CID** countries, approvals reached \$41.3m, 23.2% decrease from \$53.8 in 2008; for **CSC** countries, approvals reached \$41.9m, 42.7% increase from \$29.4 in 2008.

- TC Regional approvals reached \$68.2, 21.7% increase from \$56m in 2008.

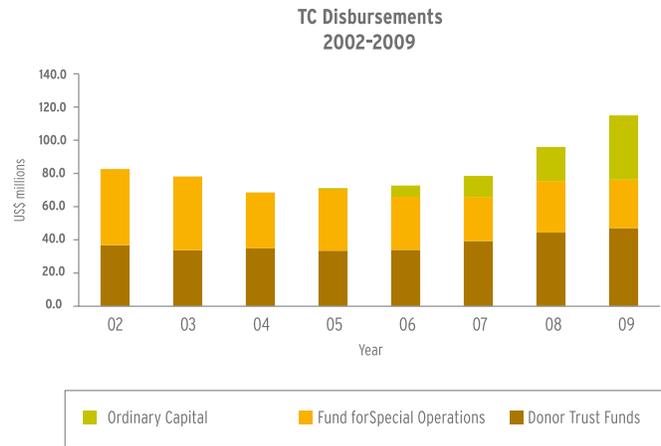
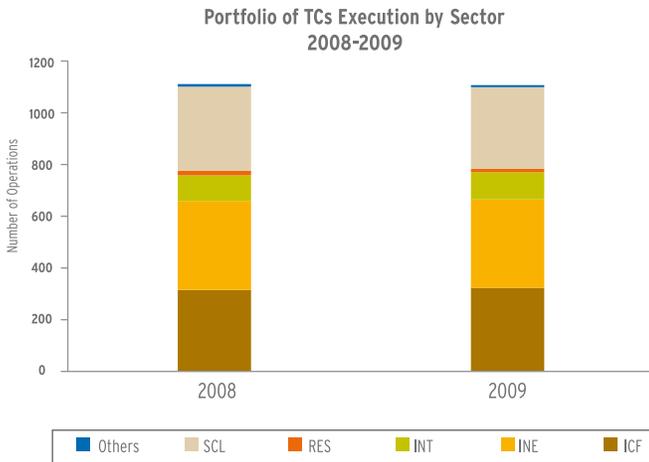
- **CAN** countries account for \$33m (16%) of TC approvals in 2009; **CCB** countries for \$29m (14%), **CID** countries for \$41.3m (19%), **CSC** countries for \$42m (20%), and Regional for \$68m (32%).



- Approvals in 2009 for ICF reached \$37.6m, 11.7% decrease from \$42.6m in 2008; for **INE**, approvals reached \$78.9m, 19.3% increase from \$66.1m in 2008; for **INT**, approvals reached \$7.4m, 25.2% decrease from \$9.9m in 2008; for **SCL** approvals reached \$49.2m, 31.6% increase from \$37.3m in 2008; and for **SCF**, approvals reached \$13.8m, more than 100% from \$0.76m in 2008.



- Approvals under special programs financed with Ordinary Capital (OC) reached \$90m, 61% of the \$149m available in 2009. In 2008, these programs reached approvals of \$66m, 48% of the \$138 available that year.



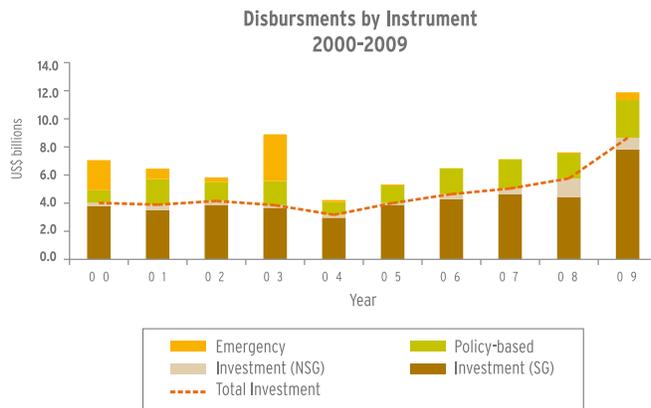
- TC Portfolio under responsibility of Sectors reached 1,107 operations, the same level as the 1,111 in 2008.
- The **ICF** TC portfolio reached 323 operations, 3% increase from 315 in 2008; **INE** reached 342 operations, same level as the 344 in 2008; and **SCL** reached 315 operations, 3% decrease from 325 in 2008.

- Disbursements of TCs financed with Fund for Special Operations (FSO) reached \$29.2m, 6% decrease from \$31.1m in 2008.
- Disbursements of TCs financed with Donor Trust Funds (DTF) reached \$47.1m, 6% increase from \$44.4m in 2008.
- Disbursements of TCs financed through Special Programs of Ordinary Capital (ORC) reached \$38.7m, 89% increase from \$20.5m in 2008.

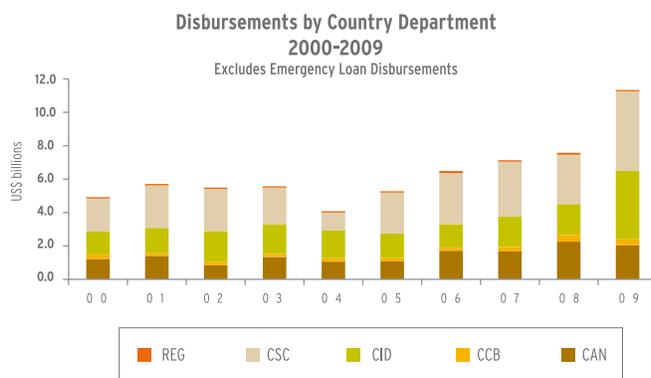
III. Program Delivery

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.

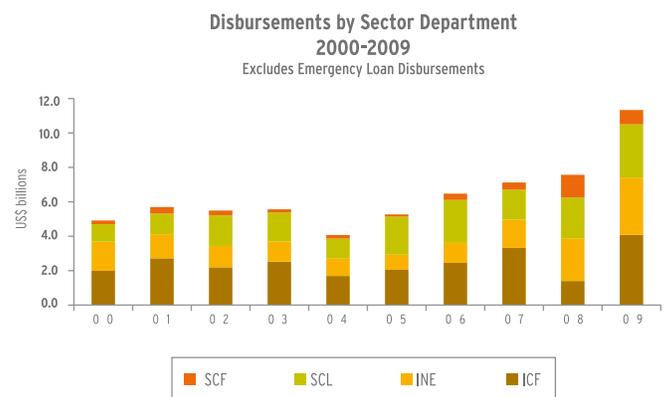
3.1 DISBURSEMENTS



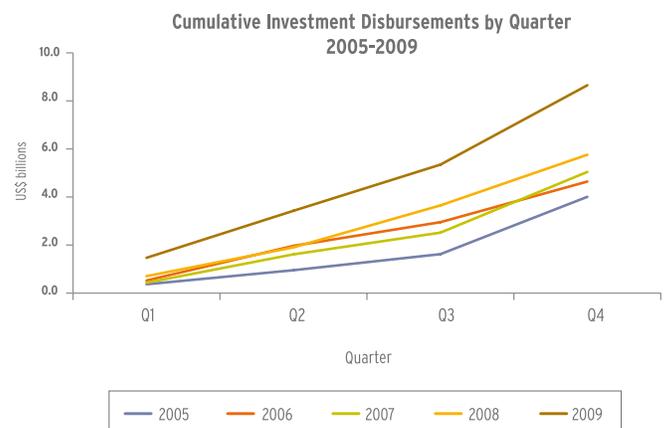
- Total disbursements⁶ reached \$11.9b, 57% increase from \$7.6b in 2008.
- Investment loan disbursements reached \$8.7b, 50% increase from \$5.7b in 2008.
- Policy Based loans disbursements reached \$2.7, 50% increase from \$1.8b in 2008.
- Liquidity Program for Growth sustainability loans disbursed \$0.2b, more than 100% increase from \$37m in 2008. Fiscal Emergency loans disbursed \$0.3b.



- Disbursements to **CAN** countries reached \$2.1b, 9% increase from \$2.3b in 2008; to **CCB** countries reached \$0.3b, 14% decrease from \$0.40b in 2008; to **CID** countries reached \$4.1b, more than 100% increase from \$1.8b in 2008; and to **CSC** countries reached \$4.8b, 60% decrease from \$3b in 2008.



- **ICF** disbursements reached \$4.1b, more than 100% increase from \$1.4b in 2008; **INE** disbursements reached \$3.3b, 32% increase from \$2.5b in 2008; **SCL** disbursements reached \$3.1b, 29% increase from \$2.4b in 2008; and **SCF** disbursements reached \$0.8b, 38% decrease from \$1.3b in 2008.

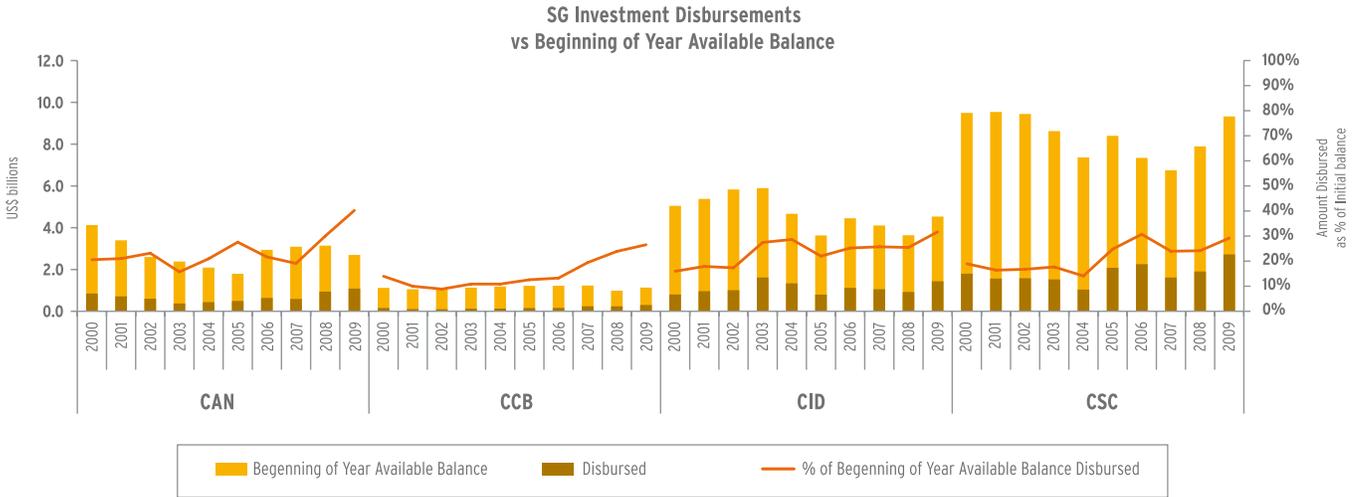


⁶ Included Emergency loans disbursements (LPGS and Fiscal) for \$37m in 2008 and \$548m in 2009.

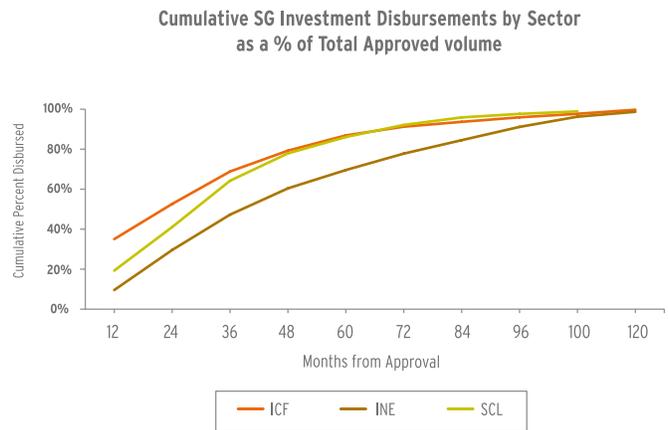
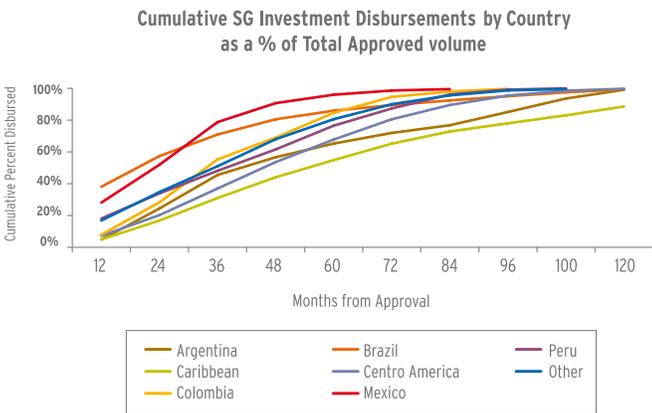
- Investment loan disbursements in the last quarter reached \$3.3b, 57% increase from \$2.1 in 2008.

- Investment loan disbursements in the last quarter represented 38% of total investment disburse-

- ments. In 2008, disbursement concentration for this type of loans in the last quarter was 36%.



- Disbursements trends as a percentage of beginning of year balance for eligible investment projects are similar among country departments in recent years. For 2009, CAN, CID and CCB reached record highs since 2000.

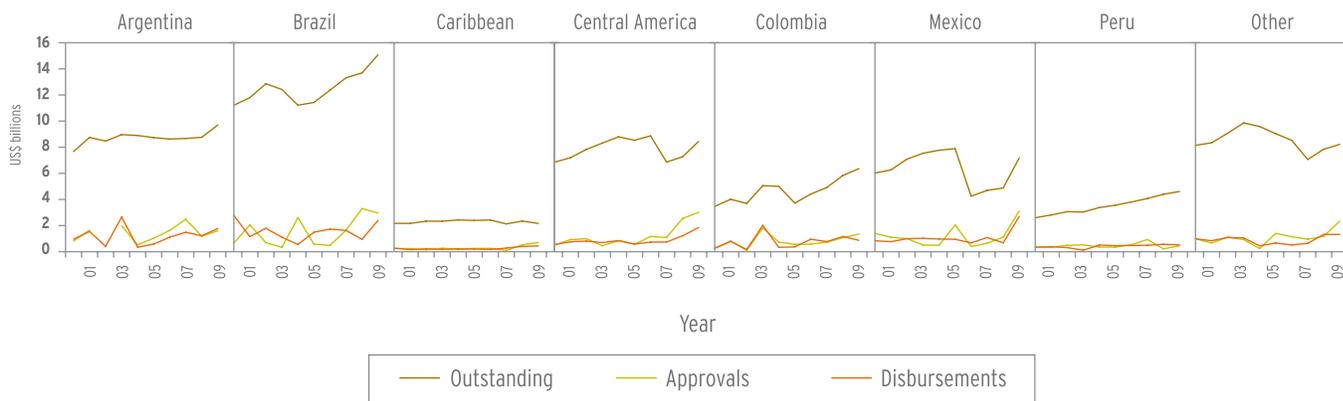


- Country disbursement profiles⁷, reveal that Mexico disbursed 91% of its balances in four years after approval while Brazil and Colombia disbursed 81% and 69% respectively. All other countries average 57% of its available balance disbursed by the end of the fourth year.

- Sector disbursement profiles reveal that operations under responsibility of **ICF** and **SCL** average 78% of cumulative disbursements by the end of the 4th year in execution (measured from approval). **INE** and **INT** average 60% and 56% respectively.

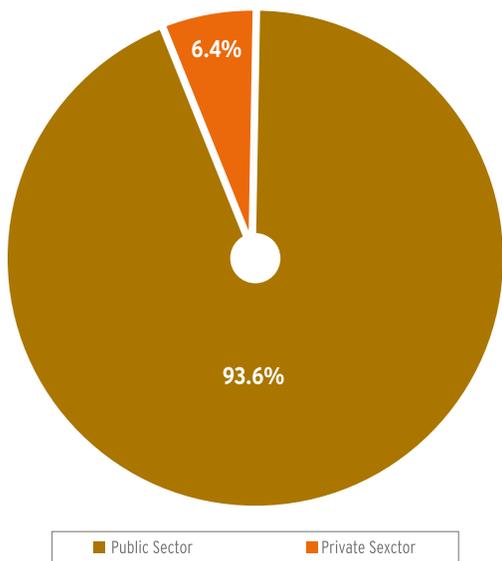
⁷ Disbursement Profile of a Country is based on the average of the amount disbursed per project in the portfolio. The number of months is calculated from date of approval. The universe of projects for the profile shown, are the investment operations with Sovereign Guarantee that have closed between 2000 and 2009.

IDB 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 is recovering its outstanding portfolio and approvals after repayments made in 2006. In 2009, Argentina, Brazil, Colombia and Peru reached their highest levels of outstanding balances since 2000.

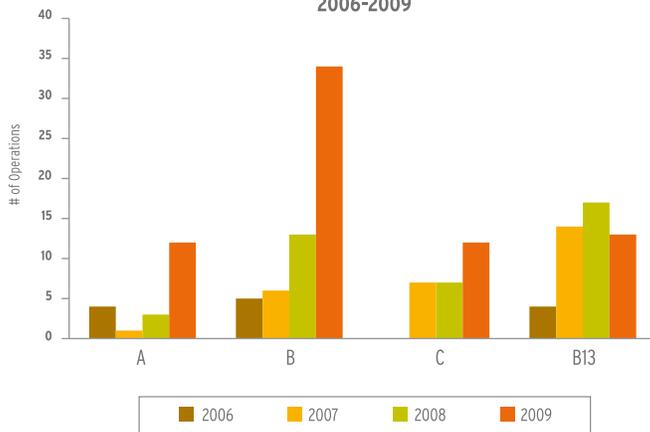
OC Loans Outstanding and Guarantee Exposure



- By end 2009, total OC loans outstanding and guarantee exposure reached \$58.5b (excluding emergency loans).
- NSG reached 6.4% of total OC outstanding and guarantee exposure (below the 10% ceiling).

3.2 ENVIRONMENTAL AND SOCIAL SAFEGUARDS

ESG’s participation in approved operations per category 2006-2009



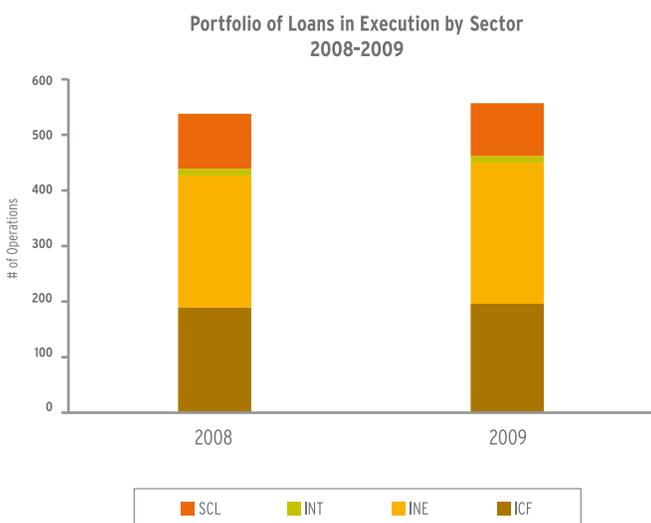
- The number of operations that had assistance from an Environmental and Social Safeguards specialist from ESG reached 370 in 2009⁸, more than 100% increase from 167 in 2008.

⁸ Including operations from the TFFP.

3.3 PORTFOLIO MANAGEMENT

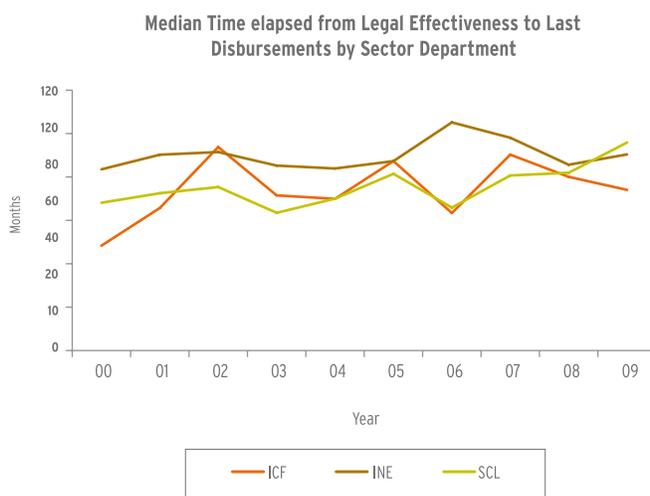
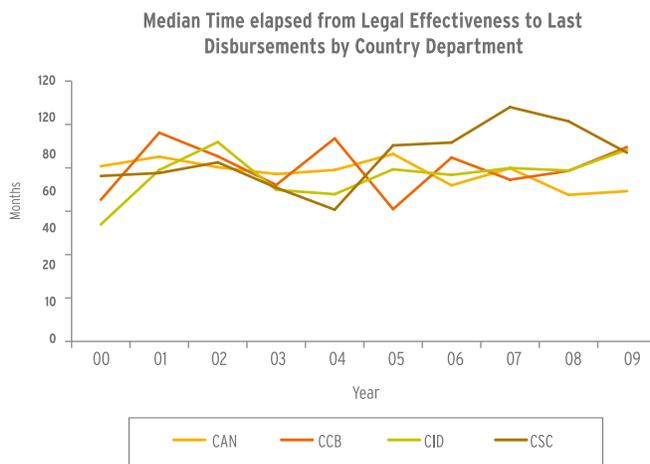
The following paragraphs assess the distribution of the portfolio among the different Sector Departments and selected measures so assess the time elapsed from approval to First and last Disbursements. Indicators below also address portfolio management instruments such as the Audited Financial Statements (AFS) and the Project Completion Reports (PCR).

3.3.1 DISTRIBUTION BY SECTOR



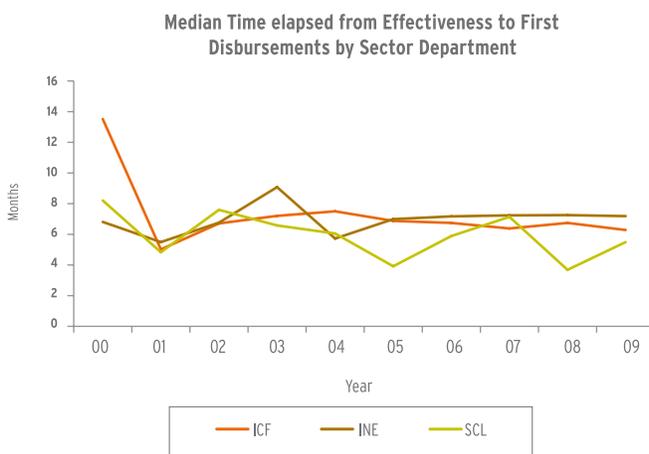
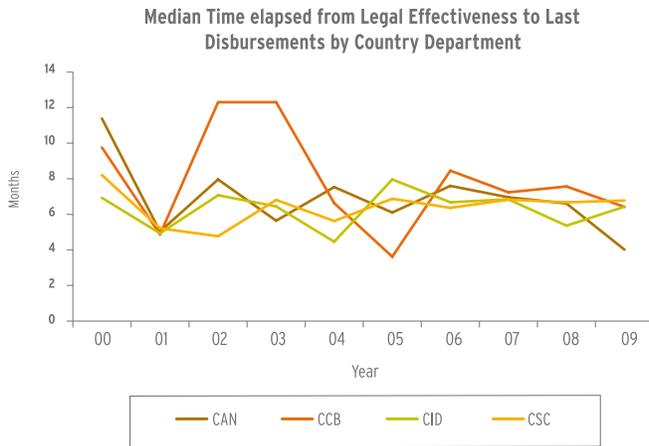
- The number of operations in the portfolio under responsibility of VPS reached 557 projects, 4% increase from 538 in 2008.
- The ICF portfolio reached 196 operations, 4% increase from 189 in 2008; INE reached 254 operations, 7% increase from 238 in 2008; and SCL reached 95 operations, 4% decrease from 99 in 2008.

3.3.2 TIME ELAPSED FROM APPROVAL TO FIRST AND LAST DISBURSEMENTS



- Median time elapsed from legal effectiveness⁹ to last disbursement for SG investment loans reached 7.3 years for loans completed in 2009, a slight increase of 5 months over the 6.9 years from 2008.

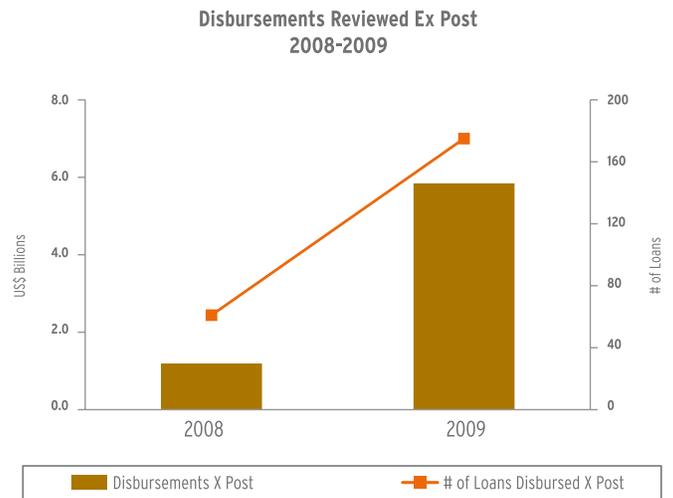
⁹ Legal effectiveness is when the contract is signed between the Bank and the borrower.



- Median time¹⁰ elapsed from legal effectiveness to first disbursement reached 7.1 months, 30% decrease from 10.1 in 2008.

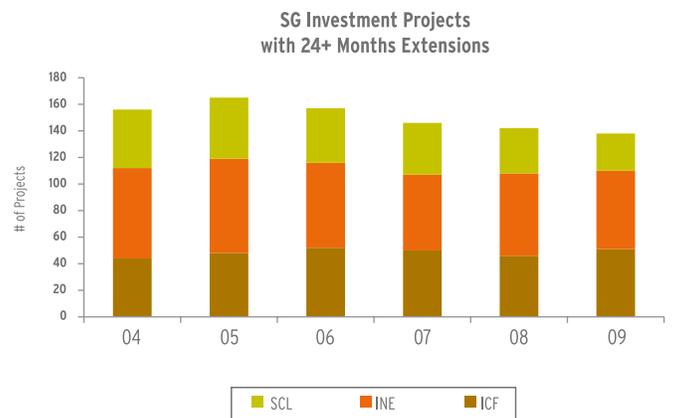
¹⁰ Five loans to Haiti (2 in ICF, 1 in INE and 2 in SCL) averaged 45 months to reach first disbursement. These caused the spikes shown in 2000 and 2003 and are excluded from the calculation.

3.3.3 EX POST REVIEW OF DISBURSEMENTS



- The amount of disbursements reviewed ex post from investment SG operations reached \$5.8b, more than 100% increase from \$1.2b in 2008.
- The number of loans that disbursed with ex post review reached 175 in 2009, more than 100% increase from 61 in 2008.

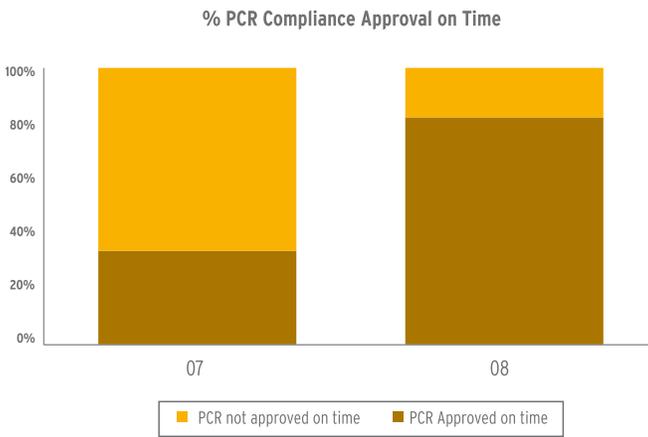
3.3.4 LAST DISBURSEMENTS EXTENSIONS



- The number of SG investment projects with extensions of 24 months or more from its original last disbursement date reached 139, 3% decrease from 144 in 2008.

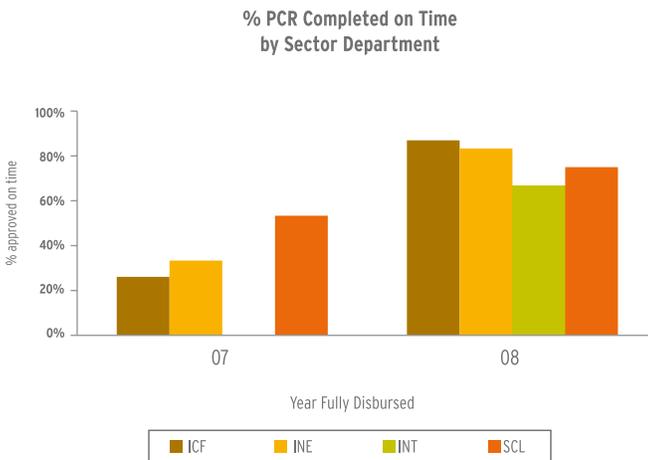
- The \$1.4b available balance of these operations represents 7% of the portfolio. In 2008, \$1.6b available balance represented 10.2% of the portfolio.

3.3.5 PROJECT COMPLETION REPORTS (PCR)



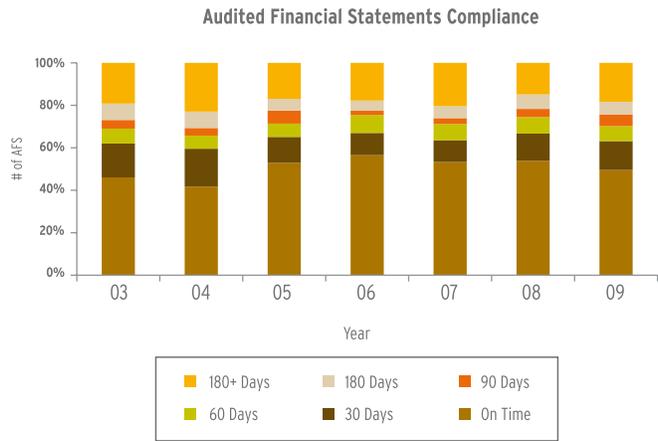
- Number of PCRs approved on time¹¹ reached 46, more than 100% increase from 18 in 2008.

- Compliance for those PCRs expected to be approved in 2009 reached 82% compared to 34% in 2008.

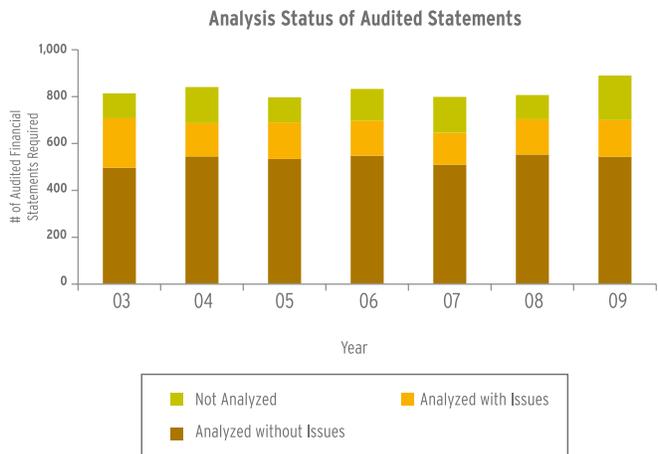


- ICF** completed 20 of 23 PCRs (87%) compared to 6 of 23 (26%) in 2008; **INE** completed 15 of 18 (83%) compared to 4 of 12 (33%) in 2008; **SCL** completed 9 of 12 (75%) compared to 8 of 15 (53%) in 2008.

3.3.6 AUDITED FINANCIAL STATEMENTS



- AFS delivered on time as a percentage of AFS required reached 50%, a decrease from 54% in 2008.



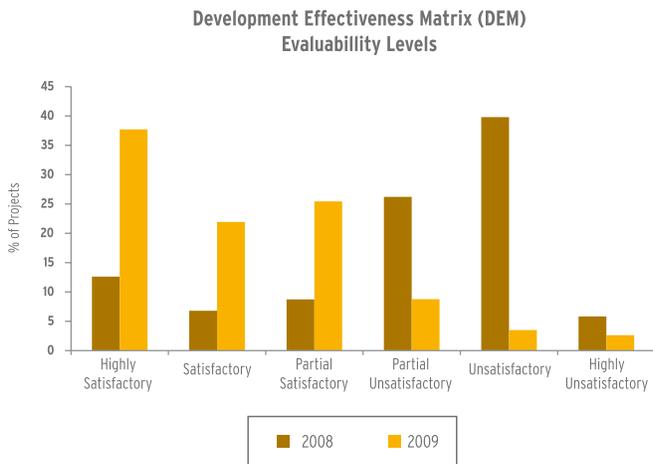
- In 2009, 700 (79%) of the 890 AFS expected were analyzed by auditors. This analysis resulted in 544 (78%) AFS with no issues, same level of 2008.

¹¹ On time is before June 30th of the following year of fully disbursed.

3.4 DEVELOPMENT EFFECTIVENESS

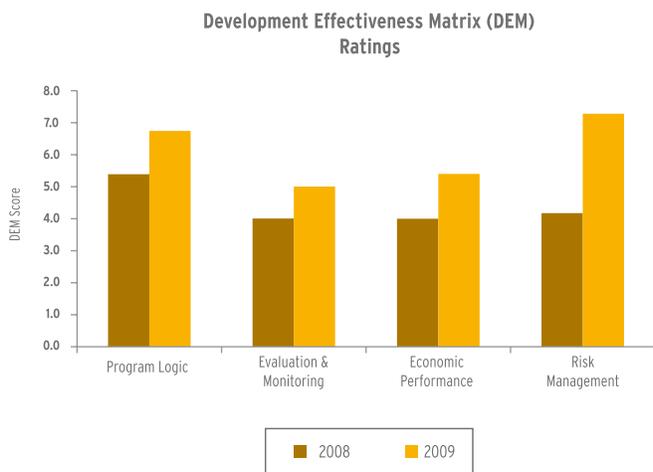
This section presents indicators from Development Effectiveness Matrix (DEM) and the implementation of the Progress Monitoring Report (PMR).

3.4.1 DEVELOPMENT EFFECTIVENESS MATRIX

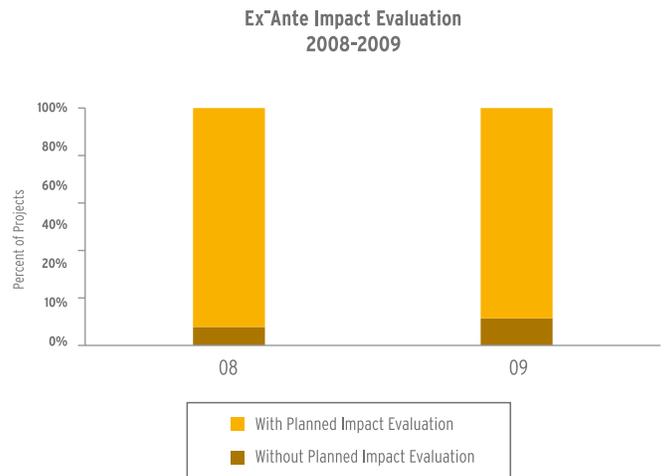


- The number of operations that scored satisfactory or above in evaluability dimensions reached 68 (60% of projects assessed), 71% increase over 20 (20% of projects assessed) in 2008.

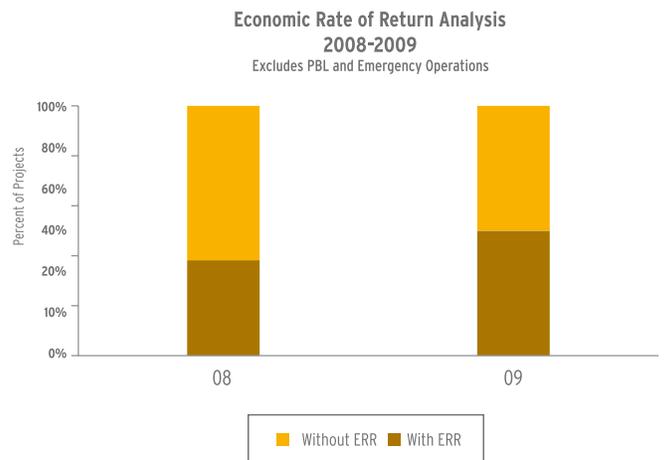
- The number of operations that scored satisfactory or above in evaluability dimensions as a percent of total projects assessed was 60% compared to 20% in 2008.



- Average DEM ratings at entry improved in all dimensions from 2008 to 2009. Program Logic scored 6.7, 24% improvement from 5.4 in 2008; evaluation and monitoring scored 5, 25% improvement from 4 in 2008; Economic performance scored 5.4, 35% improvement from 4 in 2008; risk management scored 7.3, 74% improvement from 4.2 in 2008.

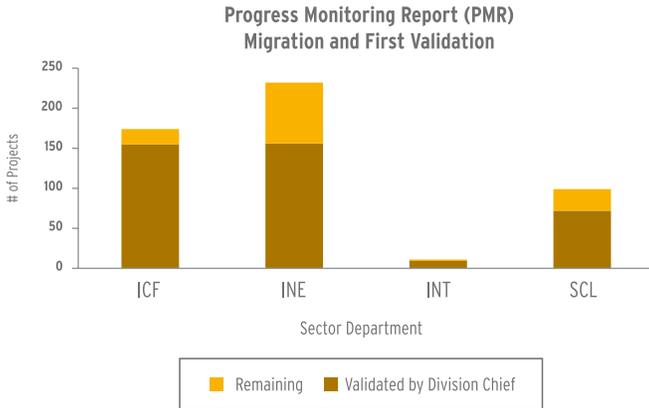


- The number of SG operations assessed in 2009 with planned impact evaluation reached 13, 63% increase from 8 in 2008.



- The number of SG operations assessed in 2009 (excluding PBL and Emergency) that had an Economic Rate of Return Analysis reached 48, 41% increase from 34 in 2008.

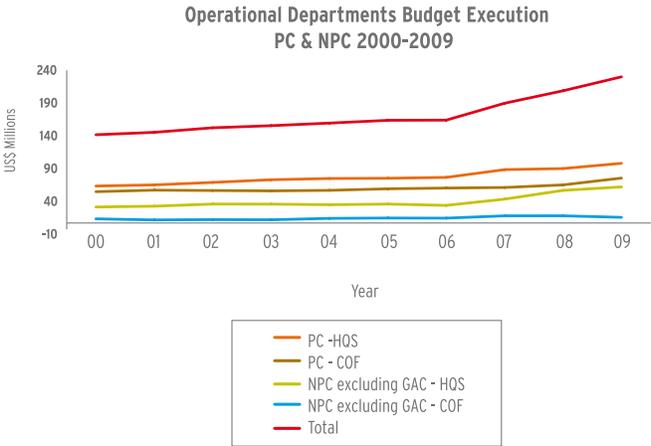
3.4.2 PROGRESS MONITORING REPORTS



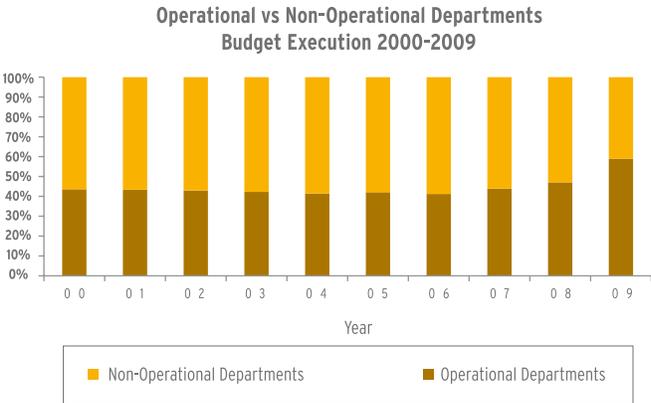
- The Progress Monitoring Report (PMR) is under implementation phasing out the previous portfolio monitoring instrument PPMR. The PMR will provide enhanced data on portfolio performance. During this transition, information was migrated into the new system. By year end 2009, 76% of migrated operations had been validated by Division Chiefs.

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



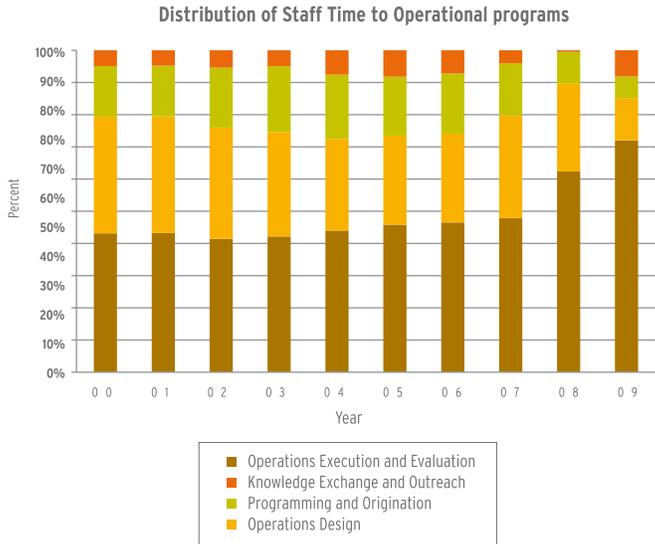
- Personnel Costs expenses for operational departments reached \$164.4m, 13% increased from \$145.4m in 2008.
- Non-Personnel Cost¹² (NPC) expenses for operational Departments reached \$65.5m, 5% increase from \$62.5m in 2008.



- Operational department's executed budget reached \$246m, 32% increase from \$186m in 2008.
- Operational department's executed budget as a percentage of total administrative budget reached 59% compared to 47% in 2008

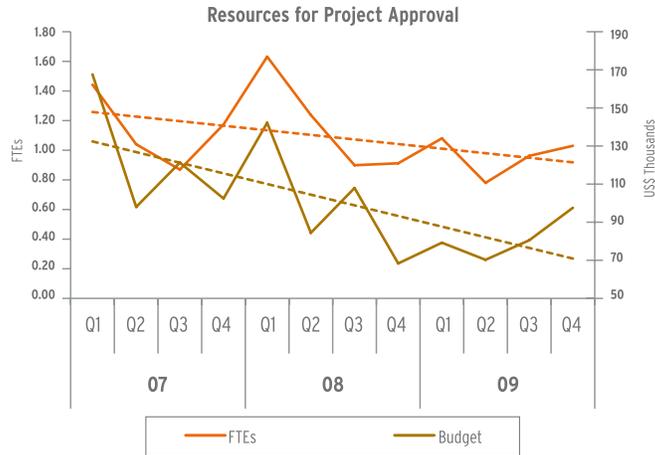
¹² Excludes general administrative costs.

4.2 TIME REPORTED BY PROGRAM GROUP



- Staff time reported to operational programs¹³ reached 632 FTEs, 12% increase from 564 in 2008.
- Staff time reported to execution and evaluation of operations reached 354 FTEs, 26% increase from 280 in 2008.
- Staff time reported to operation's design and Programming and Origination reached 98 FTEs, 41% decrease from 167 in 2008.

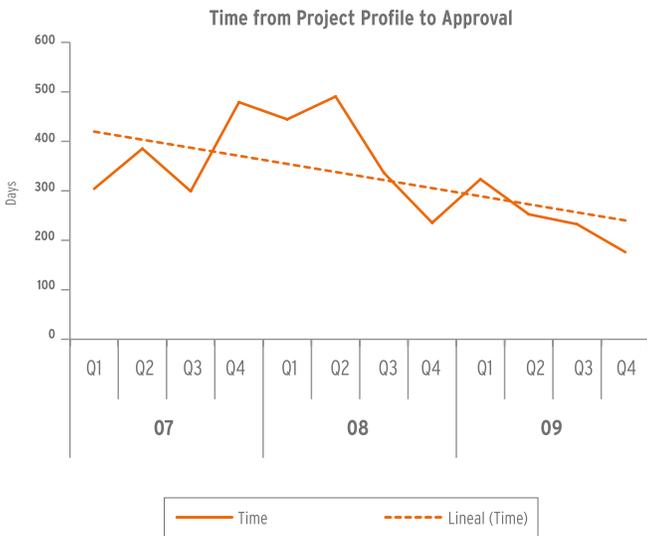
4.3 PROJECT EFFICIENCY



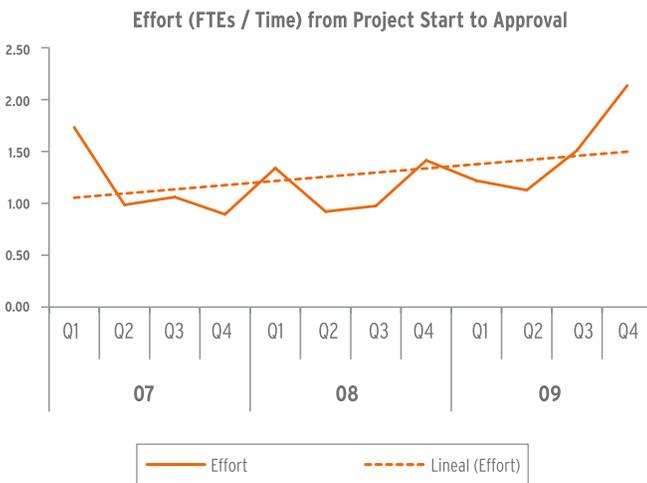
¹³ (programming and origination, operations design, execution and evaluation and operational knowledge exchange and Outreach)

- Non-personnel cost per approved project reached \$90K, same level as 2008.

- Staff time reported per approved project reached 1.08 FTEs, 10% increase from 0.98 in 2008.

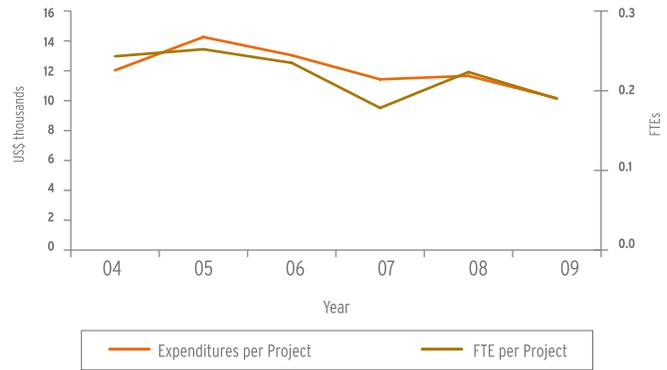


- Time elapsed to prepare a project (from Project Profile to Approval) approved in 2009 was 7 months, the same level of 2008.



- The ratio between staff time reported and preparation elapsed time (effort), reached 1.7 in 2009, 40% increase from 1.2 in 2008.

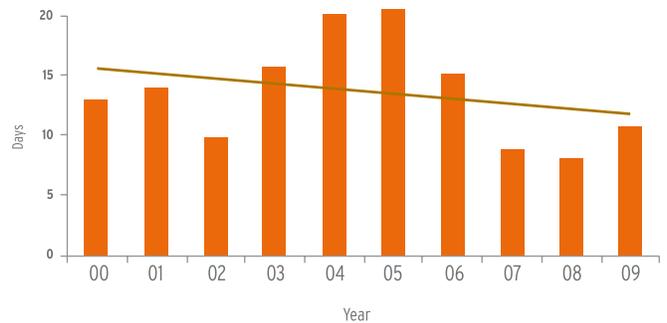
Resources (Expenditures and Staff time) per Project in Portfolio



- Staff time reported per project in the portfolio in execution reached 0.19 FTEs, 15% decrease from 0.22 in 2008.

- Expenditures per project in the portfolio in execution reached \$10.2K, 13% decrease from \$11.7 in 2008.

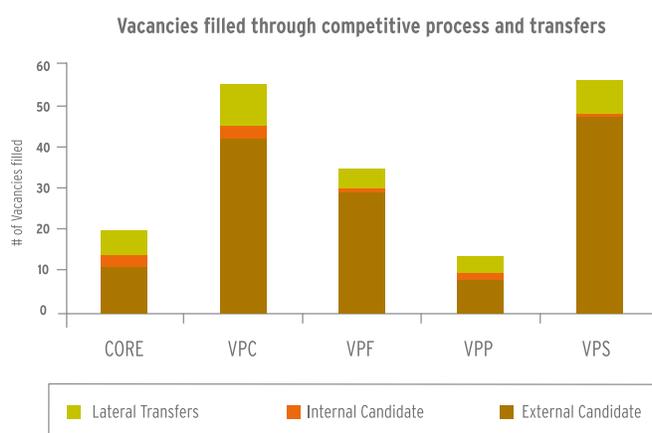
Staff Time Reported to Project Execution per US\$ million disbursed 2000-2009



- Staff time reported to project execution per US\$ million disbursed reached 9.4 days, 32% increase from 7.1 in 2008. The downward trend in the 2000-2009 period remains.

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 180 out of which 125 (69%) were operational (VPS, VPC, VPP). In 2008, 292 positions were filled out of which 216 (74%) were operational.

- Positions filled with external candidates reached 137 (76%) out of which 67 (49%) were female. In 2008, 221 (76%) positions were filled with external candidates of which 94 (43%) were female.

- The remaining 43 positions (24%) were filled internally of which 33 were through lateral transfer. In 2008, 71 positions (24%) were filled internally, out of which 37 were through lateral transfer.

- Out of the 46 hires in Country Offices in 2009, 24 (52%) were females; for headquarters, out of the 91 hires, 43 (45%) were females. In 2008, out of the 84 hires in Country offices, 29 (35%) were females; for headquarters, out of the 137 hires, 65 (47%) were females.

5.2 COF STRENGTHENING

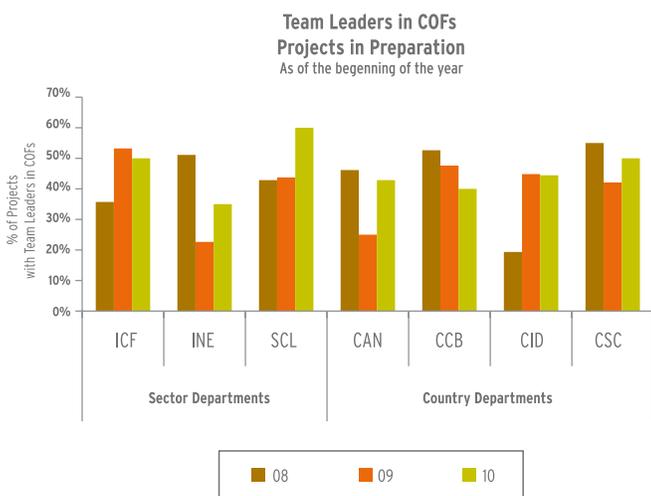
Flow of COF Professional Staff	
On Board 12/31/08	382
Terminations	-29
Net Transfers	8
External Hires	40
Promotions from Administrative to Professionals	4
On Board 12/31/09	405
Net Change	23
Vacancies	41

- Net change of professional staff in COFs by December 31st, 2009 was an increase of 23 (6% from the beginning of the year). In 2008, net change was an increase of 67 (21% from beginning of year).

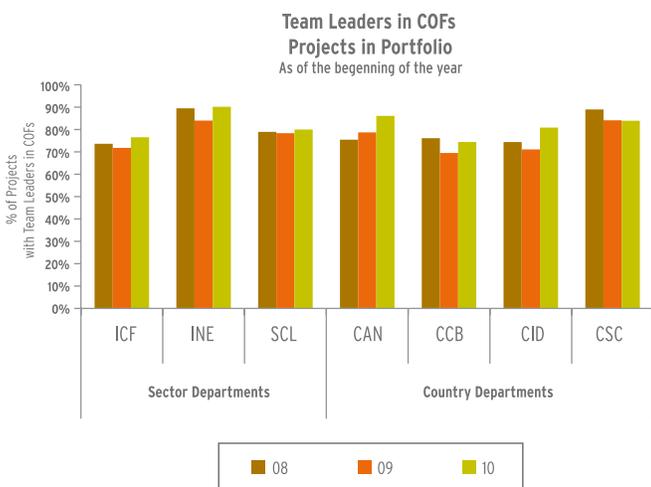
- Of the 137 external professional staff hires, 40 (30%) were for COFs of which 32 (78%) were national professionals and 9 (22%) internationals. In 2008, of the 221 external professional staff hires, 82 (37%) were for COFs of which 42 (51%) were national professionals and 40 were internationals.

- By year's end 2009, VPC professional staff on board in COF increased with respect to 2008 by 17, VPS by 1, VPP by 2, and VPF by 3. By year's end 2008, VPC increased with respect to 2007 by 28, VPS by 27 and VPP by 12.

5.2.1 TEAM LEADERS IN COFs



- Number of SG operations prepared by Team leaders in COF reached 53, 20% increase from 44 in 2008.
- Number of SG operations prepared by Team Leaders in COF as a percent of total number of SG approvals reached 40%, 3 percentage points decrease from 43% in 2008.
- Two divisions have 50% or more of their operations in preparation by team leaders in COFs (EDU and FFM) and 9 countries have 50% or more of operations in preparation by team leaders in COFs.

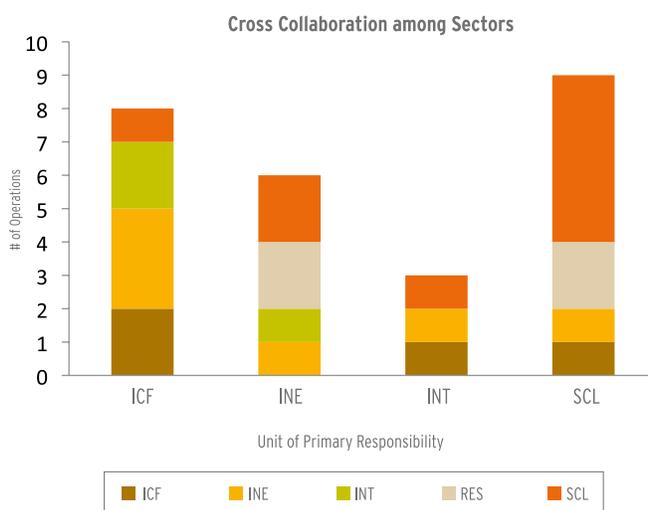


- The percentage of projects in execution with Team leaders in COFs increased from 77% at the beginning of 2009 to 82% at the beginning of 2010.

- The percentage of total staff time reported by COFs in operation execution reached 55%, 6 percentage points increase from 49% in 2008.

- Staff time reported by COF to Country Strategies and other programming products and services reached 14.7 FTEs, 11% increase from 13.2 in 2008.

5.3 CROSS SECTOR COLLABORATION

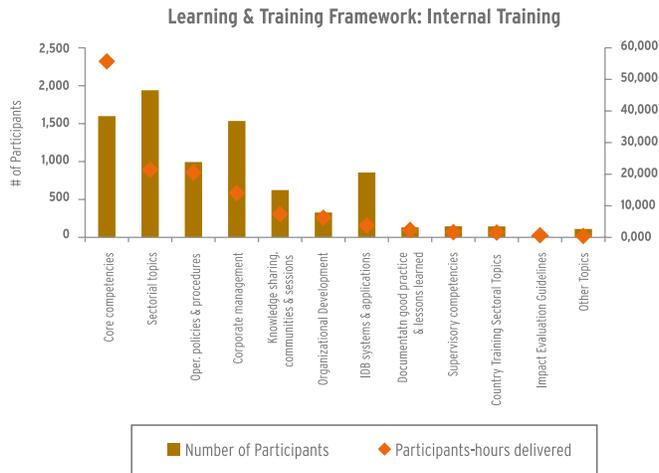


- ICF has primary responsibility of 4 operations with external collaboration of which 2 are from other divisions within ICF and 2 from other Departments.

- INE has primary responsibility of 6 operations with external collaboration of which 1 is from other division within INE and 5 from other Departments.

- SCL has primary responsibility of 9 operations with external collaboration of which 5 are from other divisions within SCL and 4 from other Departments.

5.4 KNOWLEDGE AND LEARNING



- Staff received an average of 9.9 days of training per FTE reported in 2009, 14% increase from 8 in 2008.
- Training was provided to 8,438 Bank participants for a total of 78.5 FTEs. In 2008, training was provided to 7,470 Bank participants for a total of 51.4 FTEs
- 71% of the participants were professional staff and 26% received training in COF. In 2008, 70% of the participants were professional staff and 29% received training in Country Offices





II
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	Column1
	Baseline	Estimated
	2006 - 2009	2015
1.1 Lending to small and vulnerable countries	27%	30%
1.2 Lending for poverty reduction and equity enhancement	40%	50%
1.3 Lending to support climate change initiatives, renewable energy 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%		

TABLE 2

Regional Development Goals

Goal	Baseline	Year
1 - Social policy for equity and productivity		
2.1.1 Extreme poverty rate	11.9	2007
2.1.2 Gini coefficient of per capita 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
2.1.4 Maternal mortality ratio	130	2005
2.1.5 Infant Mortality ratio	21	2007
2.1.6 Share of formal employment in total employment	46.3	2007
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/Km2)	0.038	2006
2.2.3 Percent of households with electricity	93	2007
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
4 - Competitive regional and global international integration		
2.4.1 Trade openness (trade as percent of GDP)	84.9	2004–2007
2.4.2 Intraregional trade in LAC as percent of total merchandise trade	24.2 exports 33.1 imports	2004–2007
2.4.3 Foreign direct investment net inflows as percent of GDP	4.2	2004–2007
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
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	\$7.7 b	2007
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

TABLE 3

Lending Program Estimates to be Reached by End of 2015 for SG and NSG Operations

Expected results	Baseline ¹ 2005-2008	Estimated outputs
1 - Social policy for equity and productivity		
3.1.1 Students benefited by education projects (girls, boys)	3,200,000	8,500,000
(a) girls (b) boys		
3.1.2 Teachers trained	175,000	530,000
3.1.3 Individuals (all, Indigenous, Afro-descendant) receiving a basic package of health services	2,000,000	23,000,000
(a) Indigenous; (b) Afro-descendants		
3.1.4 Individuals (all, Indigenous, Afro-descendant) receiving targeted anti-poverty program	n/a	16,000,000
(a) Indigenous; (b) Afro-descendants		
3.1.5 Individuals (all, men, women, youth) benefited from programs to promote higher labor market productivity	n/a	600,000
(a) men; (b) women		
2 - Infrastructure for competitiveness and social welfare		
3.2.1 Households with new or upgraded water supply	1,500,000	2,770,000
3.2.1.1 Percentage of households with new or upgraded water supply that are:		
(a) Indigenous; (b) Afro-descendants		
3.2.2 Households with new or upgraded sanitary connections	680,000	3,600,000
3.2.2.1 Percentage of households with new or upgraded sanitary connections that are:		
(a) Indigenous; (b) Afro-descendants		
3.2.3 Km of inter-urban roads built or maintained/upgraded	22,000	53,000
3.2.4 Km of electricity transmission and distribution lines installed or upgraded	2,000	1,000
3.2.5 # of Households with new or upgraded dwellings	n/a	25,000
3.2.5.1 Percentage of households that are: (a) Indigenous; (b) Afro-descendants		
3 - Institutions for growth and social welfare		
3.3.1 Micro/Small/Medium productive Enterprises financed	220,000	120,000

3.3.2 Public Financial systems implemented or upgraded (budget, treasury, accounting, debt, and revenues)	24	28
3.3.3 Persons incorporated into a civil or identification registry	n/a	3,000,000
3.3.3.1 Percentage who are: (a) women; (b) men; (c) Indigenous; (d) Afro-descendants		
3.3.4 Municipal and other sub-national governments supported	n/a	1000
3.3.5 Cities benefited with citizen security projects	n/a	32
4 - Competitive regional and global international integration		
3.4.1 # of public trade officials and private entrepreneurs trained in trade and investment	n/a	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 # of cross border and transnational projects supported (infrastructure, and customs, etc)	26	22
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	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	30
3.5.6 Farmers given access to improved agricultural services and investments	n/a	5,000,000
3.5.6.1 Percentage that are (a) women; (b) men; (c) Indigenous; (d) Afro-descendants		
<p>¹ Baseline numbers are collected from the information systems for the four-year period, where available. The Bank is committed to collecting baselines for indicators that will be disaggregated by gender and ethnicity.</p>		

TABLE 4

Operational Effectiveness and Efficiency

	Baseline	
	2006 - 2009 (*)	Estimated 2015
1- Effectiveness – country strategies		
4.1.1 Percent of country strategies with satisfactory scores in evaluability dimensions	27%	85%
Percent of country strategies that have satisfactory results that can be validated at completion for:		
4.1.2 - Sector outcomes	-	65%
4.1.3 - Financial outcomes	-	75%
4.1.4 - Progress on building and using country systems	-	55%
2- Effectiveness – loans		
For sovereign guaranteed (SG) operations (approvals)		
4.2.1 Percent of new operations with satisfactory scores on evaluability dimensions	26%	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	-	65%
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	-	80%
4.2.8 Percent of projects with satisfactory ratings on development outcomes at completion	60%	85%
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	2006 - 2009	Estimated 2015
4.5.1 Cofinancing (percent of Regular Lending Program)	29%	30%
4.5.2 Trust Funds (percent of Regular Lending Program)	2%	3%
4.5.3 Total administrative expenses per US\$1 million approved	\$41,900	\$34,000
4.5.4 Total administrative expenses per US\$1 million disbursed	\$50,150	\$45,000
4.5.5 Percent of administrative expenses in operational programs	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	8 months
4.5.8 Cycle time: SG loan disbursement period (eligibility to first disbursement)	19 days	19 days
Human Resources	2006 - 2009	Estimated 2015
4.5.9 Percentage of professional and executive staff who are women, grade 4 or above	28%	35%
4.5.10 Percentage of Professional staff based in COF	26%	40%
(*) Average of 2006 - 2009 period where information is available for all years.		



1. SOCIAL POLICY FOR EQUITY AND PRODUCTIVITY

- Arcia, G., G. Castro and V. Castro. (1999). "Evaluación de Medio Término del PAININ I". Inter-American Development Bank. Washington, D.C.: IDB.
- Attanasio, O., E. Fitzsimmons, A., Gomez, D. Lopez, M. Costas and A. Mesnard. (2006a). "Child Education and Work Choices in the Presence of a Conditional Cash Transfer Programme in Rural Colombia". *IFS Working Paper 06/01*. Institute for Fiscal Studies, London, United Kingdom: IFS.
- Attanasio, O., E. Battistin, E. Fitzsimmons, A. Mesnard, M. Vera. (2006b) "How Effective are Conditional Cash Transfers? Evidence from Colombia. *IFS Briefing Note 54*. Institute for Fiscal Studies, London, United Kingdom: IFS.
- Davis, Benjamin, Sudhanshu Handa, Marta Ruiz Arranz, Marco Stampini and Paul Winters. (2005). "Agricultural Subsidies, Human Capital Development and Poverty Reduction: Evidence from Rural Mexico", *OVE Working Paper 03*. Inter-American Development Bank. Washington DC: IDB.
- ECLAC. (2009). *Panorama Social de América Latina*. Comisión Económica para América Latina y el Caribe. Santiago, Chile: CEPAL.
- Eichler, Rena and Ruth Levine (eds). (2009). *Performance Incentives for Health-Potentials and Pitfalls*. Center for Global Development, Washington, D.C.: CGDEV.
- Engle, Patrice L., Maureen M. Black, et al. (2007). "Child Development in Developing Countries 3: Strategies to Avoid the Loss of Developmental Potential in More than 200 million Children in the Developing World" *The Lancet* 369, 229-369.
- Fizbein, Ariel and Norbert Schady (eds). (2009). *Conditional Cash Transfers. Reducing Present and Future Poverty*. The World Bank. Washington D.C.: WB.
- Francke, Pedro and Edgardo Cruzado. (2009). "Transferencias Monetarias Condicionadas e instrumentos financieros en la lucha contra la pobreza". Proyecto Capital. Lima: Perú.
- García-Guerra, Armando, Lynnette M. Neufeld, Clara P. Domínguez-Islas, Raquel García-Feregrino, and Amira Hernández-Cabrera. (2008). "Effect of Three Supplements with Identical Micronutrient Content on Anemia in Mexican Children", *FASEB Journal*, 22: 677.5
- Gertler Paul, Sebastian Martinez and Marta Rubio-Codina. (2006). "Investing Cash Transfers To Raise Long-Term Living Standards", *World Bank Policy Research Working Paper 3994*. The World Bank. Washington D.C.: WB.
- Hoddinott, John and Bassett, Lucy, (2008). Conditional Cash Transfer Programs and Nutrition in Latin America: Assessment of Impacts and Strategies for Improvement.
- Ibarraran, Pablo, Miguel Sarzosa and Yuri Suarez Dillon Soares. (2008). "The Welfare Impacts of Local Investment Projects: Evidence from the Guatemala FIS," *OVE Working Papers 0208*, Inter-American Development Bank. Washington, D.C.: IDB.
- Johannsen, J., L. Tejerina and A. Glassman. (2009) "Conditional Cash Transfer in Latin America: Problems and Opportunities". Social Protection and Health Division. Inter-American Development Bank. Washington, D.C.: IDB.
- Le Roy, Jef. (2009). "The Impact of Daycare Programs on Child Health, Nutrition and Development in Developing Countries". International Initiative for Impact Evaluation (3ie). International Food Policy Research Institute. Washington, D.C.: IFPRI-3ie.
- Levy, Santiago. (2006). *Good Intentions, Bad Outcomes: Social Policy, Informality, and Economic Growth in Mexico*. Washington D.C.: Brookings Institute Press.
- Levy Santiago, (2008) Progress against Poverty: Sustaining Mexico's Progres-a-Oportunidades Program, Washington, D.C.: Brookings Institution Press.
- Maluccio, John and R. Flores. "Impact Evaluation of a Conditional Cash Transfers for Grade Progression in Nicaragua". Unpublished Manuscript. Inter-American Development Bank. Washington, D.C.: IDB.
- Mancera-Corquera, Carlos, Leslie Serna-Hernández, Alejandra Priode-Schubert. (2009). "Modalidad educativa y organización multigrado como factores asociados con las brechas de aprendizaje de los becarios del Programa Oportunidades (primaria y secundaria, 2007)", en *Evaluación Externa del Programa Oportunidades 2008. A diez años de intervención en zonas rurales (1997-2007)*. Secretaría de Desarrollo Social. México, D.F.: SEDESOL.
- Medeiros, Marcelo, Tatiana Britto and Fábio Veras Soares. (2008). "Targeted Cash Transfer Programmes in Brazil: BPC and the Bolsa Familia", *International Poverty Center Working Paper 46*, International Policy Centre for Inclusive Growth. Brasilia, D.F.: IPC-IG.
- Näslund-Hadley, Emma Marcelo Cabrol and Pablo Ibararán. "Beyond Chalk and Talk: Experimental Math and Science Education in Argentina". (2009) *Education. Technical Note*. Inter-American Development Bank. Washington, D.C.: IDB.
- Ribe, H., P. Jones, and A. Vermehren. (2008). "Adjusting Conditional Cash Transfer Programs to Urban Areas". Lessons from the International Seminar "CCTs in Urban Areas".
- Rupah, Inder J. and Luis T. Marcano. "A Meta-Impact Evaluation of Social Housing Programs: The Chilean Case". (2007) *OVE Working Paper 02/07*. Inter-American Development Bank. Washington, D.C.: IDB.
- Tejerina, Luis and Glenn Westley. (2007). "Financial Services for the Poor. Household Survey Sources and Gaps in Borrowing and Saving". Sustainable Development Department. *Technical Papers Series*. Inter-American Development Bank. Washington, D.C.: IDB.

Verdisco, Aimee, Emma Näslund-Hadley and Ferdinando Regalia. (2007). "Integrated Childhood Development Services in Nicaragua", *Child Health and Education*, 1(2), pp.104-111.

Zúñiga, Carolina. (2001). "Evaluación Final de PAININ I". Inter-American Development Bank. Washington, D.C.: IDB.

2. INFRASTRUCTURE FOR COMPETITIVENESS AND SOCIAL WELFARE

ADB. (2002). "Impact Evaluation Study on Water Supply and Sanitation Projects in Selected Developing Member Countries". Manila: ADB.

ADB. (2004). "Assessing the Impact of Transport and Energy Infrastructure on Poverty Reduction". Manila: ADB

Ahmed, R. and M. Hossain. (1990). "Development Impact of Rural Infrastructure in Bangladesh", *Research Report 83*, International Food Policy Research Institute, in collaboration with the Bangladesh Institute of Development Studies.

Asesorías para el Desarrollo. (2002). "Evaluación de Impacto Programa Mejoramiento Urbano", Dirección de Presupuesto. Ministerio de Hacienda. Chile.

Baltes, M. and D. Hinebaugh. (2003). "Lynx LYMMO Bus Rapid Transit Evaluation". *Project BC-137-17*. Federal Transit Administration and Florida Department of Transportation.

Bamberger, Michael and Eleanor Hewitt. (1986). "Monitoring and Evaluating Urban Development Programs, A Handbook for Program Managers and Researchers", *World Bank Technical Paper 53*, The World Bank, Washington, D.C.: WB.

Barkat, Abdul, M. Rahman, S. Zaman, A. Podder, S. Halim, N. Ratna, M. Majid, A. Maksud, A. Karim, and S. Isla. (2002). "Economic and Social Impact Evaluation Study of the Rural Electrification Program in Bangladesh." Report to National Rural Electric Cooperative Association International.

Barnes, Douglas. (1988). *Electric Power for Rural Growth; How Electricity Affects Rural Life in Developing Countries*. Boulder, CO: Westview Press.

Barnes, Douglas. (2007). *The Challenge of Rural Electrification: Strategies for Developing Countries*, London: Resources for the Future Press (Rffpress).

Barnes, Douglas and W. Floor. (1996). "Rural Energy in Developing Countries: a Challenge for Economic Development". *Annual Review of Energy and the Environment* 21, pp. 497-530.

Barnes, Douglas and Gerald Foley. (2004). "Rural Electrification in the Developing World: A Summary of Lessons From Successful Programs". UNDP/ESMAP. World Bank, Washington, D.C.: WB.

Barnes, Douglas and Daniel Waddle. (2004). "Power Sector Reform and the Rural Poor in Central America". World Bank. Energy Sector Management Assistance Program. Washington, D.C.: WB.

Binswanger, H. P., S.R. Khandke, and M.R. Rosenzweig. (1993). "How Infrastructure and Financial Institutions Affect Agricultural Output and Investment in India." *Journal of Development Economics* 41(2): pp. 337-366.

Blyde, J.S., E. Fernández-Arias and R. Manuelli. (eds.) (2006). *Sources of Growth in Latin America: What is Missing?* Inter-American Development Bank. Washington, D.C.: IDB.

Campos Tatiana, Mancilia Carvalho and Cristovam Barcellos, (2000). "Mortalidade infantil no Rio de Janeiro, Brasil: areas de risco e trajetoria dos pacientes ate os servicios de saude," *Revista Panamericana de Salud Publica*. vol. 8, p. 164-171.

Carraso Valencia, Alfonso, Kimmo J. Juvas, and Maija Seppo. (1990). *Electrification and Rural Development-Electrification Project in the Rural Areas of Cusco, Peru*. International Development Agency. Helsinki: FINNIDA.

Cham, L, M. Chang, J. Chung, G. Darido, C. Geilfuss, D. Henry, E. Kim, W. Romano and D. Schneck (2006). *Honolulu BRT Project Evaluation*. Federal Transit Administration Project n. FTA-26-7226.

Daude, C. and E. Fernández-Arias. (2009). "On the Role of Productivity and Factor Accumulation for Economic Development in Latin America and the Caribbean" Inter-American Development Bank. Mimeographed document. Washington, D.C.: IDB.

DIPRES. (2007). "Evaluación de Impacto Programa Chile Barrio", Ministerio de Hacienda, Chile.

Energy Markets Outlook Report. (2007). "Expected Energy Unserved: A Quantitative Measure of Security of Supply." Enterprise and Regulatory Reform. Department for Business. London: United Kingdom.

Escobal, J. and C. Ponce. (2002). "The Benefits of Rural Roads: Enhancing Income Opportunities for the Rural Poor." *GRADE Working Paper*.

ESMAP. (2000). "Energy and Development. Report 2000: Energy Services for the World's Poor." The World Bank. Washington D.C.: WB.

Field, Erica. (2004) Property Rights and Investment in Urban Slums, *Journal of the European Economic Association Papers and Proceedings*.

Fields, Erica and Maximo Torero. (2004). "Do Property Titles Increase Credit Access among the Urban Poor? Evidence from a Nationwide Titling Program". Harvard University and IFPRI.

Foster, Vivien. (2000). "Measuring the Impact of Energy Reform – Practical Options." *Public Policy for the Private Sector Note n 210*. The World Bank. Washington D.C.: WB.

- Galdo V. and B. Briceno, "Evaluating the Impact on Child Mortality of a Water Supply and Sewage Expansion in Quito: is Water Enough?", IDB-OVE, 2005.
- Galiani, Sebastián, Martín González-Rozada, Ernesto Schargrotsky. (2007). "Water Expansions in Shantytowns: Health and Savings". *RES Working Papers R-527*, Inter-American Development Bank. Washington, D.C.: IDB.
- Galiani, Sebastián, P. Gertler and E. Schargrotsky. (2002). "Water for Life: The Impact of Privatization of Water Services on Infant Mortality". Inter-American Development Bank, Washington, D.C.: IDB.
- Gannon, Colin and Zhi Liu. (1997). "Poverty and Transport." *TWU Discussion Papers 30*. The World Bank. Washington D.C.: WB.
- Goddard, Paul, Gustavo Gómez, Polly Harrison and George Hoover. (1981). "The Product is Progress: Rural Electrification in Costa Rica." *AID Project Impact Evaluation n.22*. U.S. Agency for International Development. Washington, D.C.: AID.
- Holveck, John C, John P. Ehrenberg, Steven K. Ault, Rocio Rojas, Javier Vásquez, María Teresa Cerqueira, Josefa Ippolito-Shepherd, Miguel A Genovese, and Mirta Roses Periago. (2007). "Prevention, Control, and Elimination of Neglected Diseases in the Americas: Pathways to Integrated, Inter-Programmatic, Inter-Sectorial Action for Health and Development." *BMC Public Health 7: 6-6*.
- IEG. (2008). *The Welfare Impact of Rural Electrification: A Reassessment of the Costs and Benefits*. Independent Evaluation Group. The World Bank. Washington D.C.: WB.
- Instituto Cuanto, (2009) "Encuesta de salida y registros visuales de la primera y segunda convocatoria" del componente mejoramiento integral de barrios," Informe Final. Evaluación de Impacto Programa Mi Barrio, San Isidro, Lima: Perú.
- Keiser J. and J. Utzinger. (2008). "Efficacy of Current Drugs Against Soil-Transmitted Helminth Infections: Systematic Review and Meta-Analysis", *JAMA 299*(16), pp. 1937-48.
- Kremer, Michael and Alix Peterson Zwane. (2007). "What Works in Fighting Diarrheal Diseases in Developing Countries? A Critical Review." *NBER Working Paper Series no. 12987*. National Bureau of Economic Research. Cambridge, United States: NBER.
- Kulkarni, Veena and Douglas Barnes (2004). "The Impact of Electricity on School Participation in Rural Nicaragua," *Working Paper*, University of Maryland, College Park, MD.
- Levinson, H, S. Zimmerman, J. Clinger and C.S. Rutherford. (2002). "Bus Rapid Transit: An Overview." *Journal of Public Transportation*, 5(2):1-30.
- Levy, H. (1996). "Kingdom of Morocco. Evaluation Report. Socio-economic Influence of Rural Roads". Operation Evaluation Department. The World Bank. Washington, D.C.: WB.
- Marcano, Luis and Inder Ruprah, (2008). "An Impact Evaluation of Chile's Progressive Housing Program", *OVE Working Paper 06/98*. Inter-American Development Bank. Washington, D.C.: IDB.
- Ruprah, Inder. (2009). "The Welfare Results of Ten Social Housing Programs in Latin America", Unprocessed. OVE. Inter-American Bank. Washington, D.C.: IDB.
- Soares, Fabio and Yuri Soares. (2005). "The Socio-Economic Impact of Favela-Bairro: What do the data say?". *OVE Working Paper 08*. Inter-American Development Bank. Washington, D.C.: IDB.
- Szwarcwald, Célia et al. (1999). "Desigualdade de renda e situação de saúde: o caso do Rio de Janeiro", *Cadernos de Saúde Pública*, vol. 15 (1) pp. 15-28.
- Targa, F. and D.A. Rodríguez. (2004). "Analysis of Bogotá's Bus Rapid Transit System and its Impact on Land Development." *Carolina Planning Journal*, Winter, 2003-2004. TWU-30, The World Bank. Washington, D.C.: WB.
- van de Walle, D. and D. Cratty. (2002). "Impact Evaluation of a Rural Road Rehabilitation Project." The World Bank. Washington, D.C.: WB.
- Velez, Eduardo, Carlos Becerra, and Alberto Carrasquilla. (1983). "Rural Electrification in Colombia". Resources for the Future. U.S. AID, Washington, D.C.: AID.
- Waddington, H. B. Snilstveit, H. White and L. Fewtrell. (2009). "Water, Sanitation and Hygiene Interventions to Combat Childhood Diarrhoea in Developing Countries", 3ie.
- Wilder, Margaret and Patricia Romero Lankao, (2006) "Paradoxes of Decentralization: Water Reform and Social Implications in Mexico", *World Development*, vol. 34(1) pp. 1977-1995.
- World Bank. (2002a). "Energy Strategy for Rural India: Evidence from Six States." *ESMAP Report 358/02*. Energy Sector Management Assistance Program. The World Bank. Washington, D.C.: WB.
- . (2002b). "Rural Electrification and Development in the Philippines: *Measuring the Social and Economic Benefits*." *ESMAP Report No. 255/02*. Energy Sector Management Assistance Program. The World Bank. Washington, D.C.: WB.
- . (2003). "Efficient, Sustainable Service for All? An OED Review of the World Bank Assistance to Water Supply and Sanitation". The World Bank. Washington, D.C.: WB.
- . (2008) "Approach paper. IEG evaluation of Bank Group support for water", The World Bank. Washington, D.C.: WB.

3. INSTITUTIONS FOR GROWTH AND SOCIAL WELFARE

- Aivazian, Varouj, Dipak Mazumdar and Eric Santor. (2003). "Financial Constraints and Investment: Assessing the Impact of a World Bank Loan Program on Small and Medium-Sized Enterprises in Sri Lanka". *Bank of Canada Working Paper 2003-37*. Ottawa: Bank of Canada.
- Attanasio O., L. Pellerano and D. Phillips. (2009). "For Peace and Goodwill? Using an experimental Game and a Social Dilemma to Analyse the Effect of the Desarrollo y Paz Programmes in Colombia", *IFS working paper*. Institute For Fiscal Studies. London: UK: IFS.
- Banerjee, Abhijit and Esther Duflo (2004). "Do Firms Want to Borrow More? Testing Credit Constraints using a Directed Lending Program". *CEPR Discussion Paper 4681*. Centre for Economic Policy Research. Washington, D.C.: CEPR.
- Beck, Thorsten; Asli Demirgüç-Kunt and Ross Levine (2005). "SMEs, Growth and Poverty". *NBER Working Paper* 1124. National Bureau of Economic Research. Cambridge, United States: NBER.
- Berkman, H., C. Scartascini, E. Stein and M. Tommasi. (2008). "Political Institutions, State Capabilities, and Public Policy: An International Dataset". IDB Research Department. Inter-American Development Bank. Washington, D.C.: IDB.
- Bryane, M. (2004). "Explaining Organizational Change in International Development: The Role of Complexity in Anti-Corruption Work". *Journal of International Development* (16) pp. 1067-1088.
- Butler (2003). "Managing from the Inside Out: Drawing on 'Receptivity' to Explain Variation in Strategy Implementation", *British Journal of Management*. vol. 14 (1) pp. 47-60.
- Cohen, M.A. and M. Rubio. (2007). "Solutions Paper Violence and Crime in Latin America", Paper prepared for the Consulta de San José.
- Cotler, Pablo and Christopher Woodruff (2008). "The Impact of Short-term Credit on Microenterprises: Evidence from the *Bimbo* Program in Mexico". *Economic Development and Cultural Change*, vol. 56. pp. 829-849.
- De Janvry, Alain, Craig McIntosh and Elisabeth Sadoulet (2009). "The Supply- and Demand-Side Impacts of Credit Market Information", *Journal of Development*.
- DIA. (2010). *The Age of Productivity. Transforming the Economy from the Bottom Up*. Inter-American Development Bank. Washington, D.C.: IDB.
- Ferraz and Finan, (2009) "Electoral Accountability and Corruption: Evidence from the Audits of Local Governments", *NBER Working Paper #14937*. National Bureau of Economic Research. Cambridge, United States: NBER.
- Fjeldstad, O. and J. Isaksen. (2008). "Anti-Corruption Reforms: Challenges, Effects and Limits of World Bank Support". Background Paper to Public Sector Reform: What Works and Why? An IEG Evaluation of World Bank Support. Washington, D.C. IEG-WB.
- Haines, George, Barbara Orser, and Allan Riding. (1999). "Myths and Realities: An Empirical Study of Banks and Gender of Small Business Clients", *Canadian Journal of Administrative Studies*, 16(4).
- Heilbrunn, J. (2004). "Anti-Corruption Commissions, Panama or Real Medicine to Fight Corruption?" World Bank Institute. Washington, D.C.: WB.
- Ibarrarán, Pablo; Alessandro Maffioli and Rodolfo Stucchi (2009). "SME Policy and Firms' Productivity in Latin America" *IZA Discussion Paper 4486*. Institute for the Study of Labor: Bonn, Germany: IZA.
- IDB. (2006). *The Politics of Policies. Economic and Social Progress Report 2006*. Inter-American Development Bank. Washington, D.C.: IDB.
- (2009). "Action Plan to Support the Countries in their Efforts to Fight Corruption and Foster Transparency", Proposal to the Board of Executive Directors. IDB. ICF/ICS Division, Washington, D.C.: IDB.
- IEG. (2008). Public Sector Reform: What Works and Why? An IEG Evaluation of World Bank Support. Washington, D.C.: WB.
- Industry Canada, Small Policy Branch. (2002). "Gaps in SME Financing: An Analytical Framework. SME FDI Financing Data". Ottawa: Government of Canada.
- Larbi, George, Paul Jackson, Sarah House, Ato Ghartey. (2005). Evaluation Capacity Development Outcome Evaluation. Field-testing the Methodology. Ministry of Foreign Affairs. Copenhagen: DANIDA.
- Lelarge, Claire, David Sraer and David Thesmar. (2008). "Entrepreneurship and Credit Constraints Evidence from a French Loan Guarantee Program". *NBER Chapters*, in *International Differences in Entrepreneurship* National Bureau of Economic Research. Cambridge, United States: NBER.
- Levine, Ross. (2005). "Should Governments and Aid Agencies Subsidize Small Firms?" Prepared for the Brookings Blum Roundtable: The Private Sector in the Fight against Global Poverty.
- Moser, Caroline, Ailsa Winton and Annalise Moser. (2005). "Violence, Fear, and Insecurity among the Urban Poor in Latin America". In Fay, Marianne, (ed.). *The Urban Poor in Latin America*. The World Bank. Washington DC: WB.
- NORAD. (2009). "Anti-Corruption Approaches. A Literature Review". Norwegian Agency for Development Cooperation (NORAD). Study commissioned by ADB, Danida, DFID, NORAD, SADEV and SIDA. Oslo: Norway.
- OECD. (2003). "Synthesis of Lessons Learned of Donor Practices in Fighting Corruption". DAC Network on Go-

- vernance. Paris: France: OECD.
- (2006). *The SME Financing Gap, Theory and Evidence*, vol. I. Paris: OECD Publishing.
- (2008). "Managing Change in OECD Governments: An Introductory Framework", *OECD Working Papers on Public Governance*. Paris: OECD.
- Olken, B. (2007). "Monitoring corruption: evidence from a field experiment in Indonesia". *NBER Working Paper no. 11753*. National Bureau of Economic Research. Cambridge, United States: NBER.
- Ottaviano, G. and F. Souza. (2008). "O efeito do BNDES na produtividade das empresas" in De Negri (ed.) *Inovação e Crescimento das empresas*. Brasília: IPEA.
- Paravisini Daniel (2008). "Local Bank Financial Constraints and Firm Access to External Finance". *Journal of Finance*, Vol. 63(5) pp. 2161-2193.
- Reinikka, R., and, J. Svensson. (2003). "The Power of Information: Evidence from a Newspaper Campaign to Reduce Capture." Working Paper. Institute for International Economic Studies, Stockholm University.
- Ribeiro, E. P. and J. A. De Negri. (2009). "Estimating the Causal Effect of Access to Public Credit on Productivity: the Case of Brazil". Paper presented at the LACEA-LAMES Conference 2009.
- Stiglitz, Joseph and Andrew Weiss. (1981). "Credit Rationing in Markets with Imperfect Information". *The American Economic Review*, vol. 71(3), pp. 393-410
- Soares Yuri and Maria Sviatschi, (2009). "The Impact of Improving the Access to Justice on Conflict Resolution". *OVE Work in Progress*. Inter-American Development Bank. Washington, D.C.: IDB.
- Tan, Hong (2009). "Evaluating SME Support Programs in Chile Using Panel Firm Data". *Policy Research Working Paper 5082*. World Bank. Washington, D.C.: WB.
- Thoening, Jean-Claude. (2000). "Evaluation as Usable Knowledge for Publics Management Reforms", *Evaluation*, 6, p. 217.
- Thompson Lightstone and Company Ltd., [1996, 1997, 1998]. *Small and Medium Sized Business in Canada: An Ongoing Perspective of their Needs, Expectations, and Satisfaction with Financial Institutions*. Canadian Bankers Association, Toronto: Canada.
- Toivanen, Otto and Robert Cressy. (2000). "Lazy Entrepreneurs or Dominant Banks? An Empirical Analysis of the Market for SME Loans in the UK", Proceedings, Entrepreneurial Finance Workshop, Jönköping International Business School. Jönköping: Sweden.
- Uesugi, Ichiro, Koji Sakai and Guy Yamashiro. (2006). "Effectiveness of Credit Guarantees in the Japanese Loan Market". *RIETI Discussion Paper Series 06-E-004*. RIETI
- World Bank/UNODC. (2007). "Crime, Violence, and Development: Trends, Costs, and Policy Options in the Caribbean". Joint Report UNODC and World Bank-LAC. Washington D.C.: WB.
- Wynant, Larry and James Hatch. (1991). *Banks and Small Business Borrowers*. London: The Western School of Business.
- Zecchini, Salvatore and Marco Ventura. (2006). "Public Credit Guarantees and SME Finance" *IASE Working Paper n.73*. Istituto di Studi e Analisi Economica. Roma: Italy: IASE.

4. COMPETITIVE REGIONAL AND GLOBAL INTERNATIONAL INTEGRATION

- Agrawal, A. (2001) "University-to-Industry Knowledge Transfer: Literature Review and Unanswered Questions". *International Journal of Management Reviews*, vol. 3(4), pp. 285-302.
- Alesina, A., S. Ardagna, G. Nicoletti and F. Schiantarelli. (2003). "Regulation and Investment" *OECD Economics Department Working Papers 352*. Paris: OECD.
- Alvarez R. (2004). "Sources of Export Success in Small- and Medium-Sized Enterprises: The Impact of Public Programs", *International Business Review*, vol. 13(3), pp. 383-400.
- Alvarez R. and G. Crespi. (2000). "Exporter Performance and Promotion Instruments: Chilean Empirical Evidence," *Estudios de Economía*, vol. 27, pp. 225-241. Universidad de Chile. Santiago: Chile.
- Alvarez R. and R. Lopez, (2006). "Is Exporting a Source of Productivity Spillovers?," *CAEPR Working Papers 2006-012*. Indiana University. Center for Applied Economics and Policy Research. Bloomington: Indiana.
- Arora, Ashish, A. David and Alfonso Gambardella. (1998). "Reputation and Competence in Publicly Funded Science", *Les Annales d'Economie et de Statistiques 49/50*, 163-198.
- Arora, Ashish and Alfonso Gambardella (2006). "The Impact of NSF Support for Basic Research in Economics". Social Science Research Network. Available at SSRN: <http://ssrn.com/abstract=163309>.
- Arrow, K. J. (1962). "The Economic Implications of Learning by Doing". *The Review of Economic Studies*, 29(3), pp. 155-173.
- Aschhoff, B. (2009) "The Effect of R&D Project Subsidies on R&D Revisited. The Role of Firm's Subsidy History and Subsidy Size". Presented at the DRUID Summer Conference 2009.
- Bagwell, K. (1990). "Optimal Export Policy for a New-Product Monopoly," *Discussion Papers 898*, Northwestern University, Center for Mathematical Studies in Economics and Management Science.
- Bagwell, K. (1991). "Pricing to Signal Product Line Quality,"

- Discussion Papers 921*, Northwestern University, Center for Mathematical Studies in Economics and Management Science. Chicago: Illinois.
- Bagwell, K. and R. Staiger. (1989). "The Sensitivity of Strategic and Corrective R&D Policy in Oligopolistic Industries," *Discussion Papers 869*, Northwestern University, Center for Mathematical Studies in Economics and Management Science.
- Benavente, J. M. (2004). "The Impact of Public Financing and Research Groups on Innovative Activities in Chilean Industry", mimeo.
- Benavente J. M., G. Crespi and A. Maffioli. (2007a) "The Impact of National Research Funds: An Evaluation of the Chilean FONDECYT" *OVE Working Papers 0307*, Inter-American Development Bank. Washington, D.C.: IDB.
- Benavente J. M., Crespi G. and Maffioli A. (2007b) "Public Support to Firm Innovation: The Chilean FONTEC Experience" *OVE Working Papers 0507*, Inter-American Development Bank, Washington, D.C.: IDB..
- Binelli C. and A. Maffioli. (2007). "A Micro-Econometric Analysis of Public Support to Private R&D in Argentina". *International Review of Applied Economics*, vol. 21(3), pp. 339-359.
- Bittlingmayer, G., Eathington, L., Hall, A. and Orazem, P. (2005). "Business Climate Indexes: Which Work, Which Don't, and What Can They Say About the Kansas Economy?" The Center for Applied Economic: Kansas University, Lawrence: Kansas.
- Bruhn, M. (2008) "License to Sell: The Effect of Business Registration Reform on Entrepreneurial Activity in Mexico". *Policy Research Working Paper 4538*, World Bank. Washington, D.C.: WB.
- Coughlin, Joseph V. Terza and Vachira Anomdee. (1987). "State Characteristics and the Location of Foreign Direct Investment within the United States: Minimum Chi-Square Conditional Logit Estimation", *Working Paper*, 006-8. Federal Reserve Bank of St. Louis.
- Chudnovsky D., A. López, M. Rossi and D. Ubfal. (2006). "Evaluating a Program of Public Funding of Private Innovation Activities. An Econometric Study of FONTAR in Argentina" *OVE Working Papers 1606*, Inter-American Development Bank. Washington, D.C.: IDB.
- Chudnovsky D., A. López, M. Rossi and D. Ubfal. (2008). "Money for science? The Impact of Research Grants on Academic Output" *Fiscal Studies*, 29(1), pp. 75-87.
- Czarnitzki, D. and K. Hussinger. (2004). "The Link between R&D Subsidies, R&D Spending and Technological Performance". *ZEW Discussion Paper 04-56*. ZEW Zentrum für Europäische Wirtschaftsforschung GmbH.
- David, P. A., B. H. Hall and A.A. Toole. (2000). "Is Public R&D a Complement or Substitute for Private R&D? A Review of Econometric Evidence", *Research Policy*, 29(4-5), pp. 497-529.
- De Negri, J. A., M. Borges Lemos, and F. De Negri, (2006a). "Impact of P&D Incentive Program on the Performance and Technological Efforts of Brazilian Industrial Firms". *OVE Working Papers 1406*, Inter-American Development Bank. Washington, D.C.: IDB.
- De Negri, J. A., M. Borges Lemos and F. De Negri. (2006b). "The Impact of University Enterprise Incentive Program on The Performance and Technological Efforts of Brazilian Industrial Firms". *OVE Working Papers 1306*, Inter-American Development Bank. Washington, D.C.: IDB.
- Edwards, Sebastian. (1993). "Trade Policy, Exchange Rates and Growth," *NBER Working Papers 4511*, National Bureau of Economic Research. Cambridge, United States: NBER.
- Ellison, G. and E. Glaeser. (1997). "Geographic Concentration in U.S. Manufacturing Industries: A Dartboard Approach". *Journal of Political Economy*, vol. 105(5), pp. 889-927.
- Estevadeordal, A., K. Suominen, J. Harris, and M. Shearer. (2009). *Bridging Regional Trade Agreements in the Americas*. Special Report on Integration and Trade. Inter-American Development Bank. Washington, D.C.: IDB.
- Fagerberg, J., M. Srholec and B. Verspagen. (2009). "Innovation and Economic Development." *TIC Working Papers on Innovation Studies 20090723*, Centre for Technology, Innovation and Culture, University of Oslo.
- Falck, O., S. Heblich and S. Kipar. (2008). "The Extension of Clusters: Difference-in-Differences Evidence from the Bavarian State-Wide Cluster Policy". *Jena Economic Research Papers in Economics 2008-073*, Friedrich-Schiller-University Jena, Max-Planck-Institute of Economics. Gena: Germany.
- Feder, G. (1983). "On exports and economic growth," *Journal of Development Economics*, vol. 12(1-2), pp. 59-73.
- Feldman, M. P. and D. B. Audretsch. (1999). "Innovation in Cities: Science-based Diversity, Specialization, and Localized Competition." *European Economic Review*, 43: 409-429.
- Fier, A. (2002) "Staatliche Förderung Industrieller Forschung in Deutschland". *ZEW Wirtschaftsanalysen*, vol. 62.
- Fujita, M., P. Krugman and A. Venables. (1999). *The Spatial Economy: Cities, Regions and International Trade*. Cambridge, United States: MIT Press.
- Glaeser, E.L., H.D. Kallal, J.A. Scheinkman, and A. Shleifer. (1992). "Growth in Cities", *Journal of Political Economy* 100, pp.1126-1152.
- Gil, Salvador, Rafael Llorca, José a Martínez. (2008). "Measuring the Impact of Regional Export promotion: The Spanish Case". *Papers in Regional Science*, vol. 87(1) pp.139-146.
- Goldfarb, B. (2001). "The Effect of Government Contracting

- on Academic Research: An Empirical Analysis of Reputation in Research Procurement”, *SIEPR Discussion Paper N° 00-24*, Stanford Institute for Economic Policy Research. Stanford. California: SIEPR.
- González, X., J. Jaumandreu and C. Pazó. (2005). “Barriers to innovation and subsidy effectiveness”. *RAND Journal of Economics* 36(4), pp. 930-950.
- González, X. and C. Pazó. (2008). “Do Public Subsidies Stimulate Private R&D Spending?” *Research Policy* 37, pp. 371-389.
- Görg, H., V. Lauber, B. Meyer and P. Nunnenkamp. (2008). “Firm Heterogeneity and Choice of Ownership Structure: An Empirical Analysis of German FDI in India,” Kiel Working Papers 1462, Kiel Institute for the World Economy. Kiel: Germany.
- Greunz, L. (2004). “Industrial structure and innovation - evidence from European regions,” *Journal of Evolutionary Economics*, Springer, vol. 14(5), pp. 563-592.
- Hall, B. and A. Maffioli, (2008). “Evaluating the Impact of Technology Development Funds in Emerging Economies: Evidence from Latin America”, *NBER Working Paper No. 13835*. National Bureau of Economic Research. Cambridge, United States: NBER.
- Hanson, G. (2001). “Scale Economies and the Geographic Concentration of Industry”. *NBER Working Paper 8013*. National Bureau of Economic Research. Cambridge, United States: NBER.
- Henderson, V., A. Kuncoro and M. Turner. (1995). “Industrial Development in Cities,” *Journal of Political Economy* 103 (1995), pp.1067-1090.
- Hoff, K. (2000). “Beyond Rosenstein-Rodan: The Modern Theory of Coordination Problems in Development.” In *Proceedings of the Annual World Bank Conference on Development Economics*. (Supplement to the World Bank Economic Review), Washington DC: WB.
- Hussinger, K. (2008). “R&D and Subsidies at the Firm Level: An Application of Parametric and Semi-Parametric Two-Step Selection Models”. *Journal of Applied Econometrics* 23, pp. 729-747.
- IDB (2005). *The IDB Business Climate Initiative. 2005 Annual Report*. Inter-American Development Bank. Washington, D.C.: IDB.
- IDB (2010). *The Age of Productivity: Transforming Economies from the Bottom Up*. Development in the Americas, Inter-American Development Bank. Washington, D.C.: IDB.
- Jacob, B. and L. Lefgren (2007). “The Impact of Research Grant Funding on Scientific Productivity”, *NBER Working Paper 13519*. National Bureau of Economic Research. Cambridge, United States: NBER.
- Kaplan, D., E. Piedra and E. Seira. (2007). “Are Burdensome Registration Procedures an Important Barrier on Firm Creation? Evidence from Mexico”. *ITAM Discussion Paper 07-01*. Instituto Tecnológico Autónomo de México (ITAM). Mexico, D.F. Mexico: ITAM
- Kessing, D. (1967). “The Impact of Research and Development on United States Trade.” *Journal of Political Economy*, pp 38-48.
- Klapper, L., L. Laeven and R. Rajan. (2004). “Business Environment and Firm Entry: Evidence from International Data”. *CEPR Discussion Papers, No.4366*. Centre for Economic Policy Research Washington, D.C.: CEPR
- Klette, T., J. Møen and Z. Griliches. (2000). “Do Subsidies to Commercial R&D Reduce Market Failures?” *Microeconomic Evaluation Studies, Research Policy*, 29(4-5), pp. 471-495.
- Krugman, Paul. (1991). “Increasing Returns and Economic Geography”. *Journal of Political Economy*, vol. 99(3), pp. 483-99
- Lach, S. (2002). “Do R&D Subsidies Stimulate or Displace Private R&D? Evidence from Israel”, *The Journal of Industrial Economics*, 50(4), 369-390.
- Lederman, D., M. Olarreaga, L. Payton. (2006). “Export Promotion Agencies: What Works and What Doesn’t,” *CEPR Discussion Papers 5810*. Centre for Economic Policy Research Washington, D.C.: CEPR.
- Licht G. and M. Stadler, (2003). “Auswirkungen öffentlicher Forschungsförderung auf die private F&E-Tätigkeit: Eine mikroökonomische Evaluation”, in: Franz, W., H.J. Ramser and M. Stadler (eds.). “Empirische Wirtschaftsforschung, Methoden und Anwendungen”, *Wirtschaftswissenschaftliches Seminar Ottobeuren*, vol. 32, Tübingen, 213-239.
- Loayza, N., A. Oviedo and L. Servén. (2005). “The Impact of Regulation on Growth and Informality - Cross-Country Evidence.” *Policy Research Working Paper Series 3623*, The World Bank. Washington, D.C.: WB.
- Lundvall B. (ed.). (1992). *National System of Innovation: Towards a Theory of Innovation and Interactive Learning*, London, United Kingdom: Pinter Publishers.
- Lucas, R. (1988). “On the Mechanics of Economic Development”. *Journal of Monetary Economics*, vol. 22(1), pp. 3-42.
- Maffioli, Alessandro. (2005). “The Formation of Network and Public Intervention: Theory and Evidence from the Chilean Experience”. *ISLA Working Papers 23*. Centre for Research on Latin American Studies and Transition Economies, Università Bocconi. Milano: ISLA.
- Maffioli, Alessandro., D. Ubfal. (2010). “The Impact of Funding on Research Collaboration: Evidence from a Developing Country”, *SPD Working Paper*, Forthcoming. Inter-American Development Bank. Washington, D.C.: IDB.
- Mayer, W. (1984). “The Infant-Export Industry Argument,”

- Canadian Journal of Economics*, vol. 17(2), pp. 249-69.
- Marshall, A. (1920). *Principles of Economics*. London: MacMillan.
- Martin, P., T. Mayer and F. Mayneris. (2008). "Public Support to Clusters: A Firm Level Study of French Local Productive System". *CEPR Discussion Papers 7102*, Centre for Economic Policy Research Washington, D.C.: CEPR.
- Martin, S. and J.T. Scott. (2000). "The Nature of Innovation Market Failure and the Design of Public Support for Private Innovation". *CIE Discussion Papers 1999-02*, University of Copenhagen. Centre for Industrial Economics. Copenhagen: CIE.
- Melo, A. and A. Rodríguez-Clare. (2006). "Productive Development Policies and Supporting Institutions in Latin America and The Caribbean," *RES Working Papers 1005*. Research Department. Inter-American Development Bank, Washington, D.C.: IDB.
- Nelson, R. (1959) "The Simple Economics of Basic Scientific Research," *Journal of Political Economy* 67(3), pp. 297-306.
- Nicoletti, G. and S. Scarpetta. (2003). "Regulation, Productivity and Growth: OECD Evidence". *OECD Economics Department Working Papers 347*. Paris: OECD.
- Nishimura, J. and H. Okamuro. (2009). "R&D Productivity and the Organization of Cluster Policy: An Empirical Evaluation of the Industrial Cluster Project in Japan". *CCES Discussion Paper Series 4*, Hitotsubashi University. Center for Research on Contemporary Economic Systems. Tokio: Japan.
- Patel, P. and K. Pavitt. (2000). "National Systems of Innovation under Strain: The Internationalisation of Corporate R & D" in R. Barrell, G. Mason and M. O'Mahoney (eds.) *Productivity, Innovation and Economic Performance*. Cambridge University Press.
- Pavitt, K. (2005). "Public Policies to Support Basic Research: What Can the Rest of the World Learn from US Theory and Practice? (And what they should not learn)". *Industrial and Corporate Change*, vol. 10(3), pp. 761-779
- Pienknagura, Karen (2008). "Evaluación de la Iniciativa del Clima de Negocios". Banco Interamericano de Desarrollo, Washington, D.C.: BID.
- Porter, M. (1990). *The Competitive Advantage of Nations*. New York, United States: Free Press.
- Rodríguez-Clare, A. (2005). "Coordination Failures, Clusters and Microeconomic Interventions" *Latin American Research Network, Working Paper No. 544*, Inter-American Development Bank. Washington, D.C.: IDB.
- Romer, P. (1986). "Increasing Returns and Long Run Growth". *Journal of Political Economy*, 94, pp. 1002-1037.
- Rose, A. (2007). "The Foreign Service and Foreign Trade: Embassies as Export Promotion," *The World Economy*. vol. 30(1), pp 22-38.
- Rosenberg, N. (1992) "Scientific Instrumentation and University Research", *Research Policy* 21, pp. 381-390.
- Rosenstein-Rodan, P.N. (1943). "Problems of Industrialization of Eastern and South-eastern Europe." *Economics Journal* 53, pp. 202-11.
- Rosenthal, S. and W. Strange. (2003). "Evidence on the Nature and Sources of Agglomeration Economics." Forthcoming in: V. Henderson and J.F. Thisse, (eds). *Handbook of Urban and Regional Economics* 4. Amsterdam: North-Holland Publishers.
- Salter, A. and B. Martin. (2001). "The Economic Benefit of Publicly Funded Basic Research: A Critical Review", *Research Policy* 30, pp. 509-532.
- Sanguinetti, P. (2005). "Innovation and R&D Expenditures in Argentina: Evidence from a Firm Level Survey", mimeo.
- Schmalensee, R. (1982). "Product Differentiation Advantages of Pioneering Brands". *The American Economic Review*, 72, pp. 349-365.
- Trindade, V. (2005). "The Big Push, Industrialization and International Trade: The Role of Exports," *Journal of Development Economics*, vol. 78(1), pp. 22-48.
- UNESCO. (2005). *UNESCO Science Report 2005*. Paris: UNESCO Publishing.
- Varga, A. (1997). "Regional Economic Effects of University Research: A Survey". Mimeo. Regional Research Institute, West Virginia University.
- Wallsten, S. (2000). "The Effect of Government-Industry R&D Programs on Private R&D: the Case of the Small Business Innovation Research Program". *RAND Journal of Economics* 31(1), pp. 82-100.
- Wheeler, C. (2003). "Evidence on Agglomeration Economies, Diseconomies, and Growth," *Journal of Applied Econometrics*, vol. 18(1), pp. 79-104.
- Westphal, L. (1990). "Industrial Policy in an Export-Propelled Economy: Lessons from South Korea's Experience", *Journal of Economic Perspectives*, vol. 4(3), pp. 41-59.
- World Bank. (2009). "The Impact of Regulatory Reforms. Part I: Impact on Aggregate Economic Outcomes Evidence from Doing Business Data". *The Ease of Doing Business in APEC*. World Bank. Washington, D.C.: WB.

5. PROTECT THE ENVIRONMENT, RESPOND TO CLIMATE CHANGE, PROMOTE RENEWABLE ENERGY AND ENHANCE FOOD SECURITY

- AQUASTAT. (2003). "Main Country Database." Food and Agriculture Organization of the United Nations Paris: FAO.
- Bravo-Ureta, B., D. Solís, H. Cocchi and R. Quiroga. (2006a). "The Impact of Soil Conservation and Output Diversification on Farm Income in Central American Hillside

- Farming". *Agricultural Economics* 35, pp. 267-276.
- Bravo-Ureta, B., D. Solís, H. Cocchi and R. Quiroga. (2006b). "Output Diversification Among Small-Scale Hillside Farmers In El Salvador" *OVE Working Paper 17/2006*. Inter-American Development Bank. Washington, D.C.: IDB.
- Cocchi H. and Bravo-Ureta, B. (2007). "On-site Costs and Benefits of Soil Conservation among Hillside Farmers in El Salvador". *OVE Working Paper 04/2007*. Inter-American Development Bank. Washington, D.C.: IDB.
- Darghouth, S., C. Ward, G. Gambarelli, E. Styger and J. Roux. (2008). "Watershed Management Approaches, Policies, and Operations: Lessons for Scaling Up". *Water Sector Board Discussion Paper 11*. The World Bank. Washington, D.C.: WB.
- Gottret M.A., D. White. (2001). "Assessing the Impact of Integrated Natural Resource Management: Challenges and Experiences". *Conservation Ecology*, 5(2). p.17.
- Hope, R.A. (2007). "Evaluating Social Impacts of Watershed Development in India". *World Development* 35(8) pp. 1436-1449.
- IPCC, (2007a). *Climate Change 2007: Synthesis Report*. Cambridge University Press: United Kingdom.
- IPCC, (2007b). "Summary for Policymakers." In M. L. Parry, O. F. Canziani, J. P. Palutikof, P. J. van der Linden, and C. E. Hanson. (eds.). *Climate Change 2007: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press: United Kingdom.
- Kerr, J. (2007). "Watershed Management: Lessons from Common Property Theory". *International Journal of the Commons* 1(1) pp. 89-109.
- Kerr, J., P.J. George, G. Pangare, and V.L. Pangare. (2000). "An Evaluation of Dryland Watershed Development Projects in India". *EPDT Discussion Paper 68*. International Food Policy Research Institute. Washington, D.C.: IFPRI.
- Kerr, John and Kimberly Chung. (2001). "Evaluating Watershed Management Projects". *CAPRI Working Paper No. 17*. Collective Action and Property Rights. International Food Policy Research Institute. Washington, D.C.: CAPRI.
- Pattanayak, S. K. (2004). Valuing Watershed Services: Concepts and Empirics from Southeast Asia. *Agriculture, Ecosystems & Environment* 104 (1). pp. 171-184.
- Rosegrant, M.W. X. Cai, and S.A. Cline. (2002). "Global Water Outlook to 2025. Averting an Impending Crisis". International Food Policy Research Institute. Washington, D.C.: IFPRI.
- UNDP. (2004). Lim, Bo, Erika Sanger-Siegfried (eds). *Adaptation Policy Frameworks for Climate Change: Developing Strategies, Policies and Measures*. United Nations Development Programme. UNDP-Cambridge University Press.
- UNDP. (2008). *Human Development Report 2007/2008. Fighting Climate Change: Human Solidarity in a Divided World*. United Nations Development Programme. New York: UNDP.
- World Bank, (2009). *The Costs to Developing Countries of Adapting to Climate Change*. World Bank. Washington, D.C.: WB.
- . (2009a). "Mainstreaming Adaptation to Climate Change in Agricultural and Natural Resources Management Projects (GN1-GN9)". World Bank. Washington, D.C.: WB.
- . (2009b). "Mainstreaming Adaptation to Climate Change in Agriculture and Natural Resources Management Projects: Guidance Note 7 and Guidance Note 8." World Bank. Washington, D.C.: WB.
- . (2009c). "Kenya: Adaptation to Climate Change in Arid and Semi-Arid Lands (KCAAL)." World Bank. Washington, D.C.: WB.



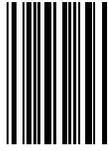


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