

**Report on the World Bank Group
Research Program
Fiscal Years 2004 and 2005, and Future Directions**

Prepared by DECRS

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EXECUTIVE SUMMARY

This report discusses research at the World Bank during FY04 and FY05, describing the content of the research program and the budget for research, and reviewing its uses. A central component of each biennial research report to the Board of Executive Directors is evaluation of the services provided to a client group. The special focus this year is the quality and relevance of research produced by the Bank, and the report summarizes the findings of an independent evaluation of Bank research.

The objectives of World Bank research are to support operations, to improve the Bank's policy advice to its member countries, to broaden the understanding of the development process, and to assist in developing research capacity in the Bank's member countries. Research is done throughout the World Bank. The bulk is produced by the Research Group in the Development Economics Vice-Presidency (DECRG) but research is also produced by the Regions and Networks. A sizeable amount of research is financed by the Research Committee.

Research Activities and Resources

Chapter 1 describes Bank research activities, organization and funding. The research agenda responds to the demands outlined above. It is set through two mechanisms: the decentralized responses of staff throughout the Bank in conjunction with their managers and answering primarily to regional/network requirements, and a coordinated program of studies by DECRG responding to Bank-wide needs which evolves from on-going discussions with colleagues inside and outside the Bank and which tackles issues of broad interest including fundamental questions of development.

The research themes during this period are first described. Compared to the FY02-03 program, there was a move away from macro studies and towards more emphasis on the country-specific micro foundations of growth and development. Research on the investment climate and on mechanisms of delivering public services has been paramount, with a particular emphasis on the role of institutions in shaping governance, on aid effectiveness and on policies to achieve the Millennium Development Goals. Research on global issues analyzed trade policy reform, particularly the Doha Round negotiations, and initiated a program on the role of international migration in development. Other research areas with important global externalities included climate change, and security and development. Last but not least, a major program of impact evaluation has been launched, responding to the increasing importance of improving the effectiveness of Bank projects and assessing results.

Research capacity-building in developing countries is a mechanism that strengthens development research, its dissemination to appropriate audiences and its impact on government policy. The Research Committee has had an active program of research capacity-building support for more than 15 years, and that program was reviewed in the FY00-01 report on research to the Board of Executive Directors. This report briefly summarizes that support and the new policy questions that have arisen and will be addressed in a planned needs assessment.

Two major resource issues are discussed: the declining share of the Bank budget allocated for research, and the appropriate allocation of researcher time. Most demand for research comes from within the Bank itself, and the greater the Bank's activities—particularly Economic and Sector Work—the greater the demand for research (as shown in chapter 2). Yet research has fallen to 1.1 percent of total Bank service expenditures—its lowest share in the last 25 years. For an institution positioning itself as the Knowledge Bank, this decline is not propitious.

The second challenge in managing Bank research resources is the appropriate balance of researcher time across the conduct of research, its dissemination, research capacity-building and expert assistance to operations. Only DEC's Research Group has an explicit research mandate, and its staff give an average of 30 percent of their time in cross-support to operations.

Using Bank Research

The majority of Bank research has its impact through lending operations. Drawing on the existing body of knowledge, governments and the Bank design the projects and programs that constitute the core of Bank operations. Systematic observation and analyses of the processes and outcomes of those projects over countries and time increase the base of knowledge. Research and evaluation lie at the heart of this cycle of lending, learning and knowledge creation, described in **chapter 2**.

Examples of research that have had a significant impact on research illustrate this process: poverty measurement, investment climate surveys, public expenditure tracking, public sector absenteeism, pollution disclosure and deposit insurance studies. The integration of research in Bank operations illustrated here is typical of a larger fact: more than 70 percent of economic and sector (ESW) reports draw on Bank research, with an average of more than eight research documents cited. As demonstrated in the last research report to the Board of Executive Directors, greater use of research is associated with higher ESW quality and impact.

A major new approach even more directly integrates research and operations. The Development Impact Evaluation (DIME) initiative is a Bank-wide effort to (i) increase the number of lending projects with impact evaluation components; (ii) raise staff capacity to design and undertake such evaluations; and (iii) create a systematic process to learn from development interventions based on these evaluations. A series of independent program evaluations are underway in education and early childhood development, health services, social protection and infrastructure.

Bank research is disseminated in the development community. Publication in a peer-reviewed journal signals that a research report is analytically sound, and the number of references to an article is one measure of its importance. Analysis for FY04-05 uncovered a significant rise in the number of Bank research papers published in peer-reviewed journals. And with an average of 5.0 citations of each article, Bank research compares well with the International Monetary Fund (3.2) Brookings Institution (3.7), Centre for Economic Policy Research (4.2), Princeton University (6.0) and the National Bureau of Economic Research (8.5). These data confirm the analytic rigor and importance of Bank research.

Evaluation of Bank Research, 1998 – 2005

An independent evaluation of World Bank research was commissioned by the Chief Economist. A panel of four academics was asked to conduct an evaluation of the research over 1998-2005 focusing on how research was selected, its topics, analytic quality and relevance, and how it could best serve the World Bank. In addition to receiving reports from 24 thematic experts who read a sample of output from 186 research projects and a further 50 pieces of nominated research, the evaluators also interviewed current and past Bank staff, policymakers and academics in developing countries. The evaluation process, the executive summary of the evaluation report and a summary of the Chief Economist's response are provided in **chapter 3**.

The panel concluded that the World Bank needs a research department, and that its research is crucial for improving the quality of its development work, especially if the institution claims to be a Knowledge Bank. The Bank already spends too little on research and the demand for high-quality, research-based advice will grow as the need for Bank lending diminishes.

The panel gives research management and staff considerable credit for continuing to produce innovative and important new research that has maintained the Bank's position as an intellectual leader among development agencies at a time when new hiring is severely limited, and salaries have fallen rapidly relative to those in academia. During this time Bank researchers have continued to provide extensive support to colleagues in operations and regularly published in leading academic journals.

The evaluators and the panel generally found Bank research well-targeted to important topics. They noted some outstanding work in the Bank's portfolio. But they also felt that too high a proportion of Bank research was "undistinguished," in the sense that it had neither great relevance for policy nor claim to academic distinction, or that it was weak on execution and technique. These are subjective judgments, but the evaluators are distinguished development economists, and their views were similar to one another. The panel criticized the use that was made of some research (on aid effectiveness, on globalization, growth and poverty) to proselytize on behalf of Bank policy, often without providing a balanced view of the evidence. It believes that in these cases there was a failure of the checks and balances separating advocacy and research. It also expressed concern that the large number of flagship reports from throughout the Bank precludes quality control where it is most needed.

Among other recommendations were that there be more central control over consultant appointments, since some were of insufficient quality, that more use should be made of researchers from developing countries, that links with academia be strengthened, that web-sites should be improved and that the Bank should be more systematic in its collection, archiving, and dissemination of data. They propose a "central statistical office" to ensure coherent and unified quality control of data used institution-wide and beyond.

Despite the centrality of research to the Bank's mission, the research department must continually lobby from year to year to protect basic research on development issues, especially where the payoffs are not immediately obvious. The panel believes that there would be great benefits to endowing Bank research, using a small fraction of the Bank's earnings.

The Chief Economist's response acknowledges the report's praise for Bank research and thanks the panel for its advice on aspects of Bank research and management that can be improved. It points to corroborating measures that paint a generally favorable picture of Bank research and says it finds

no objective evidence of an excess of undistinguished output. (See also the citations analysis in Chapter 2 of this report.)

The response supports the panel's recommendation aimed at strengthening research quality, including reviews of large ongoing research projects and of completed programs, wider consultation on strengthening the Chief Economist's advisory role, increased use of impact evaluations in the Bank and other development operations via the DIME program, and continued efforts to ensure the balanced review of research in areas in which the Bank has an advocacy role.

The Chief Economist agrees to revisit the objectives and scope of Bank flagship reports—although many flagships included in the evaluation are not designated as research products. Greater central control over the quality of research consultants is difficult, however, as many factors shape consultant selection, including capacity-building. The response notes that to encourage research in underserved areas, Bank-wide research consultations have recently been undertaken, as well as follow-on reviews to encourage research. The panel's recommendations to strengthen outreach, including improving the visitor program and the accessibility of the DEC website, are useful. In some cases they require more study to develop specific plans. Building research capacity through collaborative work is important and the Chief Economist vows to increase efforts to do so, continuing the prior efforts of the Research Committee. The ambitious recommendations on data would require endorsement from senior management. Consultations on the recommendations of the Evaluation are proceeding within DEC, as well as with the Research Committee.

The full Evaluation Report as well as the detailed reports on some two hundred research products from the evaluators is posted on the Bank's research website. The complete response of the Chief Economist is also included.

Future Directions for Bank Research

To set the Bank's research agenda, the Chief Economist meets with Operations and Network management each year. Responding to expressions of interest generated by the research report presented to the Board of Executive Directors in 2005, the Research Committee requested an expansion of consultations to enhance information, transparency and accountability in the process. These enhancements and the continuing program for research are described in **chapter 4**.

A summary of the consultations was circulated throughout the Bank, along with the six major priorities identified in the consultation process: infrastructure; labor markets; the informal sector; fiscal space and fiscal policy; the global impact of growth in China and India; and lagging regions. Survey papers are commissioned on some of those topics. The final enhancement to the consultation process is a system for monitoring and reporting on research conducted on those priorities in subsequent years.

The Development Research Group (DECRG) is the principal locus of Bank research and the only unit with a mandate to conduct research across regions and sectors. Its future program is presented in section 4B. A recent restructuring of the Group has aligned it with the Bank's new network structure and also with its own declining budget. The number of DECRG researchers has been cut and the number of research teams reduced from seven to six. The DECRG research agenda is very broad, including ongoing research in areas such as land reform, agricultural protection, governance, poverty measurement, debt, FDI, impact evaluation and the performance of firms. Among new areas of focus are the following: Finance and Private Sector Development research will focus on access to financial services, risk management and firm dynamics. Growth and Macroeconomics research will analyze the policy and institutional effects on growth and macroeconomic stability,

building on earlier work exploring the covariates of growth. The International Economic Integration team will collect and provide public access to data on policies affecting integration. This research program will focus on the impacts of economic policies affecting international transactions on efficiency, equity, and growth. Building on last year's World Development Report, *Equity and Development*, the Poverty team will provide better data for describing inequity and research on understanding and breaking poverty and inequality traps. The Human Development and Public Services team will add new directions for research on employment and the functioning of labor markets, and aid effectiveness. The new Sustainable Rural and Urban Development team will add to its program research on spatial dimensions of development climate change and the role of infrastructure in stimulating economic development.

The research program of Regions and Networks is tailored to their specific needs. Future research conducted in the **HD Network** will focus on governance-related topics, on various aspects of health system development, measurement of learning outcomes, labor market mobility, pension performance, leakage in safety nets. Impact evaluations across the sectors also will be conducted. **PREM Network** future research on economic policy and debt will investigate the links between growth and public finance, technology, labor markets, competitiveness and globalization—combining development of general models and country case studies. On poverty reduction, PREM will focus on helping countries design more effective and prioritized strategies for shared growth and poverty reduction. In addition, a program on disaster prevention to guide investment planning will be initiated. Future research on the public sector will address issues of taxable capacity expansion to reach revenue potential, and revenue administration reform. The **Sustainable Development Network** has future research plans in agriculture and rural development; environment; and infrastructure. In the latter area, SDN is conducting innovative research in several “micro” and “macro” areas, including fiscal costs, and governance and regulatory issues, as well as impact evaluations in several infrastructure areas. The **six Regions** also have future research plans. The largest research program is in LCR, attributable to strong demand by both lending staff and their country counterparts, but Africa, East Asia, South Asia, MNA and ECA also have active research programs. Finally, the **World Bank Institute** plans to work on governance and anticorruption issues, on strategies for the knowledge economy, on various human development issues, in particular education. In collaboration with IEG, WBI is also managing a project on the quality aspects of growth.

Against the backdrop of a strong research program and continuing demand for high-quality research, measures to strengthen the management of research are being considered. Further consultations are taking place with the regions and networks and also within DEC. Some measures can be undertaken in DEC and through a process of consultation with the Research Committee. Other proposals require more discussion across the Bank.

INTRODUCTION

This report provides an overview of research activities at the World Bank during FY04 and FY05. It describes the research program, setting out the substance of the projects and their content, and the resource dimensions, and reviews the uses of research. Each biennial Research Report to the Board evaluates a particular aspect of research. The special focus this year is the quality and relevance of research produced by the Bank.¹ This report includes the summary of an independent evaluation exercise by leading external experts in development economics covering all research publications and ‘flagship’ reports published by Bank staff and consultants in the past eight years.

Research—which is a crucial part of the World Bank’s ongoing process of lending, learning, and knowledge, and an essential input to IBRD and IDA lending—is defined by the Bank as analytic work designed to produce results with wide applicability across countries or sectors, distinct from economic and sector work (ESW). In practice, it is not always easy to distinguish research from ESW. The Bank’s analytical work is conducted along a spectrum of learning that ranges from narrow research issues specific to a particular country project to research exploring broad patterns and relationships only beginning to be seen as important for development processes. Along this spectrum, ESW has at times provided findings of broad and profound importance. However, the definition that has long separated ESW from research lies in both intention and design. Research encompasses analytical work designed to produce results with wide applicability across countries or sectors. Economic and sector work and policy studies take the product of research and adapt it to particular projects or country settings.

The Bank’s research program produces outputs—publications, data, and analytical tools—that are widely used by internal and external clients in ESW, policy dialogue, and technical assistance and advice. A wide range of products has been created to serve the Bank’s diverse audiences and purposes. This includes journal articles, books and book chapters, Policy Research Working Papers, two acclaimed international journals, World Development Reports, Policy Research Reports, ‘flagship reports’ from the Regions and Networks, and numerous conferences and workshops.

¹ The *FY02-03 research report* focused on the impact of research on Bank operations and showed that Bank research is used extensively in ESW: 65 percent of the 309 ESW tasks assessed by the Quality Assurance Group used research findings, with the average ESW citing 12 research reports. The *FY00-01 research report* examined research capacity building. It included a survey of Bank-supported institutions and indicated that the Bank’s catalytic role in flexible partnerships was well-directed to the needs of beneficiary countries and regions. A survey of policymakers in client countries was conducted for the *FY98-99 research report*. The 271 high-level policymakers said they rely on the Bank for data and analysis and regard Bank research as objective, relevant, and of high quality. But they asked for greater participation in Bank research and greater access to its data and findings. The *FY96-97 research report*, using surveys of operations staff, found that research contributes to the country dialogue, to the preparation of Economic and Sector Work, and to all phases of the project cycle. The *FY94-95 research report* assessed the contribution of Bank research to the understanding of development, primarily as reflected in the education and research community. It found that Bank research more than adequately fulfilled this objective.

Since the Board discussed the *FY02-FY03 Report on the World Bank Group Research Program and Future Directions*, important steps have been taken. First, the dissemination of research results, which—as emphasized in a previous discussion with the Board—is essential for learning from development and for a better focus on results, has been improved. In particular, more research products are now available on the internet including a new Research Digest, and a larger number of working papers. Second, responding to a request from the Board, consultations were held by the Chief Economist and the Research Committee with the Regions and Networks to identify research priorities and assist in supporting such studies, especially in operations. The consultations revealed that there was a significant unmet demand for research in a number of areas. Researchers in the Bank have responded to this demand and many of the under-researched topics identified by the Regions and Networks are now being actively researched. Finally, even though the budget for research has declined, the volume of research projects and publications has increased significantly while continuing to be of high quality.²

The objective of this document is to report on all research activities at the Bank during FY04 and FY05, with special emphasis on their quality and relevance for Bank operations and for the development community. This report is organized as follows.

- **Chapter 1** describes Bank research activities, including research projects, dissemination vehicles and research capacity-building, as well as resources for research over FY04-05.
- **Chapter 2** provides some quantitative measure of the uses of Bank research. It examines the academic influence of Bank research by counting citations of research publications and comparing these citations with those of other institutions. The chapter also examines the internal use of research, including in economic and sector work, and its contribution to the “lending-learning-knowledge” cycle—one of which is the recently launched Development Impact Evaluation Initiative (DIME).
- At the Chief Economist’s request, an independent panel evaluated the quality and relevance of research carried out by the World Bank—both in DEC and in other Bank units—between 1998 and 2005. **Chapter 3** describes the evaluation process and summarizes the findings of the independent evaluation panel and the response of the Chief Economist to these findings.
- Chapter 4 discusses the future directions of research in the Bank. The first section covers the consultation process with the Regions and the Networks undertaken by the Chief Economist, the Research Committee and DECRG to better understand which areas were insufficiently researched. The second section presents a forward-looking summary of the research program of DECRG and of other Bank units where research is carried out.
- The conclusion of the report notes directions under consideration for further strengthening research management.

² The FY02-03 Research Report (Report No. 30110, October 5, 2004) brought to the Board attention the fact that a large amount of Bank research was done outside of DEC. The executive summary states that “DECRG accounts for over half of Bank research published in professional journals” and the report indicated that Regions and Networks produce more than what was expected (about 40 percent). On the input side, the report stated that 496 staff was engaged in research during 1998-2003—of which 65 percent (325) were located outside of DEC (Table 2.8, p. 66). The report made clear that the distribution of staff is an indicator of human capital and not an indicator of resources spent on research (p. 26). On the output side, the report indicated that regions and networks accounted for 40 percent of working papers and 43 percent of peer-reviewed articles, while DEC accounts for 60 percent of working papers and 57 percent of peer-reviewed articles (Tables 2.2 p.60 and A.2 p. 81). During FY02–03, 462 policy research working papers were published, with DECRG producing 57 percent of those, the regions 21 percent, and the networks 5 percent. The Bank published more than 1,000 articles in peer-reviewed professional journals during FY98–03, with DECRG accounting for half of those, the regions and networks for 18 and 16 percents, respectively, and WBI and other Bank units for 8 percent. Regarding journal articles, the report also mentions that many regional and network staff (who published in peer-review journals) had worked in DEC (p. 27-28).

CHAPTER 1. WORLD BANK RESEARCH ACTIVITIES AND RESOURCES

A. THE RESEARCH PROGRAM, FY04 AND FY05

World Bank research has four basic objectives:

- to support all aspects of the Bank's operations,
- to improve the Bank's policy advice to its member countries,
- to broaden the understanding of the development process, and
- to assist in developing research capacity in the Bank's member countries.

Research is done throughout the World Bank under the general direction of the Bank's Senior Vice President and Chief Economist.

- The bulk of the research is conducted by the Research Group in the Development Economics Vice-Presidency (DECRG), overseen by a Director and a Management Team. DECRG research is closely aligned with the Bank's research priorities. DEC's activities are overseen by the Senior Vice President and Chief Economist.
- A substantial amount of research is financed by the Research Support Budget (RSB) overseen by the Research Committee. This Bank-wide institution, chaired by the Chief Economist, has been in operation since 1971. The Chair appoints up to 18 members who are senior staff and economists from all parts of the Bank with a demonstrated interest in research. The Committee has three main functions: (1) it assesses and advises on requests for RSB funding; (2) it oversees evaluation of RSB-funded research conducted by the Bank staff and others, and (3) it advises Bank research managers on areas where research is needed (Research Committee Funding Guidelines). Policy and procedures for the use of RSB funds are determined by the Research Committee. DECRS is the secretariat of the Research Committee.
- Finally, research is also produced by the Regions and Networks under the Operational and Network Vice Presidents, typically overseen by Regional Chief Economists.

Bank research is financed by both internal funds, including the RSB, and external Trust funds. Research is carried out by Bank staff in collaboration with external consultants. RSB grant recipients are especially encouraged to engage consultants from developing countries in their research. The Bank also supports capacity building initiatives in Bank member countries, mostly financed by the RSB, by financing economics education, and supporting research capacity building institutions like the AERC in Africa, and research networks like GDN.

With limited resources, the Bank's research program generates a wide range of products that include journal articles, books and book chapters, Policy Research Working Papers, World Development Reports, Policy Research Reports, two acclaimed journals, and proceedings of conferences and workshops. To facilitate development economics research where comparable and

reliable data is not easily available, the Bank also generates and publishes research databases on the internet that are used by policy analysts, educators and researchers in the development research community all over the world.

Research Projects and Outputs

As shown in table 1, in FY04 and FY05, there were 617 ongoing research projects in various Bank units. Annex B presents the complete list of these projects, categorized by theme.³ The Bank published 1264 journal articles, book chapters, flagship reports, working papers and other research publications in 2004 and 2005.⁴ Both the number of research projects and the number of research publications increased by more than 20 percent compared to FY02-FY03. The remainder of this chapter presents a brief overview of research in the Bank in FY04-FY05—in DEC, in the Regions, Networks and other departments—followed by a short synopsis of research by theme.

Table 1. World Bank Research—Comparative Indicators, FY02-FY03 and FY04-FY05

Theme	Number of Research Publications		Number of Research Projects	
	FY02–FY03	FY04–FY05	FY02–FY03	FY04–FY05
Poverty	90	178	54	75
Growth & Investment	148	168	83	121
Human Development & Public Services	202	237	87	109
Finance	110	120	43	47
Infrastructure & Environment	95	117	81	94
Rural Development	82	98	74	70
Trade & International Integration	249	346	65	101
Total	976	1264	487	617

Source: DEC

Overview of the Program

The emphasis of Bank research has shifted in several ways relative to the FY02-FY03 program. Considering first country-level work, there has been a move away from macroeconomic (aggregate) studies and towards more emphasis on the country-specific micro foundations of growth and development. The aim of this research is to better understand poorly functioning markets and market failures, how institutions arise at micro level to cope with such failures and the implications for policy. Research programs on the investment climate and on mechanisms of delivering public services are core components of this work. There has also been a growing interest in the role of institutions in shaping governance. Research continued on aid effectiveness and on policies to achieve the Millennium Development Goals. This work focused on the political economy of development assistance, on the consistency between public expenditure programs and development goals and on “scaling up” assistance to meet the MDGs.

³ Of these ongoing projects, 161 were new projects initiated in FY04 or FY05 (The breakdown by theme is the following: 19 new projects for poverty; 24 for growth and investment; 47 for human development and public services; 10 for finance; 21 for infrastructure and environment; 16 for rural development; and 24 for international trade and migration).

⁴ The complete list of Bank research publications in 1998-2005 is at <http://econ.worldbank.org/research>

Second, the Bank has long been undertaking research on global issues. Responding to the Doha Round, research addressed trade policy reform, including the Doha Round negotiations, the impact of WTO and regional trade arrangements, agricultural trade, and the abolition of the textile quotas. DEC has launched a major research program on the role of international migration in development. Climate change, and security and development, including the interaction between conflict and post-conflict and development, are other areas with important global externalities. This research has focused more specifically than before on low-income fragile states and has also examined new approaches to aid in post-conflict countries.

Finally, a major program of impact evaluation has been launched, responding to the increasing importance of improving the effectiveness of Bank projects and assessing results.

The investment climate is central to the growth agenda, and recognized as fundamental for achieving the MDGs. As analyzed in the 2005 WDR, a better investment climate widens opportunities. It energizes the main sources of growth: encourages investment, and enhances productivity. Research concentrated on generating information through investment climate surveys and analyzing the microeconomic relationships between growth and industrial organization, infrastructure, governance, institutions, and financial services. This allows a better assessment of the benefits of investment climate reforms, and of their sequencing. Studies suggest, for example, that addressing differences in access to power, transportation and curtailing bribes could explain half of the productivity gaps of firms in Africa relative to those in China. Leveling up Pakistan's investment climate indicators to those of China would raise the average annual sales growth of Pakistan firms by 8.5 percentage points, and raise the employment growth rate by 3.1 percentage points.

The priority of ongoing work is now to measure the gains from actual policy changes. Several countries are just launching their second round of surveys. Following firms over time and measuring actual changes in the investment climate will enable more specific testing of the impact of reforms. Research has also examined the distributional impacts of reform across different types of firms. With the informal sector accounting for the majority of employment and even GDP in many developing countries, understanding the dynamics within this sector is essential. The costs associated with regulatory burdens, bribes, weak property rights, poor infrastructure, and access to finance are up to a third higher for smaller firms than for larger or foreign firms. In response, many small firms rationally decide to remain informal. Likewise formality often fails to bring expected benefits. To encourage formality and firm growth, policies must address the relative costs and benefits of remaining informal.

Public Service Delivery. Past research on public services was often constrained to use only data on spending, but led to the empirical insight that there is little statistical relationship between overall public spending and outcomes in sectors such as education and health. The research focus widened in the 1990s when new work began to examine governance issues in countries that were decentralizing and privatizing service provision. The research showed weak incentives and accountability for the delivery of vital services. The FY04-05 research program strengthened this work by developing school and clinic-based surveys of providers and users of public services and applied these in many countries. Building on previous research, the 2004 WDR drew much-needed attention to two critical issues for development: how to improve service provider behavior, especially for the poor, and how to ensure that the country's political economy allows poor people's voices to be heard.

Provider Behavior. Several research projects have used the frontline provider surveys to measure and understand service-delivery problems such as teacher absenteeism, the “capture” of public funds, and the performance and quality of medical doctors. The research primarily covers public providers, but has included some private for-profit and nonprofit service providers, such as religious NGOs.

Political Economy. Even in democracies, where politicians depend on poor people’s votes, public spending often fails to deliver basic services to them. Better understanding is needed on the conditions under which political arrangements increase or decrease accountability. One set of studies asked whether and how decentralization improves service delivery to poor people; another looked at the effect of different political institutions and electoral rules. A third line of research has explored how providing information to citizens about service quality improves their ability to demand better services. The Bank organized a conference on the political economy of service delivery in April 2004 and has initiated research on the politics of public finance and on impact evaluation of accountability tools (including citizen report cards and the role of information and the press).

Progress toward the MDGs. Research on accelerating progress towards the MDGs includes improvements in poverty data and studies on the economics of pro-poor growth and related issues, including whether developing countries can effectively ‘absorb’ much higher levels of aid for the purpose of achieving the MDGs. A team from the World Bank and the UN Millennium Project has been assisting the Ethiopian government to design a methodology for their medium term MDG-focused forecasts. One of the instruments developed for this purpose is DEC’s “Maquette for MDG Simulations” (MAMS) designed to examine capacity constraints and potential policy tradeoffs.

Trade Policy Reform. Turning to global issues, the objectives of trade research have been to understand the choices of policies, to measure impacts, and to analyze possible reforms. Researchers worked with UN agencies and other partners to improve and extend data on trade and protection and to develop measurement tools and methods to track the impact of policy. Agricultural trade barriers have been the subject of a major project. Textiles and clothing are the next most important areas, and research focuses on identifying pro-active policies to help developing countries adjust to the abolition of quotas. Developing countries have recently become the largest users of antidumping safeguards; case-studies and a new database on these have been produced. Research has also addressed the contribution of services trade and trade facilitation to longer-term growth through productivity improvements. Econometric studies have examined the linkages between trade reform, productivity and growth, and have used firm-level data to explore how FDI can be attracted without creating distortions or making excessive payments to foreign investors. Research has also considered links between trade and poverty reduction, to better understand how to boost the impact of reforms.

Migration has emerged as a high-profile yet under-researched topic. DEC launched a program to better understand the role of international migration in development. Bank-wide migration work is coordinated through a steering committee which involves HD, FSE, PREM, and DEC and is chaired by the Chief Economist and the PREM VP. The program includes improving the database on migration and remittances using existing and new household surveys with specific migration and remittances modules. Research has focused on quantifying the determinants of migration and the flows of remittances; on assessing whether migration of skilled workers (“brain drain”) is good or bad for developing countries; on the diaspora and returning migrants; on temporary movement of persons, including Mode IV of the GATS, on interrelations between trade, FDI and migration; and on mechanisms to protect migrant workers from abuse and transfer their social rights (such as pensions and health benefits) between countries.

Conflict and Security. One out of every five people in sub-Saharan Africa is directly affected by civil war. DECRG has undertaken substantial research on security issues, particularly civil war and crime, but pressing issues remain. Two of these were the focus of research: international policies towards post-conflict countries including the role of assistance and the challenge of creating credible and inclusive government, and understanding the roots of violence by non-state actors, including the roles of weak institutions, poverty, ethnic conflict and drug trafficking and efforts to combat it.

Impact Evaluation. New evaluation tools, often based on randomized trials, are becoming available for evaluating the development impact of projects in education, health or infrastructure, and delivery mechanisms such as cash transfers. Impact Evaluation is part of a renewed research agenda on aid effectiveness and results, an area critical to the Bank's mission, and aims to strengthen the "Learning-Lending-Knowledge" cycle and to establish causal links between interventions and outcomes. Rigorous impact evaluations have been rare in most developing countries and, until recently, in World Bank programs, but this is beginning to change. The Chief Economist has initiated a concerted effort—the Development Impact Evaluation Initiative (DIME)—to support and coordinate the impact evaluations of Bank-financed programs. (DIME is further discussed in Chapter 2). DEC has collaborated with the HD and INF Networks to identify a few strategic interventions to be evaluated: conditional cash transfers, school-based management, the role of information in promoting accountability, teacher contracting schemes and slum upgrading programs. This focused approach will enable systematic comparison of the effectiveness of interventions in different settings and following alternative designs (for example, private vs. public service provision). It provides a unique opportunity to identify 'what works and when' and obtain robust measures of performance to be expected from successful programs. DEC has helped to develop techniques, and is working with operational Bank teams to evaluate programs.

The FY04-FY05 Research Program by Theme

This section presents a synopsis of Bank research—in DEC as well as in the Regions, Networks and other departments—by thematic groups. Some significant publications are mentioned for each theme. The complete list of research projects is in Annex B. The complete list of publications is available on the web page on evaluation on the intranet (under Units > DEC > Research Committee).

Poverty

The Bank produced research on several important poverty-related topics over the last two years. Household-level data were used to monitor trends in poverty and inequality (this includes the Bank's official global poverty counts). Survey and census data were combined to develop reliable "poverty maps." Several studies attempt to understand the economic and social processes which determine the extent of poverty and inequality. Some focus on the transmission of poverty through generations, on cultural factors and/or on dimensions of empowerment. A major theme of many research projects has been pro-poor growth, i.e. the extent to which growth processes in different countries have differential impacts on poverty. Finally a number of projects developed methods to assess the effectiveness of specific poverty-reduction policies.

The Geography of Poverty

This research produced finely disaggregated spatial profiles of poverty and inequality in developing countries, or “poverty maps.” The methodology centers on using statistical techniques to combine census data with household survey data. The project also devoted resources to training activities (both training trainers and training technical staff) to respond to the strong interest in developing countries in acquiring the technical skills to produce poverty maps. The methodology has been extended to downstream research investigating such issues as the effect of nutrition programs, the ex ante welfare effects of government programs, and the links between deforestation, infrastructure, and poverty. The South Africa poverty map was used to investigate the relationship between local inequality and crime. In Uganda, poverty mapping produced the first-ever estimates of poverty among disabled people. Some 30 countries have completed or launched poverty mapping activities. In most of these exercises the role of the project team was to provide advice and quality control.

Elbers, Chris, Jean O. Lanjouw, and Peter Lanjouw. 2003. “Micro-Level Estimation of Poverty and Inequality.” *Econometrica* 71(1): 355–64.

Demombynes, Gabriel, Chris Elbers, Jean O. Lanjouw, Peter Lanjouw, Johan Mistiaen and Berk Özler. 2004. “Producing a Better Geographic Profile of Poverty: Methodology and Evidence from Three Developing Countries.” In Anthony Shorrocks and Rolph van der Hoeven, eds., *Growth, Inequality, and Poverty: Prospects for Pro-Poor Economic Development*. Oxford: Oxford University Press.

Impact Evaluation of Antipoverty Programs

There is growing demand for rigorous impact evaluations of World Bank lending operations that aim to reduce poverty. This demand has presented an important research challenge, to develop methodologies that are both rigorous and applicable to the constraints routinely faced in operational work. For example, in many instances, pre-intervention baseline data are unavailable, often because safety-net interventions have to be set up quickly in response to a macroeconomic or weather-related crisis. A study shows that it is nonetheless possible to identify impacts by following up ex-participants over time. It spells out the conditions under which the average gains to current participants can be identified in such settings and provides an application to a safety-net program in Argentina. The results show sizable income losses from leaving the program when it is cut, but with partial recovery of the losses over time.

Galasso, Emanuela, and Martin Ravallion. 2005. “Decentralized Targeting of an Anti-Poverty Program.” *Journal of Public Economics* 89(4): 705–27.

———. 2004. “Social Protection in a Crisis: Argentina’s Plan Jefes y Jefas.” *World Bank Economic Review* 18(3): 367–99.

Bourguignon, François and Luiz A. Pereira da Silva, eds., *The Impact of Economic Policies on Poverty and Income Distribution: Evaluation Techniques and Tools*. New York: Oxford University Press.

World Income Distribution

This is the most comprehensive empirical analysis to date of inequality in the world. This study used several hundred household surveys from 120 countries to measure global inequality among individuals. It shows that inequality is shaped by complex forces often working in different directions. The study explores the main approaches to the problem of measuring inequality among countries and individuals, and discusses the relevant policies of industrial countries and international organizations.

Milanovic, Branko. 2005. *Worlds Apart. Measuring Global and International Inequality*. Princeton University Press.

Microeconomics of Income Distribution Dynamics

Rising returns to education, experience, and unobserved skills have been associated with substantial increases in inequality in Latin America and East Asia. Using counterfactual income distributions to decompose changes in poverty and inequality over time, a new study provides the most detailed investigation yet into the dynamics of income distributions in the developing world. The study presents case studies for Argentina, Brazil, Colombia, Indonesia, Malaysia, Mexico, and Taiwan (China). The decompositions shed light on the respective contributions of changes in prices; in the distribution of education; in labor force structure; and in demographics to the evolving income distribution. The approach provides policymakers with detailed information on the forces shaping poverty and inequality, and has been influential both inside and outside the Bank.

Bourguignon, François, Francisco Ferreira, and Nora Lustig. 2005. *The Microeconomics of Income Distribution Dynamics in East Asia and Latin America*. Washington, D.C.: World Bank; and Oxford University Press.

Rio Restudy: Intergenerational Poverty

Returning to the favelas of Rio a generation after the first intensive survey, this descriptive study finds that education levels of the poor have risen, and that Brazil has made great strides in providing water and sanitation, and in some places, shelter. Physical infrastructure has been widely introduced, and is nearly universal in most of the surveyed communities. While these interventions undoubtedly improve standards of living, they cannot be fully exploited, for instance by conversion into liquid assets. This is because property values are suppressed by stigma and there is prevalence of the drug trade in the favelas. Social mobility is still low. Standards for labor market entry have risen faster than gains in education. And the poor face daunting threats—drugs, violence, and racism—that remain largely unaddressed by Bank interventions.

Mercedes González de la Rocha, Elizabeth Jelin, Janice Perlman, Bryan Roberts, Helen Safa, and Peter Ward. 2004. "From the Marginality of the 1960s to the 'New Poverty' of Today: A LARR Research Forum." *Latin American Research Review* 39(1).

Why Are Some Growth Processes More Pro-Poor Than Others?

Answering this question requires a deeper understanding of what drives the distributional changes seen in survey data and the role played by initial conditions, including initial inequalities. A number of research projects address the question from different perspectives, focusing on areas where new research appears to offer high value added. A series of country case studies analyzed the determinants of the rate of pro-poor growth in India, Indonesia and other countries, and the welfare impacts of China's accession to the World Trade Organization. Another strand of research has examined the important role of social and cultural factors in determining inequality and poverty and access to public services by the poor. Socio-cultural factors have an important effect on the distribution of and access to public services. Other work has tried to unpack how community-driven development—widely advocated as a pro-poor growth strategy—really works and how it is driven by social networks and the quality of facilitation

Chen, Shaohua, and Martin Ravallion. 2004. "Welfare Impacts of China's Accession to the World Trade Organization." *World Bank Economic Review* 18(1): 29–57.

Friedman, Jed. 2005. "Measuring Poverty Change in Indonesia, 1984–99: How Responsive Is Poverty to Growth?" In Ravi Kanbur and Anthony J. Venables, eds., *Spatial Inequality and Development*. New York: Oxford University Press.

Ravallion, Martin, and Gaurav Datt. 2003. "Why Has Economic Growth Been More Pro-Poor in Some States of India Than Others?" *Journal of Development Economics* 68: 381–400.

Growth and Investment

Research on growth and investment has focused on the investment climate, on identifying policies conducive to sustained growth and understanding the factors behind the diversity in growth performance in different countries, as well as their heterogeneous response to seemingly similar policy measures and institutional changes. Building on earlier work identifying the main policy determinants of growth, research explores the role of complementarity among reforms and country-specific initial conditions and institutional features in shaping the effectiveness of policies. New research also assesses the consequences of microeconomic distortions and constraints for aggregate performance, expanding on previous work on the firm-level effects of regulation, infrastructure services, property rights, and the availability of finance. The research continues to emphasize the links between growth and poverty alleviation, with attention to the potentially long-lived impacts of inequality and poverty traps as deterrents for growth and welfare. Another area of research is concerned with the consequences of international financial integration for aggregate stability and growth. There has also been research on governance, including on the institutional and economic factors that determine whether strife reemerges or peace is sustained after a civil conflict.

Microeconomic determinants of growth

Over the last few years, the Bank has invested heavily in the collection of survey data on the Investment Climate faced by firms in developing countries. The available information now comprises more than 70,000 firms in some 90 countries. Several comparative papers examine the impact of different dimensions of the investment climate on growth, innovation, productivity, and job creation. These studies allow a better understanding of the microeconomic foundations of growth. Their results were prominently featured in the 2005 World Development Report, *A Better Investment Climate for Everyone*.

Dollar, David, Mary Hallward-Driemeier, and Taye Mengistae. 2005. "Investment Climate and Firm Performance in Developing Economies." *Economic Development and Cultural Change* 51: 131.

———. 2006. "Investment Climate and International Integration." *World Development*. vol. 34(9): 1498-1516.

Regulation, Institutions, and Growth

The research explores the links between microeconomic regulation and macroeconomic performance. A broad array of indicators of regulation shows that developing countries have the harshest regulatory environments, with the exception of taxes. These regulations hamper economic performance. Firms shift into informal markets in response to regulation, and informality is negatively associated with long-term growth. However, better institutions mitigate, and even eliminate, the adverse impact of regulation on informality, macroeconomic volatility, and growth, presumably by improving the quality of regulation. Improving governance is thus a priority in a highly regulated environment, and where weak governance prevails, regulation may need to be cut.

Loayza, Norman, Luis Servén and Ana M. Oviedo. 2005. "The Impact of Regulation on Growth and the Informal Sector: Cross-Country Evidence." In B. Guha-Khasnobis, ed., *Unlocking Human Potential: Linking the Formal and Informal Sectors*. Oxford University Press.

Schiantarelli, Fabio. 2005. "Product Market Regulation and Macroeconomic Performance: a Review of the Cross-Country Evidence." Policy Research Working Paper 3770. World Bank, Washington, D.C.

Inequality and Discrimination

The effects of discrimination and inequality may persist even when their immediate causes (such as legal barriers) have been removed. Low- and high-caste Indian students solved mazes with equal success when their positions were anonymous. But when caste identity was publicly revealed, the

performance of low caste students dropped by 20 percent. Making public the social identity of an individual can change that individual's behavior even when that information is irrelevant to payoffs. Dismantling discriminatory policies against a historically oppressed social group is no guarantee that the group will forge ahead.

Hoff, Karla, and Priyanka Pandey. 2006. "Discrimination, Social Identity, and Durable Inequalities." *American Economic Review Papers and Proceedings* 96 (May).

Growth and Poverty

Few doubt the key role of growth for sustained poverty alleviation, and research focuses on understanding the factors that determine the magnitude of growth's poverty-reducing impact. But the link between the two can go in both directions, and new research looks for sources of self-perpetuating poverty traps that may prevent poor countries from growing — one of the key arguments offered for scaling up aid. However, from a macroeconomic perspective, there is little empirical evidence of poverty traps arising from poor countries' limited capacity to save and invest.

Kraay, Aart, and Claudio Raddatz. 2005. "Poverty Traps, Aid, and Growth." Policy Research Working Paper 3631. World Bank, Washington, D.C.

Kraay, Aart. 2006. "When Is Growth Pro-Poor? Cross-Country Evidence." *Journal of Development Economics*.

Capital Flows and Financial Globalization

International financial integration impacts on countries' ability to access external financing and thereby undertake productive investments, as well as their opportunities to diversify risk and reduce macroeconomic instability. Until recently, however, financing to developing countries has been modest in size and has taken mostly the form of loans. Research assesses the role of risk and return differentials between industrial and developing countries in shaping the composition of financing. It finds that global forces, as opposed to country-specific factors, play an increasing role in the boom in FDI to developing countries. However, access of large domestic firms to international financial markets in the context of rising world financial integration also has potentially adverse side-effects for smaller firms, due to the associated decline in liquidity in domestic financial markets.

Albuquerque, R., Norman Loayza and Luis Servén. 2005. "World Market Integration through the Lens of Foreign Direct Investors." *Journal of International Economics* 66: 267–95.

Kraay, Aart, Norman Loayza, Luis Servén, and Jaime Ventura. 2005. "Country Portfolios." *Journal of the European Economic Association* 3: 914–45.

Fiscal Policy and Growth

Public investment to expand the quantity and quality of public services can make an important contribution to sustained growth. But it can also serve as a vehicle for rent-seeking, and this may become the dominant force behind investment decisions in countries with weak institutions. The evidence shows that public investment levels are observed to be substantially higher in countries that possess a deficient institutional framework – in terms of risks of expropriation and contract repudiation, law and order, corruption, and bureaucratic quality. Public investment is also much higher in countries with few political checks and balances. The implication is that efforts to increase public investment under conditions of weak governance should be undertaken with caution.

Keefer, Philip, and Stephen Knack. 2006. "Boondoggles, Rent-Seeking, and Political Checks and Balances: Public Investment under Unaccountable Governments." *Review of Economics and Statistics*.

Human Development and Public Services

Human development and the delivery of basic services are at the core of the Bank's strategy of investing in people. Research in these areas, building on the 2004 World Development Report, *Making Services Work for Poor People*, has focused on deepening our understanding of the factors affecting human development in developing countries, improving the analysis of service delivery and related political and economic institutions, and examining the effectiveness of aid in developing countries. Using household survey data, research continued to document patterns of human development across a wide range of countries and population groups. Efforts have focused on developing measures of harder-to-quantify dimensions of human development such as learning, good health, and vulnerability. Survey data were used to examine a variety of factors that explain demand for services, dimensions of service quality, outcomes, and the sources of vulnerability for different people. Using a variety of evaluation methods, research has evaluated the impact of programs and reforms on demand and outcomes, whether or not they are funded by the Bank.

Teacher and Health Worker Absenteeism

More resources do not necessarily improve services when service workers, such as teachers and health workers, are missing in action. Until this study, there was no systematic cross-country evidence on the extent of worker absenteeism. Instead of relying on official records, researchers used an innovative method of unannounced visits to primary schools and health clinics in Bangladesh, Ecuador, India, Indonesia, Peru, Uganda, and Zambia to measure absenteeism. They found that 19 percent of teachers and 35 percent of health workers, on average, were absent from their facilities, and that within countries, absenteeism is higher in poorer areas than in wealthier areas. Follow-up research is exploring ways to reduce absence, such as better infrastructure quality, higher pay, and more frequent monitoring. In Zambia where the HIV/AIDS epidemic has severely affected the health of service workers and of their families, the solution may lie in creating excess worker capacity in facilities to substitute for sick workers.

Chaudhury, Nazmul et al. 2005. "Missing in Action: Teacher and Health Worker Absence in Developing Countries." *Journal of Economic Perspectives* 19(4).

Quality of Health Care

The quality of health care is difficult to assess but recent research in India has revealed some alarming shortcomings: about one-half of New Delhi's doctors seem unable to recognize some common life-threatening diseases. The research uses medical cases to determine how a doctor would evaluate the symptoms presented in terms of history, examination, and treatment, and observed about 4,000 doctor-patient interactions. Similar studies are under way in Indonesia, Mexico, Paraguay, and Tanzania. In all countries, the studies found a significant gap between competence and practice. But while all doctors do less in practice than they *say* they would do when faced with the same patient, the doctors' effort increases with their level of competence. Doctors who know more ask patients more questions, so greater competence also leads to better practice. The gap between competence and practice responds to incentives: doctors in the public sector spend less time per patient and conduct only 60 percent as many examinations.

Jishnu Das and Jeffrey Hammer. 2005. "Which doctor? Combining Vignettes and Item Response to Measure Clinical Competence." *Journal of Development Economics* 78: 348–83.

Child Growth, Income Shocks, and Government Programs

Young children in poor countries suffer from profound deficits in health, nutrition, and cognitive and socio-emotional development that have both immediate and lifelong consequences and contribute to the intergenerational transmission of poverty and inequity. Several studies have

provided evidence on these linkages. Young children are among the most vulnerable to food and income shocks: increased crop damage in Ethiopia is associated with reduced child growth, especially among children below the age of two. In the late 1980s, Peru's economic crisis increased infant mortality, an effect partly of declines in health services. But moderate income growth that increases household incomes and improves diets does not seem sufficient to eradicate malnutrition. Food aid has protected child growth from droughts and income shocks, with greater impact when targeted according to need. A combination of income growth and nutrition programs for young children is most effective. Supplementary feeding programs have yielded gains in some countries, but the evidence is limited when such programs are implemented on a large scale.

Alderman, Harold, Luc Christiaensen, and Takashi Yamano. 2005. "Child Growth, Shocks, and Food Aid in Rural Ethiopia." *American Journal of Agricultural Economics* 87: 273288.

Christina Paxson and Norbert Schady. 2005. "Child Health and Economic Crisis in Peru." *World Bank Economic Review* 19(2): 20323.

Poverty and Health

Methods for addressing a range of policy and operational questions relating to inequalities in the health sector between poor and nonpoor, the factors that give rise to such inequalities, and the effects of health programs and policies were developed and applied to data from the Vietnam Living Standards Survey and the China Health and Nutrition Survey. In Vietnam, inequalities in the incidence of health subsidies largely reflect the fact that richer provinces have more subsidy per capita than poorer provinces—rather than interpersonal inequalities in the amount of subsidy captured across the income distribution. In rural China, inequalities in health insurance coverage largely reflect the fact that less poor villages have been more likely to keep their cooperative medical system in place—rather than that the better-off within villages are more likely to be enrolled in the scheme.

Wagstaff, Adam, Eddy van Doorslaer, and Naoko Watanabe. 2003. "On Decomposing the Causes of Health Sector Inequalities with an Application to Malnutrition Inequalities in Vietnam." *Journal of Econometrics* 112(1): 207–23.

Wagstaff, Adam. 2005. "Inequality Decomposition and Geographic Targeting with Applications to China and Vietnam." *Health Economics* 14: 649663.

The Economics of AIDS

This research project focused primarily on projecting the costs and benefits of antiretroviral therapy in India and Thailand. Epidemiological projection models were applied to predict the course of the HIV/AIDS epidemic until 2023. The projections include the rate of new infections, the number of years of orphanhood, and government financing requirements. They also include the implications of three alternative AIDS treatment financing policies for the health burden of AIDS and total health expenditures in India. The lower prices of antiretroviral therapy today, and the fact that therapy can reduce transmission by the treated patient, imply that such therapy could save healthy years of life at a cost of between \$146 and \$280 a year.

Over, Mead, Peter Heywood, Julian Gold, Indrani Gupta, Subhash Hira, and Elliot Marseille. 2004. *HIV/AIDS Treatment and Prevention in India: Modeling the Cost and Consequences*. Health, Nutrition, and Population Series. Washington, D.C.: World Bank.

Interactions among Health, Education, and Employment in China

Detailed information on physical and psychosocial health outcomes, educational attainment, and labor market outcomes underpins research to identify potential health risks and educational underperformance in China's poor areas. The study investigates causal or correlative processes relating to the effects of poor health and educational underperformance on labor and economic

productivity. A randomized intervention providing eyeglasses to primary school students is one example, with direct implications for a specific public program.

Sargent, T., and Emily Hannum. 2005. Keeping Teachers Happy: Job Satisfaction among Primary School Teachers in Rural Northwest China. *Comparative Education Review* 42(2): 173–204.

Yu, S., and Emily Hannum. 2006. Poverty, Health, and Schooling in China. In G. A. Postiglione, ed., *Education, Stratification, and Social Change in China*. Armonk, N.Y.: M. E. Sharpe

Teacher Incentives and Local Accountability: Service Quality in Decentralized Schools

School-based management and teacher compensation reforms are explored in several Latin American case studies. In Chile, the National System of Performance Assessment (SNED) offers bonuses to schools with excellent student achievement. Given these high standards, only a small share of schools responded, and only in the third of three applications of the SNED did student performance improve. Nonetheless, aggregating achievement across the three SNED applications does show improvement in student performance. In response to urgent educational needs, El Salvador, Honduras and Nicaragua implemented reforms to strengthen community accountability of teachers and schools. The reforms lowered teacher absenteeism, raised work hours and homework assigned and strengthened parent-teacher relationships. But teachers also need to be knowledgeable in their subjects and teaching methods -- incentives and programs are also needed to raise teacher skills.

Emiliana Vegas, ed. 2005. *Incentives to Improve Teaching: Lessons from Latin America*. Washington, D.C.: World Bank.

Effects of Unemployment Insurance

Transition and developing countries rely heavily on public unemployment insurance (UI) systems for income support to the unemployed. Research examined the effects of Slovenia's 1998 UI reform, which drastically cut access to unemployment benefits while improving employment services. Job-finding rose sharply a month prior to the drop in benefits and spiked when benefits were exhausted and in the following month. Post-unemployment wages were not affected, suggesting that UI recipients are not forced into lower-paying positions but searched more effectively when benefits lapsed. More effective job-search also may be attributed partly to strengthened services of employment offices. Modest benefits—short potential duration and moderate replacement rates—also maintain the UI fiscal balance.

Milan Vodopivec. 2005. Unemployment Insurance and Duration of Unemployment : Evidence from Slovenia's Transition. World Bank Policy Research Working Paper 1552, Washington, D.C.

Finance

Financial sector research at the Bank focuses on understanding how an effective financial system contributes to economic development and poverty reduction, and on identifying which policies work best to improve the effectiveness, stability and reach of the financial system in developing countries. Over the last years much work has gone into answering policy questions relating to how best to regulate and supervise the financial sector in a changing environment characterized by privatization and globalization. The research continues to emphasize growth-promoting financial policies by focusing on access to finance, a crucial part of the investment climate facing firms and households. Another area of focus, risk management, is important for ensuring the sustained effectiveness of financial systems and financial stability over the long run.

Bank Concentration and Competition

Drawing on results which included ten cross-country and case study papers, one of the messages of this project is that contrary to conventional wisdom, there are no difficult trade-offs when it comes to bank competition. Greater competition – as captured by lower entry barriers, fewer regulatory restrictions on bank activities, greater banking freedom, and better overall institutional development – is good for efficiency, good for stability, and good for firms' access to finance. Finally, results also highlight the importance of removing impediments to foreign entry and provide further justification for bank privatization policies. The special issue on bank concentration and competition is an important source of information on this topic.

Berger, Allen N., Asli Demirgüç-Kunt, Joseph Haubrich, and Ross Levine. 2004. "Introduction: Bank Concentration and Competition: An Evolution in the Making." Special Issue of the *Journal of Money, Credit, and Banking* 36(3): 433–53.

Bank Privatization

Although controversial, bank privatization usually improves bank efficiency and profitability. Gains are greater when the government relinquishes full control, when banks are privatized to strategic investors (rather than through share issues), when foreign banks are allowed to participate, and when government does not restrict banking sector competition. These results come from research evaluating the success of bank privatization in 12 countries using panel data. The study also includes a handful of innovative cross-country studies of the determinants and effects of bank privatization. The special issue on bank privatization in which these results appear is the most comprehensive source of policy advice on when and how to privatize banks in developing countries.

Clarke, George R., Robert Cull, and Mary Shirley. 2005. "Bank Privatization in Developing Countries: A Summary of Lessons and Findings." Special Issue of the *Journal of Banking and Finance* 29(8–9): 1905–30.

Small and Medium Enterprises (SMEs)

A large SME sector may not be the engine of growth; to the contrary it may reflect a poor business environment which prevents SMEs from growing. The World Bank has spent more than \$10 billion on SME-related projects, and SME access to finance is a constant theme in discussions with policymakers. This study shows a positive relationship between the share of SMEs in manufacturing and growth in GDP per capita, but no causal relationship. SMEs face higher growth obstacles than larger firms and are affected to a greater extent by them. Restrictions and market imperfections reduce firm entry, dampen competition, slow firm growth, and may lead to a larger SME sector, illustrating why a large SME sector may not be associated with faster growth. Financial development benefits small firms more, relaxing their financing constraints. The results emphasize the importance of strengthening the business environment and leveling the playing field for all firms. Promoting financial sector development, which benefits small firms the most, is much more effective than subsidizing SME activities.

Beck, Thorsten, Asli Demirguc-Kunt, and Ross Levine. 2005. "SMEs, Growth and Poverty: Cross-Country Evidence." *Journal of Economic Growth* 10: 197–227.

Beck, Thorsten, Asli Demirguc-Kunt, and Vojislav Maksimovic. 2005. "Financial and Legal Constraints to Firm Growth: Does Firm Size Matter?" *Journal of Finance* 60(1): 137–77.

Bank Regulation and Supervision

Following the Basel II recommendations and strengthening supervisory powers may do more harm than good in developing countries. The latter should focus instead on strengthening the incentives and ability of market participants to monitor and discipline financial institutions. As Basel II is about to be introduced in many countries, this is an important finding since the banking system is

the core of the financial system and its effectiveness is crucial to the development agenda. These are the findings of a multi-year research project which assembled and analyzed data on bank regulation and supervision in over 150 countries. Thus what works for advanced countries may not be best practice for developing countries. This is an important warning to policymakers and Bank staff working on supervision issues.

Barth, James, Gerard Caprio, and Ross Levine, eds. 2006. *Rethinking Bank Regulation*. Cambridge University Press.

Access to Finance

In Ethiopia there is less than one bank branch per 100,000 people, while in Spain there are 96. In Albania, there are four bank loans per 1,000 people, while in Poland there are 774. Data from bank regulators around the world were used to create the first cross-country database and analysis on access to and use of banking services. Firms in countries with greater financial outreach report lower financing obstacles, suggesting that reach matters independent of depth. Addressing serious data gaps in this area, research will continue to develop better indicators of access to financial services, particularly for small firms and poor households, and study the impact of access on growth and poverty alleviation.

Beck, Thorsten, Asli Demirgüç-Kunt, and Maria Soledad Martinez Peria. 2006. "Reaching Out: Access to and Use of Banking Services across Countries." *Journal of Financial Economics*.

Development of Stock Exchanges

An important prerequisite for increasing globalization has been the widening of securities market activities. Research shows that firm size, growth, valuation, and exports are important determinants of access to international equity markets, but less so for developing country firms. This suggests that firms' incentives to list in foreign markets could be reduced by improved disclosure standards and investor protection. Firms also may internationalize to lower their cost of capital, overcome market segmentation, and access more liquid, better-diversified capital markets. Listing abroad is associated with increased sales, valuation and return on assets though these effects diminish in subsequent years. Many firms cannot access international equity markets and must issue capital, trade, and list domestically. Thus tailoring local capital market development to these firms is important. Research continues on the securities laws that matter for access to international markets. The LAC flagship, *Whither Latin American Capital Markets?* drew on this study, which also was used in a project on capital market development in East Asia.

Claessens, Stijn, Daniela Klingebiel, and Sergio L. Schmukler. 2006. "Stock Market Development and Internationalization: Do Economic Fundamentals Spur Both Similarly?" *Journal of Empirical Finance*.

Infrastructure and Environment

Indoor Air Pollution

Acute respiratory infections from indoor air pollution produced by burning wood, animal dung, and other biofuels are estimated to kill a million children in developing countries every year. Natural gas and kerosene are significantly cleaner than biomass fuels, but they are too expensive for many poor families, and improved stoves have not been accepted by most poor families. Research on indoor air pollution using the latest air monitoring technology and a national household survey in Bangladesh identified a more promising option. Varying construction materials, space configurations, cooking locations and ventilation through doors and windows provided acceptable and affordable means for poor families to affect large improvements in indoor air quality. These findings underlie a proposal to the Bangladesh government for a national action plan to reduce health damage from indoor air pollution and are also being incorporated into a program of Non-Lending Technical Assistance to help reduce the impact of this major health risk.

Dasgupta S., M. Huq M. Khaliqzaman, K. Pandey and D. Wheeler. 2004. "Indoor Air Quality for Poor Families: Evidence from Bangladesh." World Bank Policy Research Working Paper 3393, Forthcoming in *Indoor Air*.

Dasgupta S., M. Huq, M. Khaliqzaman, K. Pandey and D. Wheeler. 2004. "Who Suffers from Indoor Air Pollution: Evidence from Bangladesh", World Bank Policy Research Working Paper 3428, Forthcoming in *Health Policy and Planning*.

Traffic Fatalities and Economic Growth

In developing countries, traffic fatalities ranked as the 9th highest cause of death in 1990 and are expected to be the third by 2020. Research based on panel data for 88 countries from 1963 to 1999 indicates that traffic death rates increase with per capita income up to \$8,600 (in 1985 international prices) and fall thereafter. Although fatalities-per-vehicle do decline as countries develop, that drop is not as fast as the increase in vehicles per person at initial stages of development. Without policies to address this imbalance, this suggests that the global road death toll will grow by approximately 66 percent between 2000 and 2020.

Cropper, Maureen L., and Elizabeth Kopits. 2005. "Traffic Fatalities and Economic Growth." *Accident Analysis and Prevention* 37(1): 169–78.

Measuring Quantity-Quality Tradeoffs in Regulated Industries

Tradeoffs between volume and quality of service can be highlighted in efficiency measures used in regulatory assessments. Assessments can be quite sensitive to the output indicators chosen. Where "quality" is safety—often the case in transport—this is a critical trade-off. In this approach, an indicator integrates outputs and quality (here, accident/ton-km). The indicator was tested in Brazil in collaboration with the regulator (ANTT), drawing on information operators were required to provide to ANTT, and on data available from the pre-"privatization" period. All private operators improved quality, but those who performed the best on the demand side also made some quality adjustments on the supply side of their businesses. The main lessons may be that if operators are allowed to adjust quality along one dimension, they will do so if they need to; and regulators should make the direction of required changes explicit in the design of regulatory regimes. The work has facilitated a research network between regions (Latin America, Brazil and Francophone Africa).

Estache, Antonio, Sergio Perelman, and Lourdes Trujillo. 2004. "Measuring Efficiency-Quality Tradeoffs: An Application to Brazil's Freight Railways."

Rural Development

An Evaluation of the Farmer Field School Extension Approach

This research used three country studies (Indonesia, Peru and the Philippines) to investigate the effectiveness of the farmer field school extension approach in improving the knowledge of farmers, boosting yields, and reducing pesticide use. It also assessed the fiscal sustainability and economic viability of the approach. All studies showed that trained farmers' knowledge of improved farming practices increased. But results from Indonesia and the Philippines showed that knowledge did not diffuse from trained farmers to other members of their community, apparently because the information is complex and not amenable to diffusion through informal communication. The study in Indonesia concluded that there were no significant effects on yield and pesticide use attributable to the farmer field school. Results suggest that as long as the costs are as high as in the past decade, the economic viability of the farmer field school approach is questionable.

Anderson, Jock R., and Gershon Feder. 2004. "Agricultural Extension: Good Intentions and Hard Realities." *World Bank Research Observer* 19(1): 41–60.

Feder, Gershon, Rinku Murgai, and Jaime Quizon. 2004. "The Acquisition and Diffusion of Knowledge: The Case of Pest Management Training in Farmer Field Schools, Indonesia." *Journal of Agricultural Economics* 55(2): 221–43.

China's Liberalized Land Markets

The land market debate in China has been hampered by lack of reliable information on the impacts of liberalized policies particularly in poor regions where land markets were thought to be inactive. The use of detailed household data in recent research resulted in more reliable analysis. Even in some of China's poorest regions, market-based land transfers (essentially through rental transactions) induce significant efficiency gains, by allowing participation in non-farm labor markets which have higher payoffs for some. The research found that those renting in land generally have higher productivity than those renting out, yielding an overall gain in efficiency. Reduction in rental transaction costs will provide further productivity benefits.

Deininger, Klaus and Songqing Jin. 2005. "The Potential of Land Rental Markets in the Process of Economic Development: Evidence from China." *Journal of Development Economics* 78(1): 241-70.

Private Sector Participation in Water Resource Management

Although governments and the Bank have sought to implement public-private participation (PPP) in water management in the Middle East and North Africa, few relevant precedents are available. This research project designed a PPP process to fully account for technical and economic factors in capital and operations and maintenance cost recovery. The project provided farmers in Egypt's West Delta with Nile water to augment declining groundwater reserves, sustain employment opportunities, and support related sunk investment costs. The study included a concept for water delivery by a private operator and willingness-to-pay assessment of stakeholders. The Bank used this study's findings for application in Iran, Yemen, and other countries in the region, and it has become an input into an Integrated Water Resource Management action plan for the region.

Macro-Micro Linkages of Irrigated Water Management

Where irrigated agriculture is important, micro-water policies affect the rest of the economy, and macroeconomic policies may have unintended effects on irrigated agriculture. A model of these relationships was applied to Morocco. Trade reform illustrated links from macro policies to the farm level, where water was shifted from previously protected crops. And micro policy reform reduced water allocated to soft wheat production and sugarcane, releasing water for other crops and suggesting high supply elasticities where farmers can shift into other crops. The model also was used to examine the effects of frequent droughts and increased water transfers to urban and industrial sectors, resulting in groundwater over-pumping. The effects of governance structure and institutional arrangements were considered including (i) removal of domestic subsidies on inputs and outputs and using direct farm income payments instead, and (ii) allowing revenue generation and investment at the regional level. Based on the Moroccan analyses, a refined model is being applied to other countries, including Turkey and South Africa.

Roe, Terry, Ariel Dinar, Yacov Tsur, and Xinshen Diao. 2005. "Feedback Links between Economywide and Farm-Level Policies: Application to Irrigation Water Management in Morocco." Policy Research Working Paper 3550. World Bank, Washington D.C.

Methods for Allocating Water among Competing Uses

Water resource investments and flow allocation are subject to stochastic water supply patterns, which affect the performance, sustainability, and stability of any use and investment arrangement among users of the same source. This research develops a stochastic cooperative game theory model to demonstrate the implications of the attitude toward risk aversion among potential users and the cost function of the water project. The study also takes into account hierarchical and power relationships between parties (such as control and mandate) The models are applied to watersheds

in river basins in Bulgaria, including the Maritza Basin, to identify conditions under which cooperative allocation arrangements could yield sustainable solutions.

Dinar, Ariel, Stefano Moreti, Fioravante Patrone, and Stefano Zara. 2006. "Application of Stochastic Cooperative Game Theory in Water Resources." In Renan Goetz and Dolores Braga, eds., *New Frontiers in Water Resource Economics*. New York: Springer.

Climate Change and Rural Poverty

To the extent that long-term climate change marginalizes local productivity, many of the world's poor may be the direct victims. But monitoring the impact of climate change and natural disasters on poor rural communities is difficult in many areas. Remote sensing continuously measures weather and its impact, so it can help to determine the influence of climate variability on agriculture production and vegetation. The study investigates these relationships in Argentina, Brazil, Chile, Colombia, Paraguay, Uruguay, and Venezuela—using detailed ground data on economic performance and socioeconomic conditions and remote sensing from defense satellites for climate data. Household surveys provide information on farm performance across a broad range of climates. The study measures the full net cost of climate change, including the costs and the benefits of adaptation.

Land Policy, Land Market Reforms and Their Effects on the Poor

A comprehensive review of land policy issues and ways of addressing them in different situations was undertaken. It summarized existing operational and research experience relating to land policy, conducted new research in areas where significant gaps existed (particularly on land taxation, the operation of land markets, and the impact of land conflict), and held regional workshops to obtain feedback, disseminate results, and discuss how these can inform policy. Findings are reported in a Policy Research Report. A research project investigates how recent property rights reforms aimed at improving the functioning of rural factor markets in Honduras, Mexico, and Nicaragua have affected agricultural productivity and the lives of the rural poor. It showed that liberalization of land markets, together with efforts to increase the security of land tenure, had a significant and positive impact on the operation of land markets, the ability of the poor to obtain access to land through such markets, and the incentives for land-related investment. While significant, the impact was not, however, large enough to overcome the high levels of inequality and inefficiency in land use present in some of the countries studied.

World Bank. 2003 *Policy Research Report: Land Policies for Growth and Poverty Reduction*. New York: Oxford University Press.

Deininger, Klaus, and Juan Sebastian Chamorro. 2004. "Investment and Income Effects of Land Regularization: The Case of Nicaragua." *Agricultural Economics* 30(2): 101–16.

Deininger, Klaus, Eduardo Zegarra, and Isabel Lavadenz. 2003. "Determinants and Impacts of Rural Land Market Activity: Evidence from Nicaragua." *World Development* 31(8): 1385–404.

Trade and International Integration

Bolstering the Case for Agricultural Trade Reforms

Agricultural trade accounts for almost two-thirds of the estimated global welfare gains from merchandise trade and subsidy reform and is key to the Doha Development Agenda. Studies based on aggregated data miss the details needed to capture the effects of proposed policies, whereas Bank research incorporates these critical details. It finds that improved market access would generate about 90 percent of the gains from global agricultural reform and a sharp reduction of agricultural tariff bindings and domestic subsidy commitments in the WTO. Excluding even a small

percentage of “sensitive” and “special” agricultural tariff lines may greatly reduce the gains from the Doha Round. Reforms are needed in both developing and OECD countries.

Aksoy, Ataman, and John Beghin, eds. 2004. *Global Agricultural Trade and Developing Countries*. Washington, D.C.: World Bank.

Hoekman, Bernard and Marcelo Olarreaga. 2004. Agricultural Tariffs or Subsidies: What’s More Important for Developing Economies?” *World Bank Economic Review* 18(2): 175-204.

Ingco, Merlinda and John Nash, eds. 2004. *Agriculture and the WTO*. Washington, D.C.: World Bank

Martin, William and Kym Anderson, eds. 2006. *Agricultural Trade Reform and the Doha Development Agenda*, Washington, D.C. Palgrave-McMillan and World Bank.

Migration: Brain Drains and Brain Gains

Some 180 million people live in countries in which they were not born. Many are highly skilled. Although migrants transfer more than \$200 billion a year through remittances to their home countries, the increasing mobility of skilled workers (the so-called brain drain) has policymakers worried. Many small and isolated countries in Sub-Saharan Africa and the Caribbean suffer from massive migration of educated workers. For example, 89 percent of Guyanese with education degrees live outside their birth country, as do 85 percent of Jamaicans and 56 percent of Mauritians. These data come from the most comprehensive and rigorous database on brain drain to date. The study not only provides bilateral measures of migration by skill level from 195 countries to individual OECD countries, but also presents evidence on the positive and negative development impacts of migration and remittances.

Özden, C., and M. Schiff, eds. 2006. *International Migration, Remittances & the Brain Drain*. The World Bank and Palgrave Macmillan.

Trade Preferences and Differential Treatment Programs May Not Have the Desired Effects

The erosion of preferences following trade liberalization in OECD countries is of great concern to recipient countries, but in most cases is likely to be small, although they may be significant for a few countries and products. In these cases “aid-for-trade” to assist adjustment may be warranted. The research also shows that developing countries that do not have preferential access to markets have more liberal trade policies than those that remain eligible. This suggests that the interests of developing countries may be better served by full integration into the trade regime and the adoption of nondiscriminatory trade policies by rich countries than by unilateral preferences and special and differential treatment provisions that exempt countries from WTO rules.

Özden, Çağlar, and Eric Reinhardt. 2005. “The Perversity of Preferences: GSP and Developing Country Trade Policies, 1976–2000” *Journal of Development Economics* 78(1): 1-21.

Hoekman, Bernard. 2005. “Operationalizing the Concept of Policy Space in the WTO: Beyond Special and Differential Treatment,” *Journal of International Economic Law*, 8 (2): 405-24.

Hoekman, Bernard and Susan Prowse. 2005. “Economic Policy Responses to Preference Erosion: From Trade as Aid to Aid for Trade,” Policy Research Working Paper 3721, World Bank.

Services Matter for Trade in Goods

International variations in communication and transport costs have a significant influence on trade and trade patterns. Research on this topic shows that the state of transport and telecommunications services can affect a country’s competitiveness and comparative advantage. Estimates of the impact of bilateral communication costs show that such costs have a disproportionate impact on trade in differentiated (higher value) products; that the quality and extent of ICT services and Internet hosts

affects the volume of trade, and that port and related maritime transport costs are a significant determinant of trade flows. This evidence has influenced current thinking on the importance of trade facilitation and created greater awareness of the downstream effects of services reform.

Fink, Carsten, Aaditya Mattoo and C. Neagu 2005. "Assessing the Impact of Communication Costs on International Trade," *Journal of International Economics*, 67: 428-445.

Clark, Ximena, David Dollar and Alejandro Micco. 2004. "Port Efficiency, Maritime Transport Costs and Bilateral Trade," *Journal of Development Economics* 75(2): 417-50.

Freund, Caroline and David Weinhold. 2004. "The Effect of the Internet on International Trade," *Journal of International Economics* 62:171-89.

The WTO, the Doha Round and Poverty

The Doha Development Agenda will have mixed effects on poverty. A multicountry study combined global modeling with national, regional, and individual household data to calculate the distributional consequences of trade reform in greater detail than has been possible previously. It finds that an "ambitious" agreement in the Doha Round would reduce poverty. Some countries such as Brazil and China—and their poor—would make immediate gains. Others, such as Bangladesh and Mozambique, would need time and, possibly, help to achieve the projected long-term poverty reductions that a trade deal offers them. This research suggests a strong case for aid-for-trade, both to support vulnerable countries and groups during the initial risk period and to help them exploit the opportunities for longer-run gains in the future. It also suggests that if the Doha Round contained a larger dose of trade liberalization by developing countries, it would be more effective in reducing poverty. Related research on the impacts of WTO accession for China, Russia, Vietnam and other countries identify the potential poverty and efficiency consequences of liberalization for these countries.

Hertel, Thomas and L. Alan Winters, eds. 2006. *Poverty & the WTO: Impacts of the Doha Development Agenda*. The World Bank and Palgrave Macmillan.

Bhattasali, D., S. Li and W. Martin eds. 2004. *China and the WTO: Accession, Policy Reforms and Poverty Reduction Strategies*. Washington DC: World Bank.

B. RESEARCH DISSEMINATION AND OUTREACH

Research that is not well disseminated, both inside and outside the Bank, cannot have its full impact. Thus dissemination of research is intimately linked with impact.⁵ Bank research covers a broad range of topics and geographic areas, with different implications for different audiences. The challenges in disseminating research results arise because of this variety, and because of the often-complex methods that produce research findings.

Research often requires sophisticated analytic methods to adequately account for multiple factors and effects and the complexities of the interactions among them and over time. By its very definition, research also has relevance beyond the project or country that is its subject. Thus a study's findings should be conveyed to audiences across countries and regions. The potential beneficiaries may be politicians with limited time and economic training, to whom the basic issues and evidence must be concisely conveyed. But skeptical policy analysts may also be important recipients, readers who must be convinced of the validity of the methods and the reliability of the

⁵ Dissemination was one of the issues discussed with the Board when the FY02-FY03 report was presented. It will be the topic of the next Research Report, to be issued in FY08.

data. While resources are shifting out of print and into electronic access, insufficient evidence exists on the effect on access in most developing countries, and particularly the most disadvantaged. These are just some of the challenges that underlie dissemination of Bank research.

The Bank has created a wide range of products to serve those diverse audiences and purposes. Research channels and instruments include World Development Reports, Policy Research Reports, Policy Research Working Papers, two acclaimed international journals, journal articles, books and book chapters, conferences and workshops, and their proceedings. We focus here on some of the research dissemination and outreach vehicles in the Bank.

Data & Research Website

Since 2005, the Data & Research Website (<http://econ.worldbank.org>) has been improved and expanded, in terms of both content and functionality. Its new homepage offers clear points of entry into the Data, Research, and Prospects websites, with quick links to major publications, databases, and other products. The Research website (<http://econ.worldbank.org/research>) contains sections for each research program, with feature articles, research briefs, datasets, publications and conference information. The website also contains various resources for researchers around the world, including the World Bank Research E-Newsletter (monthly), the World Bank Research Digest (quarterly) and ‘Knowledge in Development’ Notes.

Besides EXT, DEC accounts for the largest web traffic among all VPUs in the Bank, with over 12 million external page views in FY06. The Data & Research website alone accounted for over 3.6 million external page views while the Research Group’s websites contributed close to 1.3 million. DEC has now syndicated (via an automated daily feed) the policy research working papers series to two other websites—the Social Sciences Research Network (SSRN) and Research Papers in Economics (RePEc). Abstracts of policy research working papers were viewed, on average, over 61,000 times a month in FY06. The role of brief “reader-friendly” content is well demonstrated by traffic to a single webpage—a synopsis of ten years’ World Development Reports—which was viewed 30,000 times in FY06. And by end-FY06, the World Bank Research E-Newsletter had over 25,000 active voluntary subscribers.* In FY06, DEC conducted a usability study; subsequently, the Data & Research homepage was redesigned. Further improvements to improve online search and presentation are now under consideration. Website: The FY06 DEC Web Report available on DEC’s internal website (<http://dec>) in January 2007.

Policy Research Working Paper Series

This is the Bank’s most widely read dissemination vehicle. The informal series disseminates the findings of ongoing or just-completed research to allow the exchange of ideas about development issues in a rapid (but less-than-polished) form. More than 300 papers are published annually, with some 4,100 papers published since the series inception in 1988. The series was established to encourage the exchange of ideas on development issues and to disseminate the findings of work in progress. A quarterly compilation of working papers abstracts also is distributed, indexed by topic. Website: <http://econ.worldbank.org/docsearch>

The papers are among the most widely downloaded economics papers from the internet. The working papers are included in the SSRN (Social Science Research Network), RePEc (Research

Papers in Economics) and EconLit databases. In RePEc, ⁶ the Policy Research Working Paper Series has consistently ranked in the top four working paper series in terms of hits per paper. The other series comparable in popularity are those of the National Bureau of Economic Research (NBER), American Economic Review (AER), Centre for Economic Policy Research (CEPR) and Journal of Political Economy (JPE).

World Bank Research Digest

The *Digest* is a newly established quarterly newsletter intended to inform development practitioners about remarkable new findings from Bank research. It features seven brief summaries of selected research focusing on the implications for government policy and practice. It also lists recently published Policy Research Working Papers.

Website: http://econ.worldbank.org/research_digest

World Bank Research E-newsletter

The *E-newsletter* is an electronic bulletin sent monthly to over 26,000 subscribers interested in World Bank research. It provides information on recent research findings and publications, includes features on important topics and lists the most recent Policy Research Working Papers.

Website: http://econ.worldbank.org/research_newsletter. In addition, research newsletters on Finance (Interest Bearing Notes) and International Trade are distributed regularly.

World Bank Economic Review (WBER)

The *WBER*, published three times a year by Oxford University Press, is a scholarly, peer-reviewed economics journal designed to disseminate the findings of World Bank-sponsored research. Although intended for readers familiar with economic theory and methods, the *Review* emphasizes policy and operational relevance rather than theoretical and methodological advances. Half the editorial board members are from academia and half from the Bank. Articles from Bank and non-Bank authors need *not* be consistent with Bank policy but need to be relevant for development policy. The World Bank Economic Review is the most widely read scholarly economic journal in the world: 14,000 copies are published, and it is freely distributed to more than 9,500 subscribers in non-OECD countries. In OECD countries, subscriptions range from \$56 for individuals to \$237 for print and on-line corporate access. In 2004, the WBER was among the 25 social science journals with the highest impact factor: ⁷ The WBER and its sister journal, the WBRO, were rated as having the fifth and sixth highest impact factors among 19 international journals that provide some focus on development economics. Website: <http://wber.oxfordjournals.org/>

World Bank Research Observer (WBRO)

The *WBRO* seeks to inform non-specialist readers about research being undertaken within the Bank and outside the Bank through surveys and overviews of key issues in development policy.

⁶ <http://logec.repec.org/scripts/seriesstat.pl>. RePEc (Research Papers in Economics) is a collaborative effort of top research institutions and publishers in 57 countries, using a decentralized database of working papers, journal articles and software components.

⁷ The journal impact factor (produced by Thomson - Institute of Scientific Information) is a measure of the frequency with which journal articles are cited. It is computed by dividing the number of citations by the number of articles contained in the journal so as to eliminate the bias stemming from a journal's size.

Requiring only a minimal background in economic analysis, it is intended for policymakers, project officers, journalists, and teachers and students of development economics and related disciplines. Each article in the WBRO is peer-reviewed by three members of the editorial board, and assessed and approved by the editorial board, which includes three to four distinguished economists from outside the Bank. The WBRO, also published by Oxford University Press, has nearly 1,500 subscribers in OECD countries and 10,000 subscribers in developing countries, who subscribe free of charge. For others, full print and on-line subscriptions are \$48 annually for individuals, \$127 for academic institutions, and \$189 for corporations. Website: <http://wbro.oxfordjournals.org/>

ABCDE and RBCDE Conferences

The Annual Bank Conference on Development Economics is an international forum on critical issues in development policy. The concept of the ABCDE was developed in 1988 and the first conference was held at World Bank headquarters in Washington D.C in the same year. Since then, ABCDE has become an annual event, attracting a broad audience. Since 2003, the format has changed and the World Bank organizes two ABCDE conferences every year, a global conference (ABCDE) and a regional conference (RBCDE). Past global conferences were held in Brussels (2004), Amsterdam (2005) and Tokyo (2006). The 2007 global conference will be held in Ljubliana, Slovenia. Past regional conferences were held in Bangalore (2004), Dakar (2005) and St.Petersburg (2006). The next regional conference will be held in Beijing in January 2007. Conference proceedings volumes are organized around three to four major topics and contain a keynote address by an eminent researcher or policymaker. Website: <http://econ.worldbank.org/abcde>

DEC Conferences

Several DEC lectures were organized—three in April 2005, Evaluating Recipes for Development Success (Avanish Dixit); Competing in Capabilities John Sutton), and Growing Public: Is the welfare State Mortal or Exportable? (Peter Lindert); one in November 2005, Evaluating th4e Climate Change and Technology (Michael Grubb and Jae Edmonds) and one in April 2006, Paradoxes of Accountability: Lessons from Africa (Robert Bates).

DEC also or organized a large number of specialized conferences for researchers during FY04-05. The Finance team organized four conferences in Washington, D.C.: Bank privatization (November 2003); Small and Medium Enterprises: Overcoming constraints (October 2004); Globalization and Financial Services in Emerging Economies (June 2005); and Financial Corporations in Emerging markets (March 2006).

The Growth and Macroeconomics team organized the Economics of Industrial Development Conference (November 2004, LSE, London), a Symposium on China's Economic Development (November 2005, Beijing, China), the Microeconomics of Growth Conference (May 2006, Washington D.C, and a conference on The Growth and Welfare Effects of Macroeconomic Volatility (Barcelona, March 2006).

The International Trade team organized several conferences: Agriculture Trade Reform and the Doha Agenda: A Preliminary Research Meeting (June 2004, Washington D.C.); Agricultural Trade and (December 2004, The Hague); Tariff Preferences and their Utilization (March 2004, Geneva); Trade and Poverty (workshops in March 2005 in Geneva, Paris and Brussels, and April 2005, South Africa); Aid for Trade (March 2005, Yale Center for the Study of Globalization); The WTO at 10 (June 2005, Brussels); The final steering committee meeting on the Global Trade and Financial Architecture (Toronto July 2005); Seminar on Technical Barriers to Trade and Standards Database (June 2004, Paris World Bank Office); The Fifth Services Experts Meeting in conjunction

with the OECD (Paris, February 2005); Seminar on China's WTO Accession (Beijing, June 2004); An International Forum on Co-movements of the Economy in China with the World (Beijing, September 2004); Conference on Global Economic Analysis (Washington, June 2004); and a conference on Preference Erosion: Impact and Policy Responses (Geneva, June 2005).

The Infrastructure team organized with DFID and the Delhi-based NIPFP a conference on lagging regions entitled *The Geography of Growth and Poverty in India: Implications for the 11th Plan* (Delhi, January 2006) and a regional Asian seminar with the Delhi-based Society for Development Studies on *Knowledge Infrastructure: Movement towards Effective Urban Management and Good Governance* (Mumbai, March 2005).

The Rural Development team organized a major conference on *Land Policies for Growth and Poverty Reduction*, in the context of ESSD week (Washington, D.C. March 2004).

PREM Lecture Series

In 2005 the PREM Network initiated a series of lectures, chaired by Danny Leipziger, PREM Vice-President, to update and broaden the knowledge of Bank economists and other specialists on policy lessons emerging from recent or on-going academic research. The emphasis is on the microeconomic foundations and social dimensions of growth and poverty. The speakers are among the top in their fields and are invited to make provocative, policy-relevant presentations, rather than technically oriented lectures. The first lectures included Benjamin Friedman (Harvard University) on *The Moral Consequences of Economic Growth*; Daron Acemoğlu (MIT) on *Institutions as the Fundamental Source of Growth*; Philippe Martin (Paris Sorbonne and Ecole Polytechnique) on *Policy and Economic Geography: What's New?*, and George Akerlof (Berkeley) on *Missing Motivation in Macroeconomics*.

Villa Borsig Workshops

The workshop is co-financed by the Development Policy Forum for International Development (DSE), the German Ministry of Economic Cooperation and Development, and the World Bank. An annual proceedings volume reports on presentations and discussions among approximately 60 policymakers and scholars on concepts and ideas likely to have enduring relevance for development policy. These discussions form the basis for the next *World Development Report*.

Abstracts of Current Studies

This compendium of information has been published since 1974. Each abstract describes, for all Bank research projects active in a fiscal year, the research questions, analytical methods and findings to date. It provides the completion date, research team, reports produced, and the project supervisor's email address. An appendix lists all Bank research reports and publications produced that year. Past abstracts have been produced in annual or biennial volumes and posted on the Bank's website [<http://econ.worldbank.org/research/abstracts>]. A new format for the Abstracts has been designed by DECRS. It will be web-based, with posting of abstracts and publications as they become available. The new design will build on the complete 1998-2005 bibliography of Bank research produced in conjunction with the evaluation (see Chapter 3), available on the web.

DECRG Research Highlights 2005

The first issue of this report was published in 2006. It provides a brief account of the activities of the Bank's Development Research Group during 2005 and contains highlights to illustrate the scope and nature of the research and a full list of 2005 publications. Website: <http://econ.worldbank.org/research/highlights2005>

C. RESEARCH CAPACITY BUILDING

Since the early 1990s, the Research Committee has co-financed research capacity- building programs, first in Africa, then the Middle East, and then most prominently in the transition economies. For a complete list of research capacity-building grants, see Annex D. The Research Committee's research capacity-building program was the subject of the FY00-01 Report to the Board. The comprehensive survey there indicates the success that has been achieved by the various recipient institutions.

Research Capacity-Building Grants have varied from small stipends to support attendance at on-going meetings (i.e. \$10,000 for LACEA, the Latin American and the Caribbean Economist Association) to grants of nearly \$1 million for NES, the New Economic School and for EERC, the Economic Education and Research Consortium in Russia and the Ukraine. The African Economic Research Consortium, AERC, was the first to seek Bank support (in 1989) and it has continued to serve as a role model for most of the research capacity- building programs that followed. It has been firmly sustained by other donors since the mid-1990's, and has received support from the Research Committee only for special programs thereafter. In transition countries, economic policy analysis required the whole-scale shift from central planning to market economics. The majority of Research Committee funds have been devoted to the extensive education and capacity-building efforts required—\$4.8 million for ECA and \$1.2 million for China since 1993. Although LAC has received several Research Capacity-Building Grants, the region has received only \$195,000. (See Annex D for a complete list).

Research Capacity-Building Grants are intended to be catalytic. Support from the Research Support Budget may be maintained for several years, but project supervisors are required to provide evidence that recipients are making an effort both to reduce Bank involvement and to increase the contributions of other donors.

Although these objectives remain valid, experience suggests that programs may need to be more flexible and roles reconsidered. Much time and extensive efforts are needed to plan research capacity-building initiatives, to mobilize donors, to implement a program and to establish financial sustainability. Reaching financial independence often takes longer than originally envisaged, and some operations offices have difficulty assuming the costs of the active participation needed for proposal development and grant monitoring. But continuing participation by the Bank's regional offices may be needed to support some level of longer term RSB funding needed to send a crucial signal to other donors. The Research Committee will be considering a needs assessment for its capacity-building program in the near future.

D. RESEARCH RESOURCES

Spending on research declined between FY03 and FY05 after having increased between FY02 and FY03 (see Table 3). The decline is slight at current prices but significant at constant prices—spending on research declined by 3 percent each year in both FY04 and FY05. As shown in Table

2, as a share of Bank services, research has been declining since FY03 to reach 1.1 percent -- its lowest share in 25 years and half its average level during the 1990s [see Annex Table 1.1].⁸

It should be noted that these figures represent expenditures on tasks that are coded as “research” (RF code) in World Bank accounts. Spending on research, and particularly on research outside of DEC, is understated by the data since it is well known that much time spent by staff doing research is actually recorded as ESW, TA or project work in the Time Reporting System. The usual Bank definition of research is analytic work designed to produce results with wide applicability across countries or sectors, as distinct from ESW which take the product of research and adapt it to particular projects or country settings. However, many would agree that the analytical quality of a number of ESW reports is similar to that of research products—though many would disagree about exactly which reports meet these standards. To get a sense of the understatement, we have created a category called “ESW assimilated to research:” it includes Poverty Assessments, Public Expenditure Reviews, Investment Climate Assessments, General Economy, Macroeconomics, and Growth Studies, Debt and Creditworthiness Studies, PSD, Privatization and Industrial Policy Studies, Foreign Trade, FDI, and Capital Flows Studies and reports in the categories Other Agricultural, Other Education, Other Environmental, Other Financial Sector, Other Health, Other Infrastructure, Other Poverty, Other Rural, Other Social Protection and Other Urban and excludes all other ESW report types. Using data from Business Warehouse, we then estimate how much was spent on “ESW assimilated to research” over the period.

Table 2. Expenditures on Research and “ESW Assimilated to Research,” as a Share of the Bank Budget, FY02-FY05

	FY02	FY03	FY04	FY05
Research				
<i>in percent of BB</i>	1.2 %	1.3 %	1.2 %	1.1 %
Economic and Sector Work				
<i>in percent of BB</i>	4.7 %	5.5 %	4.9 %	4.6 %
of which				
ESW assimilated to Research (estimate)				
<i>in percent of BB</i>	2.0 % est.	2.2 % est.	2.2 % est.	2.3 % est.

See Annex table 1.1 for further details

Notes: 1. The Bank budget (BB) is equivalent to “Bank Services” in Business Warehouse

2. “ESW assimilated to research” = Poverty Assessments, Public Expenditure Reviews, Investment Climate Assessments, General Econ./Macro/Growth Studies, Debt/Creditworthiness Studies, PSD/Privatization Studies, Foreign Trade/FDI/Capital Flows Studies and reports in the categories Other Agricultural, Other Education, Other Environmental, Other Financial Sector, Other Health, Other Infrastructure, Other Poverty, Other Rural, Other Social Protection and Other Urban. (Expenditures on all other ESW report types are excluded).

Source: Business Warehouse

⁸ We report here on (unaudited) direct costs and use ‘expenditures’ and ‘costs’ interchangeably. Direct costs are based on staff time charged through the Time Reporting System to specific tasks, including other direct charges and omitting management and clerical staff time and other overhead expenses. Figures do not include budget data from other members of the Bank group, such as IFC. Figures include research grants given to outside institutions from both Trust Funds and the Bank’s own Research Support Budget.

Research Expenditures by Source of Funds

Table 3 shows the breakdown of research expenditures by source of funds. It has remained relatively stable over the past four fiscal years, with the Bank Budget (BB) covering about 50 percent of total research expenses excluding the Bank's Research Support Budget, and Trust Funds averaging about a quarter—slightly more than the share from the RSB. The breakdown of research expenditures in DEC by source of funds exhibits similar patterns (Table 4).

Table 3. Research Expenditures, by Source of Funds, FY02-FY05 (in \$ Thousand)

	FY02	FY03	FY04	FY05
Bank Budget	13,109	15,188	15,472	14,255
RSB	6,300	6,811	6,532	6,530
TF	7,218	7,896	7,129	8,345
Total	26,626	29,895	29,133	29,131
(in percent of total)				
	FY02	FY03	FY04	FY05
Bank Budget	49%	51%	53%	49%
RSB	24%	23%	22%	22%
TF	27%	26%	24%	29%
Total	100%	100%	100%	100%

Source: Business Warehouse

Table 4. DEC Research Expenditures, by Source of Funds, FY02-FY05, (in \$ Thousand)

	FY02	FY03	FY04	FY05
Bank Budget	11,814	13,897	13,896	13,593
RSB	5,296	5,592	4,096	4,454
TF	6,532	7,100	6,453	6,536
Total	23,643	26,590	24,446	24,583
(in percent of total)				
	FY02	FY03	FY04	FY05
Bank Budget	50%	52%	57%	55%
RSB	22%	21%	17%	18%
TF	28%	27%	26%	27%
Total	100%	100%	100%	100%

Source: Business Warehouse

Research Expenditures by Unit

The Development Economics Vice Presidency (DEC) accounted for about 80 percent of all Bank expenditures on research over the period, with about two-thirds of that spending concentrated in DEC's Research Group (DECRG) [Annex Table 1.2]. The regions and networks each accounted for about 5 percent of research expenditures. The distribution of that spending over units and across time is variable. In the EAP region, spending fluctuated widely, ranging from \$75,000 in FY02 to more than \$1 million in FY04 and in AFR, spending rose four-fold to reach nearly \$0.5 million in FY05. In LAC, research funding declined by more than half to \$326,000, while ECA recorded no research expenditures in FY05. The smallest research spending over the two years was in SAR. Among the networks, similar shifts can be observed. ESSD led the networks in financing research in FY02, but INF investment in research rose rapidly to reach \$1 million in FY05 and

HDN significantly increased its research in FY04. Research expenditures recorded by FSE, PRM and PSD, however, were negligible. WBI research spending declined to \$154,000 in FY05 from over \$200,000 in FY02.

Research Expenditures by Theme

Expenditures are presented in figure 1 in the mandatory thematic classification introduced by the Bank (see **Annex Table 1.3**, also tables in Annexes A and B). The theme and sector coding system was released on July 5, 2002 in SAP R/3 and BW in response to shareholder recommendations for standard reporting and, according to OPCS guidelines, provides the basis for analyzing and reporting on the content of Bank activities.⁹ Theme and sector codes are assigned to lending operations, research, economic and sector work, and activities that directly serve the Bank's external clients but not activities that serve the Bank's internal needs—e.g., quality assurance, country assistance strategies, staff training, etc.

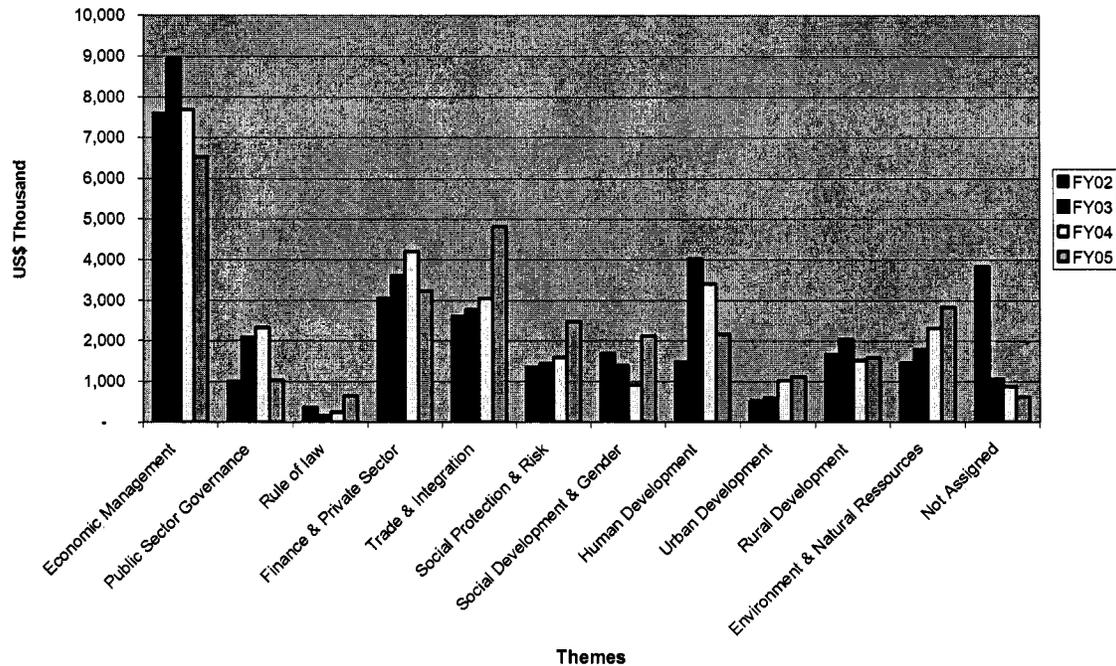
The new thematic and sectoral classification precludes project counts by theme since projects can be classified across up to five themes and sectors. The mandatory classification is not comparable to the classification used in Chapter 1, where research activities are catalogued into seven mutually exclusive groups (poverty; growth and investment; human development and public services; finance; infrastructure and environment; rural development; trade and international integration).

Even if a network spends little on research, this does not mean that the Bank is not conducting research on the area concerned. For example, in FY02–FY05, despite the small share of PREM in total research spending, economic management was the main theme in term of total research expenditures, with most of the research on that theme being conducted in DEC. As shown in figure 1, economic management,¹⁰ trade and integration, and finance account for the largest spending. The larger investments in research by INF in FY04-05 are consistent with higher overall research expenses on finance and private sector development (encompassing many infrastructure issues) and those of HDN in human development in this period.

⁹ Data for FY00, the year when SAP was introduced in the Bank, are unreliable. In FY00, ACS staff costs were charged to particular projects (i.e. direct costs) accounting for an increase of about 5 percent. FY00 and 01 used full cost accounting. In FY02, the Bank shifted to direct cost accounting, and staff-time reporting through TRS was de-linked from budget reporting. The concomitant pressure for staff to report time in TRS resulted in increases in staff-time reported—a rise in reporting not actual time costs, against stable reported departmental expenses. Business process realignment consolidated some categories of activities and attempts were made to implement more accurate time and task reporting. No major accounting changes are expected to affect the reporting for the remainder of the period.

¹⁰ As set out in the OPCS website, the category “Economic Management” includes inter alia “programs that focus on the determinants of long-term economic growth and links between growth and poverty reduction, such as cross-country empirical work, in-depth analysis of individual country growth experiences and outlook; sources of growth analysis, saving, investment, productivity; evaluation of links between development strategies and growth outcomes, such as openness and growth; analysis of how growth affects poverty linkages with inequality and ways to enhance the pro-poor impact of growth, but excludes sector-specific growth/prospects analysis. The category “Economic Management” also includes Economic Statistics, Modeling, and Forecasting, i.e., programs that improve economic data management and modeling tools in support of diagnostic and analytic work.

Figure 1: Research Expenditures by Theme, FY02-FY05



Given the conversion to SAP in FY00 and change in Bank themes in FY02, it is not possible to fully trace *changes* in the Bank's research expenditures by theme since FY02. In FY02, about 15 percent of research costs were not designated to a particular theme. Over the following three years the classifications became clearer and the share not designated dropped until only 2 percent were unclassified in FY05. Thus any increase (less than 15 percentage points) could merely result from reclassification.¹¹ Only for increases greater than 15 percent and in themes where absolute spending declined, can we determine with certainty that the investment in research on that topic changed. This is the case for economic management, for which research spending declined by 15 percent in nominal terms. In FY04-05, expenditures fell by more than 27 percent from their FY03 level. Research on rural development also declined.

To consider other changes approximately, we compare FY04-05 expenses to an FY02 baseline that compensates for uncategorized studies.¹² Trade and integration research spending was important, both in terms of increase (85 percent from FY02 to FY05) and level (17 percent of total research spending). Research expenditures on environment and natural resources rose by two thirds, to represent about 10 percent of research funding by FY05. Spending on human development research rose by 25 percent relative to the baseline. Finally, urban development research, while receiving modest funding (little more than \$1 million in FY05), more than doubled in absolute terms, rising by nearly 80 percent relative to the adjusted baseline.

¹¹ The shift from "unclassified" to a given theme does not constitute an actual increase in research expenditures on that theme. Since we do not know where those 15 percent should have been classified, we do not know to what extent a subsequent increase in reported expenditures on that theme reflect an actual increase rather than appropriate classification of previously undesigned expenses.

¹² To offset "unassigned" expenditures, the FY02 amount were reassigned consistent with the distribution of other expenditures (i.e. according to each category's share of total classified expenditures). Expenses in each category in FY05 were compared with this 'baseline' distribution.

Allocation of Research Funds from Trust Funds and the Research Support Budget

Some of the changes across themes and units result from the differential allocation of funds from the Research Support Budget and from Trust Funds. It is difficult to discern to what extent the Bank's own research program motivates donor funding, and how frequently the Bank follows the lead of donors. Consistency between Bank and external funding—either as a share of a particular topic of research or distributed across all research topics—is not necessarily an indication of the weight of donor funds in selecting issues of study.

Some changes are suggestive, however. Donor funding may be catalytic at times, initiating research on an issue which the Bank has not investigated, with financial support from the Bank following with a lag. In FY02, donor funding for urban development research was four times greater than Bank funding. Bank support for research in this area followed donor funding, and by FY04-FY05, donor funding accounted for less than 20 percent of the total. A similar pattern may be emerging for research on the rule of law. After three years in which donors funded about half of this research, in FY05, Bank funding rose significantly and donor funding fell to less than a quarter of the total. In some areas, however, the small share of donor funding suggests untapped synergies. Human development captured less than 6 percent of total donor funding for research in FY04-05. Thus trust funds financed less than 20 percent of Bank research on these issues. **[Annex Table 1.4]**

The Research Support Budget is the third source of research funding. It is allocated by the Research Committee, a consultative body comprising members from throughout the Bank which advises the Chief Economist (see page 15). The RSB averages about \$7 million annually. RSB funding reflected trends similar to those of departmental budgets: research on economic management received the largest share in FY02 – FY05, although that share declined from 50 percent to about 30 percent. In FY02-03, finance and private sector development received the second largest share of RSB grant funds, but even at its peak, less than \$1 million was allocated to research in this area. Human development and trade and integration overtook finance and PSD in funding during FY04 and FY05. **[Annex Table 1.5]**

Allocation of the Research Support Budget across units tends to echo departmental research funding. A little less than 10 percent of the total each year is spent by the regions and networks. To encourage more proposals, since April 2006 their Bank staff time can be financed by the RSB. The share of DEC has risen from 35 percent in FY02 to nearly 65 per cent in FY05. **[Annex Table 1.6]** This is consistent with DEC's shift from many smaller research project grants before FY01 to a lesser number of large Program Grants and Chief Economist Initiatives **[Annex Table 1.7]**

Although the great majority of Research Support Budget funds are distributed as research grants, about \$1 million supports activities to improve the value of Bank research and enhance research dissemination (see Annex E and the previous section). Moreover, up to 10 percent of the RSB grants may be allocated to support external institutions building research capacity in Part II member countries (see Annex D). One program that encompasses both capacity-building and outreach is the Visiting Research Fellows Program, which brings both eminent scholars and, at times, promising researchers from partner countries (see Annex E). Activities intended to enhance the value of Bank research include periodic evaluation and continuing review of research proposals.

CHAPTER 2. USE OF WORLD BANK RESEARCH

World Bank research is directed towards multiple constituencies, both external and internal to the Bank. This Chapter surveys its external use by the academic community, its internal use in ESW and examples of how research forms a core component of the cycle linking Lending, Learning and Knowledge. The DIME initiative is central to this interaction.

A. USE OF BANK RESEARCH BY OTHER RESEARCHERS: CITATIONS

This section analyzes citations of World Bank research publications--the number of times a published article in peer-reviewed journals by a World Bank staff or consultant is referred to or cited by other researchers. We also compare citations of research publications of the Bank with those of the International Monetary Fund (IMF), the National Bureau of Economic Research (NBER), Princeton University, Centre for Economic Policy Research (CEPR), and the Brookings Institution, five institutions which produce research that is comparable to the Bank's in some respects.

Citations symbolize the formal acknowledgment of a published article as a useful work and a significant contribution towards advancing knowledge.¹³ The total number of citations is a commonly used measure of the article's importance for current research. Frequency of citation may depend on a number of factors not all signifying high quality of the research. Nevertheless, citation analysis offers one neutral way of assessing the quality of research publications as well as their impact on the global scholarly community.

The citation database used in the analysis was compiled by Thomson Scientific, a private firm that gathers and maintains data on over 10,000 scholarly journals.¹⁴ The dataset is generated by searching peer-reviewed journals for articles by Bank staff and consultants published during the period 1998-2005. Data includes all journal articles that have at least one of the authors identified as Bank staff. The database includes the number of articles published in peer reviewed journals and the number of times those articles are referred to or cited by other researchers. Publications include articles, review articles, and editorials. They exclude conference papers, notes, corrections, replies, letters, and book reviews that commonly appear in journals.¹⁵ Thomson's database includes the author(s) addresses. For Bank publications, the number of countries represented is high because many the co-authors of the papers are not U.S. residents.

Annex Tables 2.2 and 2.3 show the list of the ten most cited papers by World Bank authors for the 1998-2005 and 1981-2005 period, respectively. For the last eight years, the most cited paper is by Collier and Gunning, "Explaining African Economic Performance" published in 1999 in the *Journal of Economic Literature*. Obviously the probability of being cited is higher the earlier the

¹³ See Garfield, E. 1979. *Citation Indexing: Its Theory and Application in Science, Technology, and Humanities*. New York: Wiley, and Moed, H. F. 2005. *Citations Analysis in Research Evaluation*. Dordrecht: Springer.

¹⁴ The complete list is available on their website <http://www.thomson.com> under Academic/library. Thomson Scientific covers the world's most highly cited, peer-reviewed journals in approximately 200 disciplines.

¹⁵ For Princeton University, the data are limited to topics in social sciences.

publication date. But the intrinsic interest of the paper is also important. The most cited Bank paper for the 1981-2005 period is “A Sensitivity Analysis of Cross-Country Growth Regressions” by Levine and Renelt, which was published only in 1992.

Table 1 shows that World Bank staff and consultants published their research findings in 1,700 research articles in some 400 peer-reviewed journals during 1998-2005. The number of articles published in peer-reviewed journals has been increasing from an average of 175 papers in the early 1990s (1990-95) to an average of 220 in the last 6 years (2000-05). The number of journals in which staff/consultants published went up; the coverage of topics also widened.

Table 1 – Publications in Peer Reviewed Journals by Bank Staff, 1990-2005

Year	Publications ¹	Coverage		
		Journals ²	Topics ³	Countries ⁴
1990-91	279	128	28	34
1992-93	366	144	35	47
1994-95	368	158	29	42
1996-97	379	164	35	40
1998-99	380	175	35	50
2000-01	451	187	37	49
2002-03	457	195	39	63
2004-05	431	188	42	62
1998-2005	1719	420	63	93

Notes: 1. Publications include all journal articles that have at least one author identified as Bank staff or consultant

2. Number of journals that published papers written by World Bank authors

3. Number of topics (identified by Thomson Scientific Inc) covered by the research

4. Number of countries where authors reside.

Source: Thomson Scientific Inc.

The Thomson database has shortcomings. On the one hand it can lead to an attribution to the World Bank of articles that it neither financed nor encouraged. For instance, a paper by the Chief Economist and a co-author published in the American Economic Review, cited 26 times between 2002 and 2005, is listed erroneously as a Bank paper.¹⁶ On the other hand, it omits some articles published by Bank staff or consultants. There are two main reasons for this. First, the database includes all persons who report an affiliation with the World Bank. Some authors do not properly identify themselves as Bank staff and, in some cases, institutional affiliation is buried in the acknowledgement. Papers written by

¹⁶ Bourguignon, Francois and Christian Morisson. 2002. “Inequality among World Citizens, 1820-1992,” American Economic Review, Vol. 92, No.4.

academic researchers with Bank staff as co-authors are more likely to be missing. Also not included are articles written by consultants for the Bank who identify themselves as affiliated with another institution to which they belong (e.g. university, research institute, or consulting firm). Second, the coverage of social sciences journals by Thomson Scientific is not complete. In 2004, about 70 percent of social sciences journals were covered compared to 90 percent of science journals (Moed 2005). Informal discussions with researchers suggest that the majority of publications in which Bank staff published is covered, but that many are missing.¹⁷

The consultants who have co-authored World Bank research publications come from 66 developing countries and 25 developed countries.¹⁸

Comparing Research Outputs and Citations across Different Institutions

Citation analysis can be used to compare citation rates of World Bank research with those of selected institutions. Table 2 presents a comparison for 1998-2005, i.e., citations during 1998-2005 of journal articles published in 1998-2005. Comparator institutions include the International Monetary Fund (IMF), the National Bureau of Economic Research (NBER), Princeton University, Centre for Economic Policy Research (CEPR), and Brookings Institution. These institutions are well recognized for their research programs in applied economics and publications in scholarly journals.

Table 2 and Annex Table 2.1 must be examined with caution. First of all, they present a comparison of citations made during 1998-2005 of journal articles published in 1998-2005. This implicitly puts articles published recently at a disadvantage. Normally an article's citations should be examined over a long period. Second, the comparison should not be taken too literally since each institution has specific functions (e.g., the IMF is specialized in macroeconomic and monetary issues). The table is only meant to indicate that World Bank research publications fare well in terms of citations; journals covered; countries represented by authors, etc. compared to world class institutions producing social science research.¹⁹

¹⁷ For instance, the journal *Economics and Politics* in which one of the most cited Bank article was published in 1995 (Knack and Keefer's "Institutions and Economic Performance: Cross-Country Tests using Alternative Institutional Measures,") is not part of the list.

¹⁸ Thomson's database includes the author(s) addresses. For journal articles published by World Bank authors, the number of countries represented is high because many co-authors are not resident of the US. Authors from the following Part II countries have published for the World Bank: Algeria, Argentina, Bangladesh, Barbados, Benin, Bolivia, Botswana, Brazil, Brunei, Bulgaria, Burkina Faso, Cameroon, Chad, Chile, Colombia, Costa Rica, Cote d'Ivoire, Czech Republic, Egypt, Estonia, Ethiopia, Ghana, Guatemala, Honduras, Hong Kong, Hungary, India, Indonesia, Iran, Israel, Jamaica, Jordan, Kenya, Laos, Lebanon, Malaysia, Mali, Mexico, Morocco, Mozambique, Nepal, Nicaragua, Nigeria, Pakistan, PR China, Peru, Philippines, Poland, Republic of Georgia, Saudi Arabia, Senegal, Singapore, Slovakia, Solomon Islands, South Korea, Sri Lanka, Sudan, Tanzania, Thailand, Tunisia, Turkey, Uganda, Ukraine, Vietnam, Zambia and Zimbabwe. The Part I countries that are represented include Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Russia, Slovenia, South Africa, Spain, Sweden, Switzerland, China (Taiwan), United Kingdom and United States.

¹⁹ Citations using the Thomson database differ greatly from Google Scholar citations. While Thomson is suited for looking only at academic journals, Google is better at looking at the impact on a wider variety of publications since it also indexes books, working papers, etc. Which one is better depends on your purpose. Thomson-ISI is more consistent and follows clearly defined rules, while the criteria followed by Google Scholar are not always clear.

As shown in Table 2, the citation rate for the Bank (5.04) compares well with other institutions – 3.19 for IMF papers, 8.54 for NBER papers, 6.02 for Princeton University papers, 4.20 for CEPR papers, and 3.74 for Brookings Institution papers. Bank authors published in a larger number of journals and covered more topics than the other institutions (Table 2). The distribution of citation rates of Bank publications also compares well with other institutions. For example, the share of publications with zero citations is 34 percent for the World Bank, compared to 27 percent for the NBER (lowest) and 41 percent for Brookings Institution (highest). The “percentage with more than its own average citations” in table 2 represents the share of papers on the right side of the mean and a long left tail. For all institutions in table 2, about a quarter of papers have citations more than the average of the institution they represent meaning that 75 percent of papers are on the left side of the distribution, suggesting a long left tail.

Table 2 – Research Outputs and Citation Rates in Five Institutions, 1998-2005

	Institutions ¹					
	WB	IMF	NBER	Princeton University ²	CEPR	Brookings Institution
Total No. of Publications³	1719	682	2437	1209	720	189
Cites/Publication						
Mean	5.04	3.19	8.54	6.02	4.20	3.74
Median	2.00	1.00	3.00	2.00	1.00	1.00
Distribution (of publications)						
% of Publications with Zero Cites	34%	44%	27%	34%	39%	41%
% of Publications with one Cite	15%	18%	13%	13%	16%	12%
% of Publications with more than its own Average Cites	25%	23%	27%	25%	23%	25%
% of Publications with More than 50 Cites	1%	1%	3%	1%	1%	2%
Number of Journals Covered	420	165	259	367	127	93
Number of Topics Covered	63	29	41	NA	15	21
Number of Countries Represented by Authors	93	46	39	37	38	12
Number of Publications in Select Topics⁴	1111	623	2196	1111	691	158
% of Publications Covered	65%	91%	90%	92%	96%	84%
Cites/Publication	5.47	3.26	8.88	6.38	4.31	3.38

Notes: 1. Institutions include the World Bank (WB), International Monetary Fund (IMF), National Bureau of Economic Research (NBER), Princeton University, Centre for Economic Policy Research (CEPR), and Brookings Institution.

2. For Princeton University, the data is limited to topics in social sciences;

3. Publications include articles, review articles, and editorials; Publications include all those papers that have at least one of the authors identified as Bank staff;

4. Select topics include Economics; Education; Management; Political Science & Public Administration; and Public Health & Health Care Science.

Source: Thomson Scientific Inc.

The citation rates were also compared restricting topics to Economics; Education; Management; Political Science & Public Administration; and Public Health & Health Care Science. The reason for restricting the field is to allow a better comparison of Bank research outputs with comparable institutions (IMF, NBER, Princeton University, Brookings Institution, CEPR) since these are the topics common to all the institutes. When the topics are restricted to core areas of interest, the citation rates go up slightly for all institutions, except for the Brookings Institution (see Table 2).

Annex Table 2.1 compares citation rates by topic categories. Economics is by far the largest topic in terms of the number of publications in scholarly journals. Since these institutions are recognized for their publications in the field of economics, the citation rates in economics are higher relative to other topics. Annex tables 2.2, 2.3, 2.4 and 2.5 present respectively the top 10 publications for the periods 1998-2005 (evaluation period), 1981-2005 (all time), the top 25 journals that published articles written by World Bank staff and citations of World Development Reports in Peer-Reviewed Journals for the period 1990-2005. The WDR 1993, *Investing in Health* is the most cited with over 1800 citations. This publication introduced the concept of disability-adjusted life year (DALY), an indicator of burden of disease that reflects the total amount of healthy life lost to all causes, whether from premature mortality or from some degree of disability during a period of time. This WDR has been acknowledged by Bill Gates as influencing his decision to create the Gates Foundation.

B. USE OF RESEARCH IN BANK ANALYTIC WORK

Research becomes embedded in Economic and Sector Work (ESW) in many ways, including the involvement of researchers in operational work, peer review and advice, seminars and workshops provided for operational staff, and the migration of staff between research and operations. The FY02-03 Report on Bank Research concluded that the greater the use of research in ESW the higher the quality at entry and impact scores of that ESW. Given this positive association, continued use of research in ESW is to be encouraged. To determine if ESW use of research continues to be strong, a random sample of 198 Economic and Sector reports for FY03–05 was drawn. All citations of reports by Bank researchers were identified using the same techniques as in the 1998-2002 sample used in the previous Research Report. The results indicate that research is quite widely used to underpin ESW. Seventy one percent of ESW draws on Bank research, with 76 percent of the Economic Reports doing so and 68 percent of Sector Reports. On average, there were 8 research citations per report. This suggests continuing strong use of research in ESW

Table 3. Citations of Bank Research in a Sample of Bank Economic and Sector Work (FY03-FY05)

Report Type	Total ESW Documents	ESW Documents citing Research	Citations of Research Documents	Average citation per ESW document	Average citation in documents citing research	Share of ESW citing research
Economic Report	72	55	706	10	13	0.76
Sector Report	126	86	913	7	11	0.68
Total	198	141	1,619	8	12	0.71

Notes: CAS and PRSP reports (representing 15 percent of ESW) are not included in this table

Source: Image Bank documents; DECRS survey

C. THE LENDING - LEARNING - KNOWLEDGE CYCLE

Bank lending provides opportunities for learning about development. Key to such learning is the evaluation of programs in a rigorous way that isolates their effects from those of other factors. *Ex post*, research thus strengthens the lending→ learning→ knowledge cycle by drawing lessons from lending operations. *Ex ante*, research is designed to explore the likely outcomes of different policy options, by applying historically derived knowledge to current development challenges. This section surveys a number of examples showing the contribution of research in this cycle.

Measurement of Poverty

Without the efforts of Bank researchers to measure poverty using income or consumption surveys, the international community's understanding of the extent and causes of poverty would be poorer, and its efforts to mitigate poverty and set measurable targets for progress less effective. Statistical offices in almost all developing country governments have designed and implemented household income and consumption surveys, often with help from the World Bank, that are essential tools for quantitative poverty analysis and policy. Surveys are based on nationally representative samples, and to compare consumption or income levels across countries they are adjusted for purchasing power parity (PPP).²⁰

The World Bank's latest international poverty estimates cover almost 100 countries. With a total of over 500 nationally representative surveys, the data cover over 90 percent of the population in low and middle income countries. Bank researchers put considerable effort into assuring that the data set used reaches certain standards, but there are still problems of comparability over time and across countries arising from problems in both the survey data and the data on PPPs. Data have improved over time in terms of both coverage and quality, in part because of feedback from researchers and data users. The most recent update about poverty at the global level can be found in Chen and Ravallion, 2004.²¹ Bank researchers have also created a user-friendly web site that allows anyone to replicate their calculations and try their own calculations under different assumptions (see <http://iresearch.worldbank.org/povcalnet>).

Investment Climate Surveys

The Bank's Investment Climate Surveys (ICS), launched in 2001, were designed to collect and analyze information that influences firms' decisions to invest and expand. There is now new data on some 70,000 firms in 90 countries. The data is used not only for benchmarking indicators across locations (countries and sub-national regions), but also for evaluating the impact of different investment climate policies on firm performance, including growth, innovation, productivity, and job creation. Results show that microeconomic determinants of growth are crucial for creating better opportunities and more incentives for firms to invest and expand. The ICS is the only standardized instrument from the World Bank – and for many countries the only instrument – that enables this type of analysis.

²⁰ The PPP estimates currently in use are based on price data generated by the International Comparison Program (ICP) now based in the World Bank. The ICP Program now covers 140 countries and a comprehensive set of commodities. The internationally comparable lines test for the ability to purchase a basket of commodities that is roughly similar across the world. New PPP estimates are in the process of being produced.

²¹ Chen, Shaohua and Martin Ravallion. 2004. "How Have the World's Poorest Fared Since the Early 1980s?" World Bank Research Observer, Vol. 19, No.2, Fall 2004, pp. 141-170.

Box 1. World Development Reports as Transmission Belt between Research and Operations

World Development Reports (WDRs) consolidate existing knowledge on a particular aspect of development and stimulate policy debate on new directions for development policy. They are an important “transmission belt” synthesizing the knowledge produced by researchers and channeling new operational approaches to Bank staff. For example, the 2000/2001 WDR, which focused on poverty reduction, launched what would become the World Bank Group’s corporate strategy based on the twin pillars of investment climate and empowerment. The 2004 and 2005 WDRs discussed the implementation of these two pillars.

The WDR 2004, **Making Services Work for Poor People**, had a four-fold impact. First, the report has focused attention on the problem of service delivery and public-expenditure efficiency, more generally, as critical to achieving the Millennium Development Goals. Second, its analytical framework, built around the notion that improving service delivery requires strengthening the relationships of accountability between policymakers, service providers and poor people has been applied in regional and operational activities, including several programmatic operations in Africa and South Asia (reduction in teacher absenteeism was a trigger for a development policy credit in Andhra Pradesh, India) and in the Indonesia CAS. Third, the WDR had an impact not just in the Bank but also in other donor agencies, especially DFID. Finally, the WDR2004 made a strong pitch for increasing impact evaluation of service-delivery innovations in order to learn what to scale-up.

The WDR 2005, **A Better Investment Climate for Everyone**, focused on investment climate, has been well received globally. The report’s strong focus on the empirical reality of business’s investment decisions, for both large and small firms, is serving well in terms of opening the eyes of policy makers to the reforms that need to be undertaken to spur investment and growth. By early 2006, the ICS findings had been incorporated into 17 out of 21 Country Assistance Strategy documents prepared following investment climate assessment completion. These countries include Algeria, Cambodia, Ethiopia, Guatemala, India, Kenya, Moldova, Morocco, Mozambique, Nepal, Nicaragua, Nigeria, Pakistan, Peru, Poland, Serbia & Montenegro, and Zambia. These in turn have been incorporated into numerous Poverty Reduction Support Credits (PRSCs).

A few examples will illustrate the usefulness of such data. In Egypt, the Alexandria Growth Pole Project builds on the findings in the investment climate survey. The project addresses the need to reduce business licensing procedures, to increase access to land and property rights, and expand private sector participation in the management of industrial areas and municipal assets. A panel database of firms established to monitor the impact of changes in policy shows that members of the private sector are responding to the changes in policy regimes.

In Algeria, an ICS found that the access to land is one of the biggest hurdles for private firms, with 37 percent of firms spending an average of five years in search of land. The survey also found that land availability determined the location choice for 62 percent of firms. The analysis of the survey showed that inadequate titling and property rights were key reasons for land scarcity, with less than 50 percent of industrial land titled, and widespread corruption reported in allocation of government land. Following these findings, the CAS recommended that supply of land be increased by reforming industrial land markets, increasing availability of public land for industrial uses, and reviewing the institutional setup of industrial land development and management to increase participation of private actors.

In Pakistan, the analysis of investment climate surveys identified the need to address labor market regulations. In response, the government introduced wide ranging labor market reforms. Infrastructure was highlighted as an important bottleneck, with power supply losses leading to

average sales loss of 5.6 percent. The efficiency of government services was also weak, e. g. it averaged 6-7 weeks to get a new phone line. Delays in clearing customs, on average 17 days, also led to calls for better trade facilitation. The 2004 CAS Progress Report and PRSP drew on this work to call for opening new sectors to private sector competition; privatizing large public enterprises to boost efficiency; increasing public investment in infrastructure; modernizing and improving the administration of regulations; and continuing reform of labor regulations.

In Malaysia, the investment climate analysis emphasized the importance of skills and technology in productivity and growth. The study finds that 50 percent of firms rate skill shortages as a top concern, with 70 percent identifying the supply of university graduates as the chief factor behind the shortages. Relaxing skill constraints could raise sales of an average Malaysian firm by 11 percent. The government requested follow-up technical assistance and additional analytical work to audit the “skills supply infrastructure,” to review skills and technology development institutes, and to address fiscal incentives and regulatory burdens.

Mozambique’s investment climate data allowed the identification of three key reasons for the poor performance of private sector: the high cost of finance; regulatory barriers in labor and taxes; and inadequate infrastructure. These results were presented at the annual private sector conference attended by the President, key ministers, 300 private sector participants, and donors. In response, a new financial institutions law was submitted to Congress; consultations to revise labor laws were launched; a task force on VAT reimbursement was established; and commitments were made to revise telecom laws and to unbundle government-managed power companies.

The Bank’s research on microeconomics of growth allows a better understanding of institutions and regulations and in relating them to firms’ decisions to invest, create jobs, and expand. The Investment Climate Surveys are crucial for the generation of such information. The findings of these surveys have been utilized to create better opportunities and incentives for firms to invest and expand.

Tracking the Flow of Public Spending

Policymakers in developing countries seldom have information on actual public spending at the provider or facility level or by activity. Public Expenditure Tracking Surveys (PETS), developed by Bank researchers, track the flow of resources through layers of government in order to determine how much reaches each level. Such surveys are a useful way to locate and quantify political and bureaucratic capture, leakage of funds and problems in the deployment of human and other resources.

A typical PETS consists of a survey of frontline service providers (e.g., schools and clinics) and local governments (politicians and public officials) complemented by central government financial and other data. These surveys bring together data on inputs, outputs, user charges, quality, and other characteristics of the service providing unit. The information generated from the survey is used to improve our understanding of the linkages among the layers of bureaucracy, identify and improve the efficiency in the use of public resources. PETS have sometimes also had a powerful impact on the climate of public opinion.

Uganda was the first country to do a PETS in 1996. It compared budget allocations with spending through various tiers of government. On average, only 13 percent of the annual grant from central government reached primary schools during 1991–95, implying a leakage of 87 percent. Following publication of the findings, the Ugandan government began publishing monthly intergovernmental

transfers in the main newspaper and requiring primary schools to post information on receipts for all to see. This not only made information available to parent-teacher associations, but also signaled local governments that the center had resumed its oversight function. By 2001, average leakage had fallen to 18 percent.

Several other countries have implemented PETS in education and healthcare, including Ghana, Honduras, Papua New Guinea, Peru, Tanzania, and Zambia. Leakage of non-wage funds was found to be a major issue in all cases. Some studies also quantified the share of “ghosts” on payrolls. In Honduras, 5 percent of teachers on the payroll were found to be ghosts in 2000, while in healthcare, the percentage was 8 percent for general practitioners. In Papua New Guinea, a recent survey showed that 15 percent of the teacher payroll consisted of ghost teachers.

Teacher and Health Worker Absenteeism

Developing-country governments spend 80 to 90 percent of their recurrent education budgets on teachers—but getting teachers to show up at work is hard. The Bank’s research on absenteeism was the first to measure the absence of teachers and health workers systematically. Instead of relying on official records, researchers used an innovative method of unannounced visits to primary schools and health clinics in Bangladesh, Ecuador, India, Indonesia, Peru, Uganda, and Zambia to measure absenteeism. This new method improved understanding of the patterns and causes of provider absence and allowed the benchmarking of countries and states against each other. On average, 19 percent of teachers and 35 percent of health workers were absent from their facilities, and of those present, not all were actually ‘working’. In India, for example, only half the teachers present were actually teaching when the survey teams arrived. The findings of this research were widely noted in the countries and elicited strong reactions from government officials. In Bangladesh, for example, the Ministry of Health cracked down on absent doctors after newspaper reports highlighted the results of the health survey described in *The Daily Star*.

Faced with such high absence rates in vital services, policymakers have two challenges: how to adapt education and health policy to minimize the cost of absence, and how to reduce absence? Research is continuing to address these questions. Preliminary analysis provides tentative guidance. The absenteeism data reveal that provider absence is higher in poorer areas, so greater attention to absenteeism and its consequences is warranted especially there. The data also show that higher-ranking and more powerful providers, such as headmasters and doctors, are absent more often than lower-ranking ones, leading to the conclusion that the monitoring of absence rates should not be left mainly to supervisors. One approach would be to increase local control, for example by giving local institutions such as school committees new powers; another is to encourage more surveys that monitor absence and to publicize results. Failures in “street-level” institutions and governance have received much less notice from development thinkers and policymakers than have weaknesses in macro institutions like democracy and high-level governance. Yet, for many people, one of the most important indicators of their country’s level of economic and social development is the quality of their day-to-day transactions with those delivering public services.

Public Disclosure as an Instrument for Controlling Pollution

Environmental agencies in developing countries often face an uphill battle in regulating industrial pollution. While the agencies set standards, monitoring and enforcing compliance can be extremely difficult. Some regulators have turned to financial incentives by charging polluters for emissions. Recent experiences with pollution charges in Colombia, China, Indonesia, and the Philippines have shown that they improve pollution control. Public disclosure has particular appeal in developing

countries, where corruption and weak enforcement have often made it difficult for regulatory institutions to control pollution by more conventional means.

An innovative public disclosure program in Indonesia, developed with assistance from World Bank researchers, has made significant improvements in reducing pollution. This new approach combines market-based incentives, commitment to public environmental information, and assistance to managers who are trying to improve environmental performance. The program's success has inspired similar programs in China, Colombia, India, Mexico, the Philippines, and Vietnam. All of these programs have adopted the basic performance rating model pioneered by Indonesia. Assessments completed for pilot results in four of these countries have indicated significant improvements in the polluters' performance. The pilot programs have been expanded to national programs in Indonesia, the Philippines, and China.

All programs adopted locally recognized benchmarks for grading performance. In most cases, local standards provide the criteria for acceptable performance, and ISO 14000-type standards provide the criteria for excellent performance. The programs compare audited factory emissions reports with benchmark standards and grade the results in a few overall categories:

1. Above-standard (significantly better than legal requirements, often in two classes, with the highest class conforming to ISO 14000 requirements);
2. Acceptable (compliance with all legal requirements); and
3. Below-standard (generally in two classes: non-compliance with some requirements, but not flagrant; flagrant non-compliance).

Performance categories are then assigned color codes or other graphic symbols, so that they can be easily disseminated by the media and understood by the public. The performance rating agencies maintain close communication with audited facilities throughout the process.

Results suggest important gains, and that the programs have sharply reduced pollution from hundreds of factories, which had successfully resisted conventional regulation. Before the implementation of performance rating, compliance rates were 37 percent in Indonesia, 8 percent in Philippines, 10 percent in Vietnam, 75 percent in Zhenjiang, China and 23 percent in Hohhot, China. After implementation of performance ratings, the compliance rate increased by 24 percent in Indonesia, 50 percent in Philippines, 14 percent in Vietnam, 10 percent in Zhenjiang, China (even from the previous high base), and 39 percent in Hohhot, China. Disclosure can also promote useful learning across firms. A good rating for one firm in a field of competitors establishes the feasibility of cleaner production, encouraging the other firms to invest more resources in improving environmental performance.

Deposit Insurance in Developing Countries

During the last two decades waves of systemic banking crises have affected most of the countries around the globe. These crises are costly and disruptive, particularly for developing countries. The cost of the 1997 Asian financial crisis, for example, exceeded 30 percent of GDP for several countries including Indonesia, Korea, and Thailand. The full cost of these crises goes beyond direct fiscal costs to include derailed stabilization programs, growth slowdowns, unemployment, and increased poverty. In the end, tax payers are presented with a large bill for mitigating these disruptions. Until recently, establishing an explicit deposit insurance system was a common feature of the policy advice given to developing countries. Between 1980 and 1996, the number of countries offering explicit deposit insurance guarantees almost tripled. But their success depends critically on the level of institutional development in the country. While the theoretical finance literature identifies alternative strategies for balancing benefits and costs, there is little empirical

evidence on the impact of various deposit insurance designs. To plug this gap, researchers analyzed the impact of deposit insurance on bank fragility and other aspects of financial systems.

Results indicated that for many countries with undeveloped institutions, poor financial and legal systems and weak regulation and supervision, explicit deposit insurance would do more harm than good, and that poorly designed deposit-insurance arrangements tend to increase the probability of banking crises. For countries with weak institutions, adopting explicit deposit insurance promises, at best, to assist financial development only in the very short run. Over longer periods, it is more likely to undermine market discipline in a way that reduces bank solvency for countries that have installed or were in the process of adopting explicit deposit-insurance schemes. Research also offered lessons about program design.

The Bank's policy advice in many developing countries has been shaped by this research. In China, the Bank advised the authorities against rushing into adopting explicit deposit insurance. The government followed the Bank's advice and focused its energy and resources on other methods to safeguard financial markets. In Namibia, a small country with few (mostly foreign-owned) banks, the advice of Bank staff was also to delay such a decision and focus on improving the institutional environment underpinning the financial system. The Bank has also advised Brazil, Chile, Russia, and Pakistan on this issue.

D. Learning from Operations: The 'DIME' Initiative

The Development Impact Evaluation Initiative (DIME)²² is a Bankwide collaborative effort that aims to (i) increase the number of Bank projects with impact evaluation components, particularly in strategic areas and themes; (ii) enhance staff ability to design and carry out evaluations; and (iii) build a process of systematic learning on development interventions based on completed evaluations. Alignment is sought between this evaluation agenda and the Bank's research program to exploit all possible synergies. Through close collaboration among DEC, the Regions and Networks, DIME supports comparative analyses of results as critical inputs to Bank management and policy advice. The Research Committee, Trust Funds (in particular, the Knowledge for Change Program) and the Regions are supporting specific impact evaluations with high research content.

Under the DIME initiative, the Bank supports the systematic evaluation of programs across a number of strategic priority areas. A series of coordinated but independent program evaluations are being undertaken in education (school-based management, teacher contracting, role of information in enhancing school performance), social protection (conditional cash transfers), and infrastructure (urban slum upgrading programs). Based on demand, the list of themes is being expanded to include health service delivery (alternative contracting schemes, community-run clinics), HIV/AIDS programs, early childhood development programs, and other infrastructure services (transport, roads, and water).

²² Impact evaluation differs from the internal evaluation efforts in the Bank carried out by QAG (for quality at entry) and IEG (ex post evaluation). While the latter evaluate processes, assess if Bank projects have reached their intended objective and document changes in specific outcomes, the impact evaluations supported by DIME evaluate the development impact of the project on the population (e.g. on poverty or health outcomes) by comparing the observed outcomes to a counterfactual (i.e., what the situation would have been if the program had not been undertaken). In doing so, impact evaluations are a fundamental means of establishing causal links between interventions and outcomes and constitute a key input to determining cost-effective approaches to development.

Impact evaluations have become a critical component of development programs. Over the past few years, efforts to evaluate the impact of specific Bank-financed development programs have expanded, often through collaboration between the World Bank, governments, and local research institutes. During the past year, two dozen impact evaluations of government interventions, most of them receiving Bank financing, have been initiated. The results are beginning to provide a picture of the relative effectiveness of alternative policy instruments and programs.

Box 2: Evaluating Conditional Cash Transfer Programs

Conditional cash transfer (CCT) programs have become one of the most popular interventions seeking to alleviate poverty for poor households while improving the health and educational status of poor children. A growing number of countries in Latin America and Asia have implemented such programs. While the details of program design vary, all of these programs transfer resources to households conditional on these households enrolling their children in school and taking them for regular visits to healthcare providers.

There is a growing literature on the social and economic impact of CCT programs—in particular in Mexico and Brazil. It has documented clear evidence of success from the first generation of programs (such as Progresa/Oportunidades in Mexico and Bolsa Escola in Brazil) as measured by increasing enrollment rates, improving preventive health care, and raising household consumption. The Bank has been involved in the evaluation of CCT programs for many years and its researchers have made significant contributions in this area. Several important lessons have emerged. First, in making transfers conditional, CCT programs encourage the accumulation of human capital and break a vicious cycle whereby poverty is less likely to persist across generations. Second, in transferring resources to poor households, CCT programs provide an additional benefit to recipients in that they act as a safety net against income shocks. Third, CCT programs are justifiable both on efficiency grounds (to alleviate market failures) and on equity grounds (to redistribute resources). Finally, evaluations and the subsequent analytical work facilitated the inclusion of various “packages” of interventions—credit or cash transfers, nutrition interventions, and early childhood stimulation interventions. The evaluations of CCT programs also revealed that this innovative design has been quite successful in addressing a number of issues related to poverty targeting. Evaluations have shown that these programs are both technically and politically feasible.

Several more “first generation” evaluations are currently underway in low-income countries (Bangladesh, Burkina Faso, Cambodia, Chile, Nicaragua and Pakistan.). In Burkina-Faso, for example, the evaluation involves a cash transfer conditioned on school enrolment within a project targeting communities affected by HIV/AIDS, while in Bangladesh, Cambodia, and Pakistan the programs being evaluated involve scholarships for girls. In a number of middle income countries such as Brazil, Chile, Colombia, Ecuador, El Salvador, Honduras, Mexico, and South Africa where various forms of CCT programs have been in place, researchers have moved to “second generation evaluations.” A synthesis of these evaluations will allow an assessment of CCT programs in different contexts and help to assess the robustness of the approach in different institutional settings. A synthesis study is planned for FY08.

CHAPTER 3. EVALUATION OF WORLD BANK RESEARCH

At the Chief Economist's request, an independent evaluation was commissioned of all research activities carried out by the World Bank—both in DEC and outside of DEC—between 1998 and 2005. This evaluation was mainly concerned with the quality and relevance of Bank research. A panel of external experts was asked to assess whether and how World Bank research has achieved two objectives (1) to generate new knowledge on development and (2) to contribute to broadening the understanding of development policy.

Only two similar exercises have taken place in the history of the World Bank, in 1978 (chaired by Arthur Lewis) and in 1983 (chaired by Assar Lindbeck). Partial evaluations of some DEC research in some areas have also been carried out by external reviewers, the last one dating from 1998.²³

The remainder of this chapter describes in section A the independent evaluation process and gives the list of panel members and evaluators. Section B presents the executive summary of the main evaluation report submitted by the panel. The complete text of the main report and of the 24 individual reports of the evaluators is posted on the Bank's research website <http://econ.worldbank.org> together with the Chief Economist's response.²⁴ Section C provides a summary of the response.

A. ORGANIZATION OF THE INDEPENDENT EVALUATION

The evaluation was carried out by Prof. Angus Deaton, Princeton University (Panel Chair); Prof. Kenneth Rogoff, Harvard University, former Chief Economist at the IMF; Prof. Abhijit Banerjee, Massachusetts Institute of Technology, and Nora Lustig, Director of the Poverty Group at the United Nations Development Program. The Research Support Unit (DECRS) provided support to the Evaluation Panel.

The Panel was asked to evaluate

1. The process of selection of World Bank research;
2. The topical coverage and emphasis of that research;
3. The analytic quality and reliability of the findings;
4. The relevance of research reports for Bank operations and its clients; and
5. How future Bank research could best serve World Bank objectives.

²³ This includes, for instance, evaluation of RSB-funded Bank research on agriculture by C. Peter Timmer; on domestic finance and capital markets by Alberto Giovannini; on poverty and social welfare by Nanak Kakwani, Ronald J. Vogel, and Satya Chakravarty.

²⁴ See the Intranet under Units > DEC > Research Committee > Evaluation of World Bank Research (in "What's New?" box on the right of the Research Committee screen). This page contains the report and the annexes (including the 24 reports of the various evaluators), the Chief Economist's Response and the complete list of research publications.

The Panel selected thematic evaluators, many of whom are world class researchers in their field, in order to prepare reviews of a random sample of 180 research projects. The evaluators are

1. Macroeconomics and Growth: Daron Acemoğlu (MIT) and Francesco Caselli (LSE)
2. Fiscal Policy, Public Sector Management and Governance: Tim Besley (LSE)
3. Trade and International Economics: Sebastian Edwards (UCLA), Gordon Hanson (UC San Diego), and Nina Pavcnik (Dartmouth College).
4. Poverty and Social Welfare: Esther Duflo (MIT), and Murray Leibbrandt with Martin Wittenberg (U of Cape Town).
5. Human development (Education; Health; Population): Nancy Birdsall (CGD), Josh Angrist (MIT) and Sebastian Galiani (U de San Andrés, Argentina).
6. Finance and Private Sector Development: Jonathan Morduch (NYU) and Marianne Bertrand (U of Chicago).
7. Agriculture and Rural Development: Justin Lin (Beijing U.), Chris Udry (Yale) and Marcel Fafchamps (Oxford).
8. Infrastructure and Urban Development: Edward Glaeser and Michael Kremer (Harvard).
9. Environment: Andrew Foster (Brown U.) and Geoffrey Heal (Columbia U.).
10. Other topics: Peter Diamond (MIT) on pensions and insurance; Antoinette Schoar (MIT) on *Doing Business* reports, and Jan Sijvenar (U. of Michigan) on transition.

The thematic evaluators were asked to evaluate the outputs of sample projects assigned to them paying particular attention to reliability, rigor, completeness, and relevance and, in addition, to give their overall assessment of the strengths and weaknesses of Bank research in their area of expertise based on the sample and their general knowledge of Bank research.

The panel drew on information about the full range of research activities in the World Bank. Evaluated were the outputs (publications, databases, etc) of research projects—defined as activities that have an RF budget code, in contrast to economic and sector work—as well as the World Development Reports, Policy Research Reports and Regional Flagship Reports. Overall, this represents in excess of 4,000 journal articles, books, and databases.

The sample which the thematic evaluators reviewed was chosen *randomly* from the universe of Bank research publications from DEC and outside of DEC. The sample was chosen with a bias towards more recent and ongoing projects, in order to better evaluate the current direction of the Bank’s research. The sample also includes 50 of the best DECRG outputs selected by the Development Research Group itself. This is to ensure that the Thematic Evaluators and the Evaluation Panel give full consideration to what researchers themselves consider to be their best research.

The Evaluation Panel also conducted interviews of Bank staff and management; developing country policymakers, NGOs and other users of Bank research.

B. MAIN FINDINGS OF THE INDEPENDENT EVALUATION

This section presents, verbatim, a summary of the report prepared by the Panel.

Based on the evidence it assembled, the interviews it conducted, and its own consideration, the Panel concluded that the World Bank needs a research department, and that its research needs cannot be fully met by hiring in from the outside. Research is a central part of quality control in the Bank, and is crucial to its claim to be a “Knowledge Bank.” Without a research-based ability to

learn from its projects and policies, the Bank could not maintain its role as the world's leading development agency. The [small percentage] of its administrative budget that the Bank spends on research is surely too low given the multiplicity of tasks that research is expected to fulfill, including the generation of new knowledge about development, the collection and dissemination of data, the generation of knowledge to support guide Bank strategy, operational support, and capacity building in client countries. As the world becomes richer, and already today among middle income countries, the need for high-quality, research-based advice will only become stronger as the need for Bank lending diminishes.

The multiple tasks of Bank research are not always consistent with one another, and the Panel believes that the Bank's Chief Economists and their research staffs deserve considerable credit for the way that they have fulfilled their obligations over the past seven years. They have done so in a period when new hiring has been severely limited, and where the salaries of Bank economists have fallen rapidly relative to those in academia. Bank researchers have produced innovative and important new research that has maintained the Bank's position as the intellectual leader among development agencies. At the same time they have provided extensive support to their colleague in operations; indeed researchers in the Bank's research department devote 30 percent of their time to such operational "cross-support."

Bank researchers and their consultants produced nearly 4,000 papers, books, and reports between 1998 and 2005. Bank researchers regularly publish in the leading academic journals in economics, and more extensively in the leading field journals in development. The Development Economics group (DEC) is also responsible for the annual World Development Report, which is widely read by the development community, and which has sometimes had a major effect on development thinking. The Bank also publishes a large numbers of policy documents and reports that summarize the state of the art in various policy areas and that are designed to communicate and disseminate research to policymakers and their advisors. Research is done throughout the Bank, by economists working in the regions and in the Bank's networks, as well as, most importantly, in the research group of DEC.

The evaluators and the Panel found some outstanding work in the Bank's portfolio. Bank economists have led the world in the measurement of poverty and inequality, including inequality in health. Pioneering research on the organization of and delivery of educational and health services is changing the way we think about these issues and the way that the Bank lends money for such projects. There is important work on monitoring the environment. The Bank has been a world leader in the collection of new data, including the long-established Living Standards Measurement Surveys, the joint household survey project with the Inter American Development Bank called MECOVI, as well as the more recent Business Environment and Economic Performance surveys in the transition countries, and the Investment Climate and Doing Business surveys. The Bank's data group collates the World Development Indicators, which is the most important single database for development research, and it has recently taken on board the International Comparison Project, which is central for the measurement of economic growth, for poverty, and comparative measures of development around the world.

Bank researchers have also done extremely visible work on globalization, on aid effectiveness, and on growth and poverty. In many ways they have been the leaders on these issues. But the panel had substantial criticisms of the way that this research was used to proselytize on behalf of Bank policy, often without taking a balanced view of the evidence, and without expressing appropriate skepticism. Internal research that was favorable to Bank positions was given great prominence, and unfavorable research ignored. There were similar criticisms of the Bank's work on pensions, which produced a great deal that was useful, but where balance was lost in favor of advocacy. In these

cases, the Panel believes that there was a serious failure of the checks and balances that should separate advocacy and research. The Panel endorses the right of the Bank to strongly defend and advocate its own policies. But when the Bank leadership selectively appeals to relatively new and untested research as hard evidence that its preferred policies work, it lends unwarranted confidence to the Banks' prescriptions. Placing fragile selected new research results on a pedestal invites later recrimination that undermines the credibility and usefulness of all Bank research.

Data collection and dissemination is another area where the Bank has many great achievements but there are also many problems. The Panel sees the Bank's data work as central to its mission of learning from development. It is not only the basis of most Bank research, but it automatically scales up Bank work by permitting research by others, an increasingly large number of whom are in developing countries. Yet data activities are organized haphazardly, whether in collection, archiving, or dissemination. The Development Economics data group is not as centrally involved with researchers in the collection and dissemination of Bank data as is desirable. The Bank website is often of poor quality and difficult to use, not only for accessing data, but even for the relevant publications and reports. The Bank has no coherent policy for data release, for its own researchers, nor for client countries to which it provides support in data collection. Too little has been done to build on the early success of the Living Standards Measurement Surveys to help build internationally comparable data on such central topics as poverty or mortality. Without improvements here, there is a long term threat to the Bank's (and the world's) ability to monitor the income and health dimensions of world poverty.

Bank research has become predominantly empirical, with routine use of econometric and statistical methods. This is as it should be; learning from experience requires statistical analysis. Yet the Panel, while recognizing that there has already been substantial movement in the right direction, believes that Bank could still make more use of randomized experiments in those cases where they are possible, for example, for many projects in the social sector. With or without randomized trials, Bank researchers are not often enough involved in the early stages of project planning, where they can be instrumental in laying the foundations for successful learning after completion. Without such efforts, the Bank cannot routinely learn from its own experience. The Panel welcomes the initiatives in these areas that are underway in the Bank, but presses the need for more. The problem of keeping abreast of new approaches applies to a broad range of applications, not just new uses of randomized experiments. The Panel suspects that management has not always kept ahead of researchers in their understanding and familiarity with statistical and econometric methods, and that this has sometimes contributed to the failure to appropriately interpret and manage research results. The Bank's misplaced confidence in cross country regressions on growth, poverty and aid, is a case in point. Another is its lack of a full understanding of the limitations of the innovative methods developed by Bank researchers to estimate poverty for small areas; once again, results were sold without appropriate caution and qualification. Although the quality of statistical work is a Bank wide issue, DEC (and within it, perhaps the DEC data group) is the obvious home for statistical and econometric leadership. The Bank needs a "central statistical office" and should consider whether it needs a chief statistician to head it.

Our evaluators generally found that Bank research was well-targeted towards important topics, but was often weak on execution and technique. While it is desirable for Bank technique to be behind the frontier, there has often been too large a gap. Some technically-flawed projects have run for years, and have been incorporated into country work without appropriate certification and review. The evaluators repeatedly found that too large a fraction of Bank research was undistinguished, in the sense that it had neither great relevance to policy nor claim to academic distinction. These are subjective judgments, but the evaluators are distinguished development economists, and their views were very similar to one another. Their judgments did not refer to the lack of good papers in good

journals, many of which were innovative and important by any standard. Nor were any of them counting citations. The concern was with the large fraction of papers that, on reading, did not seem to be very useful from the perspective of either an academic or a policymaker.

Bank researchers in the Development Economics Group (DEC) are expected to publish two academic papers a year, and this mechanism helps guarantee quality and protect the Bank's intellectual standing. But the cost, at least within DECRG, is a large number of less than outstanding papers driven too much by the concerns of journals and their referees and too little by the policy needs of the Bank. Nor do these papers make use of the Bank's comparative advantages of local knowledge and a constant stream of important new problems. At the same time, there is great pressure for researchers to demonstrate policy relevance, which frequently leads to drawing conclusions that are not supported by the evidence. There is too much self-citation. Some of the very best and very worst work was done jointly with outside consultants whose quality was clear in advance. The evaluators generally gave higher scores to research in DEC than to research done elsewhere in the Bank, although they scored the non-DEC flagships as highly as they did regular DEC research.

The World Development Reports have sometimes been instrumental in changing the way that the world thinks about some aspect of development, such as poverty, health, or population. In recent years, they have, to an extent, become the victims of their own success. Because they are seen as so important, they must incorporate the views of large numbers of people, inside and outside the Bank. In consequence, they often seek to minimize conflict and to emphasize "win-win" situations instead of trade-offs. They often lack sharpness and focus, and are sometimes incoherent, especially when it proves impossible to reconcile the views of the various commentators and authors. They are also extraordinarily expensive, absorbing about ten percent of the resources of the research department. Even so, the Panel thinks they should probably continue. They provide the Chief Economist with a highly visible vehicle for summarizing and disseminating research on issues that he or she considers to be important, and their regular appearance contributes to the Bank's standing in the development community even if, to some extent, they are trading on their past reputation.

The Panel gave considerable thought to what should be expected of Bank researchers in terms of academic publication. Satisfying the requirements of academic editors and their reviewers is not the main business of the Bank. But without an expectation of publication, the Bank could not maintain its reputation as the leading thinker in economic development. Nor would it be able to attract the high quality researchers that it needs to think about and to help address the many problems of development. Yet too much pressure to publish leads researchers to ignore important policy issues in favor of an academic style that is sometimes of limited value. The Panel believes that the tension here is a fundamental one that will always be faced by the research managers in the Bank. The "two publications a year" norm seems to be a reasonable mechanism, as is the requirement that researchers in DEC spend 30 percent of their time in operational support. The Panel also recognizes that the publication rule will lead to a substantial body of work of the kind noted above, that is successful neither academically, nor in policy relevance. This is perhaps the inevitable cost of an imperfect quality-control mechanism.

Even so, the Panel believes that there has been too much of this sort of work over the review period. Bank research has not been monitored and evaluated as often as is desirable. The fact that this evaluation is the first in seven years is not unrelated to some of the problems that the Panel has found. More regular evaluations would permit early termination of bad projects, and would help limit the long tail of undistinguished work. The Bank needs better tracking systems to link research expenditures to research outputs; currently it is not even tracking outputs so that it is impossible to know exactly what has been produced. The Bank needs to encourage better links with academics,

both in the selection of outside researchers as consultants, which is currently too haphazard and decentralized, and in fostering regular interchanges through visitors and conferences around key topics. Researchers should not be hiring consultants whose track records gives clear advance indication that they are unlikely to produce good work; that they do so suggests a failure of monitoring and management.

Box 3. Main Recommendations of the Independent Evaluation Panel

General

- The research staff is the main source of learning from Bank's work. Research staff should be involved in planning policies and projects—setting up randomized trials, establishing platforms to support subsequent evaluation and learning.
- A new research unit should be established to attempt to replicate promising new findings.
- World Bank research should be endowed to ensure some independence from Board and management preconceptions about best practice policies.
- Research managers need systems that preserve research objectivity. Preliminary and controversial research should not be used as evidence for Bank policy.

Managing and Evaluating Research

- Quality control of the research program needs major improvement, to include regular external reviews, monitoring of value for money, and output reporting.
- Management should review the pay-scale and terms of reference of research staff to ensure that incentives support top quality research on development issues.
- Research managers must exert careful and central control over consultant quality.
- The Research Committee should consider issuing topical requests for proposals.
- Research needs to better balance analytic quality and policy relevance. Research that does not go through the Research Committee needs external review.
- DEC managers should be as qualified in statistics and econometrics as in economics.

Data

- The Bank data collection, archiving, and dissemination procedures require review.
- The DEC Data Group should (i) have closer contact with researchers, (ii) offer statistical advice on survey collection, and (iii) lead in archiving and dissemination of all Bank data.
- This would require strengthening its statistical and econometric expertise.
- International harmonization and dissemination of household surveys should be a goal.
- The Bank needs standard protocols for the release and revision of data.

Publications and flagships

- The Chief Economist's quality control over all Bank publications should be enhanced.
- A thorough review of flagships is needed, emphasizing quality. Their profusion strains the capacity of research leadership to monitor quality and reliability.
- Flagships must present a balanced picture of research results and debate among serious policy researchers.

External collaboration and support

- The Bank should foster closer relationships with academic researchers.
- Greater collaboration between Bank and developing country researchers should be sought, possibly through institutional support in-country.
- The research function of the ABCDE conference should be reviewed.

While the Panel does not think it makes sense for the Bank to contract out all or even most of its research, for example by issuing requests for proposals, it thinks that it should consider using this mechanism on occasions where Bank expertise is not available. It noted how little of the research that it saw involves joint work with researchers from developing countries. While the panel is acutely aware of the difficulties of doing better, it emphasizes the importance of attempting to do so, perhaps through greater institutional support, or by supporting highly trained immigrant economists in the US and Europe to spend time in their native countries.

The Panel is also concerned with quality control over the Bank's large number of "flagship" publications, here taken to be the World Development Reports and the DEC and non-DEC major topic studies to which the term is applied. These reports are sometimes enormously influential (though the panel suspects that many just gather dust) and they are the vehicles where the line between the Bank's advocacy role and its role in producing new research ideas becomes particularly blurred. The large number of flagship reports makes it virtually impossible for management to exert sufficient quality control precisely where it is most needed. The Chief Economist's office, even if it were vested with sign-off authority on all flagships, lacks the time and resources to adequately vet them. The Panel believes that the Bank produces too many of these reports. It should find a mechanism for better quality control of a smaller number, either by extending the Chief Economist's authority, and giving him or her resources to undertake the quality control, or by requiring some sort of outside review, or both.

In spite of the centrality of the research to the Bank's mission, it is continually necessary to lobby for research, and to protect basic research on development issues, especially where the payoffs are not immediate. The Panel believes that there would be great benefits to endowing the Bank's development policy research, which could be done using a small fraction of the Bank's cumulated retained earnings. Without such insulation, there is a risk that it will degenerate into pure advocacy of the type that has become all too prevalent in the global poverty debate. The Bank must maintain its distinction in research.

C. RESPONSE OF THE CHIEF ECONOMIST OF THE WORLD BANK

This section provides a summary of the Chief Economist's response which is available in full at <http://econ.worldbank.org> under "Evaluation of Research".

The Evaluation of World Bank Research: 1998-2005 was initiated by the Chief Economist and agreed with the Senior Management of the Bank and the Board. This response of the Chief Economist takes into account the dual responsibilities of his office, to head DEC and to provide broad oversight over the Bank's overall research program. We are grateful to the Panel and the Evaluators for their work in producing this evaluation. The report will be valuable as an input to DEC management, and also for managers outside DEC who are responsible for research.

We are encouraged by many points made in the report, including its confirmation that much of the Bank's research is of leading quality and its conclusion that "Bank researchers have delivered value to the institution that is much larger than could be reasonably expected from the very small share of the budget that they command." Various measures, including citation analyses referred to in the Evaluation (and included in this Research Report) paint a generally favorable picture of Bank research, even when compared with a number of prominent research institutions. The report demonstrates that research in the Bank requires tradeoffs over a complex set of objectives and constraints. It must be relevant and useful to Bank operations and to policymakers worldwide, as well as being academically sound. The purpose of this response is to help us chart the road ahead;

it is not to respond to every aspect of the report. Some issues require consultation, including outside DEC and with the Bank's top management.

Strengthening the Quality of Research

We support the objectives set out in the Panel's recommendations—to ensure the integrity, credibility and independence of Bank research, and are encouraged that the Evaluators have scored 61 percent of the studies they read to be of above average quality and a further 28 percent as average. While we find no objective evidence that the Bank's research "tail" is longer than that of other leading institutions, we share the Panel's view that we should try to strengthen the quality of research. This could include more frequent reviews of large DEC and RSB-funded projects while under implementation and of the contribution of completed programs, as well as wider consultation on how to strengthen the Chief Economist's broader advisory role.

We agree with the need to maintain good data on research costs and outputs, and will ensure that the bibliography of Bank research products is maintained and made accessible. We also agree with the need to revisit the objectives and scope of Bank flagship reports. Drawing on evaluations of other parts of DEC, we are exploring approaches towards reducing the volume of DEC reports. We should clarify, however, that many of the Flagships reviewed by this research evaluation may not be formally designated as research products. It is hard to respond concretely to the recommendation to have more central control over the quality of research consultants without more specifics, since, in practice, various factors shape the consultant selection process, including capacity-building.

Some questions are raised in the report on the organization of research and other Bank units. These issues were not part of the mandate of the evaluation, in part because the Bank's organizational structure responds to many demands, and not primarily to the needs of research.

Restructuring the Balance of Research

We share the philosophy of the Panel that good research starts not with a preferred method, but with an important question, and then looks for appropriate and feasible methods for answering it. We respect the Panel's opinions on the merits of various approaches, but note that there is no general agreement within the scientific community on such methodological preferences so we would not wish to be too constraining. The important issue is that all empirical work should be done well. We are already seeking to greatly increase the coordinated use of impact evaluations in Bank and other development operations, via the DIME program.

We agree that too little weight is given by the profession to replication but establishing a dedicated replication unit within DEC does not seem optimal. We will respond to the Panel's advice by encouraging staff to undertake replications in their own areas where these seem to be useful. The DIME initiative, for example, encourages independent yet coordinated evaluations of sets of similar interventions.

The Panel suggests that increasing emphasis should be given to encouraging proposals in areas where research is weak or there is no ongoing work. The recent Bank-wide research consultation carried out under the auspices of the Research Committee aims in this direction and has commissioned forward-looking reviews to encourage research. We will consult further to see whether additional steps can be helpful.

Strengthening the Bank's Data Function

The Panel makes a number of valuable suggestions for strengthening the Bank's already central role in development data and for centralizing this role, including through the possible creation of a Chief Statistician position. We are encouraged by the positive view on the Bank's data role and support the thrust of the recommendations in this area. We note that implementing the ambitious agenda suggested by the report would require senior management to endorse the Bank's central data role, and channel substantial financial and human resources into the area over the long term, as well as implementing some changes in our business model. These options will need to be considered together with those of the recent review of the data group of DEC.

We continue to encourage more open access to data and are mindful of the need to develop policies for ethical review of surveys where needed and for better quality control of the shared data. A policy for releasing research data sets was recently established for DECRG.

Improving Outreach and Relationships with Academia

The Panel makes a number of recommendations to improve outreach and relationships with academia, including improving and revitalizing the visitor program and strengthening the research function of the ABCDE, and also points to the need to improve the accessibility of the DEC website. These are useful recommendations, which in some cases require more study to develop specific plans. We will take them up in further management discussions, and with the Research Committee.

We agree with the objective to build research capacity through collaborative work and will increase our efforts, but the difficulties experienced in finding suitable collaborators in countries with low research capacity remain a constraint. We note that the RSB has provided research capacity-building support to a number of institutions and has also supported capacity-building through the Global Development Network.

Responses to Observations on the Bank's Research

The Evaluators have produced fairly detailed reports on nearly two hundred research products. We are grateful for their diligence and insight, and while we do not agree with every one of their comments and criticisms we recognize their reports as a valuable guide for improving ongoing and future research. The Panel has highlighted three major concerns. First, that certain techniques have been over used. Second, that in some areas the methodology used in research has not been sufficiently tested or that researchers have not sufficiently alerted users to possible limitations of the methodology. Third, that in some cases, research has been used to underpin Bank advocacy, without taking care to ensure that the empirical results were sufficiently robust.

A more extensive response to these sometimes technical issues is provided together with the full Evaluation Report. We note, for example, that research on growth, poverty and aid draws on project-level data, case studies, and cross-country regressions, and that the findings were, in fact, critical of Bank policy at the time. The work on pensions was stimulated by the severity of the problems faced by many funded systems and took on an area uncharted in developing countries at the time. Subsequent research and operational experience reflects a more balanced view. On the question of measuring poverty in small areas ("poverty mapping"), the main question is whether the methods developed can be used to improve targeting in poor countries unable to map poverty through more complete census data. The important issue is to test them empirically—recent work

on Mexico has found the approach satisfactory and we expect other ongoing studies to confirm that they are useful. This work was also carefully refereed by the world's leading econometric journal.

Debates about these issues among researchers, both inside and outside the Bank, will continue. Such debates, including on methodology and on how research can best be applied to help approach development problems, is an essential part of the process of knowledge creation. We agree with the need to ensure balanced research review, especially in contentious areas which are important for policy and particularly where managers' own research is involved. Internal and external debate is key to this process, and could be led by the Chief Economist.

We are deeply indebted to the Panel and the Evaluators and thank them again for their contribution.

CHAPTER 4. FUTURE DIRECTIONS

Section A of this chapter outlines the conclusions of Bank-wide consultations on research needs and Section B sets out the research programs planned by DEC, the Regions and the Networks. Even though there is still “excess demand” in many of the areas, these work programs have been partly shaped in response to the consultations. This results in some degree of overlap in the outlines of research directions, but the overlap in description should not be taken as indicating duplicative research. DEC and non-DEC researchers will frequently collaborate on particular areas, or structure work programs to be complementary. The Research Committee is also addressing some of the specific issues raised by Regions and Networks.

A. CONSULTATIONS ON RESEARCH WITH THE REGIONS AND NETWORKS

Consultations with the Regions and Networks were held by the Chief Economist, the Research Committee and DECRG to identify research priorities. These consultations began in the second half of FY05 and ended during the first half of FY06. Managers and staff in the Regions and Networks were asked to list the research topics which would best meet the needs of their work programs and suggest how best operations and network staff could participate in research. Subsequently, the suggestions were discussed by the Regional and Network VPs, DEC Management and the Research Committee. The findings of consultations are indicative, and not prescriptive, but they were useful to reveal where there is significant demand for research. The Research Committee oversees and monitors the process, and reports on progress made in areas where gaps were identified. A summary of the consultations is available on the Intranet under Units > DEC > Research Committee.

The consultations enabled identification of topics for which there is a strong demand for research in Operations within the Bank, but where insufficient research is being carried out. Six areas were prominently mentioned:

- infrastructure (linkages between investments in infrastructure and economic growth);
- fiscal space (composition, sequencing, efficiency, and financing of public expenditures);
- dynamics of labor markets (structural changes, education, migration, and demographic transition);
- emergence of China and India in the global market place;
- dominance of informal sectors in the developing world; and
- lagging regions and regional policy.

Other areas where there is a strong demand for research are natural resource management (environment, agriculture, water resources, and land markets); and HIV/AIDS (cost effective treatments and socio-economic dimensions).

Infrastructure

Infrastructure is the area in which the greatest unmet demand for research was expressed. Several regions (AFR, EAP, SAR) and networks (INF, PREM) asked for research on three sets of issues: the linkages among infrastructure investment, growth and poverty alleviation; the composition, sequencing and efficiency of alternative infrastructure investments; and the impact on household welfare.

A major constraint to such analytic work is the scarcity of data and indicators. Even the basic descriptive statistics needed to generate baseline standards of quality, performance and cost for Bank lending activities are often not available. In recent years, infrastructure data initiatives launched in the Bank have ranged in coverage from global and sector-wide, to a single topic in one region.

Although these initiatives respond to operational demands, the need for data on infrastructure finance and costs is yet unmet and is particularly pressing. Crucial infrastructure variables for which data is lacking include physical access (e.g. to electricity or water by household); affordability (e.g. household average end-user prices/PPP GNI); cost efficiency (both economic and engineering); quality of service (perceived by household; technical measures); fiscal status of public service agencies (revenue, expenditures, subsidies); financial autonomy of providers (financial ratios, leverage and debt service); and institutional reform and governance.

A standard survey, periodically conducted, would be needed to obtain information from multiple data sources—households, firms, consumers, suppliers, operators and governments. This would be a costly, long-term exercise requiring coordination within the Bank and with outside development partners. Augmenting national statistical capacity would be an important component of this exercise. This might partly be achieved through coordination of existing efforts, avoiding duplication and ensuring compatibility of data, but would also need new initiatives.

In response to the consultations the Sustainable Development Network and DECRG have developed research programs that will examine a range of micro, macro and institutional issues related to infrastructure (see section B below). The Research Committee has also commissioned a survey paper by an outside expert documenting recent advances in the field and presenting a diagnostic analysis of the current state of the art, based on the data and indicators currently available. In addition, the study is expected to highlight the gaps in terms of data and indicators and make specific suggestions on additional data collection that would make further analysis possible.

Labor Markets

The absorption of growing populations into labor markets is a critical challenge in many developing countries. Bank research on labor markets is very limited and three areas have been identified as priority topics for research: (1) labor markets and the determinants of job creation: structural changes in labor markets; demographics (including the share of women and children in the job market); linkages among labor demand, education and poverty; (2) labor markets and education: quantity versus quality of education; skill development; the quality of secondary and tertiary education; decentralization of education systems; (3) labor market policies and regulation, their impact on the informal sector; implications of labor market policy for public services (education, healthcare and pension).

The HD and PREM Networks, the ECA, MNA and LCR regions, and DECRG have responded by developing research programs on various labor-related issues (see section B below). In MNA, research focuses on labor market dynamics in the formal and informal sectors; on the implications of cross-border labor movements on employment (seasonal and full time); and on the economic, social and political implications of emigration of MENA labor to Europe. The ECA Region has included in its research program work on the impact of job creation of changing demographics, migration and structural changes in the economy. Many labor issues are covered in an on-going HDN/PREM research program, "Labor Market, Job Creation and Growth." Work has begun on some areas but most await financing.

Despite the budget cuts, DECRG has recruited a Senior Economist from outside the Bank to spearhead its research efforts on labor issues. His program will cover topics (1) and (3) in the priority list above. Topic (2) is already part of the research agenda for the Human Development and Public Services group. DECRG researchers have undertaken studies to measure the quality of education in a variety of settings (e.g., extent of teacher absenteeism, use of student performance on international exams), and are conducting impact evaluations of interventions that improve the accountability of schools for student learning, including raising the participation of the community in schools and increasing the availability of information on schools. An on-going DEC program also investigates the determinants of international migration, the socio-economic and political implications for both sending and receiving countries, and the implications for labor markets, public services, and remittances.

The Research Committee has also commissioned a review, to document recent advances in theoretical models relevant for middle income countries and summarize empirical evidence in the links between regulation and both efficiency and equity. The study will summarize the main policy findings that have general validity, while recognizing that the optimal institutions might differ across countries. At a later stage, if financing is available, a further study would focus on low-income countries where the dominance of rural and informal activities affects the assessment of labor market outcomes and the policy challenges.

The Informal Sector

By some estimates, more than 30 percent of the developing world's GDP and 70 percent of its workers are outside the official economy. Some small firms are trapped in low-productivity operations with little access to finance and public services, and their workers lack safety and social protection. The result can be slower economic growth and a growing social divide between the informal and formal parts of society. In other cases informality is a response to regulatory regimes and is not particularly associated with poverty.

Research will improve our understanding of the implications of the shift from informal to formal systems as countries develop. DEC research considers informality as a dimension of the investment climate. Building on existing Bank research, there were several requests to address four topics which are not covered by existing research: (1) the determinants of informality, the role of labor market rigidities, and the tradeoffs between competition and regulation; (2) institutional and other constraints to reducing the share of the informal sector; (3) tax policy, covering tax rates, collection and administration; and (4) the sequencing of the increase in the tax base over different stages of development.

The HD Network, the LCR Region and the Human Development and Public Services team in DECRG have initiated research addressing the issue of informality (see section B below). The Research Committee has also commissioned a survey on the informal sector in developing

countries. The purpose of this paper is to describe the current state of knowledge of this area, detail important development issues regarding the informal sector, and identify areas where policy-relevant knowledge gaps may remain.

DECRG has also initiated new research on informality from the perspective of the business climate, including developing new data sources, to assess three broad sets of policy-relevant questions. Are micro-enterprises high-return growing businesses, or just a source of low-productivity jobs of last resort? New surveys approach this question through randomized experiments designed to measure the marginal profitability of informal firms. What are the policy incentives and constraints to the growth and productivity of informal firms? New firm-level data covering both formal and informal firms will permit an assessment of the differences in the investment climate facing them, and the impact on their respective performance. Information on the enforcement of labor regulation is used to analyze the effect of stricter enforcement of labor regulations on firm efficiency, investment, output growth, and job creation. Finally, measures of informality are used to explore the relationships between informal employment, regulations, the quality of public services, and the impact on the economy's aggregate performance. New analytical models and empirical experiments will focus on the direct and indirect spillover effects from informal firms onto formal ones.

Analysis of Fiscal Space and Fiscal Policy

Constraints on public spending for human development and infrastructure are severe in most developing countries—particularly in Africa, South Asia and Latin America. This has led to calls for the creation of “fiscal space” by reprioritizing expenditure toward more productive sectors and projects, by improving expenditure monitoring systems, accounting rules and fiscal programming, and by increasing absorptive capacity in priority sectors. New mechanisms are needed to assess the sustainability of debt burdens, the impact of higher domestic financing on inflation and private investment, and the productivity of expenditure. Finally, additional international assistance is needed together with means to appropriately select and implement aid projects.

Several topics mentioned during the consultations, related to the social impact of poverty-reducing spending and service delivery mechanisms, are being actively researched by DECRG. In these areas, it is not more research that is required, so much as more ESW.

There are four main areas in which regions and networks perceive gaps in research: (1) *debt management*: debt sustainability, and the role of governance indicators; debt restructuring and its consequences for public expenditures, exchange rates, future borrowings, private debt, and FDI; (2) *public expenditure management*: improving targeting; the composition, sequencing and comparative efficiency of different types of public expenditure; (3) *institutions*: the institutional environment for macroeconomic stability; institutions to ensure transparency, effective expenditure monitoring, and sustainability; accounting for different economic and political objectives and structures in assessing the returns from public expenditures; and corruption; and (4) alternative financing mechanisms for public services; the links between governance and growth; and the political economy of fiscal reform. The research program of the PREM Network contains a number of studies aimed at filling these gaps in knowledge.

DECRG has extended its programs in several dimensions of fiscal policy: (1) the macroeconomic consequences of debt relief assesses its impact on growth, fiscal and macroeconomic performance, (2) the consequences for growth of alternative fiscal policy paths, and especially public expenditure composition. Progress on this front is hampered by the unavailability of reliable data, which has prevented systematic analysis of the composition and efficiency of public spending, and therefore of its financial and social rates of return. Several data collection initiatives are under way

throughout the Bank. Current research examines the consequences of alternative fiscal targets for the composition of public spending and for its long-term effects on growth and public solvency. A volume under preparation will bring together some of the initial results of this research, mainly focused on Latin America; (3) the role of fiscal policy and fiscal institutions in augmenting or mitigating macroeconomic volatility, especially in poor countries; (4) the role of corruption and weak fiscal institutions on the efficiency of public expenditures and the enforcement of fiscal discipline. New work examines the political conditions under which the provision of public goods can be improved, focusing particularly on the role of citizen information.

The Research Committee has also commissioned a survey paper to describe the state of knowledge based on a review of the relevant economic policy literature and to present the main issues on these topics. The paper will provide a review of the relevant literature on fiscal and public expenditure policy and institutions from the perspective of the questions/issues raised in the consultations.

Emergence of China and India in the Global Marketplace

Fast economic growth in China and India is having a major impact on the global economy. Their entry into international markets has increased the global labor force and the world's potential growth rate, helped to hold down the prices of manufactures and services, but raised those of primary products, and triggered changes in the relative prices of labor and capital. These developments generate both major challenges and opportunities for developed and developing countries alike.

World Bank research has been undertaken to understand the impact of China's trade and other reforms on the Chinese economy itself, but there has been a deficit of research on the implications for the competitiveness of developing countries, international trade, global employment, and natural resource management. There is also an outstanding demand for research on what other developing countries can learn from the experiences of China and other large emerging market countries.

Among the questions identified as relevant for the Bank's operational work were:

- What are the implications of China's and India's growth for the exports of other developing countries?
- Will China and India divert FDI from other countries and/or provide investment flows to them?
- What are the implications for oil and other natural resources and for global emissions?
- Do China and India prove that governance does not matter for growth?

Many external scholars have tackled these questions—for example, OECD, IDS (Sussex) and IADB—as have several units in the Bank. As noted in Section B, in collaboration with EAP, SAR and the Institute of Policy Studies, Singapore, DECRG has produced a book *Dancing with Giants: China, India, and the Global Economy*, to be published in January, 2007. AFR has already published *Africa's Silk Road: China and India's New Economic Frontier* and LCR's *Latin America and the Caribbean Respond to the Growth of China and India*, is to be published in 2007. All three were discussed extensively at the Annual Meetings in Singapore and have been made available on the web in pre-publication form. In addition, research articles on several aspects of China and India's growth are under preparation or in publication.

Lagging Regions

Regional policy is increasingly important in the dialogue between Bank staff and client countries, particularly in large countries with a federal structure. Lagging regions are generally landlocked, have outdated industries or lack (or have exhausted) natural resources. Lagging regions are often

characterized by low growth, high unemployment, high poverty incidence, low productivity, and a weak human capital base. Regional policy aims at addressing critical problems, including insufficient market size, and the lack of growth poles, concentrated economic activities, and technological spillovers. Large distances reduce the mobility of goods and factors, and increase infrastructure requirements and transaction costs. Equity concerns arise, with marked differences in wages and consumption between regions, and related poverty and social concerns

Specific questions emanating from regions during the consultations include: What policy framework would best promote economic development in small states and lagging regions? Why in some countries do some regions prosper and others lag behind although they have similar policy regimes? Do some regions (provinces in China, or states in India) lag behind others because of exogenous factors (poor climate, weak human capital, geographic isolation, etc)? What role do regional political factors play (are some regions less democratic, more corrupt and less efficient)?

Some DECRG research deals with the debate on how to approach lagging regions and examines the effectiveness of regional policies in the short to medium run. When they work, regional policies increase economies of scale (via “growth poles”); enhance technological spillovers, and facilitate mobility which increases access to human capital. Better infrastructure reduces transaction costs which creates larger markets. Although research has shown that regional policies can lower regional income differences and wage differentials for equivalent jobs, findings are mixed on whether they enhance efficiency, jobs and investment. The fiscal cost is often not trivial—although some of it can be shared across countries, as attested by the EU experience. Migration is often inevitable, exacerbating economic and demographic divergences between regions but helping to equalize incomes across households. Recently initiated research seeks to better understand the location decisions of firms (in Morocco and India); to improve local governance in lagging regions of India (research coupled with lending operations); and to introduce interventions to help local governance and development, including at the community level. Research in ECA in collaboration with DECRG will consider how geographic dimensions can be included in policymaking to alleviate poverty in lagging regions.

B. FUTURE DIRECTIONS OF THE RESEARCH PROGRAM

THE DEC RESEARCH GROUP

The DEC Research Group is the principal locus of research within the Bank and the only part with a mandate for research across regions and sectors. In the previous Research Report to the Board, DECRG reported having 85 professional grade researchers. Since then, this number has fallen to 77 regular and term professional researchers. As a result of this contraction, a number of activities have been scaled back or dropped. These include security and development; data work on the Investment Climate Surveys (which has been picked up by the regions) and Investment Climate Assessments (also picked up by the regions); regional trading arrangements; financial stability; public expenditure tracking surveys, service provider surveys; industrial pollution; non-farm rural development; and forestry. In addition, fewer resources than previously planned will be devoted to issues such as forest conservation, infectious diseases and firm-level research. These losses to the work program are regrettable but are the natural consequence of tight budget constraints. They are balanced by increased activity or planned activities on topics such as migration, climate change, aid effectiveness, urban policy and infrastructure, international trade in services, access to finance, the measurement and analysis of inequality, macroeconomics, and community-driven development (see below).

The DECRG structure and Management Team was recently reorganized to be more closely aligned with the Bank's new Network structure. DECRG's research will continue to be done across team boundaries but this new structure will facilitate the further integration of research into the Bank's business and improve the impact of research on Bank operations. The changes entailed:

- The Infrastructure and Environment and the Rural Development teams were combined to create a team for research on Sustainable Rural and Urban Development (DECRG-RU);
- Responsibilities for firm-level research were combined with those of the former Finance team to create a Finance and Private Sector Development team (DECRG-FP);
- The Growth and Investment team was renamed Growth and Macroeconomics to signify its renewed focus on macroeconomics and the growth agenda in the aggregate, including macro implications of micro saving and investment behavior (DECRG-GM);
- The Poverty, Human Development and Public Services and International Economic Integration teams remain unchanged.

The research agenda in DECRG is determined by relevance -- whether it is likely to produce convincing solutions to development questions that, in turn, are likely to influence policy and outcomes. One consequence of this is that most of DECRG's research is empirical: it is concerned with results on the ground, not just theory or methodology. In assessing relevance, DECRG managers consider the needs and priorities of both Bank Operations and the development community at large. Identifying those needs and the research necessary to meet them relies partly on the judgment of the researchers and their managers, but colleagues in Bank Operations suggest topics, and research often grows out of DECRG's joint work with them. Every researcher is expected to spend 30 percent of his/her time working with Operations on cross support, and Operations staff are often involved directly or indirectly with research projects. In addition, DECRG managers frequently meet their counterparts in Operations, to discuss specific projects or in formal meetings such as Network and Sector Board meetings. As noted above, in the summer of 2005 DEC and DECRG senior management met every Regional and Network management team to discuss research priorities. Senior management periodically requests research on specific topics, and interactions with policymakers and researchers outside the Bank are a constant source of stimulus. Finally, of course, the SVP and Chief Economist is heavily involved in guiding research priorities.

Even with such processes, one of the challenges of research management is to anticipate topics sufficiently early to produce research findings that address them when it is required. Sometimes this is straightforward—as with research on the Doha Development Round that was released in the run-up to the WTO's Hong Kong Ministerial Meeting in December 2005. Mostly, however, it is difficult and risky and one of the requirements of research management is to create space for researchers to explore 'blue skies' issues before any demand for them has been expressed. The remainder of this section lays out DECRG's anticipated work program in broad terms, concentrating on the way it has changed since the last Research Report. It is laid out in terms of the new research teams, although, as noted above, much activity spans the team boundaries.

Finance and Private Sector Development

Finance and Private Sector Development research has just been brought together in one team. This reflects the centrality of finance to private sector development and vice versa and the fact that large parts of both sub-disciplines revolve around the behavior and performance of firms. The combination is expected to yield both positive spillovers between the two strands of thinking and the ability to take a more holistic view of the factors determining the growth of jobs, output and incomes in the private sector.

Current policy concerns regarding the financial sector in the process of development revolve around two rather different, albeit not fully independent dimensions, which can be called *access to financial services* and *risk management*. DECRG's finance research program is organized around these two strands. The current research program also has significant *private sector development* elements and with the recent reorganization, this emphasis will be even stronger going forward.

Access refers to the need to ensure that financial services essential for growth reach widely through the economy, thereby ensuring the foundations for broad-based, inclusive growth. But deepening finance and expanding access are not enough, given the fragility of finance. Most countries, even including those which have experienced rapid development success underpinned by financial deepening, have suffered from financial crises interrupting the growth process, and sometimes setting it back for a decade or more. In addition, heightened risks at the level of the individual firm and households have reinforced the role of financial instruments and markets for hedging and managing risk also at the micro level. This is why risk management, including crisis prevention, remains a central part of the financial development agenda and hence of the finance research program.²⁵

Access to Finance

The emphasis on access will continue into the next program cycle, as access to finance by both firms and households is an important determinant of the development process, promoting growth and alleviating poverty. The work in this area will include documenting and benchmarking differential access to financial services by small firms and the poor, identifying underserved groups and barriers to building inclusive financial systems. The work will also evaluate the channels through which access to finance can contribute to the growth process such as promoting entrepreneurship, innovation and the process of technology adoption. Ultimately the research seeks to evaluate the impact of firms' financing constraints and households' inability to access financial services on economic growth and poverty alleviation, and identify different ways to improve this access, that range from microfinance innovations to making improvements in the functioning of mainstream financial institutions and systems.

Risk Management

The second area of focus, risk management, is important for ensuring the sustained effectiveness of financial systems and financial stability over the long run. The research will investigate the impact of supervision strategies as well as impact of compliance with Basel Core Principles on bank stability, the interaction of bank insolvency resolution and deposit insurance policies, and the impact of financial globalization on bank efficiency and access to financial services. It will also initiate work in the area of capital market development and insurance.

These two themes of ensuring *broader access* to a wide range of financial services for firms and households, and strengthening institutions for *risk management* closely reflect the priorities elaborated in the Concept Note for the Bank's Financial Sector Strategy (2006) which was the result of a long consultative process undertaken by the Finance Sector Board, and discussed by CODE in April 2006. These themes also cover all important aspects of the financial system, allowing the finance team to investigate policies that work best to improve the efficiency, stability

²⁵ The two strands are linked. For example, financial services can safely be extended to a wider clientele only if the associated risks are well managed. And systemic financial risks are heightened by the danger of populist measures such as political interference in credit allocation.

and reach of the financial systems, i.e. how to facilitate the development of effective financial systems that contribute to growth and poverty alleviation.

Private Sector Development

Both the current work program and the proposed one have significant *private sector development* elements. The current work program covers issues related to small and medium enterprises, corporate governance, bankruptcy, and entrepreneurship using different firm level datasets. Some of the planned projects include evaluating the importance of different constraints in the business environment for firm growth; how the business environment affects the process of technology adoption, innovation, firm organization, governance, entrepreneurship and firm informality. Going forward an overarching theme for the PSD research will be to measure the impact of the business environment and its reforms on firm performance. Over the long term the PSD research agenda will strive to identify (a) robust relationships between different business environment features and firm performance; (b) investigate the impact of changes in business environment, i.e. reforms, on changes on firm performance; and (c) identify business environment reforms with the greatest impact so that reform efforts can be prioritized and impact maximized.

Growth and Macroeconomics

This research program focuses on the effect of policies and institutional factors on growth and macroeconomic stability. It builds on earlier work exploring the covariates of growth, mostly from an aggregate perspective. Current research combines a variety of methodological approaches—micro and macroeconomic, single and cross-country, structural and reduced-form. It covers three broad areas: foundations of growth, macroeconomic and financial issues, and governance and political economy.

Foundations of Growth

Earlier research at the Bank and elsewhere, based mainly on macroeconomic data, has yielded many valuable insights regarding the mechanics of growth and the policies and institutional ingredients robustly correlated with long-term growth. Current research seeks to achieve a deeper understanding of the mechanisms translating policy actions and reforms into growth, and especially of the role of country-specific initial conditions and complementarities among different policies – in order to derive policy priorities tailored to individual countries' circumstances. The main areas of research include the following.

Microeconomic Dynamics and Macroeconomic Performance. Evidence shows that productivity gains account for the bulk of long-term growth in per capita income. Economy-wide productivity growth reflects the allocation of existing and new resources across microeconomic units of heterogeneous efficiency. Research examines the economy-wide dynamics of resource allocation, to understand how it is affected by policy and institutional factors. Particular attention is devoted to assessing the scope, speed and efficiency of resource reallocation, and identifying policy and other factors shaping them.

Informality. Informal and micro firms account for a large share of economic activity in many developing countries and represent an important source of income for the poor. But they have attracted relatively little research, largely owing to the lack of suitable data. Taking advantage of new data-collection initiatives under way, research focuses on three broad policy-relevant questions. First, the productivity and profitability of informal and micro-firms: are they high-return, growing business, or just a source of low-productivity jobs of last resort? Second, the policy

incentives and constraints to the growth and productivity of informal firms – do they grow to become formal, or do they get caught in poverty traps? Third, the interplay between the formal and the informal sectors for aggregate economic performance – do informal firms supply cheap inputs to formal ones, or hurt them through low-cost competition and increased public service congestion?

Innovation and Technological Upgrading. While technical progress is widely regarded as essential for growth, relatively little research on its determinants has been done for developing countries, where much technological upgrading takes the form of adaptation and adoption of known technologies. Research examines how technological upgrading strategies in developing countries are affected by the policy and institutional environment. Attention is also paid to how barriers to firm renewal and turnover influence the macroeconomic pace of technological upgrading and catch-up with advanced countries. Finally, the research also examines the role of innovation and technological gaps in shaping the changing growth link between developed and developing countries over the short and the long run.

Fiscal Policy and Growth.

Another line of research is concerned with the long-term growth consequences of fiscal policy, and especially public expenditure composition, which until recently have been largely absent from the debate on fiscal targets and rules in developing countries—in large part due to the unavailability of reliable data. Ongoing research assesses the contribution of public infrastructure to overall growth, and the factors that shape it. Related research examines the consequences of alternative fiscal targets for the composition of public spending and for its long-term effects on growth and fiscal sustainability. Other ongoing work assesses the role of corruption and weak fiscal institutions on the efficiency of public expenditures and the enforcement of fiscal discipline. Finally, research on the causes of aggregate instability examines the role of fiscal policy and fiscal institutions in augmenting or mitigating macroeconomic volatility, especially in poor countries.

Macroeconomic and Financial Issues

Under this broad heading, three research themes are pursued. First, work on macroeconomic volatility studies the nature of the shocks faced by different types of developing countries, and the role of country-specific institutional and structural features in amplifying or mitigating their effects and shaping potential policy responses. In turn, research on financial integration and capital flows examines the benefits and challenges of financial globalization and financial development for aggregate performance, including growth, key intermediate endogenous variables such as the real exchange rate, aggregate risk diversification, and the propagation mechanism of financial shocks across countries. Finally, new work focuses on the macroeconomic effects of aid and debt forgiveness. The latter has attracted surprisingly little attention in the past. Related to this, research also examines various mechanisms of potential ‘poverty traps’—ranging from health-related traps to lack of access to finance—holding back aggregate growth. The research assesses whether these mechanisms—whose presence is often argued as a rationale for scaling up aid—are at work in preventing poor countries from taking off.

Governance and Political Economy

Past research has amply documented the contribution of good governance to aggregate economic performance and long-term growth. Current research seeks to understand the mechanisms behind such contribution, and identify what concrete steps help attain good governance. The research reexamines the robustness of the governance-growth link in macroeconomic data, as well as the contribution of governance to microeconomic resource reallocation. In particular, it also explores

the role of governance in the success or reversal of reforms as a potentially important mechanism underlying such links. Concerning the factors behind good governance, research focuses on the role of citizen information in fostering political accountability and improving governance; the effects of fundamental characteristics of the political system on its ability to promote political credibility as a key governance ingredient; and the role of redistributive conflict for governance failure. In addition, research also examines governance “anomalies”— seeming mismatches between the quality of the formal institutional setting and actual governance performance. Building on earlier research on post-conflict economic performance, a separate line of work is concerned with the special case of post-conflict governance. It assesses political and institutional ingredients for successful emergence from conflict.

International Economic Integration

This research program focuses on the impacts of economic policies affecting international transactions on efficiency, equity, and growth in developing countries. International economic integration is defined broadly to span the international exchange of goods and services, foreign direct investment, knowledge (technology) and people (both temporary movement and longer-term migration). Major objectives are to better understand the “mechanics” of globalization, in particular the impacts of trade, investment and migration policies and other forces (such as technical change) on the pattern and composition of trade and domestic production; to improve the analytical tools that are used to evaluate policy reforms by extending these to go beyond trade in goods; to work with partners to enhance the quality and coverage of data on policies affecting international integration; to improve the indicators used to characterize the restrictiveness of policies affecting international economic integration across countries; and to do more to assess the effectiveness of “aid for trade” interventions and the implementation/enforcement of trade agreements, both regional and multilateral.

Among the questions the program will explore are the relative magnitudes of the potential gains from more liberal trade, investment and migration policies, the relationships between these different types of international exchanges; the implications of the coexistence of relatively liberal regimes for goods trade and investment with relatively more restrictive regimes for services trade and investment, and on labor movements – as seems to be the case in many countries, and the effects of foreign investment in markets with different levels of average barriers to trade. Better data on underlying policies are a precondition for better policy advice and understanding of the process of globalization. The research program therefore puts significant emphasis on the collection of and public access to data on policies affecting integration. Among the major elements of the research program looking forward are: agricultural trade policies; policies affecting trade and investment in services; and the impact of regulatory requirements, transactions costs on the international competitiveness of firms, and migration.

Distortions of Agricultural Incentives

Research on poverty has concluded that because most of the poor are located in rural areas and are heavily dependent on agriculture, large-scale poverty reduction requires increasing profitability in farming in addition to the creation of alternative employment opportunities. Earnings from farming are depressed in many low-income countries partly because national policies have an anti-agricultural bias, and/or because richer countries assist their farmers with import barriers and subsidies. This research project is measuring the changing extent of policy bias against agricultural production, the effects of current and alternative policy regimes, and the political economy forces explaining reforms and resistance to reforms. As part of the latter, there will be a focus on the

importance of international forces relative to domestic political forces in bringing about reform during the past two decades.

Specifically, the first stage of this research project is generating broader and more-complete time series estimates of distortions to agricultural producer and food consumer prices in developing countries. In its second stage (from 2007), it will be analyzing the political economy forces behind the evolution of those policies and those of developed and transition countries, so as to identify effective unilateral and multilateral reform strategies, and also estimating the distributional and especially poverty consequences of alternative types of policies. Expected outputs include country-specific databases for more than 40 countries and four sets of papers using these data (Africa, Asia, ECA and LAC) from stage 1 and two sets from stage 2 (causes and effects).

Services Trade Policies and Non-tariff Measures

A central aspect of the research program revolves around the collection and compilation of data to characterize and measure the effects of trade and investment-related policies across countries. This will often be done in collaboration with partners. Existing databases on global trade and production, antidumping and WTO dispute settlement will be updated. A specific focus area for new work concerns *services trade and investment policies*. The objective here is to complement existing firm-level and household data for a set of developing countries for which data is available for at least two points in time and develop a detailed picture of services policy, market structure and performance across sectors and time. This will be done through a cross-country survey to collect information on impediments to international integration that are not captured by existing databases on merchandise trade policies. These “missing policies” are primarily in the areas of cross-border movements of services and service providers.

The lack of data has made it difficult to examine the relationship between policies and performance, and to identify priorities for domestic reform and international cooperation in services. Better data on underlying policies are a precondition for better policy advice and understanding of the process of globalization. Better data are also needed to leverage planned investments in improved analytical modeling techniques – which will require information on FDI and services policies—as well as to strengthen monitoring of policies in light of the global commitment to attain the MDGs. The large gaps in available information on policies affecting international integration impede comparisons of country “performance” and assessments of the direction and magnitude of policy changes over time.

Regulation and Trade Costs: Linkages between the Business Environment and Trade

Despite significant trade liberalization, many developing countries have experienced sluggish economic growth accompanied by only a modest decline in poverty. Recent research has stressed the importance of institutions in understanding the linkages among trade, growth, and poverty reduction, as well as the regulatory environment, transactions costs and policies affecting factor markets. All are potentially important in allowing/encouraging resources to move to more productive uses following trade and investment liberalization and the desired increase in growth to be realized.

Research will center on the broad question of how regulatory policies such as product standards and their enforcement impact on production and transactions costs. This research area will also consider policy reforms to facilitate trade and enhance export competitiveness. A major focus will be an exploration of both the static (efficiency) and the dynamic (growth) gains associated with lowering trade transactions costs. A specific question to be analyzed is the net effects on diversification and

composition of exports. While it is now the conventional wisdom that a good business climate (characterized by a flexible regulatory environment, quality infrastructure, etc.) is desirable to promote long term economic development, it is much less well understood how it affects the composition of exports directly and through its interaction with trade policies.

Migration Research

The migration research program is organized from within the International Trade team, but involves researchers from several units in the Group. The links between migration and fundamental development issues have been neglected in the past, especially as far as the empirical research is concerned. Diverging demographic trends between developed and developing countries and the large wage gap between them imply that migration forces are likely to strengthen and make it increasingly difficult for government policies to restrain migration pressures and strengthening trends. Among the major advances expected in the next two years are:

International Migration Policy and Economic Development: Studies across the Globe. (forthcoming, March 2007). This new volume presents some of the latest round of research in the migration research program. In addition to presenting the most complete dataset of bilateral migration stocks, the volume has sections on the impact of migration on development, and studies on several host country policies and return migration.

Surveys: Several surveys are in the field to study in detail the determinants and consequences of migration: one of the Japanese descendants in Brazil will be used to study the Japan-Brazil corridor and another as part of the LSMS in Ghana should be finalized by mid-2007. Finally, the research program is in the initial stages of a household survey in Sri Lanka with focus on temporary migrants to the Persian Gulf countries.

Medical Brain Drain: The preliminary version of the most complete bilateral migration dataset of medical doctors has been completed. This is available on DEC's website along with several papers, the most important of which analyzes the linkages between medical brain drain, the HIV epidemic and economic growth in Sub-Saharan Africa. Also, an in-depth study is being conducted of the determinants of doctors' migration in Ghana which will include surveys of hospitals, medical students, as well as practicing doctors abroad and in Ghana.

In addition, work will continue trying to unravel the links between trade, FDI and migration, the gender aspects of migration and the determinants of the brain drain in general, drawing on the dataset published by DECRG last year.

Human Development and Public Services

A year ago, the Public Services Group was renamed the "Human Development and Public Services Group" in recognition of its continuing emphasis on human development; the delivery of education, health and social protection services, and the political economy issues related to those sectors. The group is no longer conducting free-standing service provider surveys and public expenditure surveys. The latter are now being undertaken by operational staff though researchers continue to provide substantial advice and guidance to these efforts elsewhere in the Bank. Researchers are also developing new directions for research on employment and the functioning of labor markets, an area that has not received sufficient attention from Bank researchers in the past few years. Another area of research that is growing is aid effectiveness. Since the policy research report *Assessing Aid* was published eight years ago, donors have committed to a substantial increase in aid under the Monterrey Consensus, with many of them promising to increase aid to 0.7 percent of their

GNP. As they begin to deliver on these commitments, new research approaches can help inform donor agencies and their constituencies on the effectiveness of alternative aid strategies.

The future research program of the Human Development and Public Services Group is devoted to the following four broad components.

Describing and Understanding Levels and Inequalities in Human Development

The group's research continues to document trends, patterns and inequalities in indicators of human development in a wide range of countries, and for specific population groups. Efforts emphasize developing measures of harder-to-quantify dimensions of human development and relating those to socioeconomic correlates, as well as the magnitude of "mortality shocks" such as genocide (Cambodia, Rwanda), HIV/AIDS (Sub-Saharan African countries), and large-scale economic shocks (e.g. Peru in the 1980s). This research component also explores the association between human development and various sources of inequalities. What is the role of factors such as access to health insurance schemes, economic crises and political conflicts, and socioeconomic and cultural inequalities in explaining the demand for health care; what are the determinants of school attendance and learning outcomes, and how are dimensions of school quality associated with these outcomes; what are the sources of vulnerability and how do different groups cope with risks?

The latest impact evaluation methods are being used to understand how programs and reforms can shift demand for social services and improve human development outcomes. Examples are evaluations of programs to raise the demand for education and health services, especially among the poor, such as targeted conditional cash transfers (Ecuador), scholarship programs (Cambodia, Indonesia), improvements in information availability (Pakistan, Philippines), and medical financial assistance (China, Vietnam). Other studies are evaluating changes in how services are delivered, such as community-based nutrition programs (Senegal, Burkina Faso), prevention and new treatment programs for HIV/AIDS (Burkina Faso, Ghana, Mozambique, Rwanda and South Africa), and home-based child health and parenting programs (Ecuador and the Philippines).

Another focus of ongoing research is the impact of low or unequal human development on individual and family vulnerabilities and on coping strategies. What is the effect of educational progress on labor productivity and income distribution in an economy like China's which has grown rapidly for well over a decade; what are the effects of fertility choices on household living standards and other socioeconomic outcomes, including in countries that have suffered from the HIV/AIDS epidemic; what are the effects of increased urbanization and globalization on the work opportunities for men and women in developing countries and their responses in terms of schooling, work outside the home, and migration?

Improving Service Delivery and Reforming Institutions in Support of Human Development

This research component aims to understand how to make services work better for the poor. A key challenge is to understand the incentives that providers face and what goes on inside schools and health clinics in order to assess how resources are being used and how performance can be improved. Teachers, doctors, and other health personnel not only play a central role in the delivery of care and education; they also claim the lion's share of recurrent expenditures. In this light, DECRG researchers have measured provider absence in health clinics and schools in six developing countries and explored its causes and consequences. That project is now shifting its primary focus to understanding how better to reduce absenteeism and improve performance.

Ongoing impact evaluations of specific programs are also learning more about how services can be improved at points of delivery. Some studies are about how service personnel respond to changes in incentives, such as performance-based pay, contract arrangements, and better accountability. A randomized evaluation is being conducted of information and advocacy campaigns in Indian villages aiming to spark community participation in schools and improve learning outcomes. Other studies are examining how broader institutional reforms, such as a switch to decentralized systems of provision and governance, affect the effectiveness and equity of service delivery. Contracting private providers to deliver public services is another means to expand provision and use but little is understood about what forms of contracting work best. The effects of different forms of contracting as well as the manner in which the private sector is affected by the creation of a regulatory framework are also being examined.

Previous research identified particular weaknesses in political incentives of governments to deliver quality public services. Ongoing research is examining two institutional responses to overcome political obstacles to serving the poor—fiscal decentralization to local governments, and mass media engagement to promote yardstick competition across political jurisdictions on optimal allocation of public resources for human development. This research component also looks at a country's larger political context, especially the effect that international social and economic rights norms today have on that context. The enforcement of those rights by courts will likely affect the delivery of basic social services in developing countries.

Does Aid Matter? New Research on Aid Effectiveness

That aid is likely to work better in a good policy environment continues to have the appeal of common sense, despite controversy over the existing cross-country evidence. Research planned or in progress examines this question at lower levels of aggregation, including cross-state data within selected countries, and at the project level. Other research will examine the diffusion of development ideas and their impacts, in contrast to the previous focus on resources in the aid effectiveness literature. DECRG researchers are planning to update and expand research on the impact of aid on the composition of public spending, and to investigate the net impact on aid allocations of performance-based systems such as IDA and MCC.

Workers and Labor Markets

What can be done to help make labor markets work better for poor people: how can we assure more equitable and less risky outcomes for them while preserving incentives for effort and productivity growth? Many of the labor market regulations and interventions that have emerged in developed and middle-income countries have limited relevance to low income countries (especially rural labor markets in Africa and South Asia). Regulation of labor markets is intended to protect workers but can also hamper job creation, leaving more workers unemployed or unprotected in the informal sector. This may disproportionately affect young workers, women and unskilled workers. Indeed, informality is pervasive in most low-income countries, labor market regulations apply only to a small proportion of workers in urban areas, and the non-farm sector in the rural economy is little understood. DECRG aims to expand research on labor markets on these topics. This work will be led by a Senior Labor Economist who will be joining the department in May 2007. New research will examine the extent to which the poor and excluded groups participate in and benefit from the expansion of employment opportunities, assess the relative effectiveness of labor market programs and regulations in improving the welfare of their intended beneficiaries in the short and long term—in order to assure that social protection interventions are adequate and conducive to longer-term poverty reduction.

Poverty: Equity and Development

It has long been the case that the Bank's flagship publication, the annual World Development Report, both reflects past research and informs priorities for future research. Last year's WDR, *Equity and Development*, is no exception. The WDR argued that there are inequalities in the world that get reproduced across generations and impede overall economic performance. This was based on a body of past research, including work within the Bank. However, it also posed new challenges for future research. Researchers in the Poverty Group are addressing this challenge by aiming to add rigorous new thinking and evidence in those areas where the WDR was more speculative, given limitations on the existing stock of knowledge. This will be done in two main areas: better data for describing inequity and research on understanding and breaking poverty and inequality traps.

Describing Inequity: Towards Better Poverty and Inequality Data

Compilations of distributional data at the country level lie at the heart of much of our current knowledge about both the extent of inequality in the world and the implications for aggregate economic growth. There is a pressing need to improve the quality of existing data and DECRG researchers have identified a number of specific areas that need attention. The data are also being asked for to throw light on new questions. One example is the need for poverty and inequality measures for finer socio-geographic groupings than are typically available from household sample surveys. The development of a credible methodology for finer census and survey-based poverty maps by the DECRG poverty research group was a response to this need. Another example is the need to develop operational measures of the concept of inequality of opportunities, which the WDR emphasized as both a key component of the normative concept of equity, and as the most appropriate concept of inequality when discussing the purely positive implications for efficiency and growth.

Research at the Bank has always been closely linked to efforts in the design and implementation of household surveys, notably through the Living Standards Measurement Study (LSMS) based in the poverty research group. The emerging concern about equity and development will have implications for the LSMS. Planned future work will be on validating and experimenting in the area of welfare measurement (as an input to measuring poverty and inequality) and a range of other topics including disability, gender, financial services, migration and infrastructure. High priority will also be given to developing better methods of data collection and analysis, including exploiting new technologies.

LSMS IV

In 2006 a new program was also launched, which will be validating and experimenting in the area of money-metric welfare measures, developing and testing new topical modules for the LSMS and investigating methods to exploit new technologies to improve data production. The development of new modules will be tailored in part to the issues addressed in the Equity and Development research program (including measuring inequalities of opportunity and inequalities associated with gender and ethnicity). The LSMS IV agenda will also aim to ensure the dissemination of results. Efforts here include producing tools that provide guidance on best-practices in integrated household surveys, and partnering with the international survey community and client counterparts to increase the flow of information both north-south and south-south.

Investing in Equity: Understanding and Breaking Poverty and Inequality Traps

Here the main challenge for future research is to identify the most important specific dimensions of inequity that impinge on economic performance and are amenable to policy intervention. There are a number of topics under study, including:

- Inequalities in *education* and *health* that can severely impede prospects of participating in the opportunities of a growing economy, and contributing to that growth. To draw useful lessons for policy we need a deeper understanding of the sources of economic gradients in human capital, and their implications for the evolution of living standards over time.
- Inequalities in opportunities stemming from *location* and impediments to *mobility*. Persistently poor areas have been a concern in many developing countries, including those undergoing sustained aggregate economic growth. Why do we see areas with persistently low living standards, even in growing economies? What are the implications for policy? How much emphasis should be given to poor-area development versus out-migration, or are these in fact complements?
- Inequalities in *voice* and *power*, such as stemming from political institutions, judicial inequalities and constraints on access to social networks that can be crucial to abilities to cease new opportunities. What scope is there for new policies emphasizing institutional reforms and new modes of services delivery, such as through greater reliance on local communities?

In all these areas, there is a continuing need to assess the distributional impacts of development programs and policy reforms. All policies affect inequalities in income and other dimensions, even when that is not their primary aim. The focus of the research program is on a narrower set of policies that have improving distribution as their primary aim. The specific policies include transfer schemes (workfare and conditional cash transfers), programs for the extreme poor, poor-area development programs, disaster relief, land reforms, judicial reforms, community-driven development, and institutional reforms for promoting local democracy.

Sustainable Rural and Urban Development

The new team for Sustainable Rural and Urban Development researches issues of environmentally sustainable development in general, spatial dimensions of development, infrastructure and urban development as well as issues specific to the rural sector. The program is extensive, covering topics such as land policy, community-driven development, rural finance, the rural investment climate, the economics and institutions of water resources, the poverty-environment nexus; environmental governance; climate change and natural disasters; infrastructure and economic development; poverty and urban development; and urban and regional economics. Looking forward, the major components are discussed below.

Land Policies

Land policy has become a significant component of the Bank's operational and policy agenda in rural development. The work program follows on the 2003 PPR on land policies, focusing on three main areas. First, the gender-differentiated impact of land tenure security and of efforts (e.g. land titling, tenure security legislation, legal reform) to improve it in China, India, Central America, Ethiopia, and a range of other African countries is evaluated. Second, the research explores the efficiency and equity impact of land markets (rental and sales), and of restrictions on operation of these markets in the context of a growing non-agricultural economy and large-scale migration of labor out of agriculture. Finally, evaluation of the impact of different types of land reform (through

market mechanisms or expropriation) on household welfare and productivity of land use in Brazil, South Africa, and India is conducted. All of these are undertaken in close collaboration with local researchers and Bank operations, with integration into the DIME initiative.

Community-Driven Development

The reliance on community-based mechanisms for empowerment and delivery of development and social services has been growing in the Bank and among donors, not without controversy. The program is supporting an increasing number of evaluations of programs around the world, a number of them with fully experimental designs which are expected to provide answers to key questions. Do CDD programs increase the quality or quantity of public services? Do they make governments, local and national, more accountable? Do they allow for greater transparency in the disbursement of funds and are they a more efficient mechanism for delivering public benefits to a target population? Are investments in community infrastructure better maintained when investments are requested directly by the beneficiary community? Do the most disadvantaged participate in community decision making? Does their participation yield a better allocation of, or access to benefits within the community? Given the time needed to set up and conduct careful evaluations, this program will deliver its major output by end-CY09. However, DECRG will produce an interim assessment of the new evidence coming available by the end of FY08.

Macro-Micro Linkages of Irrigated Water Management

Where irrigated agriculture is important, micro-water policies affect the rest of the economy and macroeconomic policies may have unintended effects on irrigated agriculture. A model of these relationships was applied to Morocco. Trade reform illustrated links from macro policies to the farm level, where water was shifted from previously protected crops. And micro policy reform reduced water allocated to soft wheat production and sugarcane, releasing water for other crops and suggesting high supply elasticities where farmers can shift into other crops. The model also was used to examine the effects of frequent droughts and increased water transfers to urban and industrial sectors, resulting in groundwater over-pumping. The effects of governance structure and institutional arrangements were considered including (i) removal of domestic subsidies on inputs and outputs and using direct farm income payments instead, and (ii) allowing revenue generation and investment at the regional level. Based on the Moroccan analyses, a refined model is being applied to other countries, including Turkey and South Africa.

Climate Change

DECRG plans to explore four major parts of the climate change agenda: Impact assessment and adaptation to climate change, mitigation of emissions, sequestration of emissions, and the Bank's role in the rapidly-growing carbon finance business. Even though developing countries may not be responsible for them, changes in climate have important implications for developing countries. Climate change and its effects on sea-level, agriculture, forestry and ecosystems have direct and potentially significant implications for a wide range of investment and expenditure decisions that are being made now in developing countries, for example in agricultural development strategies, water management, infrastructure location and the relative merits of out migration from the worst affected regions.

But developing countries will also increasingly be called upon to help mitigation. The Bank and its client countries need to evaluate how much emissions can be reduced through 'win-win' strategies, what the trade-offs are beyond that, and how mitigation and sequestration can be financed and implemented. DECRG is initiating studies on a comparative assessment of energy resources and

abatement options, the efficiency of renewable energy investments in Bangladeshi villages, and the economics of solar power in rural Africa

Part of the threat of climate change is increased volatility. Recent DECRG research has contributed to the development of a global geographic database of natural disaster hotspots, which has already had significant influence on hazards policy and strategy development. This will be extended and exploited to offer clearer predications of the consequences and costs of disasters, especially in the light of the increased urbanization of the developing world's population.

Infrastructure and Economic Development

Despite recent staff losses, DECRG is committed to a multi-year research program to provide empirical evidence on the role of infrastructure in stimulating economic development. The main questions to be answered are: How and by how much does infrastructure contribute to economic growth? How can the economic returns from infrastructure projects be increased and what is the overall magnitude of the benefits? What is the distributional impact and how can we improve the welfare consequences of infrastructure investments?

Macro analysis will explore the consequences for growth and the overall productivity of infrastructure investment. This will complement ongoing research on the contribution of infrastructure to economic performance at the micro (firm) level, which is generating evidence for Brazil, India, Indonesia and Mexico. This suggests that while improvements in inter-regional transport connectivity have significant impacts on firm productivity, improvements in transport infrastructure by themselves are not sufficient to induce firms to relocate across sub-national regions.

A second strand of research focuses on assessing the economic returns and development impacts of infrastructure investments, with particular emphasis on urban development and transport infrastructure. The proposed research reflects priority areas where solid empirical support would strengthen the quality of the Bank's policy advice. The research on transport focuses on two issues: (a) to assess the impact of inter-regional transport accessibility improvements on trade flows and economic performance; (b) to evaluate the impact of urban transport improvements on the welfare of the poor. The urban development component focuses on welfare of slum dwellers and seeks to estimate the investment gap in upgrading slum areas in a sample of cities across the world.

Separate but related research involves detailed impact evaluations of issues such as the effects of information/ communication technologies on rural livelihoods in Bangladesh, and of urban upgrading schemes in a number of places. The latter work will initially focus on a number of urban upgrading projects where a moderate additional investment will allow a relatively quick gain of useful insights into the performance of ongoing or completed programs—both Bank and non-Bank. It also includes plans for more ambitious, but entirely do-able, impact evaluations involving follow-up surveys, although due to the complexity of urban upgrading projects, there will be fewer opportunities for randomized experiments than in other types of Bank operations. This work will depend heavily on collaboration with operational colleagues.

REGIONS, NETWORKS AND WBI

Human Development Network

Governance-related topics will be a focus of future research conducted in HDN. Various aspects of health system development, measurement of learning outcomes, labor market mobility, pension performance, leakage in safety nets and impact evaluations across sectors also will be investigated.

On education, HDN will examine the impact of legislation on child labor and schooling, including a case study of Pakistan's compulsory primary education act. The relationship between labor demand and education is addressed in a study collecting experimental evidence on returns to schooling in Mexico. The educational use of computers is the subject of a randomized experiment in Colombia. The network is also engaged in impact evaluation, including study of Bogota's conditional cash transfer and user fee reduction programs.

The Safety Nets team in HDN is conducting research on improved targeting. Their work will identify key design and implementation features critical for targeting in six ECA countries. A study investigates the causes of mediocre targeting accuracy of means-tested programs implemented in the Russian Federation. How employment assistance and social assistance policies can be integrated will be considered in another Russian study. Research on food security also will contrast experiences from South Asian and Sub-Saharan African food policies.

The Pensions team will work on severance pay arrangements around the world, one of the most widely used income protection programs for the unemployed. Research will also involve developing evaluation criteria for a country's ability to support funded pension schemes; examining cross country experience with private pension fund performance; conducting cross country analysis of pension entitlements using micro simulations; setting up a global pensions database of indicators, pension parameters and regulations; and developing operational parameters for evaluating the governance of publicly managed pension schemes.

Several labor market research issues are being addressed by HDN. Staff have been working on labor market mobility and its effects across jobs and earnings in the formal and informal sectors, and for the self-employed. They also are looking at child labor and education, and working on a report on LAC labor markets.

The social risk management team will focus on building stronger partnerships with international partners, academics and research institutes and with other teams in the Bank. Some new research is planned to explore the links between extreme poverty and uninsured risk, to develop ex-ante instruments to decrease the likelihood of individuals descending into destitution or extreme poverty.

A number of disability related dissemination initiatives will be launched, including a web-based knowledge kit on data collection. The links between disability and poverty in developing countries will be explored through review of recent quantitative and qualitative research across all regions. Other short studies on rehabilitation and inclusion of people with disabilities (especially infants, children and youth) in the Bank's post-conflict and public health, nutrition, water and sanitation related work are part of the HDN research program.

The social funds and quality team, in collaboration with SDV, HRM and AFTH1, will study community-led risk management and safety nets, vulnerability targeting and natural disaster management.

Poverty Reduction and Economic Management Network

Network research on economic policy and debt will investigate the links between growth and public finance, technology, labor markets, competitiveness and globalization. The strategy combines development of general models as well as country case studies. A particular area of focus is the link between sovereign debt and development, for which a series of country case studies and two cross-country investigations were conducted.

Helping countries to design more effective and prioritized strategies for shared growth and poverty reduction is the objective of the network's current and future research. This work aims to examine (i) growth as a determinant of job creation, job quality and access to good jobs; (ii) the distributional aspects of migration and the heterogeneity of migration processes (e.g., South-North, South-South) and their links to household well-being; (iii) how local community institutional characteristics affect household mobility and ability to contribute to and benefit from growth opportunities; (iv) instruments to improve governance reforms and public investment policies for poverty reduction (addressing important questions of fiscal policy raised in the consultations). In addition, a program is being initiated to assess the poverty-reducing impact of investments in disaster prevention, and how to combine poverty maps and the Bank's natural disasters hotspots tool to guide investment planning for poverty reduction.

Empirical evidence and lessons from cross-country experience will be examined in research on the public sector dealing with means to expand taxable capacity and achieving revenue potential, directly addressing the requests of several Bank units for research on fiscal space. Research also will draw on the Bank's assistance in revenue administration reform project since the 1990's.

Financial and Private Sector Development Network

Current financial policy concerns revolve around access to financial services and risk management, and the Network supports and collaborates with the research plans in these areas described in the previous section under Finance and Private Sector Development. In addition it is exploring the possibility of collecting and disseminating standard indicators of access to finance for a broad range of countries (under the provisional title *Getting Finance*). In the area of private sector development, the Network also draws heavily on DECRG's research effort described above in areas such as corporate governance, technology adoption, innovation, and firm informality and supports its long term objective of research to identify robust relationships between firm performance and the different elements of the business environment in order to prioritize clients' reform efforts. The Network's own recent research in FPD has been built on micro-data systematically collected and compiled to make them comparable across 175 countries. The *Doing Business* Report, which began publication in 2004, is one of the most well-known flagship reports of the Bank. The 2007 Report focuses on policy reform.

Sustainable Development Network

Agriculture and Rural Development

Agricultural risks play a predominant role in the vulnerability profile of developing countries. Exposure to natural disasters and other agricultural risk impedes the development process, pushes households into poverty, and drains fiscal resources of developing countries. Several Risk and Vulnerability Assessment and Living Standards Measurement Study Surveys have established that

weather- and commodity price-related risks are the most important systemic causes of vulnerability for rural people. Mismanagement of commodity price volatility can create financial losses for market intermediaries such as traders, producer groups, exporters, and input providers and adverse weather events of disaster scale can have devastating impacts beyond agricultural populations.

ARD is working on issues of crop and price insurance, with a focus on testing operational applications of market-based risk management tools. Research to evaluate the operational feasibility and/or impact of price and weather risk management strategies implemented at the macro or micro level of the agricultural supply chain will continue to be a focus of the group. The main areas of this research will encompass (i) improving small farm access to finance by linking credit with index-based drought or flood insurance, (ii) use of commodity derivatives and structured trade solutions (a) to reduce costs/uncertainty in food security/ staple food trade, and (b) to reduce the risk of financial loss associated with intra-seasonal price volatility for export crops. Applied research will also be undertaken in related policy, regulatory, and institutional issues, and on risks and profitability in agricultural sectors. Finally, a sub-theme of research will examine the efficacy of and lessons learned from donor and other interventions seeking to manage the risks and transaction costs associated with (African) smallholder farmers' participation in higher-value agricultural supply chains.

Environment

The future topics of ENV research will encompass improved understanding of the links between poverty and the environment at the household level. This will be part of ESW in FY07 and will result in book publication in FY08. Research also is planned on "Beating the Resource Curse" and the economics of adaptation to climate change at the country level.

Infrastructure

A range of questions on infrastructure investment and impact were research priorities mentioned during the consultations. The SDN infrastructure team, which has developed a major research agenda, will conduct innovative analytical work as part of ESW in several areas on "micro" issues: (i) contract design and associated regulatory needs with detailed case studies in water and energy; (ii) comparative performance assessment of public and private providers of utilities services based on a new data set put together over the last couple of years in terms of efficiency, equity, fiscal costs; (iii) performance benchmarking of infrastructure performance in Africa; (iv) assessment of drivers of effectiveness in public enterprises; (v) optimal size of providers in water; (vi) interaction between procurement practice, units costs at the project level and project effectiveness; (vii) the burden of energy self generation; and (viii) benchmarking logistics costs.

The "macro" issues that are included in SDN research agenda are (i) fiscal costs of infrastructure; (ii) investment needs, (iii) infrastructure and growth in East Asia and Africa; (iv) benchmarking and impact evaluation of infrastructure on productivity, exports and FDI based on ICA surveys; and (v) evaluation of forms of Chinese penetration in Africa and LAC infrastructure.

Impact evaluation at the project level—incorporating monitoring as part of project design—and at the sector policy level—considering, for instance, tariff reform, privatization and restructuring—will be important part of the SDN research program. Finally, future research on infrastructure will investigate a number of institutional issues including (i) specific governance diagnostics across infrastructure sectors; (ii) interaction between competition and regulation in the stimulation of effective innovation in network industries; (iii) the payoffs of a spatial approach to decisions on infrastructure resource allocation; (iv) the political economy of infrastructure reform; (v)

effectiveness of public-private partnership (PPP) units; and (v) regulatory agency effectiveness surveys (with Africa, LAC)

Africa Region

Most research being done in the Africa region is undertaken in the context of the economic and sector work on particular countries. In addition, special studies are undertaken in the regional office and various sector units. Some of the key and planned research studies are as follows:

Africa Enterprise Study

The Africa Region is launching a joint research project with Japanese scholars to foster international knowledge sharing on private sector development in Africa. This project will synthesize findings of firm-level research on economic and socioeconomic factors which facilitate or constrain formation of viable indigenous firms in African countries. It will link these findings with ongoing research on spatial and vertical dimensions of industrial organization, such as research on industrial clusters and value-chain analysis. The project seeks to suggest pragmatic strategies for building the domestic private sector. Related research underlies the Africa Competitiveness report, a joint product of the WBG, WEF and the AfDB.

The Evolving Aid Architecture in Africa and its Impact on Development Effectiveness

AFR is planning research by international scholars on aid architecture in Africa, to examine issues of aid harmonization and management, *inter alia*, to enhance the development effectiveness of aid, its sustainability and country ownership. Country case studies will identify success factors and key constraints.

Economic Partnership Agreements between African Countries and the European Union

This research program will examine the planned Economic Partnership Agreements (EPAs) between the EU and Sub-Saharan Africa. It analyzes alternatives to maintain preferential access to the EU market, the proposed reciprocal preferential liberalization of imports from the EU under EPAs and accompanying trade and fiscal reforms. Complementary business-climate reforms and aid for trade needed to stimulate a strong supply response to trade liberalization also will be investigated. The research will examine the potential for EPA's to assist regional integration efforts, their risks and alternatives to mitigating them. A related study on the effects of trade liberalization and regional integration analyzes their effects on food security in Southern and East Africa.

Growth, External Shocks and Increasing Aid in Sub-Saharan Africa

A range of on-going work at the regional level and with DEC and PREM staff assesses issues and challenges to Africa's development. This research will measure and characterize recent and long-term growth in SSA and external flows of foreign exchange. Historical patterns and volatility in donor and remittance flows, real exchange rate dynamics of increasing aid and the timing of aid and borrowing will be assessed. The patterns, consequences and associated risks of external shocks on African countries will be analyzed. Related topics are explored in a study on migration and remittances for African development.

Africa Infrastructure Country Diagnostic

Both descriptive and causal analyses of infrastructure determinants and effects are badly needed in much of the developing world. The Africa Infrastructure Country Diagnostic (AICD) is a major two-year program to improve knowledge of infrastructure in Africa (including ICT, irrigation, power, transport, water and sanitation). This study was requested by Regional Institutions of Africa (AU, NEPAD, RECs) and major donors represented in the Infrastructure Consortium for Africa, and is closely coordinated with the NEPAD Medium to Long Term Strategic Framework led by the African Development Bank. Twenty-four subject countries provide a representative cross-section of Sub-Saharan Africa. For each country, the study will document the fiscal costs of infrastructure, investment needs, and service providers' performance. Survey evidence on enterprise and household demand for infrastructure also are being analyzed. The data platform will be used to support a wide ranging program of analytical work to address some of the main policy questions currently being debated including the impact of infrastructure on productivity and growth, the extent of the financing gap, the prioritization of investments, the efficacy of policy reforms, and the efficiency of service providers. The resulting databases will be made publicly available to all stakeholders using easy access web-based tools.

Other Studies

Research on human development issues will include an impact evaluation of community based nutrition projects in Madagascar and Senegal, and a major comparative impact evaluation on school feeding and take-home rations in Burkina Faso, Uganda and Laos. Both of these projects are funded by the Research Committee. Research on education will address whether communities should build their schools, the role of tertiary skills in African competitiveness and growth, and issues of labor markets and skills in Senegal.

Two studies will focus on poverty, one drawing on case studies from West Africa to assess growth and poverty, the second looking at concepts and case studies from Africa and Latin America to examine the role of public finance in poverty.

Management of oil in Africa and a broader examination of natural resource management issues are planned. The region is also tentatively considering a major urban research program that could support development of a regional flagship report.

AFTPS has a research program based on evidence from Investment Climate Surveys, Doing Business indicators and other data sources. This is collaborative with many partners including the African Development Bank, African researchers and international experts. Topics include education and training at the firm level, the effect of labor regulation on wages and employment, firm strategies for coping with HIV/AIDS, the impact of exchange rate stability on exports, the investment climate for tourism, and indigenous owned firms.

East Asia and Pacific Region

Future EAP research comprises relatively independent studies conducted in response to the work program needs of individual units, and regional studies addressing issue of regional concern. A major strand of EAP research addresses corruption, a Bank-wide priority for research and operations. This work will include an analytic overview of corruption and governance in the region. Two areas of particular concern that will be addressed in additional studies are corruption in natural resources management and in trucking in Indonesia. Another major regional theme of

research is vulnerability—both sources and policies for alleviation. Labor skills and their relationship with productivity growth will also be examined regionally. Two other broad areas of regional research are research on energy and sustainable development and policies to bridge the urban-rural divide.

In addition to research arising solely within the VPU, several major pieces of EAP research are being conducted in participation with PREM staff and funded by PREM. This research will address trade issues, particularly the restrictiveness of non-tariff measures in EAP trade, and the standards of origin and technical barriers to trade. Research on the place and impact of China in regional trade agreements will provide some broader insights on this important issue. PREM also is cofinancing research on creating economic diversification and improvements in areas of post-tsunami recovery. Research on security markets also will be conducted with PREM.

Europe and Central Asia Region

ECA shares the Bank wide demand identified in the consultation process for research in the area of infrastructure and lagging regions. ECA is participating in addressing these gaps in research through an upcoming flagship report on energy in ECA and through work on regional development.

Geographic disparities in growth and poverty were reflected in the identification of lagging regions as a priority in the Regional and Network Research Consultations. ECA research with DECRG will consider how geographic dimensions can be considered in policymaking to alleviate poverty in lagging regions. This research will consider the available policy instruments for promoting growth poles, and if such growth spills over to the hinterlands. Studies will investigate the effects on poverty and rural emigration of infrastructure investment in marginal agricultural areas. While infrastructure investment increases local productivity, does it reduce local poverty? Should policy set incentives to bring jobs to people, or people to jobs? If some marginal areas have a high share (but low number) of very poor people, how can the appropriate balance be struck between poverty reduction overall and regional equity? These are policy questions to be addressed in ECA research in the near future.

Latin America and the Caribbean Region

Among the regions LCR has sustained the largest research program, which it attributes to strong demand by both lending staff and their country counterparts. That demand continues and underlies the direction of future LAC research, which addresses Bankwide research priorities in labor markets and macroeconomic stability.

Job Creation in Latin America and the Caribbean: Recent Trends and Policy Challenges

This study examines LAC labor market trends over the past decades and the main factors affecting the demand for and supply of labor in the Region. It considers how structural transformation affected labor markets and vulnerable groups, and whether the dynamics of job creation and destruction are conducive to productivity growth and the creation of “good jobs.” Finally, it investigates the key constraints to more and better jobs and how public policy can help promote them.

Country Insurance: Reducing Systemic Vulnerabilities in LAC countries

One of the most distinctive characteristics of developing economies is their macroeconomic volatility, which has deleterious and persistent impacts on social welfare. The stream of financial

crises in emerging markets in the late 1990s is increasingly seen as the result of self-fulfilling liquidity runs on countries' assets. Against this background, this study would identify the major sources of systemic risk in LAC countries and estimate expected macroeconomic and social costs. On this foundation, the study would assess the effectiveness for risk mitigation of existing insurance options, including country self-insurance (i.e. accumulation of reserves), market and IFI financial instruments.

Micro-determinants of Competitiveness and Growth

Strong microeconomic foundations allow firms to compete in global environments. But Latin American productivity growth over the past three decades has been low. This study will review the new Investment Climate (IC) surveys, which cover 15 Latin American countries and more than 10,000 firms and estimate the effect of IC conditions on firm performance. Four microeconomic growth determinants will be investigated, two of them research priorities identified in the consultation process: (1) governance and institutions, (2) infrastructure, (3) financial development, and (4) innovation and worker skills. Policy options in each of those four areas will be examined.

Equality of Opportunities in LAC

Building on recent advances in the theory and measurement of inequality, this regional study will construct the first comparable measures of inequality of opportunity in Latin America. It will develop and apply an original inequality index and investigate the consequences of unequal opportunities, and consider policies to reduce these inequalities in a growth-enhancing and poverty-reducing manner.

Early Childhood Development in LAC

Building on the above, this study is intended to quantify inequalities of opportunity at birth and young age in Latin America and the Caribbean and review regional policies and programs to reduce them. These include, among others, early childhood education programs, nutritional interventions, health insurance programs targeted at early childhood, and conditionality linked to cash transfer programs. The study will evaluate the effect of ECD interventions on human development outcomes and poverty reduction; and develop a framework for analyzing the costs and benefits of alternative ECD investments.

Competitive Cities, Urban Governance and Decentralization

The study is intended to advance our knowledge on the relation between decentralization and city performance. It begins with a descriptive overview of urban systems and decentralization in the last two decades and how cities responded to them. It then will examine factors contributing to city growth, which are under city control, and how they compare with their cities in OECD and East Asia countries. The study is intended to identify the institutional factors and decentralized approaches that explain city competitiveness and productivity and to provide guidance for policy.

Middle East and North Africa Region

MNA research, now being completed, aims to show how water is integrated into the wider economic policies of MENA countries. In doing so, the report addressing a multi-sectoral audience, bringing water issues to non-water specialists. The study finds that most of the factors influencing water outcomes – such as energy, agriculture, trade, public finance, land use, social

protection – lie outside the purview of traditional water agencies. Water management in the twenty-first century will require reforms across several sectors. Small pockets of change within the region indicate potential opportunities to overcome political obstacles. Public accountability is key to turning this potential into reality.

The region is also undertaking research on education and private sector development. Its major analytic publication, the annual Economic Developments and Prospects report is under preparation to be delivered in FY07.

Topics of future regional research include migration (on which a report is under preparation in collaboration with the EC), governance, gender, youth, natural gas pricing, municipal management, and economic integration in the Maghreb.

South Asia Region

SAR is actively working on impact evaluations. The numerous evaluations in the region include the evaluation of the Nepal Poverty Alleviation Fund (for which baseline data was completed in July, 2006); a Maharashtra study of the Total Sanitation Campaign; an evaluation of several aspects of decentralization in Karnataka; and the impact of a randomized Kerala-style "People's Campaign" on the nature of spending decisions by local governments. A larger project will investigate the relative effects of increasing intensity of direct information campaigns to people in the project areas (from nothing to mass media only to visits by mobilizers to the Kerala case).

In addition, research in SAR will investigate the impact of environmental quality and services on cities' competitiveness in the region; integrated river-basin management through decentralization and HIV/AIDS as an economic development risk to South Asia. SAR will also investigate whether India can attain 'East Asian growth' with 'South Asian saving rates.'

World Bank Institute

One of the priorities of the WBI research program is governance and anticorruption. The work will include continuing efforts on governance indicators and parliamentary strengthening. The Knowledge for Development group has several country studies in process, including a major program on advanced strategies for the knowledge economy and other studies of China's lifelong learning system.

WBI has several studies underway on human development. A project on capacity building in educational assessment will address an important aspect of educational quality. The study will produce five books, supported by country departments, on enhancing the quality of national assessments of educational achievement levels in developing countries. Topics include national and international assessment, instrument development, implementing national assessments, analyzing national assessment data, and using national assessment results to improve educational quality. Additional research will address health for the poor.

In collaboration with IEG, WBI is managing a project on "more and better growth" which examines evidence on government actions that could make growth more pro-poor, equitable, and environmentally sustainable. Empirical work will include case studies on Brazil, Chile, China, India, and Kenya, and a cross-country analysis.

CONCLUSION: STEPS TOWARDS STRENGTHENING RESEARCH MANAGEMENT

This report has provided an overview of Bank research activities, resources and uses in FY04-05, and a profile of future research directions. It has shown how Bank research contributes to the 'lending-learning-knowledge' cycle—thus improving operations and the policy advice to member countries—and enabling a better understanding of the development process. It has also provided a picture of continuing strong demand for research, including the use of research in ESW.

Since the Board discussion of the FY02-FY03 Research Report, efforts have been made to improve the dissemination of research results; to better understand the needs of operational units and identify research priorities through Bank-wide consultations. There has also been a special effort to evaluate the quality and relevance of research output through an independent Research Evaluation. This confirmed the high quality of Bank research, and also made a number of suggestions for improving research management which are feeding into discussion in the Bank. The general directions for future action to strengthen research management can be derived from previous chapters. Some of these actions can be undertaken in DEC and through a process of consultation with the Research Committee, while other proposals will require wider discussion within the Bank. Three broad areas are emerging:

Strengthen the quality and policy relevance of research

The current approach to managing research quality relies heavily on the ex-ante review of proposals. Such review could be complemented by or partly supplanted by strengthened mid-term review of major research projects and also by commissioning more frequent reviews of completed projects or clusters of projects in particular areas. Guidelines for the review of research proposals could be reviewed, to distinguish better the expectations of research in the areas of policy relevance and academic relevance, and referees be selected in a more focused way to specialize within this blend of objectives.

There could also be greater efforts to engage the complementary skills of DEC and non-DEC staff. Cross-review, by DEC for non-DEC research (for quality) and by non-DEC for DEC research (for relevance) could be made more systematic, while recognizing that different pieces of research have different objectives. The formal review process could also be used in a more pro-active way to provide methodological support, in particular to staff outside DEC who are less specialized in methodological issues, including in some cases by recommending and financing mentors, and by providing lists of experts able to offer external review and collaboration.

Encourage research on underserved areas, strengthen data work and increase the openness of research to a wider spectrum of academics.

Steps taken to increase coverage of underserved areas include the research consultations across all Regions and Networks. These have been followed up with commissioned studies, and in some cases by an increase in research activity. Further measures can include revitalizing the visiting fellows program and making this a more strategic mechanism for strengthening capacity in under-researched areas while internal capacity is being built up.

Chief Economist's Initiatives can be strengthened to encourage under-served areas. As shown by the example of DIME, they can also be used to encourage research of a more replicative kind, where this is needed to build a base of case-studies to underpin policy on strategic issues. Such

efforts to build a stronger base for assessing the results of policies and programs can be further expanded, subject to increased resources.

Especially in Africa data availability and quality has emerged as a major constraint to assessing progress towards the MDGs and the impact of country strategies and donor support. Proposals for enhancing the Bank's role in development data are being considered together with the recently-completed evaluation of DECDG, and with the recognition that a substantial push in this area would require additional resources as well as some changes in the "business model" for the Bank.

As shown above, Bank research has involved collaborators from a wide range of countries, but this is an area requiring constant attention and effort. Measures could include wider use of the visiting fellows program, and also building incentives for efforts to involve new academic collaborators from developing countries into the project assessment process.

Strengthen the dissemination of research.

Research is disseminated in many ways, including through conferences, websites and flagships and policy papers. Useful actions can include revisiting the objectives and design of ABCDE workshops (with EXT) and the regional conferences (RBCDE) and revisiting the DEC website to further improve accessibility. Building on work undertaken for the evaluation, the list of World Bank research publications and databases should be easily accessed by the development community and kept current.

The important issues surrounding flagships—their number, size and coverage--needs to be considered separately from that of research. Only one of the Bank's flagships, the World Development Report, is formally a research product, and the other "regional flagships" considered by the External Evaluation of research are not Bank-wide flagships. Initial measures have been taken to reduce the weight of DEC Flagships, and further measures are being considered in the context of two other evaluations, of DECDG and DECPG.

Especially in the context of an operational institution like the Bank, a dissemination strategy needs to strike an appropriate balance between research and advocacy, and also to recognize the fundamental distinction between them. It should also be recognized that developing a sound basis for policy decisions requires a range of evidence, which likely will include a suitable wide set of case experiences as well as statistical analyses. When the need arises to clarify the scope of knowledge on a particularly important issue, the Chief Economist should have the responsibility to initiate open workshops including participants representing a wide range of views, and also to offer technical briefings to the Board.

ANNEXES

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**Annex Table 1.1. Expenditures on Bank Research and Other Services, FY02-FY05
(\$ Thousand)**

	FY02		FY03		FY04		FY05	
	BB	BB + Trust Funds						
Total Bank Services								
at current price	1,589,691	1,930,046	1,704,218	2,200,858	1,889,394	3,384,627	1,939,690	2,899,112
at constant FY02 price	1,589,691	1,930,046	1,652,976	2,134,683	1,772,325	3,174,911	1,766,509	2,640,271
Client Services								
at current price	926,759	1,247,240	976,678	1,455,628	1,109,765	2,578,346	1,118,923	2,052,982
at constant FY02 price	926,759	1,247,240	947,312	1,411,860	1,041,003	2,418,589	1,019,023	1,869,686
Of which: Lending								
at current price	119,716	151,930	116,878	142,066	152,561	176,799	146,216	168,688
at constant FY02 price	119,716	151,930	113,364	137,794	143,108	165,844	133,161	153,627
Total AAA³								
at current price	177,620	266,239	201,438	314,373	220,128	355,060	231,017	354,725
at constant FY02 price	177,620	266,239	195,381	304,920	206,489	333,060	210,391	323,055
Of which :								
Research								
at current price	19,408	26,626	21,999	29,895	22,004	29,133	20,786	29,131
at constant FY02 price	19,408	26,626	21,338	28,996	20,641	27,328	18,930	26,530
<i>Research in percent of Total AAA</i>	<i>10.90%</i>	<i>10%</i>	<i>10.90%</i>	<i>9.50%</i>	<i>10%</i>	<i>8.20%</i>	<i>9%</i>	<i>8.20%</i>
Economic and Sector Work								
at current price	90,335	99,490	112,690	125,781	120,025	144,978	122,304	151,165
at constant FY02 price	90,335	99,490	109,301	121,999	112,588	135,995	111,385	137,668
<i>ESW in percent of total AAA</i>	<i>50.90%</i>	<i>37.40%</i>	<i>55.90%</i>	<i>40.00%</i>	<i>54.50%</i>	<i>40.80%</i>	<i>52.90%</i>	<i>42.60%</i>
Technical Assistance								
at current price	37,033	96,426	36,591	118,938	33,041	120,837	35,426	104,733
at constant FY02 price	37,033	96,426	35,491	115,361	30,994	113,350	32,263	95,383
<i>TA in percent of Total AAA</i>	<i>20.80%</i>	<i>36.20%</i>	<i>18.20%</i>	<i>37.80%</i>	<i>15.00%</i>	<i>34.00%</i>	<i>15.30%</i>	<i>29.50%</i>
<i>Price increase coefficient (in percent)²</i>	<i>4</i>	<i>4</i>	<i>3.1</i>	<i>3.1</i>	<i>3.4</i>	<i>3.4</i>	<i>3</i>	<i>3</i>

Notes: 1. BB = Bank Budget.
2. Price coefficients provided by SFR.
3. Analytical and Advisory Activities (AAA) consist of Donor and Aid Coordination; Economic and Sector Work; Impact Evaluation; External Knowledge Management; Internal Knowledge Management; Policy Framework Paper; Research Services; Technical Assistance (Non-Lending) and World Development Report.

Source: Business Warehouse

Annex Table 1.2. Expenditures of Research by Unit, FY02-FY05
(\$ Thousands)²⁶

	Fiscal Years	FY02	FY03	FY04	FY05
Units					
DEC ²⁷		21,659	24,920	24,446	24,263
of which DECRG		15,576	18,238	18,032	18,951
Share of DEC, in percent		81.35%	83.36%	83.91%	83.29%
Share of DECRG, in percent		58.50%	61.01%	61.90%	65.05%
Regions					
AFR		120	212	468	477
EAP		75	281	1,124	247
ECA		176	250	147	0
LCR		703	488	298	326
MNA		33	129	183	83
SAR		87	25	58	56
Total Regions		1,194	1,386	2,278	1,189
Share of Regions, in percent		4.48%	4.64%	7.82%	4.08%
Networks					
ESD		479	246	429	554
FSE		395	56	55	
INF		153	731	350	1,078
HDN		132	101	303	150
PRM		175	111	219	0
PSD		41	90	105	9
Total Networks		1,375	1,335	1,460	1,792
Share of Networks, in percent		5.16%	4.47%	5.01%	6.15%
Others Units					
WBI		224	370	340	154
Others ²⁸		190	214	159	713
External Research Capacity Building		1,984	1,670	450	1,020 ²⁹
Total Research Expenditures, all Units		26,626	29,895	29,133	29,131

Source: Business Warehouse

²⁶ Values are direct costs (Charges directly to products only – staff work, travel, and other expenses charged – excluding costs such as management and support staff overhead, office costs, and international staff posted to the field.)

²⁷ These figures are less than those in text table 4 and annex table 1.3 because those tables include the research capacity-building grants that DEC processed for regional institutions. We remove those grants here to depict more accurately the resources DEC used for research.

²⁸ Others Units include ISG, EXT, LEG, CFP and OPC.

²⁹ A \$100,000 SARVP research capacity building grant was charged incorrectly as a non-research activity and thus does not appear above.

**Annex Table 1.3. Expenditures on Research by Theme, FY02-FY05
(\$ Thousands)**

Fiscal Years	FY02	FY03	FY04	FY05
Themes				
Economic Management	7,598	8,932	7,687	6,525
Public Sector Governance	998	2,088	2,320	1,026
Rule of Law	365	159	243	644
Finance and Private Sector	3,053	3,604	4,209	3,228
Trade and Integration	2,608	2,770	3,046	4,815
Social Protection and Risk	1,346	1,435	1,584	2,473
Social Development and Gender	1,689	1,391	909	2,119
Human Development	1,482	4,027	3,407	2,162
Urban Development	529	600	1,026	1,108
Rural Development	1,668	2,042	1,514	1,579
Environment and Natural Resources	1,463	1,789	2,308	2,832
Not Assigned ¹	3,827	1,057	879	621
Total Research Funds	26,626	29,895	29,133	29,131
Of which DECRG				
Economic Management	7,264	8,290	6,744	5,856
Public Sector Governance	669	1,747	1,437	966
Rule of Law	247	49	83	468
Finance and Private Sector	2,802	3,021	3,853	3,109
Trade and Integration	2,554	2,554	2,727	4,122
Social Protection and Risk	1,220	1,367	1,516	2,290
Social Development and Gender	1,485	992	770	1,975
Human Development	1,330	3,866	2,809	1,842
Urban Development	473	443	773	741
Rural Development	1,591	1,880	1,349	1,385
Environment and Natural Resources	1,341	1,482	1,764	1,600
Not Assigned	2,666	897	622	228
Total DECRG ³²	23,643	26,590	24,446	24,583

Source: Business Warehouse

³². These figures are greater than those in annex table 1.2 because the Business Warehouse reporting here includes research capacity-building grants processed by DEC for regional institutions. Those grants are excluded in annex table 1.2.

Annex Table 1.4. Trust Funds for Research by Theme, FY02-FY05

Themes	Fiscal Year	FY02	FY03	FY04	FY05
Economic Management		1,490	2,207	1,591	1,170
Public Sector Governance		68	479	441	301
Rule of law		173	79	135	138
Finance and Private Sector		419	232	295	426
Trade and Integration		939	838	1,165	2,036
Social Protection and Risk		453	337	473	694
Social Development and Gender		704	712	211	674
Human Development		118	914	805	199
Urban Development		411	292	118	294
Rural Development		696	895	357	507
Environment and Natural Resources		351	301	786	1,343
Not Assigned		1,395	610	752	563
Total Research Funds		7,218	7,896	7,129	8,345

Source: Business Warehouse

**Annex Table 1.5. Research Support Budget Funding by Theme, FY02-FY05
(In percent of Total RSB)**

Theme	FY02	FY03	FY04	FY05
Economic Management	50	50	31	29
Public Sector Governance	3	4	5	4
Rule of Law	0	0	0	0
Finance and Private Sector	8	14	11	12
Trade and Integration	5	7	8	15
Social Protection and Risk	3	4	4	6
Social Development and Gender	2	3	3	3
Human Development	4	6	15	12
Urban Development	0	1	7	7
Rural Development	4	6	7	6
Environment and Natural Resources	3	5	7	8
Not Assigned	17	1	1	0
Total RSB (in percent)	100	100	100	100
Aggregated Themes				
PREM	59	61	44	48
Finance	8	15	19	19
Human Development	7	9	19	17
Sustainable Development	9	14	17	16
Others	17	1	1	0
Total RSB (in percent)	100	100	100	100
Total RSB (\$ Thousand)	6,300	6,811	6,532	6,530

Notes: PREM: Economic management, public sector governance, rule of law, trade and integration;
 Finance: Finance and private sector, urban development
 Human Development: Human development
 Sustainable Development: Social protection and risk, rural development

Source: DECRS

**Annex Table 1.6. Research Support Budget, Allocations by Unit, FY01-FY05
(\$ Thousands)**

Fiscal Years	FY01	FY02	FY03	FY04	FY05
RSB Allocations					
DECRG	2,072	1,854	2,767	2,955	3,233
Other DEC, WBI, LEG, ISG and EXT	231	1,051	723	661	784
DEC other than DECRG	100	575	132	175	575
WBI, LEG, ISG and EXT	131	476	497	421	199
IFC			94	65	10
Regions					
Africa	5	34	134	97	70
East Asia and Pacific	66	9	99	369	188
South Asia	35	22	30	20	53
Europe and Central Asia	18	24	131	50	-
Latin America and Caribbean	198	266	93	225	336
Middle East and North Africa	-	-	-	95	28
<i>Allocations by Region - Total</i>	<i>322</i>	<i>448</i>	<i>487</i>	<i>856</i>	<i>675</i>
Networks					
Environment and Socially Sustainable Development	439	269	201	380	308
Financial Sector Operations and Policy	110	30	35	50	-
Human Development	41	145	107	319	129
Private Sector Development	-	-	93	114	25
Poverty Reduction and Economic Management	3	40	78	86	-
Infrastructure	-	-	8	113	117
<i>Allocations by Network -Total</i>	<i>593</i>	<i>484</i>	<i>522</i>	<i>1,062</i>	<i>579</i>
Research Capacity Building Grants (RCBGs)	1,000	1,984	1,670	450	1,120
Dissemination, Outreach and Review	1,084	938	1,100	1,000	1,000
DECRS			180	320	350
DECPO			920	680	650
Total RSB Allocations with RCBGs	6,022	6,941	7,054	6,942	7,286
Total RSB Allocations without RCBGs	5,022	4,957	5,384	6,492	6,166

Sources: Business Warehouse, DECRS

**Annex Table 1.7. Research Support Budget Allocations by Project Size
(\$ Thousands)**

Fiscal Year Project Size ¹	FY03		FY04		FY05	
	Projects (number)	Funding (\$,000)	Projects (number)	Funding (\$,000)	Projects (number)	Funding (\$,000)
\$0 – 75	82	2,103	75	2,304	74	1,637
\$75 – 150	8	468	10	495	10	654
>\$150,000	14	1,927	18	2,734	16	2,659
RCPG²	6	1,670	3	450	5	1,120
Total*	104	4,498	103	5,533	100	4,950

Notes: 1- These size categories correspond to the three levels of grant proposal review.

2- Research Capacity-Building Grants (external recipients)

Source: SAP

Annex Table 2.1. Publications and Citation Rates across Different Institutions by Topic, 1998-2005

	Institutions ¹					
	WB	IMF	NBER	Princeton University ²	CEPR	Brookings Institution
Total No. of Publications³	1719	682	2437	1209	720	189
Cites/Publication	5.04	3.19	8.54	6.02	4.20	3.74
Citations by Topic						
Economics						
Number of Publications	882	598	1962	527	673	89
% of Publications Covered	51%	88%	81%	44%	93%	47%
Cites/Publication	5.77	3.33	9.17	7.42	4.30	3.76
Environmental Studies, Geography & Development						
Number of Publications	261	16	18	NA	10	NA
% of Publications Covered	15%	2%	1%	NA	1%	NA
Cites/Publication	3.68	1.63	4.61	NA	1.60	NA
Agriculture/Agronomy						
Number of Publications	82	2	3	2	2	NA
% of Publications Covered	5%	0%	0%	0%	0%	NA
Cites/Publication	2.30	1.50	3.67	0.00	0.00	NA
Public Health & Health Care Science						
Number of Publications	79	NA	95	116	2	1
% of Publications Covered	5%	NA	4%	10%	0%	1%
Cites/Publication	4.44	NA	8.03	3.82	3.50	5.00
Political Science & Public Administration						
Number of Publications	78	18	22	469	6	98
% of Publications Covered	5%	3%	1%	39%	1%	52%
Cites/Publication	4.71	1.61	5.05	2.42	4.00	1.04

Notes: 1. Institutions include the World Bank (WB), International Monetary Fund (IMF), National Bureau of Economic Research (NBER), Princeton University, and Center for Economic Policy Research (CEPR), and Brookings Institution.

2. For Princeton University, the data is limited to topics in social sciences;

3. Publications include articles, review articles, and editorials; Publications include all those papers that have at least one of the authors identified as bank staff;

4. Select topics include Economics; Education; Management; Political Science and Public Administration; and Public Health and Health Care Science.

Source: Thomson Scientific Inc.

Annex Table 2.2. Top 10 Articles in Terms of Total Citations, 1998-2005

Rank	Title	Total Cites	Journal Name	Year	1st Author	Co-Author(s)
1	Explaining African Economic Performance	99	Journal of Economic Literature	1999	Collier, P	Gunning, JW
2	Financial Intermediation and Growth: Causality and Causes	96	Journal of Monetary Economics	2000	Levine, R	Loayza, N. & Beck, T
3	Law, Finance, and Firm Growth	89	Journal of Finance	1998	Demirguc-Kunt, A	Maksimovic, V
4	On Economic Causes of Civil War	88	Oxford Economic Papers	1998	Collier, P	Hoeffler, A
5	The Separation of Ownership and Control in East Asian Corporations	85	Journal of Financial Economics	2000	Claessens, S	Djankov, S. & Lang, LHP
6	Aid, Policies, and Growth	84	American Economic Review	2000	Burnside, C	Dollar, D
7	Finance and the Sources of Growth	77	Journal of Financial Economics	2000	Beck, T	Levine, R. & Loayza, N
8	Estimating Wealth Effects without Expenditure Data - or Tears: An Application to Educational Enrollments in States of India	77	Demography	2001	Filmer, D	Pritchett, LH
9	Inflation Crises and Long-Run Growth	75	Journal of Monetary Economics	1998	Easterly, W	Bruno, M
10	Public Goods and Ethnic Divisions	72	Quarterly Journal of Economics	1999	Alesina, A	Baqir, R. & Easterly, W.

Source: Thomson Scientific Inc.

Annex Table 2.3. Top 10 Articles in terms of Total Citations, 1981-2005

Rank	Title	Total Cites	Journal Name	Year	1st Author	Co-Author(s)
1	A Sensitivity Analysis of Cross-Country Growth Regressions	724	American Economic Review	1992	Levine, R.	Renelt, D.
2	Aids - An International Perspective	350	Science	1988	Piot, P.	Plummer, F.A., Mhalu, F.S., Lamboray, J.L., Chin, J., & Mann, J.M.
3	A new data set measuring income inequality	279	World Bank Economic Review	1996	Deininger, K.	Squire, L.
4	Finance and Growth - Schumpeter Might Be Right	259	Quarterly Journal of Economics	1993	King, R. G.	Levine, R.
5	Africa's growth tragedy: Policies and ethnic divisions	244	Quarterly Journal of Economics	1997	Easterly, W.	Levine, R.
6	Does social capital have an economic payoff? A cross-country investigation	233	Quarterly Journal of Economics	1997	Knack, S.	Keefer, P.
7	Fiscal-Policy and Economic-Growth - An Empirical-Investigation	208	Journal of Monetary Economics	1993	Easterly, W.	Rebelo, S.
8	Adoption of Agricultural Innovations in Developing-Countries - A Survey	193	Economic Development and Cultural Change	1985	Feder, G.	Just, R.E. & Zilberman, D.
9	Returns to Investment in Education - A Global Update	180	World Development	1994	Psacharopoulos, G.	
10	On Exports and Economic-Growth	179	Journal of Development Economics	1983	Feder, G.	

Source: Thomson Scientific Inc.

**Annex Table 2.4. Top 25 Journals that Published Articles by WB Staff,
1998-2005**

Rank	Journal Name	Papers	Cites	Cites/Paper
1	World Bank Economic Review	83	447	5.39
2	World Development	79	366	4.63
3	World Bank Research Observer	52	280	5.38
4	Journal of Development Economics	51	302	5.92
5	Economic Development and Cultural Change	48	167	3.48
6	Journal of African Economies	36	74	2.06
7	World Economy	34	78	2.29
8	Economics of Transition	31	137	4.42
9	Journal of Developmental Studies	28	93	3.32
10	Journal of Comparative Economics	26	128	4.92
11	Journal of Public Economics	23	153	6.65
12	American Journal of Agricultural Economics	22	37	1.68
13	Agricultural Economics	20	45	2.25
14	American Economic Review	20	220	11.00
15	Journal of Banking and Finance	20	59	2.95
16	Social Science and Medicine	20	102	5.10
17	Economic Journal	17	205	12.06
18	European Economic Review	17	101	5.94
19	Environment and Development Economics	16	15	0.94
20	Food Policy	16	57	3.56
21	Journal of International Economics	16	46	2.88
22	Transportation Research Record	16	0	0.00
23	Lancet	14	254	18.14
24	Economics Letters	12	21	1.75
25	Health Economics	12	37	3.08

Source: Thomson Scientific Inc.

Annex Table 2.5. Citations of World Development Reports in Peer-Reviewed Journals, 1990-2005

YEAR	TITLE OF WDR	Cited Year																Total Cites	Cites/Year	
		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005			2006
1990	Poverty	1	31	45	31	23	30	33	50	41	27	28	17	20	18	15	10	6	426	25.06
1991	The Challenge of Development		2	30	62	38	30	27	37	35	26	17	27	13	7	11	9		371	23.19
1992	Development and the Environment			2	36	55	49	53	59	71	52	52	55	41	37	25	24	12	623	41.53
1993	Investing in Health				6	63	89	149	219	235	229	189	171	152	134	127	95	34	1892	135.14
1994	Infrastructure for Development					2	16	51	62	57	52	32	29	25	24	30	21	5	406	31.23
1995	Workers in an Integrating World							33	67	51	48	38	15	24	15	16	11	7	325	27.08
1996	From Plan to Market							2	39	70	73	74	36	23	23	15	9	4	368	33.45
1997	The State in a Changing World								4	74	113	115	84	67	60	43	35	15	610	61.00
1998/99	Knowledge for Development								2	26	34	42	25	22	17	11	3		182	20.22
1999/2000	Entering the 21st Century									11	54	61	48	53	15	21	7		270	33.75
2000/01	Attacking Poverty										4	74	152	205	147	140	50		772	110.29
2002	Building Institutions for Sustainable Markets													8	23	41	55	21	148	24.67
2003	Development in a Dynamic World														8	32	59	21	120	24.00
2004	Making Services Work for Poor People															7	27	16	50	12.50
2005	A Better Investment Climate for Everyone																4	1	5	1.67
	Total citations per year	1	33	77	135	181	214	348	537	636	657	637	611	598	629	541	531	202	6568	

Source: Thomson Scientific Inc.

Annex B. Research Projects, FY04 and FY05 ³⁰

Theme/ Code	Title	Unit	Task Manager	Funding	
				FY04	FY05
Poverty				2,628.5	1,919.9
P079124	Poverty: Looking Beyond Averages	DRGPO	Beegle Kathleen	5.0	512.0
P081465	Child Labor and Access to Credit	DRGPO	Beegle Kathleen	27.0	42.0
P082486	Impacts of Health Shocks in Africa	DRGPO	Beegle Kathleen	15.7	106.4
P083458	Thematic Mapping of Non-Income Poverty	DRGPO	Beegle Kathleen	42.4	
P088182	Migration, Poverty and Income Strategies in Albania	DRGPO	Beegle Kathleen	61.0	32.0
P087880	Averting Old Age Poverty	DECVP	Bourguignon François	0.1	
P090083	Toolkit Volume II	DECVP	Bussolo Maurizio		36.0
P085633	Rio Restudy: Intergenerational Poverty*	WBIFP	Campbell Tim E	415.5	94.5
P086759	Linking Representative Household Models	WBIPKD	Chen Derek Hung	25.6	
P090890	Land and Credit in Vietnam	DRGPO	Do Quy-Toan		42.1
P092867	DIS, Poverty and Economic Development	HDNSP	Heumann Judith		15.2
P074317	The Geography of Poverty	DRGPO	Lanjouw Peter	157.4	18.0
P082528	Poverty Mapping	DRGPO	Lanjouw Peter	24.1	171.3
P067674	World Income Distribution	DRGPO	Milanovic Branko	9.9	35.6
P072208	Khat Consumption	DRGPO	Milanovic Branko		4.3
P075001	Changing Gender Bias	DRGPO	Milanovic Branko	1.0	10.2
P077354	Economics of Secession	DRGPO	Milanovic Branko	39.3	5.2
P085725	Globalization -Middle Income Strata	DRGPO	Milanovic Branko	6.5	28.4
P073521	Responding to the Values of the Poor	SDV	Millard Patricia	47.1	
P085676	Application of Empowerment Framework	PRMPR	Narayan Deepa	1.8	
P085748	Moving Out of Poverty	PRMPR	Narayan Deepa	129.7	
P086037	Impact of International Remittances on Poverty	PRMPR	Page John	119.2	
P076336	Modeling Micro-Macro Linkages	DECVP	Pereira Da Silva	521.0	0.7
P076337	Manual on Tools for Poverty Analysis	DECVP	Pereira Da Silva	56.1	2.6
P068214	Urban Poverty and Social Capital	DRGPO	Rao Vijayendra	8.8	26.9
P072187	Panchayat Reform in India	DRGPO	Rao Vijayendra	9.8	77.9
P072728	Comparative Analysis	DRGPO	Rao Vijayendra	47.6	
P073532	Culture and Development Policy	DRGPO	Rao Vijayendra	84.7	15.1
P073795	Book on Culture and Development Policy	DRGPO	Rao Vijayendra	18.8	
P088179	Local Governance in India and Indonesia	DRGPO	Rao Vijayendra		50.6
P027088	World Poverty Monitoring	DRGPO	Ravallion Martin	83.8	168.7
P027104	Poverty Assessment Methods	DRGPO	Ravallion, Martin	261.7	7.7
P044957	Poor Areas	DRGPO	Ravallion Martin	3.5	118.0
P076607	Pro-Poor Growth	DRGPO	Ravallion Martin	246.0	85.5
P091363	Visiting Research Fellow	DRGPO	Ravallion Martin		58.2
P095368	Long Term Impact Evaluation of SW China	DRGPO	Ravallion Martin		3.7
P088694	Growth, Redistribution and Human Development	DRGPS	Van De Walle Dominique	60.0	
P027082	LSMS Living Standards Management: Surveys III	DRGPO	Scott Katherine	8.4	54.2
P053756	Social Capital	DRGPO	Woolcock Michael	79.3	59.4
P083938	Reaching the Poor Research	HDNHE	Yazbeck Abdo S	10.7	23.5
P093893	Software Tool for Poverty Mapping	DRGDR	Zhao Qinghua		14.0
				5,746.9	3,521.9

³⁰ Complete list of on-going research projects in FY04 and FY05.

Growth and Investment

P082376	Diffusion of Technology among Firms	CICIC	Batra Geeta	50.9	
P090668	Formalizing the Informal Sector:	AFTP4	Benjamin Nancy		10.7
P052851	TE: Ownership/Corporate Governance	DECRG	Caprio Gerard	27.9	
P078055	Seeking Equal Citizenship: Democracy	SASES	Chatterjee Meera	0.3	
P082208	PRR - War, Crime and Violence	DECRG	Collier Paul	77.4	
P086760	RPG Knowledge and Economic Development	WBIPKD	Dahlman Carl	0.9	
P036757	Making Aid Work	DRGIC	Dollar David R	1.8	
P063219	FACS Research	DRGGI	Dollar David R	54.5	35.3
P063220	FACS Survey	DRGGI	Dollar David R	4.6	8.1
P075710	China Research Program	DRGGI	Dollar David R	40.1	30.8
P079096	Pakistan - IC: Survey	DRGGI	Dollar David R		16.1
P079100	Ethiopia - IC: Surveys	DRGIC	Dollar David R	20.4	
P079122	Peru - IC: Surveys	DRGIC	Dollar David R	4.3	
P072927	Organizational Space	SDV	Duer Kreszentia	10.0	
P072931	Cultural Change, Community Development	SDV	Duer Kreszentia	6.3	
P072976	Innovations in the International Crafts	SDV	Duer Kreszentia	14.9	
P058654	War, Crime and Violence	DRGGI	Elbadawi Ibrahim	139.1	139.2
P073600	Evaluation of the Community-Development	DRGIC	Elbadawi Ibrahim	47.7	
P084190	Economic Factors and the Political Environment	DRGIC	Elbadawi Ibrahim	13.0	
P093994	Economics and Politics of Post Conflict	DRGGI	Elbadawi Ibrahim		30.0
P094688	Real Exchange Rate and Competitiveness	DRGGI	Elbadawi Ibrahim		45.7
P094690	Post Conflict Transition	DRGGI	Elbadawi Ibrahim		57.7
P094691	Quality of Aid	DRGGI	Elbadaw Ibrahim		14.0
P049731	Corruption	DRGGI	Gatti Roberta	9.3	13.7
P089700	Bargaining for Bribes	DRGGI	Gatti Roberta	5.1	8.9
P081412	Policy Institutes in Africa. Prof. Wangwe (VRF)	AFRCE	Gelb Harold	5.3	
P089060	Development Impact Evaluation	DECVP	Gevers Coralie	69.0	
P087592	Social Status in India, Political Economy	DRGGI	Hoff Karla	-18.4	18.0
P091384	Legacy of Social Inequality	DRGGI	Hoff Karla		35.1
P092963	Social Identity and Behavior (VRF)	DRGGI	Hoff Karla		24.9
P093865	The Economics of Reciprocity Networks	DRGGI	Hoff Karla		15.0
P083750	Investment Climate Dissemination	DRGIC	Iarossi Giuseppe	60.1	
P085544	Infrastructure and Growth in Indian Manufacturing	DRGGI	Iarossi Giuseppe	39.0	53.0
P085615	Investment Climate Surveys and Research	DRGGI	Iarossi Giuseppe	331.0	363.5
P085726	Chile - Investment Climate Survey	DRGGI	Iarossi Giuseppe	27.9	21.4
P085730	Ecuador - Investment Climate Survey	DRGIC	Iarossi Giuseppe	21.9	
P085732	El Salvador - Investment Climate Survey	DRGIC	Iarossi Giuseppe	10.0	
P085757	Honduras - Investment Climate Survey	DRGIC	Iarossi Giuseppe	11.5	
P085760	Nicaragua - Investment Climate Survey	DRGIC	Iarossi Giuseppe	1.1	
P085803	Sri Lanka - Investment Climate Survey	DRGIC	Iarossi Giuseppe	3.7	
P087496	Mexico - Investment Climate Survey	DRGIC	Iarossi Giuseppe	19.5	
P087503	Tanzania - Investment Climate Study	DRGGI	Iarossi Giuseppe	8.6	11.7
P090399	Investment Climate Survey Data	DRGGI	Iarossi Giuseppe		24.6
P090536	Investment Climate Extension	DRGGI	Iarossi Giuseppe		55.6
P053639	International Capital Flows	DRGGI	Keefer, Philip	196.2	235.3
P060358	Importance of Institutional	DRGRC	Keefer Philip	78.1	
P076484	Investment Climate Assessment	DRGGI	Keefer Philip	956.3	487.2
P078329	Investment Climate Research Program	DRGGI	Keefer Philip	123.5	131.3
P079095	India - IC Surveys	DRGIC	Keefer Philip	5.0	

P079098	China – IC Surveys	DRGGI	Keefe Philip	249.3	212.1
P079099	Vietnam – IC Surveys	DRGIC	Keefe Philip	33.5	
P079107	Tanzania – IC Surveys	DRGIC	Keefe Philip	11.2	
P079110	Brazil – IC Surveys	DRGGI	Keefe Philip	7.5	0.2
P082352	Investment Climate in Ecuador	DRGIC	Keefe Philip	1.4	
P082353	Investment Climate in Nicaragua	DRGGI	Keefe Philip	6.7	0.1
P082647	Investment Climate in Honduras	DRGGI	Keefe Philip	4.3	0.1
P094727	Security and Development	DRGGI	Keefe Philip		328.0
P070151	Regulation PRR	DRGGI	Kessides Ioannis	81.5	28.1
P081965	Research in Industrial Organization	DRGGI	Kessides Ioannis	216.2	60.8
P081966	Investment Climate in the Balkans	DRGIC	Kessides Ioannis	52.8	
P089730	Reforming Infrastructure	DRGGI	Kessides Ioannis		12.9
P089775	Entrepreneurship and Competition-Balkans	DRGGI	Kessides Ioannis		21.1
P095191	Infrastructure Regulation and Competition Policy	DRGGI	Kessides Ioannis		6.8
P045085	Fiscal Decentralization in DCS	DRGPS	Khemani Stuti	7.2	
P086338	Political Economy	DRGPS	Khemani Stuti	74.5	
P076813	Governance	DRGPS	Knack Stephen	74.2	
P087295	Evaluating Public Policies	ESDVP	Knudsen Odin	149.0	
P080354	Economic Evaluation of National Resources	ESDVP	Knudsen Odin K		5.4
P084164	VRFP Prof. Rigobon	DRGIC	Kraay Aart C.	22.3	
P093788	Debt, Debt Relief, and Growth	DRGGI	Kraay Aart C.		11.8
P080834	Reforms and Growth	DRGGI	Loayza Norman	54.3	69.1
P083218	Macroeconomic Volatility and Real Exchange Rate	DRGIC	Loayza Norman	41.3	
P093761	Caribbean to the Pacific - Lessons	EASPR	Luthria Manjul		14.9
P072337	Justice and Governance	PRMPS	Messick Richard	98.1	
P077836	Low Returns to Reforms in Global Economy	DECVP	Pereira Da Silva Luiz	8.4	
I521167	Global Business School Network Capacity	CEIED	Pfefferman Guy	65.0	
P089886	Finance and Macroeconomics	DRGGI	Raddatz Kiefer		64.1
P075294	International Development Goals (IDGs)	DRGPS	Reinikka Ritva	42.5	
P076949	Information and Voice	DRGPS	Reinikka Ritva	162.7	
P078162	Micro Survey Approach	DRGPS	Reinikka Ritva	101.3	
P087202	QSDS Uganda: Client	DRGPS	Reinikka, Ritva	8.0	
P089386	Impact Evaluation of Citizen Report Card	DRGPS	Reinikka Ritva	9.5	
P093730	Internationalization	DRGGI	Schmukler Sergio		12.1
P050955	Chinese SOES in the 80s	DECRG	Shirley Mary	1.3	
P082882	Database: Logistics and Costs	CICIC	Subramanian Uma	53.8	
P082229	Mexico SME Evaluation	WBIHD	Tan Hong W.	19.3	0.5
P086068	Networking for Innovation	ECSPE	Verbee, Jos	30.0	
P076485	China Economic Reform	DRGGI	Wang Shuilin	71.7	32.0
P080619	Capital Subsidies and Quality of Growth	WBIPR	Wang Yan	21.8	
P080544	Decentralization Flagship Study-EAP	EASPR	White Roland	696.1	21.1
P077520	Ownership Changes and Corporate Governance	DRGRC	Xu L. Colin	5.0	
P087657	China Rural Healthcare	DRGGI	Xu L. Colin	30.2	36.8
P070727	East Asia Prospects	DRGDR	Yusuf Shahid	743.4	697.1
P089631	Implementing Affirmative Action	PRMPS	ZhouYongmei	14.0	

Human Development and Public Services

P052067	Early Childhood Development	DRGPS	Alderman Harold	73.9	41.9
P083953	Food for Education	DRGPS	Alderman Harold	47.4	26.5
P087558	Community Nutrition	AFTHD	Alderman Harold	47.7	62.2
				2,329.3	3,524.2

P083268	Albania Migration	DRGPO	Beegle Kathleen	3.8	
P086430	Albania Migration	DRGPO	Beegle Kathleen	67.5	
P086431	Albania Panel Data Entry - Supervision	DRGPO	Beegle Kathleen	41.9	
P094082	Evaluating Impact of HIV/AIDS Prevention	HDNED	Bundy Donald A		103.0
P086098	Determinants of Schooling Ethiopia	DECWD	Chaudhury Nazmul	35.3	2.8
P086760	Knowledge and Economic Development	WBIKD	Chen Derek Hung		17.4
P078242	Maternal/ Child Health	SASHD	Chowdhury Sadia	20.0	20.0
P085211	Reproductive Health of Women with Disabilities	SASHD	Chowdhury, Sadia	17.5	
P083766	Youth Strategy and Civil Society	AFTS2	Correia Maria	17.8	110.5
P095179	Measurement and Evaluation	LEGKM	Dakolias Maria		5.0
P076797	Governance of Public Health	DRGPS	Das Gupta Monica	27.5	
P078144	Public Health Services	DRGPS	Das Gupta Monica	61.4	93.3
P079785	Poverty and Environment	DRGPS	Das Gupta Monica	91.9	75.7
P075480	Human Capital and Growth in Transition	ECSPE	Denizer Cevdet	20.0	
P089071	HIV/AIDS Interventions	SARVP	Devarajan Shanta		17.0
P091760	HIV/AIDS Interventions	SARVP	Devarajan Shanta		19.0
P089095	Mental Health and Economic Outcomes Labor Market Policies, Unemployment and Poverty in Morocco	DRGPO	Do Quy-Toan	7.9	
P085862	Economics of Malaria	AFTP2	El Aynaoui	15.9	
P058297	Equity in HD Outcome	DRGPS	Filmer Deon P.		1.0
P076766	Impact Evaluation of Education Intervention	DRGPS	Filmer Deon P.	24.5	22.8
P091362	Cambodia-Evaluation Impact of Cash Transfers	DRGPS	Filmer Deon P.		53.5
P094396	Impact Evaluation in Cambodia	DRGPS	Filmer Deon P.		34.4
P095662	Public Policy Toward NGO's	DRGPS	Filmer Deon P.		9.4
P071458	Immunization Program	DRGPS	Gauri Varun		20.0
P074573	Human Rights and Services	DRGPS	Gauri Varun	4.1	1.4
P092076	Development Impact Evaluation	DECVP	Gauri Varun		53.2
P089060	Impact Evaluation Conditional Cast Transfers	DECVP	Gevers Coralie		200.7
P094033	Health Reform	DRGPS	Gevers Coralie		38.4
P053591	Health Care Providers and Markets in Delhi	DRGPS	Hammer Jeffrey	29.8	26.4
P075922	HNP Service Provision	DRGPS	Hammer Jeffrey	46.1	50.9
P076782	Cultural, Social Status and Demand for Education	DRGPS	Hammer Jeffrey	16.5	6.6
P072725	Data for Government Decision-Making	DECRG	Hoff Karla	47.4	
P058863	Impact of Institutions	DRGRC	Keefer Philip		17.1
P060358	Successful Adaptation to Systemic Change	DRGRC	Keefer Philip		63.1
P083621	QSDS Improving Learning in Public Schools	HDNHE	Marshall Katherine	15.0	
P070007	Political Economy of Public Services	DRGPS	Khemani Stuti	99.3	135.8
P086338	Information Campaign	DRGPS	Khemani Stuti		81.1
P090904	Gender PRR	DRGPS	Khemani, Stuti		101.6
P060137	Health Study Cambodia	DRGPS	King Elizabeth	4.2	
P085710	Public service delivery and governance	EASHD	King Elizabeth	54.7	19.5
P076813	Health, Education, Employment in W China	DRGPS	Knack Stephen		55.9
P083112	Impact Evaluation Bolsa Escola Cash Transfers	EASRD	Li Guo	144.0	117.9
P089231	Pollution and Health	LCSHS	Lindert Kathy		72.0
P083522	PG-HD Sector Review	AFTS1	Margulis Sergio		1.2
P086911	The Economics of AIDS	EASHD	Morris Ian P.	29.8	
P083321	Impact Evaluation of HIV/AIDS Intervention	DRGPS	Over A. Mead	88.6	77.8
P088316	Impact of AIDS and of ART in SA, Prep	DRGPS	Over A. Mead	6.4	51.3
P090173	Evaluation of Antiretroviral Delivery	DRGPS	Over A. Mead		28.5
P092890	Argentina: Social Security and Elderly Welfare	DRGPS	Over A. Mead		57.5
P094088		LCSHS	Packard, Truman		45.5

P087890	Preparedness for the Knowledge Economy	LCSHE	Patrinos, Harry	32.4	8.1
P088048	Remittances and Migration	DECPCG	Ratha Dilip	45.3	
P075294	International Development Goals	DRGPS	Reinikka Ritva		41.4
P078162	Micro-survey approach	DRGPS	Reinikka Ritva		8.1
P078938	Education and Social Cohesion	DRGPS	Reinikka Ritva	109.4	
P086512	Making Services Work	DRGPS	Reinikka Ritva	180.0	399.1
P085691	Welfare Impacts of First Pillar Reforms	MNSHD	Robalino David	46.7	
P082372	Absenteeism Survey of Schools and Clinics	DRGPS	Rogers F. Halsey	104.7	101.3
P086028	Teacher Incentives	DRGPS	Rogers, F. Halsey	83.0	31.6
P090505	Crises and Human Capital	DRGPS	Schady Norbert		53.2
P090730	Evaluation of Impact	DRGPS	Schady Norbert		102.8
P094728	Globalization and Schooling Attainment	DRGPS	Schady Norbert		7.4
P086972	Economic Costs of Mental Health Ailments	DRGPO	Scott Katherine	274.1	64.1
P076949	Information and voice	DRGPS	Svensson Jakob		86.7
P089386	Impact Evaluation of Citizen Report Card	DRGPS	Svensson, Jakob		155.1
P053675	Safety nets in Transition: Vietnam	DRGPS	Van De Walle, Dominique		3.1
P074050	Non-Market Land Allocation in Vietnam	DRGPS	Van De Walle, Dominique		23.2
P084251	Girls' Education Outcomes in Morocco	DRGPS	Van De Walle, Dominique	43.5	5.8
P088694	Growth, Redistribution and HD - Morocco/Vietnam	DRGPS	Van De Walle, Dominique		72.0
P085855	Decentralization and Teacher Behavior	LCSHE	Vegas, Emiliana	50.5	-2.9
P073894	Unemployment Benefits	HDNSP	Vodopivec, Milanovic		-2.1
P087059	Effects o/Unemployment programs	HDNSP	Vodopivec, Milanovic	18.4	10.5
P070134	Poverty and health	DRGPS	Wagstaff, Adam	22.8	23.2
P091397	Health Financing and Delivery, East Asia	DRGPS	Wagstaff, Adam		112.0
P077208	Tax Policy	DRGPS	Wane, Waly		29.4
P094472	Chad Service Delivery	DRGPS	Wane, Waly		68.9
P083863	Inequality in Health and Education	WBIPR	Wang, Yan	17.7	
P078101	Health Policy Research	SARVP	Yazbeck, Abdo	15.1	
P089631	Implementing Affirma	AFTPR	Zhou, Yongmei		17.9
P086648	Mass Education: Economies, Policies	DRGPS	Zou, Heng-Fu	77.9	45.5
P092778	Beijing Conf. Of Guanghai School of Mgmt	DRGPS	Zou, Heng-Fu		20.0
Finance				1,382.6	1,367.5
P082611	Analytical Tools for Financial Analyst	EWDWS	Baietti Aldo	25.5	
P052854	Bank Privatization	DRGFI	Caprio Gerard	147.6	82.6
P057790	SME finance	DRGFI	Caprio Gerard	272.0	142.9
P073873	Bank Supervision and Regulation	DRGFI	Caprio Gerard	4.4	
P081983	SME - Overcoming Growth Obstacles	DRGFI	Demirguc-Kunt Asli	169.5	28.1
P082012	Micro Indicators of Financial Dev.	DRGFI	Demirguc-Kunt Asli	86.2	39.4
P076512	Bank Concentration	DRGFI	Demirguc-Kunt Asli	43.8	
P076963	Firm Level Finance	DRGFI	Demirguc-Kunt Asli	40.8	
P076964	Corporate Governance	DRGFI	Demirguc-Kunt Asli	4.9	
P088338	Access to Finance and Poverty Alleviation	DRGFI	Demirguc-Kunt Asli		23.0
P089138	Financial Sector Research	DRGFI	Demirguc-Kunt Asli		677.4
P075852	Sub-National Capital Markets	LCSFU	Freire Maria	53.2	
P085253	Impact of Agricultural Extension, Credit Peru	DRGFI	Gine Xavier	34.4	12.2
P086550	Joint vs. Individual Liability	DRGFI	Gine Xavier	43.9	4.0
P089768	Weather Insurance	DRGFI	Gine Xavier		30.4
P092644	Survey on Weather-Based Insurance	DRGFI	Gine Xavier		75.0
P093504	Impact of Agricultural Services	DRGFI	Gine Xavier		17.5

P094277	Education with Credit	DRGFI	Gine Xavier		1.5
P074265	Taxation of Financial Intermediation	DRGFI	Honohan Patrick	4.5	
P086229	Financial Sector Policy and the Poor	DRGFI	Honohan Patrick	54.3	26.8
P086233	Financial stability	DRGFI	Honohan Patrick	52.4	9.0
P040274	Bank Insolvency	DRGRC	Keefer Philip	4.9	9.7
P060917	Micro-credit - Bangladesh	DRGRD	Khandker Shahidur	13.5	
P045085	Fiscal Decentralization and Finance	DRGPS	Khemani Stuti		13.2
P087188	Portfolio Preference	DRGFI	Klapper Leora	19.9	30.2
P093617	Firm Turnover and Survival	DRGFI	Klapper Leora		27.5
P078496	Development of Stock	FSEGP	Klingebiel Daniela	20.0	
P080369	Credit Information and Risk Measurement	LCSFF	Majnoni Giovanni	14.3	
P075950	Foreign Bank Entry and Contagion	DRGFI	Martinez Peria	49.3	35.7
P082538	Transactions Costs in the Issuance of Debt and Equity in Emerging Markets	OPD	McNevin Valerie	34.9	
P086093	Contractual Savings	MNSHD	Musalem Albert	50.1	5.5
P089230	Determinants of Access to Credit	CICIC	Nasir John L.		6.6
P085691	Welfare Impacts of First Pillar Reforms	MNSHD	Robalino David		10.9
P084861	FSE: FX-Banks Issues	LCSFF	Sanchez Susana	50.7	
P088196	FSE - BR Microfinance	LCSFF	Sanchez Susana		36.6
P095149	Credi Amigo: Expanded Access to Finance	LCSPP	Skoufias Emmanuel		21.8
P077208	Tax Policy	DRGPS	Wane Waly	87.5	

Infrastructure and Environment

				2,516.6	3,589.4
P082403	Red Sea - Dead Sea Water Conveyance	MNSRE	Alavian Vahid	34.7	67.6
P042676	Environment Data Accounting	DECDG	Belkindas Misha	3.0	
P088147	Urban Growth Mgmt Initiative-Research	TUDUR	Buckley Robert	113.0	117.8
P087551	Electric Technology Characterization	EWDEN	Cabraal R. Ani	24.0	215.9
P053633	Ecosystem Preservation and Habitat Viability	DRGIE	Chomitz Kenneth	97.1	29.3
P072962	Functional Value of Biodiversity	DRGIE	Chomitz Kenneth	288.9	14.6
P082224	Environmental and Natural Resources Management	DRGIE	Chomitz Kenneth	30.1	55.3
P093926	Spatial Development	DRGIE	Chomitz Kenneth		58.3
P027270	Health and the Environment	DECRG	Cropper Maureen	5.5	
P052854	Understanding and Measuring Motorization Externalities	DRGIE	Cropper Maureen	41.8	
P053608	Understanding and Measuring Motorization Externalities	DRGIE	Cropper Maureen	0.0	
P070055	Armenia's Lake Sevan	DRGIE	Cropper Maureen	17.0	
P081190	Urban Transport and Welfare of the Poor	DRGIE	Cropper Maureen	122.2	73.8
P087587	Valuing Mortality Risk Reductions	DRGIE	Cropper Maureen	11.0	9.6
P093247	Valuing Improvements	DRGIE	Cropper Maureen		97.4
P077423	Incentives for Pollution Control	DRGIE	Dasgupta Susmita	0.4	
P082436	Benefits and Costs of Organic Agriculture	DRGIE	Dasgupta Susmita	47.9	71.9
P082454	Pollution from Chemical Use in Agriculture	DRGIE	Dasgupta Susmita	89.2	55.4
P088889	Impact of Sea Level	DRGIE	Dasgupta Susmita		71.3
P089559	Bangladesh Toxic Targeting	DRGIE	Dasgupta Susmita		17.0
P093044	Evaluation of Integrated Pest Management	DRGIE	Dasgupta Susmita		5.0
P093601	Improving Indoor Air	DRGIE	Dasgupta Susmita		38.4
P089739	Identification of Flood Hazard Hotspots	DRGIE	Deichmann Uwe		55.0
P089740	Geographic Impacts of Global Change	DRGIE	Deichmann Uwe		65.8
P094022	Land Use, Forests, and Rural Poverty	DRGIE	Deichmann Uwe		2.0
P091805	Cooperative Arrangements for Allocation	DRGIE	Dinar Ariel		14.6

P083320	Measuring Quality-Quantity Trade-Offs	WBIFP	Estache Antonio	34.3	24.8
P073901	BNPP Connecting Cities with Macro Concerns	LCSFU	Freire Maria	1.0	
P091205	Dynamics of Urban Poverty: Rio's Favelas	LCSFU	Freire Maria E		127.6
P093990	Impact Evaluation for Urban Upgrading	DECVP	Gevers Coralie		24.6
P056108	Africa: Privatization Of Telecommunications		Haggarty Luke	0.0	
P083005	Focus Country	EWDWS	Janssens Jan	0.8	
P077029	Urban Growth Managment Initiative	TUDUR	Kessides Christine		0.4
P089730	Reforming Infrastructure	DRGGI	Kessides Ioannis	4.4	
P082247	Regulatory Roadmap	EWDEN	Kingdom William	11.2	
P082623	Mandate for the Water Sector	EWDWS	Kingdom William		2.3
P077960	Economic Geography and Political Economy	DRGIE	Lall Somik	9.7	
P072882	Effective Urban Strategies	DRGIE	Lall Somik V.	169.1	197.2
P089203	Rural-Urban Internal	DRGIE	Lall Somik V.		28.5
P092207	Assessing Regional Development Policies	DRGIE	Lall Somik V.		69.5
P084595	International and National Climate Mitigation	DRGIE	Lecocq Franck	41.1	59.5
P080292	Nature Tourism, Conservation, and Development	AFTS2	Lutz Ernst	13.1	
P080292	Pollution and Health	AFTS1	Margulis Sergio	18.4	
P088599	Analysis of Environmental Problems in Africa	AFTS1	Margulis Sergio		23.5
P087295	Evaluating Policies under Uncertainty	ARD	Nash John D.		258.9
P085746	Information Technology	DECRS	Ndulu Benno J.		38.4
P079969	Emission Quota Allocation Rules	DRGIE	Shalizi Zmarak	11.5	
P083639	Urbanization and Quality of Life	DRGIE	Shalizi Zmarak	436.5	286.8
P086101	Institutional and Spatial Aspects of Sustainability	DRGIE	Shalizi Zmarak	43.2	33.1
P082310	Million Connections Fund	EWDEN	Spencer Richard	12.6	
P077958	Infrastructure and Costs of Doing Business	DRGIE	Subramanian Uma	2.2	
P082882	Infrastructure Logistics, Costs of Business	CICIC	Subramanian Uma		2.9
P082031	Baseline Study for Climate Change Fund	EWDEN	Takahashi Masa	50.0	450.0
P082032	Biomass and Coal Utilization for Energy	EWDEN	Takahashi Masa	110.5	289.5
P083164	Landfill Gas Utilization in Sub-Saharan Africa	EWDEN	Takahashi Masa		1.9
P082244	Regulation by Contract	EWDEN	Tanenbaum Bernard	2.9	
P081469	Telecommunication Sector Development	DRGIC	Wallsten Scott	21.5	
P081716	Foreign Direct Investment and Pollution Havens	DRGIE	Wang, Hua	32.2	1.5
P082287	Water Resource Protection	DRGIE	Wang Hua	14.9	67.2
P086358	Ghana Environment. Performance	DRGIE	Wang Hua	51.7	46.7
P065614	Reducing Pollution: TVIE's	DRGIE	Wheeler David	5.9	5.0
P066003	Pollution from Chemical Use in Agriculture	DRGIE	Wheeler David	28.3	39.0
P070367	Information Technology and Development	DRGIE	Wheeler David	60.1	139.5
P076644	Urban Pollution	DRGIE	Wheeler David	27.2	35.6
P076657	Environmental Indicators	DRGIE	Wheeler David	251.3	54.7
P077806	China Public Disclosure	DRGIE	Wheeler David	125.0	144.8

Rural Development

P077567	Private Sector Participation in WRM-MNA	MNSRE	Abu-Taleb Mahe	51.6	-0.9
P079452	Farm Sector Structure	DRGRD	Amelina Maria	0.8	4.2
P050542	Land Reform	DRGRD	Deiningner Klaus	12.0	
P053319	Land Markets	DRGRD	Deiningner Klaus	58.7	2.3
P054160	Land tenure	DRGRD	Deiningner Klaus	51.6	238.4
P076763	Land institutions and policy	DRGRD	Deiningner Klaus	137.5	134.1
P078125	Participatory Poverty Monitoring	DRGRD	Deiningner Klaus	35.0	74.6
P083545	Land management in India	DRGRD	Deiningner Klaus		10.9
				2,183.2	2,195.2

P086499	Land Policy for Growth and Poverty Reduction	DRGRD	Deininger Klaus	61.3	65.0
P087932	Land policy issues in Eastern Europe	DRGRD	Deininger Klaus	20.8	27.5
P089581	Displacement	DRGRD	Deininger Klaus	6.3	17.3
P089584	Land Law	DRGRD	Deininger Klaus	7.8	44.9
P081240	Macro-Micro Linkages: Water Issues	DRGRD	Dinar Ariel	60.0	55.9
P087312	Methods for Allocation of Water	DRGRD	Dinar Ariel	65.1	63.7
P087597	Climate Change and Rural poverty	ARD	Dinar Ariel	87.8	151.2
P054106	Farmer Field School: Integrated Pest Mgmt.	DRGRD	Feder Gershon	71.7	42.4
P056743	Rural Sector Economic Dev.	DRGRD	Feder Gershon	28.3	
P077290	Program Grant "Rural Development Research"	DRGRD	Feder Gershon	231.3	
P085454	VRFP Prof David Mosse	DRGRD	Feder Gershon	45.2	
P085969	Farmer Field School Impact	DRGRD	Feder Gershon	20.3	9.6
P092636	Weather and Price Insurance in Rural Africa	ARD	Hess Ulrich C.		26.0
P079864	Mauritania - Technology Fosters Tradition	LEGAF	Hudes Karen Al	56.9	48.1
P077760	Inequality and Investment	DRGRD	Jacoby Hanan G	245.7	241.0
P077499	River Basin Management	ARD	Kemper Karin E	124.3	113.0
P079623	Group Incentives in Micro Finance	DRGRD	Khandker Shahidur	54.1	120.2
P085643	Impact of Rural Roads on Poverty	DRGRD	Khandker Shahidur	25.1	70.8
P077768	Non-Farm Rural Development	DRGRD	Lanjouw Peter		29.3
P036802	Commodity Marketing Systems	DRGRD	Larson Donald	40.1	
P043136	Rural Growth Experiences	DRGRD	Larson Donald	34.1	43.8
P055915	Price Reform Experience	DRGRD	Larson Donald	6.1	
P070527	Risk and Insurance	DRGRD	Larson Donald	16.7	56.2
P081180	Markets for environment	DRGRD	Larson Donald	35.1	22.0
P094759	Contributions of Governance to Growth in Agriculture	DRGRD	Larson Donald		13.8
P074341	Competition, Symbiosis and Credit	DRGRD	Mansuri Ghazala	12.9	36.3
P077725	Community Driven Dev	DRGRD	Mansuri Ghazala		124.0
P084150	Gender and Rural Poverty	DRGRD	Mansuri Ghazala	49.4	164.2
P067632	Agricultural Research Extension	ECAVP	Nacev Aleksand	97.0	
P075842	Promoting Agricultural Growth and	ARD	Pehu Eija	67.6	
P063054	Emergence from Subsistence	DRGRD	Shilpi Forhad	62.8	106.0
P074050	Non-Market Land Allocation in Vietnam	DRGPS	Van De Walle Dominique	6.6	
P059436	Impact Evaluation of a Rural Roads Rehab. Project in Vietnam	DRGPS	Van De Walle Domiq	195.5	39.4

Trade and International Integration

				4,297.9	6,036.9
P093929	Distortions to Agricultural Incentives	DRGTR	Anderson Kym		2.4
P094625	GEF Adaptation Count	WBIEN	Cadman Cary An		16.8
P082334	How Do US Multinationals Respond to Strengthened Intellectual Property Rights Abroad?	DRGTR	Fink Carsten	24.0	
P082424	Geography, Trade and Growth	DRGTR	Freund Caroline	34.4	
P082870	Does Regionalism Help or Hinder Multilateralism?	DRGTR	Freund Caroline	41.2	
P083584	Doha Development Agenda	DRGTR	Freund Caroline	257.9	176.3
P088066	International Migration	DRGTR	Gevers Coralie	125.3	549.0
P083152	Regional Investment Climate	EASPR	Ghosh Swati R.	54.5	40.3
P089835	Standards and Rules	EASPR	Ghosh Swati R.		13.0
P089836	Services Liberalization	EASPR	Ghosh Swati R.		19.9
P096574	Singapore "The Rise of China and India"	EASPR	Gill Indermit		500.0
P080479	Regional Trade and Poverty Research	EASPR	Goh Chorching	96.0	
P055163	Millennium round of trade negotiation	DRGTR	Hoekman Bernard	51.7	72.0
P062764	Intellectual Property	DRGTR	Hoekman Bernard		20.1

P077507	Trade Policy Development	DRGTR	Hoekman Bernard	222.8	114.4
P077820	Doha Trade facilitation and market access	DRGTR	Hoekman Bernard	91.4	50.7
P082017	Agricultural Trade Policy	DRGTR	Hoekman Bernard	125.4	76.9
P086752	Behind the Border Policy Reforms	DRGTR	Hoekman Bernard	138.3	388.5
P086834	WTO Dispute Settlement	DRGTR	Hoekman Bernard	30.1	50.0
P091490	Global Trade Architecture	DRGTR	Hoekman Bernard		269.0
P082628	Estimating Trade Elasticities	DRGTR	Kee Hiau Looi	55.3	6.8
P094655	Measuring Real GDP	DRGTR	Kee Hiau Looi		6.4
P095496	Rules of Origin and Firm Heterogeneity	DRGTR	Kee Hiau Looi		10.0
P088048	Remittances and Migration	DECPG	Lewis Jeffrey		51.3
P086299	Openness, Income Risk and Welfare	LCRCE	Maloney William	47.9	7.1
P078142	Trade Economist Geneva Office	DRGTR	Martin William	116.5	
P082845	Trade Policy Development	DRGTR	Martin William	3.2	44.9
P083210	Agricultural Trade Reform	DRGTR	Martin William	116.5	341.8
P083214	Analytical Tools for Trade Policy	DRGTR	Martin William	235.6	144.2
P088137	World Integrated Trade Solution (WITS)	DRGTR	Martin William	37.2	179.2
P089139	Implications of Doha	DRGTR	Martin William	12.5	424.9
P089577	Option for Reform in Japan's Agriculture	DRGTR	Martin William		20.0
P092606	Agriculture/Poverty and Antidumping	DRGTR	Martin William		9.7
P070477	Services Database	DRGTR	Mattoo Aaditya	102.6	
P083482	Services Trade Policy	DRGTR	Mattoo Aaditya	423.9	493.6
P083356	Trade Policy Data Support/Dissemination	DRGTR	Ng Francis K.	76.7	54.0
P065308	Political economy of trade policy	DRGTR	Olarreaga Marcelo	70.1	51.3
P076441	Trade, Trademarks and Reputation	DRGTR	Olarreaga Marcelo	46.6	
P087859	Determinants of Trade Policy	DRGTR	Olarreaga Marcelo	40.0	30.0
P089214	Agric. WTO Trade Ref	DRGTR	Olarreaga Marcelo		88.4
P092134	Agric. Trade Reforms	DRGTR	Olarreaga Marcelo		177.1
P094071	Trade and Production	DRGTR	Olarreaga Marcelo		10.0
P094072	Trade liberalization	DRGTR	Olarreaga Marcelo		15.0
P094653	Doha and Poverty in Low Income Countries	DRGTR	Olarreaga Marcelo		26.6
P077310	Regional Trade Patterns	DRGTR	Schiff Maurice	106.0	59.2
P077506	Trade and Technical Change	DRGTR	Schiff Maurice	83.1	125.9
P079557	Regional Integration	DRGTR	Schiff Maurice	9.8	0.1
P080614	Int'l Technology Diffusion: Trade and RI	DRGTR	Schiff Maurice	15.2	1.0
P092159	Brain Drain, Gain, Waste and Circulation	DRGTR	Schiff Maurice		4.0
P092160	Remittances and Household Surveys	DRGTR	Schiff Maurice		238.4
P094995	Serbia-Montenegro Migration to Switzerland	DRGTR	Schiff Maurice		25.3
P096157	HH Surveys of Intl Migration and Remittances	DRGTR	Schiff Maurice		2.2
P076326	Corruption, Pollution and FDI	DRGTR	Smarzynska Beata	22.2	20.3
P082440	Implementation of WTO Obligations	DRGTR	Smarzynska Beata	39.9	29.4
P082617	Trade Based Index of Corruption	DRGTR	Smarzynska Beata	4.5	24.5
P085090	Anti-Dumping in Developing Countries	DRGTR	Smarzynska Beata	124.5	66.0
P074752	Trade and Poverty	DRGTR	Tarr David	346.3	187.2
P077509	WTO and Developing Countries	DRGTR	Tarr David	183.3	36.2
P083251	Russian WTO Accession	DRGTR	Tarr David	121.7	163.4
P086587	Trade Capacity Building	DRGTR	Tarr David	54.1	118.7
P087609	Trade and FDI Reform	DRGTR	Tarr David	20.0	48.3
P072424	Trade Facilitation	DRGTR	Wilson John	156.1	
P077455	Trade Facilitation and APEC	DRGTR	Wilson John	53.1	
P070569	Trade, Standards, and Regulatory Reform	DRGTR	Wilson John S.		199.4

P083360	Standards and Trade	DRGTR	Wilson John S.	280.9	72.4
P088127	Standards and Trade	DRGTR	Wilson John S.		57.8
P094802	3A-MFA Quota Removal	AFTP1	Yagci Fahretti		5.6
Research Capacity Building				517.6	801.7
P087363	Capacity Building - EERC Kyiv	ECAVP	Mitra Pradeep	300.0	200.0
P087364	Capacity Building - EERC Russia	ECACE	Mitra Pradeep	50.0	
P087972	Global Development Network - MIIR ²	DECVP	Deverajan	100.0	100.0
IO2033013	African Economic Research Consortium	DECVP	Gelb		300.0
P079829	Capacity Building/Partnership	DECPO	Pleskovic Boris	67.6	91.4
P094961	CEU -Scaling Up Capacity-Building	DECPO	Pleskovic Boris		110.3
Dissemination and Outreach Activities				5,551.0	4,537.8
P072095	Economic Review	DECPO	Pleskovic Boris	0.2	0.5
P072097	Research Observer	DECRS	Pleskovic Boris	5.2	17.1
P072100	Berlin Workshop '01	DECPO	Pleskovic Boris	14.1	
P078194	Fourth European ABCDE	EXTEU	Bas Jean-Christophe	23.9	-0.3
P079791	Research Abstracts	DECRS	Ndulu Benno J.	55.2	31.3
P079821	Research Report	DECRS	Ndulu Benno J.	178.5	145.5
P079827	Visiting Research Fellow	DECPO	Pleskovic Boris		4.2
P079830	ABCDE Europe (Conf)	DECPO	Pleskovic Boris	23.2	53.5
P079832	ABCDE May 2003 India	DECPO	Pleskovic Boris	60.6	-1.8
P079833	ABCDE HQ Proceedings	DECPO	Pleskovic Boris	26.8	66.0
P079834	World Bank Economic Review	DECPO	Pleskovic Boris	160.5	192.8
P079835	World Bank Research Observer	DECPO	Pleskovic Boris	80.0	63.0
P079836	Research Bulletin	DECRS	Ndulu Benno J.		0.1
P079837	Working Papers	DECRS	Ndulu Benno J.	209.6	369.6
P079839	Transition Newsletter	DECPO	Pleskovic Boris	101.0	1.0
P082281	Munich Lectures	DECVP	Stern Nicholas	20.6	
P082640	Chinese Language Website	DRGGI	Wang Shuilin	43.7	0.1
P082989	Paris Conference on Migration	DECVP	Garcia-Thoumi Ines	8.0	
P086002	Berlin Workshop	DECPO	Pleskovic Boris	84.5	-2.9
P086121	Berlin Workshop DECPO	DECPO	Pleskovic Boris	21.8	41.9
P086333	ABCDE HQ Conference	DECPO	Pleskovic Boris	128.1	57.2
P088757	Sixth European ABCDE	EXTEU	Bas Jean-Chris	53.5	0.1
P089497	ABCDE Workshop Proceedings	SASPR	Dasgupta Paramita	5.4	
P090300	Berlin Workshop Sept	DECPO	Pleskovic Boris		39.0
P092659	ABCDE Senegal	DECPO	Pleskovic Boris		122.1
P093188	LCRCE Dissemination	LCRCE	Serven Luis		26.0
P093526	DEC Lectures April 2005	DECPO	Pleskovic Boris		25.2
P094389	Seven ABCDE Europe Conference	EXTEU	Bas Jean-Chris		75.4
	World Development Report	DECWD	Walton Michael	4,241.7	3,211.2
	Website	DECRS	Benno Ndulu	5.0	
Review and Support of Bank Research				359.7	279.3
P072049	Review of RSB proposals	DECRS	Ndulu Benno J.	24.4	15.6
P072055	Research process	DECPO	Pleskovic Boris	60.2	
P079823	Research Committee	DECRS	Ndulu Benno J.	139.5	131.5
P079825	Small Grants Review	DECRS	Ndulu Benno J.	71.8	73.1
P079826	Research Evaluation	DECRS	Ndulu Benno J.	7.3	25.1

P079827	VRFP Administration	DECPO	Pleskovic Boris	5.9	
P085746	DECRS Own Research	DECRS	Ndulu Benno J.	24.2	
P088737	DECPO Own Research	DECPO	Pleskovic Boris	26.4	
P092148	Regional and Network Research Initiative	DECRS	Ndulu Benno J.		34.0

Non RF Research Activities

				623.5	0.0
	FI: General Conf.	DRGFI	Demirguc-Kunt Asli	13.4	
	FI: New Initiatives	DRGFI	Demirguc-Kunt Asli	17.6	
	IC: New Initiatives	DRGIC	Keefer Philip	171.5	
	PS: New Initiatives	DRGPS	Ritva Reinikka	87.9	
	IE: New Initiatives	DRGIE	Zmarak Shalizi	91.5	
	HN - Electrification	LCC2C		2.8	
2018240	PO: New Initiatives	DRGPO	Ravallion Martin	138.9	
	Girls Education	AFTHE	Fredriksen B	94.3	
	RD: New Initiatives	DRGRD	Feder Gershon	5.5	

Grand Total **28,136.6** **27,773.8**

Annex C. Research Funded by the Research Support Budget, By Unit, FY04-FY05

<i>PROJECT TITLE</i>	<i>Grant Type³¹</i>	<i>Allocation (\$)</i> <i>FY04</i>	<i>Allocation (\$)</i> <i>FY05</i>	<i>Date of Approval</i>	<i>Closing Date</i>	<i>Responsible Unit</i>
Africa Region						
Nature Tourism, Conservation, and Development	D	13,145	0	28-May-03	30-Jun-04	AFTS2
Formalizing the Informal Sector: Policies for the Productive Regulation	PP		9,960	29-Jun-04	31-Dec-04	AFTP4
Community Nutrition: Evaluation of Impacts in Africa	R	63,000	60,000	8-Jan-04	31-Dec-06	AFTHD
Labor Market Policies, Unemployment and Poverty in Morocco: A Quantitative Analysis	R	15,210	0	16-Dec-02	30-Jun-04	AFTP2
Firms, Households, Government and Growth in Nigeria: Towards Evidence-Based Economic Policy Making	R			30-Mar-05		AFRVP
East Asia and Pacific Region						
Contracting with the Private Sector for the Delivery of Health Services: Randomized Evaluation in Cambodia	R	55,000	19,807	23-Jul-03	30-Sep-04	EASHD
Human Development Sector Review in Papua New Guinea	PP	29,800	0	6-Oct-03	30-Apr-04	EASHD
East Asian and Pacific Region: Trade and Poverty	R	75,000	0	7-Apr-03	15-Jun-04	EASPR
Investment Climate and Productivity	R	35,000	0	8-May-03	30-Sep-04	EASPR
The Interaction of Health, Education, and Employment in Western China	R	144,000	127,000	8-May-03	30-Jun-05	EASRD
East Asia and Pacific Region Decentralization	PP	30,000		10-Apr-03	31-Dec-03	EASPR
Decentralization, Governance and Public Service: An Assessment of the Indonesian Experience	R			29-Nov-04	30-Jun-05	EASPR
From the Caribbean to the Pacific: Some Lessons of Experience of Small Economies	PP		15,000	30-Nov-04	30-Jun-05	EASPR
Liberalization of Services	PP		13,000	1-Jul-04	31-Dec-04	EASPR
Rules of Origin and Standards	PP		13,000	15-Jul-04	15-Jan-05	EASPR
South Asia Region						
Analyzing the Effects of Quality of Health Care and Family Planning Services on Fertility and Infant Mortality in India	R	20,000	20,000	1-Nov-02	31-Dec-04	SASHD
HIV/AIDS: Behavior, Causes and Interventions - Module 6 - The Human Capital of Africa's Orphans	R		13,000	14-Jul-04	30-Jun-06	SARVPO
Water, Sanitation, Hygiene and Communities: An Integrated Multi-Regional Evaluation	R			9-May-05	30-Jun-06	SASES
HIV/AIDS: Behavior, Causes and Interventions - Module 4- Response to Sexual Risk in a High HIV/AIDS Environment	R		20,000	14-Jul-04	30-Jun-06	SARVPO
Europe and Central Asia Region						
Networking for Innovation in a Transition Country: Potential, Opportunities and Policy Recommendations	PP	30,000	0	1-Dec-03	31-May-04	ECSPE
Human Capital in Transition: New Technologies, Institutions, and Returns to Skills in Post-Communist Economies	R	20,000	0	12-Aug-02	31-Mar-04	ECSPE

³¹ Grant Types: R – Research; PP – Proposal Preparation; PG – Program Grant; D – Dissemination; DC – Data Collection; CE – Chief Economist Initiative.

Latin America and Caribbean Region

Teacher Incentives and Local Accountability: Raising Service Quality in Decentralized Schools	R	55,000	-	13-Aug-02	30-Jun-04	LCSHE
Evaluating the Impact of Decentralized Conditional Cash Transfer Programs: A Study of Brazil's Bolsa Escola Program	R	20,000	52,000	24-May-04	30-Jun-05	LCSHS
Assessing Argentina's Preparedness for the Knowledge Economy: Measuring Student Knowledge and Skills in Reading, Mathematical and Scientific Literacy - Evidence from PISA 2000	R	40,000	8,000	19-Dec-03	31-Dec-04	LCSHE
Openness, Income Risk and Welfare	R	54,000	21,000	8-Aug-03	31-Dec-04	LCRCE
Credit Information, Credit Risk Measurement and Solvency Ratios in Emerging Countries	R	56,000	0	13-Mar-03	30-Jun-04	LCSFF
An Evaluation of the Impact of CrediAmigo and the Expansion of Financial Services in Brazil	R		29,000	14-Apr-05	30-Jun-07	LCSP
Social Security and Elderly Welfare in Lower Middle Income Countries	R		50,000	6-Dec-04	30-Jun-05	LCSHS
LACEA Dissemination	D		30,000	3-Nov-04	30-Jun-05	LCRCE

Middle East and North Africa Region

Contractual Savings Institutions and National Saving	R	47,040	11,820	12-Aug-03	30-Sep-04	MNSHD
Evaluating Welfare and Risk Impacts of Alternative First Pillar Reforms in MENA Countries: Are NDCs Worth the Trouble?	R	48,150	16,350	23-Jul-03	31-Dec-04	MNSHD
Finance and Development in the MENA Region: Three Related Questions	R			10-Feb-05		
International Mobility of the Highly-Skilled: Policies and Institutions to Maximize Benefits for Countries of Origin	PP			10-Dec-04		MNSIF

Environmentally and Socially Sustainable Dev. Network

Climate Change and Rural Poverty: Incorporating Climate into Rural Development Strategies	R	88,500	146,000	3-Oct-03	31-Dec-06	ARD
Evaluating Public Policies and Projects Under Uncertainty through the Application of Real Options	R	85,000	30,000	5-Nov-03		ESDVP
Integrated River Basin Management and the Principle of Managing Water Resources at the Lowest Appropriate Level-When and Why Does It (Not) Work in Practice	R	139,050	54,700	21-Feb-02	31-Dec-04	ARD
Cultural Diversity, Decentralization and Public Service Delivery	PP			20-May-05	30-Jun-06	SDV
Can Weather and Price Insurance Reduce Rural Poverty in Africa? The Roles of Self-Insurance, Mutual Insurance, and Market Insurance	R		26,000	30-Jun-04	30-Jun-06	ARD
Evaluating Public Policies and Projects Under Uncertainty through the Application of Real Options	R		51,300	22-Feb-05	30-Jun-06	ESDVP

Financial Sector Operations and Policy

Transactions Costs in the Issuance of Debt and Equity in Emerging Markets	PP	30,000	0	26-Aug-03	28-Feb-04	OPD/INTG
What Types of Emerging Market Companies Migrate Abroad?	R	20,000	0	23-Jul-02	31-Dec-03	OPD

Human Development Network

Effects of Unemployment Insurance?	R	18,500	10,500	24-Jul-03	31-Mar-05	HDNSP
Benefit Incidence in Health, Nutrition, and Population Activities	CE	300,000	0	24-Oct-02	30-Jun-04	HDNHE

Performance Based Contracts in the Health Sector in Rwanda	PP		0	20-May-05	31-Dec-05	HDNVP	
Evaluating the Impact of HIV/AIDS Prevention Education in Primary Schools	R		103,000	15-Apr-05	30-Jun-07	HDNED	
Disability, Poverty and Economic Development	PP		15,000	7-Oct-04	30-Apr-05	HDNSP	
Poverty Reduction and Economic Management Network							
Measuring the Impact of International Remittances on Poverty in Developing Countries	R	71,000	0.00	1-Aug-03	30-Jun-04	PRMPR	
Moving Out of Poverty	PP	15,000	0	10-Dec-03	30-Jun-04	PRMPR	
Infrastructure Network							
The Urban Growth Management Initiative	R	113,000	117,000	22-Sep-03	30-Jun-05	TUDUR	
Private Sector Development Network							
Infrastructure and the Costs of Doing Business: Physical, Policy and Institutional Barriers	R	54,000	18,700	8-Apr-03	30-Jun-05	CICIC	
Determinants of Access to Credit in Developing and Emerging Economies: The Differential Role of Relationships, Firm Size and Trade Credit	R	0	6,576	21-May-04	30-Jun-05	CICIC	
The Diffusion of Technology Among Firms in Developing Countries: The Role of Foreign Contacts, Firm Capacity, Physical Proximity and Professional Associations	R	60,005	0	21-Mar-03	30-Jun-04	CICIC	
DECRG							
Can Weather and Price Insurance Reduce Rural Poverty in Africa? The Roles of Self-Insurance, Mutual Insurance, and Market Insurance	R		0		30-Jun-04	DRGRD	
Assessing the Impact of Alternate Policies for Development for Lagging Regions	R		0	60,000	28-Jun-04	30-Jun-05	DRGIE
Infrastructure, Location and Development in Nepal	R		0	15,000	24-Jun-04	30-Jun-06	DRGRD
Assessing the Impact of AIDS and of Care and Support Programs on Income Dynamics and Household Consumption in Free State Province, South Africa	PP		0	30,000	10-Jun-04	31-Jan-05	DRGPS
Understanding the Relationship between Macroeconomic Crises and Child Health	R		0	37,500	4-Jun-04	30-Jun-06	DRGPS
Program Grant on Finance	PG		0	260,000	8-Apr-04	30-Jun-07	DRGFI
Bargaining for Bribes: The Role of Institutions	R		5,900	11,200	26-Feb-04	30-Jun-06	DRGIC
Growth, Redistribution and Human Development: A Decomposition Method with Applications to Schooling in Morocco and Vietnam	R		0	50,000	17-Feb-04	30-Jun-06	DRGPS
Determinants of Trade Policy in Developing Countries	R		40,000	30,000	18-Dec-03	30-Jun-05	DRGTR
The Impact of Health Shocks on Household Income Capability in Rural China	R		16,330	36,570	8-Dec-03	30-Jun-05	DRGIC
The Economic Costs of Mental Health Ailments in Post-Conflict Bosnia and Herzegovina	R		30,400	34,481	8-Oct-03	31-Dec-04	DRGPO
Beyond Openness: Trade and Behind the Border Policy Reforms	PG		135,000	361,653	6-Nov-03	30-Jun-06	DRGTR
A Micro-Finance Mechanism Test: Joint versus Individual Liability	PP		29,570	0	22-Sep-03	30-Mar-04	DRGFI
Land Policy for Growth and Poverty Reduction	D		29,000	40,000	11-Sep-03	30-Jun-05	DRGRD
What Drives Mass Education: Economy, Policies, Institutions	R		50,000	23,000	26-Sep-03	31-Dec-04	DRGPS
Making Services Work for Poor People	PG		279,000	431,000	3-Oct-03	30-Jun-05	DRGPS
Sending Farmers Back to School: An Econometric Evaluation of the Farmer Field School Extension Approach	D		19,000	8,000	29-Aug-03	30-Jun-04	DRGRD

The Impact of Rural Roads on Poverty: The Case of Bangladesh	R	23,500	41,500	23-Jul-03	31-Mar-05	DRGRD
Investment Climate Surveys and Research	R	319,160	340,840	30-Sep-03	30-Jun-05	DRGIC
The Impact of Agricultural Extension in Peru	PP	12,200	-	11-Jul-03	31-Jan-04	DRGFI
Economic Factors and the Political Environment in Understanding Social Conflict and Civil War	PP	15,000	0	9-Jun-03	31-Jan-04	DRGIC
How Does Globalization Affect Middle-Income Strata? Evidence from Household Budget Surveys	R	16,000	28,000	8-Apr-03	30-Jun-05	DRGPO
Impact Evaluation of Food for Education	PP	30,000	-	1-Oct-03	30-Jun-04	DRGPS
Investment Climate Results in Developing Countries	D	58,587	-	27-Jun-03	30-Jun-04	DRGIC
Urbanization and Quality of Life- Micro and Macro Perspectives	PG	193,000	135,000	10-Apr-03	30-Jun-05	DRGIE
Does Regionalism Help or Hinder Multilateralism? An Empirical Evaluation	R	40,000	-	20-Mar-03	30-Jun-04	DRGTR
Chinese Language Website	D	58,092	0	17-Oct-02	30-Jun-04	DRGIC
Corruption in Customs: Grease or Sand in the Wheels of International Trade	R	4,500	24,500	11-Feb-04	31-Dec-05	DRGTR
Economics of Pesticide Contamination in Bangladesh	R	54,900	0	13-Sep-02	30-Sep-04	DRGIE
Benefits and Costs of Organic Agriculture: Evidence from Cuba	R	19,000	45,400	30-Jan-03	31-Dec-04	DRGIE
Geography, Trade and Growth	R	40,000	0	29-Jan-03	31-Mar-04	DRGTR
Estimating Trade Elastic ties	R	55,000	6,745	12-Feb-03	30-Jun-05	DRGTR
How Do U.S. Multinationals Respond to Strengthened Intellectual Property Rights Abroad? A Firm-Level Panel Data Analysis	R	25,000	0	28-Jan-03	30-Jun-04	DRGTR
Small and Medium Enterprises: Financing Constraints to Growth	R	55,000	19,920	22-Oct-02	28-Feb-05	DRGFI
Industrial Organization Policy for Development	PP	181,188	-	6-Nov-02	30-Jun-04	DRGIC
Foreign Direct Investment and Pollution Havens: Evaluating the Evidence from China	R	15,906	0	8-Nov-02	30-Jun-04	DRGIE
The Origins of the Telecommunications Regulation: Monopoly, Competition, and Regulation in the United States, 1900-1913	R	21,385	0	29-Mar-02	30-Jun-04	DRGIC
Child Labor and Access to Credit: Evidence from Rural Tanzania and Vietnam	R	26,718	9,000	18-Oct-02	06/30/2004 12/31/2004	DRGPO
Infrastructure and Regional Growth in Indian Manufacturing	R	38,990	53,010	23-Dec-02	31-Dec-05	DRGIC
Macro-Micro Linkages of Irrigated Water Management (co-managed with ARD)	R	38,800	35,000	20-Sep-02	1-Dec-03	DRGRD
Urban Transport and the Welfare of the Poor	R	57,818	16,882	27-Aug-03	31-Dec-04	DRGIE
Urban Transport and the Welfare of the Poor	PP	12,650	-	1-Nov-02	30-Sep-03	DRGIE
The Effects of Inventories of Tradable Permits on Technology and Abatement: An Empirical Analysis of Markets for Tradable Pollution Permits	R	19,850	0	11-Oct-02	30-Jun-04	DRGRD
Teachers, Incentives, and Student Performance	R	57,600	13,192	28-Oct-02	31-Dec-04	DRGPS
International Technology Diffusion: The Impact of Trade and Regional Integration	R	18,500	0	14-Aug-02	31-Dec-03	DRGTR
Towards Greenhouse Gases Emission Reduction Commitments by Developing Countries: Costs and Benefits of Various Options Under Uncertainty	R	11,532	0	9-Aug-02	31-Mar-04	DRGIE
Individual and Group Default Incentives in Micro-Finance: A Proposal to Study the Role of Groups in Grameen Bank?	R	20,000	55,953	4-Dec-03	30-Sep-05	DRGRD
Looking Beyond Averages: A Research Program on Poverty and Inequality	PG	213,750	193,750	27-Feb-02	30-Jun-05	DRGPO
The Public Disclosure of Industrial Pollution in China: Assessing the Impact of 'Third Wave' Regulation	R	8,000	0	4-Mar-02	31-Dec-03	DRGIE
Inequality and Investment: Land Tenure and Soil Degradation in the Indus Basin	R	26,500	30,000	4-Mar-02	31-Dec-03	DRGRD

Program Grant Proposal: Rural Development Research	PG	134,750	45,000	2-Oct-01	31-Dec-04	DRGRD
Ownership Changes and Corporate Governance in Chinese Firms: Causes and Effects	R	5,000	0	12-Feb-02	30-Jun-04	DECRG
Product Variety in Trade and Factor Prices	R	5,000	0	16-Aug-02	31-Mar-04	DRGTR
Program Grant: Financial Sector Research	PG	41,640	0	1-Oct-01	31-Dec-03	DRGFI
Improving Public Service Delivery: The Role of Information and Voice	R	50,000	80,750	14-May-02	30-Apr-05	DRGPS
Greening Industry in Latin America	D	0	0	14-Aug-02	30-Jun-04	DRGIE
Trade, Trademarks, and Reputation	R	13,200	0	26-Apr-02	30-Jun-04	DRGTR
Changing Gender Bias in Malaysia	R	21,000	10,000	4-Jun-01	30-Jun-03	DRGPO
The Taxation of Financial Intermediation	R	0	0	21-Mar-01	30-Jun-03	DECRG
The Impact of Local Governance in India: An Empirical Investigation	R	24,128	0	3-Aug-01	30-Jun-04	DECRG
Information/Communication Technologies and Poverty Reduction (CITPO)	R	31,761	109,189	13-Nov-02	30-Jun-05	DRGIE
Improving Learning in Public Schools: Impact Evaluation of an Innovative Policy Initiative in India	PP	25,000	0	22-Sep-03	30-Jun-04	DRGPS
Impact Evaluation of a Rural Roads Rehab. Project in Vietnam	R	127,800	0	28-Jun-02	30-Jun-05	DRGPS
Violence and Crime: A Cross-Country Perspective	R			2-May-02	30-Jun-05	DECRG
Technology Transfer thru Vertical Relationships between Multinationals and Local Suppliers	R		0	30-Jun-05		DRGTR
Assembling and Disseminating Pesticide Use Data from Developing Countries	D		0	28-Jun-05		DRGIE
Human Rights and Basic Services	PP		0	12-May-05		DRGPS
Rules of Origin and Firm Heterogeneity	PP		10,000	5-May-05	30-Nov-05	DRGTR
Long-Term Impacts of a WB Poor-Area Development	R		0	26-Apr-05	31-Mar-07	DRGPO
Reforming Infrastructure: Privatization, Regulation and Competition	D		6,758	11-Jan-05	30-Jun-06	DRGGI
Farm Productivity and Market Structure: Evidence from Cotton Reforms in Zambia	R		0	15-Mar-05	30-Jun-06	DRGTR
The Contribution of Governance to Growth in Agriculture	R		13,750	5-Oct-04	30-Jun-06	DRGRD
Measuring Real GDP and Trade Distortions	R		7,000	19-Apr-05	30-Jun-07	DRGTR
Estimating the Return to Capital and Investment Propensity in Micro Enterprises	R			14-Feb-05		DRGFI
Evaluating the Impact of Conditional Cash Transfers [CCT] on School Outcomes in Cambodia	R		30,000	9-Mar-05	30-Jun-06	DRGPS
The Impact of Trade Liberalization and International Exposure on Labor and Capital Adjustment Functions in Uruguay	R		15,000	1-Dec-04	30-Dec-05	DRGTR
Trade and Production II, 1976-2003	R		10,000	3-Jan-05	30-Jun-06	DRGTR
Software Tool for Poverty Mapping	PP		15,000	22-Dec-04	30-Jun-05	DECRG
The Economics of Reciprocity Networks	PP		15,000	6-Oct-04	30-Jun-05	DRGGI
Improving Indoor Air Quality for Poor Families: Proposal for a Controlled Experiment in Bangladesh	R		30,000	23-Nov-04	30-Jun-06	DRGIE
The Impact of Accessing International Capital Markets on Firm's Value	R		12,000	11-Nov-04	30-Jun-06	DRGGI
The Economics and Politics of Post-Conflict Transitions	R		30,000	1-Nov-04	30-Jun-06	DRGGI
The Impact of Agricultural Services	R		17,500	14-Oct-04	30-Jun-06	DRGFI
Valuing Improvements in Road Safety: A Case Study in Delhi, India	R		56,550	29-Oct-04	30-Jun-06	DRGIE
Extension of the Database on Political Institutions: Understanding the Institutional Drivers of Government Performance (DPI)	DC			1-Nov-04		DRGGI
Evaluation of the Female Secondary Stipend Assistance Proj (FSSAP) in Bangladesh	PP		15,000	16-Mar-04	30-Apr-05	DRGRD

The Legacy of Social Inequality in Expectations, Norms and Governance: An Experimental Investigation	R		35,100	12-Oct-04	30-Jun-07	DRGGI
Cooperative Arrangements for Allocation of Water among Production and Environmental Uses under Stochastic Supply Conditions	PP		15,000	9-Aug-04	30-Jun-05	DRGIE
Formal and Informal Credit Markets in Vietnam	R		39,270	13-Jul-04	30-Jun-06	DRGPO
Impact of cash transfers on child health and cognitive development: Evidence from a randomized evaluation in Ecuador	R		0	22-Jun-05	31-Dec-06	DRGPS
Crossing Boundaries, Social Distance and the Gender Gap	R		24,000	22-Dec-04	30-Jun-07	DRGRD
Adult Mortality and the Long-Run Impact on Households	R		0	30-Jun-05	30-Jun-04	DRGPO
Universities as Drivers of Urban Economies in Asia	R		29,000	4-Mar-05	30-Jun-06	DECRG
Turning the Tide for Biodiversity Hotspots: Policies to Implement Low Cost Sustainable Landscapes	D		4,670	6-Dec-04	30-Jun-06	DRGIE
Other DEC						
Can Good Policy Reform Yield Low Returns?	R	20,000	30,000	24-Jul-03	30-Jun-05	DECVP
Berlin Workshop FY2004		85,000	-	29-Aug-03	31-Dec-03	DECPO
Berlin Workshop FY2005 "WDR 2006 - Equity and Development"		0	85,000	22-Jun-04	31-Dec-04	DECPO
Households and Schools: Demand and Supply Side Determinants of Child Schooling in Ethiopia	R	40,000	10,000	23-Jul-03	30-Sep-04	DECWD
Scaling Up the Success of Capacity Building in Economic Education and Research: Budapest, June 14-15, 2005	CB		150,000	18-Apr-05	30-Jun-05	DECPO
WBI, LEG and EXT						
Measuring Quality-Quantity Trade-Offs in the Regulation of Privatized Railways	R	40,000	25,000	30-Jun-03	30-Dec-04	WBIFP
Knowledge and Economic Development: An Empirical Study	PP	15,000	0	10-Oct-03	30-Jun-06	WBIPKD
Linking Representative Household Models with Household Surveys: Implications for Quantifying Poverty Reduction Strategies	R	26,000	0	29-Aug-03	30-Jun-04	WBIPKD
The Metamorphosis of Marginality: Fragmentation, Fear and Hope in the Favelas of Rio De Janeiro, 1968-2004	R	180,000	94,000	21-Jul-03	30-Jun-05	WBIFP
How Well Do SME Programs Work? Evaluating Mexico's SME Programs Using Panel Firm Data	R	30,000	0	23-Dec-02	31-Dec-03	WBIHD
Labor Market Policies, Unemployment, and Poverty in Morocco: A Quantitative Analysis	R	0		16-Dec-02	31-Mar-04	WBIPR
Inequality in Health and Education Outcomes	PP	15,000	0	17-Jun-03	31-Dec-03	WBIPR
Capital Subsidies and the Quality of Growth	R	24,563	0	19-Aug-02	30-Jan-04	WBIPR
The Amazon Estuary	R	0	0	22-Jan-01	31-Jan-03	WBIEN
Legal and Judicial Reform Projects in Developing Nations: Measurement and Evaluation	PP		5,000	12-Aug-03	1-Nov-05	LEGLR
ABCDE Brussels (May 10-11, 2004)		75,000				EXTEU
Successful Adaptation to Systemic Change	PP	15,000	0	4-Mar-03	31-Dec-03	EXTSP
Global Business School Network Capacity and Needs Assessments - Six Countries of SSA	CE	65,000		11-Apr-03	30-Jun-04	CEIED
ABCDE Europe/Amsterdam (May 23-24, 2005)			75,000	28-Mar-05	30-Jun-05	EXTEU
The Contribution of Business Education to Development"	PP		10,000	9-Jul-04	30-Jun-05	CBNDR

Source: DECRS

**Annex D. Research Capacity-Building Grants from the Research Committee
Since 1993**

Research Capacity-Building Initiatives	Unit	Supervisor	Grant	Approved
Encouraging Economic Research in the Middle East and North Africa	MNAVP	L. Squire	\$150,000	
Latin American Econometric Society	LACVP	M. Selowsky	\$120,000	
African Economic Research Consortium	AFRCE	I. Husain	\$750,000	5/27/93
Initiative to Encourage Economic Research in the Middle East and North Africa	MNAVP	I. Diwan	\$150,000	7/27/93
International Conference on African Economic Issues	AFRCE/ PRDPE	I. Husain and S. Devarajan	\$110,000	3/1/94
Strengthening Economic Policy Analysis and Research in FSU	EC3DR	J. Holsen	\$30,000	4/1/94
Economic Research Forum for the Arab Countries, Iran and Turkey	MNAVP	N. Shafik	\$430,000	4/7/95
China Center for Economic Research	EA2DR	N. Hope	\$410,000	5/12/95
Economics Education and Research Capacity Building in Russia and Ukraine	RAD	G. Ingram and M. Selowsky	\$750,000	9/12/95
Latin American Econometric Society	LATEA	S. Bery	\$15,000	4/12/96
International Conference on African Economic Issues	PRDPE/ AFTM5	S. Devarajan and P. Harrold	\$55,000	11/7/96
Latin American and the Caribbean Economist Association	LACCE	G. Perry	\$30,000	4/11/97
Fifteenth Latin American Meeting of the Econometric Society	LACCE	G. Perry	\$10,000	4/11/97
China Center for Economic Research	EASPR	P. Bottelier	\$510,000	3/10/98
Latin America and the Caribbean Association	LCSPR	G. Perry	\$20,000	3/20/98
South Asia Beyond 2000	SARVP	J. Williamson	\$60,000	5/11/98
Workshop on the Central Economic Reform Issues Facing China	EASPR	P. Bottelier	\$40,000	4/10/98
Economic Education and Capacity Building in Transition Economies	DECRA	B. Pleskovic	\$40,000	4/10/98
Enhancing Economics Education and Research in Ukraine and Russia	ECAVP	M. Selowsky	\$750,000	5/11/99
The Twelfth World Congress – Buenos Aires	DECVP	L. Squire	\$25,100	4/1/99
Chinese Transition Newsletter	DECRG	R. Hirschler	\$25,000	6/9/99
China Center for Economic Research	EASPR	H. Kharas	\$234,000	5/1/02
Economics Education and Research Consortium	ECAVP	P. Mitra	\$800,000	4/30/02
African Economic Research Consortium	AFRCE	A. Gelb	\$500,000	5/1/02
Center for Economic and Financial Research	ECAVP	P. Mitra	\$70,000	7/24/02
Center for Economic Research and Graduate Education	ECAVP	P. Mitra	\$300,000	4/25/02
African Economic Research Consortium: Ph. D. Program and DECRG Visiting Research Fellows	AFRCE/ DECRG	A. Gelb and P. Collier	\$450,000	6/12/02
Economics Education and Research Consortium – Ukraine	ECAVP	P. Mitra	\$900,000	5/1/03
New Economic School	ECAVP	P. Mitra	\$900,000	5/1/03
Global Development Network	SARVP/ ECAVP	S. Ahmed and P. Mitra	\$228,500	5/21/03
Center for Economic Research and Graduate Education – Economics Inst.	ECAVP	P. Mitra	\$300,000	10/11/05

Source: DECRS

Annex E. Visiting Research Fellows Program, FY04-FY06

Fellow	Nationality	Institution (during VRFP term)	Unit	Term
Sadoulet, Elizabeth	American	University of California, Berkeley	DRGRD/ARD	6 Months, FY05-06
Pandey, Priyanka	Indian	Pennsylvania State University	DECRG	7 Months, FY04-05
McKenzie, David	New Zealander	Stanford University	DRGPO	6 Months, FY04-05
Perlman, Janice	American	Trinity College, CT	LCSFP	9 Months, FY05
Pestieau, Pierre	Belgian	University of Liège	DECVP	4 Months, FY04
Rigobon, Roberto	Venezuelan	MIT, Sloan School of Management	DRGIC	12 Months, FY03-04
Ali, Mubarak	Pakistani	Asian Vegetable Research and Development Center, Taiwan	ARD	7 Months, FY03-04
Wangwe, Samuel	Tanzanian	University of Dar-es-Salaam and London School of Economics	AFRCE	7 Months, FY03
Mosse, David	British	University of London	DRGRD/ARD	4 Months, FY03-04

Source: DECPO

**Annex F. Flagship Reports, Policy Research Reports and
World Development Reports published in FY04-FY05**

East Asia and Pacific	
East Asia Integrates	2003
Connecting East Asia	2005
East Asia Decentralizes	2005
Latin America and Caribbean	
Inequality in Latin America	2004
Keeping the Promise of Social Security	2005
Lessons from NAFTA	2004
Beyond the City: Rural Contribution to Development	2005
Europe and Central Asia	
Anti-Corruption in Transition	2004
Transition: The First Ten years	2002
Middle East and North Africa	
Unlocking the Employment Challenge in MENA	2004
Gender and Development in MENA	2004
Better Governance for Development in MENA	2003
Trade, Investment, and Development in MENA	2003
South Asia	
South Asia pension systems	2005
PSD Network	
Doing Business 2004	2004
Doing Business 2005	2005
PREM Network	
Economic Growth in the 1990s: Learning from a Decade of Reform	2005
HD Network	
Old Age Income Support in the 21st century	2005
Income Support Systems for Unemployed	2004
Targeting of Transfers in Developing Countries	2004
ESSD Network	
Agricultural Growth for the Poor: An Agenda for Development	2005
DEC - Policy Research Reports (PRRs)	
Reforming Infrastructure: Privatization, Regulation and Competition	2004
Land Policies for Growth and Poverty Reduction	2003
Breaking the Conflict Trap: Civil War and Development Policy	2003
DEC - World Development Reports	
Sustainable Development in a Dynamic World	2003
Making Services Work for Poor People	2004
A Better Investment Climate for Everyone	2005

