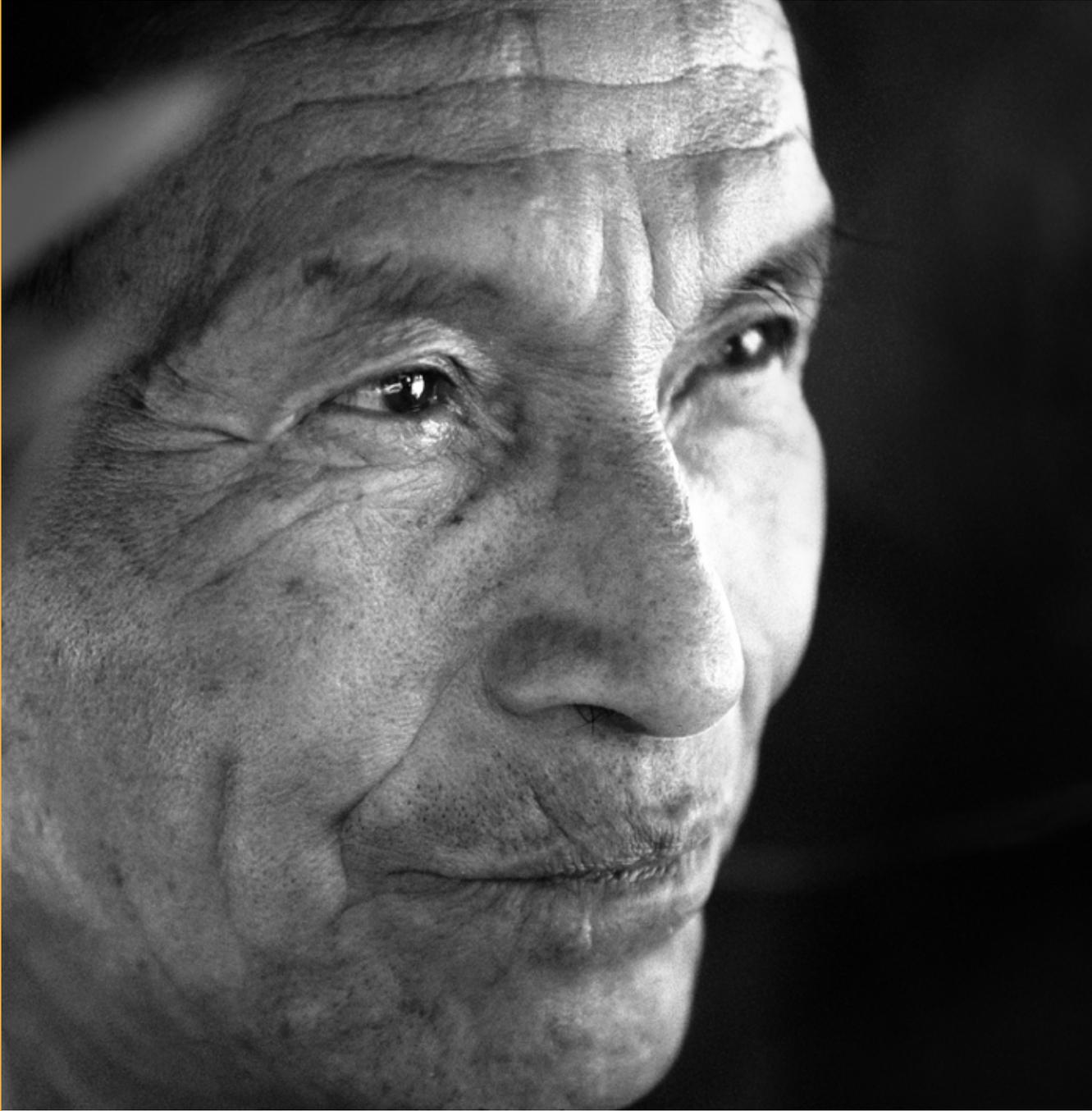


Turning Insight into **Impact**

# Annual Report 2015



**KNOWLEDGE** *for* **CHANGE**



Public Disclosure Authorized

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## Mission Statement

“ By undertaking research and data collection in key areas and themes, the Knowledge for Change Program supports the development of effective policies and programs in developing countries with an aim to reduce poverty and promote sustainable development. ”



# KNOWLEDGE *for* CHANGE

Annual Report 2015



## TURNING INSIGHT INTO **IMPACT**





# Foreword



In 2013, the World Bank Group (WBG) announced two goals to guide its mission worldwide. The first is the eradication of chronic extreme poverty, with extreme poverty defined as living on less than 1.25 (PPP-adjusted) dollars a day. The goal, formally, is to bring down the fraction of the world population that is extremely poor to less than 3 percent by 2030. The second goal is the boosting of shared prosperity, defined as promoting the growth of per capita real income of the poorest 40 percent of the population in each country.

In September 2015, UN member nations are expected to agree in New York to a set of post-2015 Sustainable Development Goals (SDG), the first and foremost of which is the eradication of extreme poverty everywhere, *in all its forms*.

Despite this heartening unity of major goals, there is much less agreement on the best ways in which human deprivations should be measured, and on whether or how information on them should be aggregated.

Recently I set up a new Commission on Global Poverty to advise the World Bank senior management on how to measure and monitor global poverty and human deprivation in general. The Commission is chaired by one of the leading authorities on the measurement of inequality and poverty, Sir Tony Atkinson. In particular, the Commission will address the question of how to make adjustments to the \$1.25 line, as and when new PPP and other price data become available, since we want to hold the yardstick for measuring extreme poverty constant in *real terms*. Furthermore, because poverty has many other dimensions and can be measured in absolute and relative terms, the Commission will advise us on other kinds of poverty measures that the Bank should collect data on, track, analyze, and make available to policy makers. The final report of the Commission will be ready by the end of April 2016 and I expect it to have major implications for emerging economies and low-income countries for tracking poverty and designing policy interventions. I hope that the Knowledge for Change Program (KCP) will fund important initiatives to follow up the recommendations of the Commission.

The WBG plays an important role in shaping the global debate on combating poverty, and the indicators and data that the Bank collates and distributes shape public opinion and policies in developing countries and, to a certain extent, internationally.

KCP has been a valuable tool in funding crucial research initiatives and moving resources to where they are needed, as well as in supporting the WBG's role in shaping ideas and influencing development policy. I am grateful to the KCP donors for their generosity and cooperation, and look forward to their continued support and partnership as the WBG shapes global research and policy making during these challenging times.

A handwritten signature in black ink, appearing to read 'Kaushik Basu'.

Kaushik Basu  
Senior Vice President and Chief Economist  
World Bank



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MESSAGE FROM  
THE WORLD BANK'S  
RESEARCH DIRECTOR



## Turning Research Insights into Development Impact



**R**esearch plays a crucial role in learning from past policies and thinking about the future. Without the independent scrutiny of research, conceptual and empirical foundations for policy making would be weak, “best practices” would be emulated without sufficient evidence, and new fads and fashions would get more attention and traction than they deserve. The Research Department (DECRG) fills this role by undertaking research that addresses relevant questions, answering them in a rigorous and persuasive manner, and then effectively communicating findings to policy makers. Given its broad mandate to shape development thinking, DECRG’s audi-

ence is not only World Bank senior management and operational colleagues, but also other researchers, national policy makers, the broader development community, and the general public. DECRG seeks to reach this wide audience through academic publications, books, conferences, blogs, and other social media channels. Despite limited resources, Bank researchers produce a large volume of work that is of high quality and influential by academic standards, yet much more focused on development issues and developing countries compared with the research of other academic institutions (Das et al. 2013; World Bank 2012).

But what evidence is there that World Bank research is meeting these goals? A range of metrics—from web traffic to citation counts and survey data—demonstrate that our research is in demand, influential, and relevant.

### The Demand for Bank Research

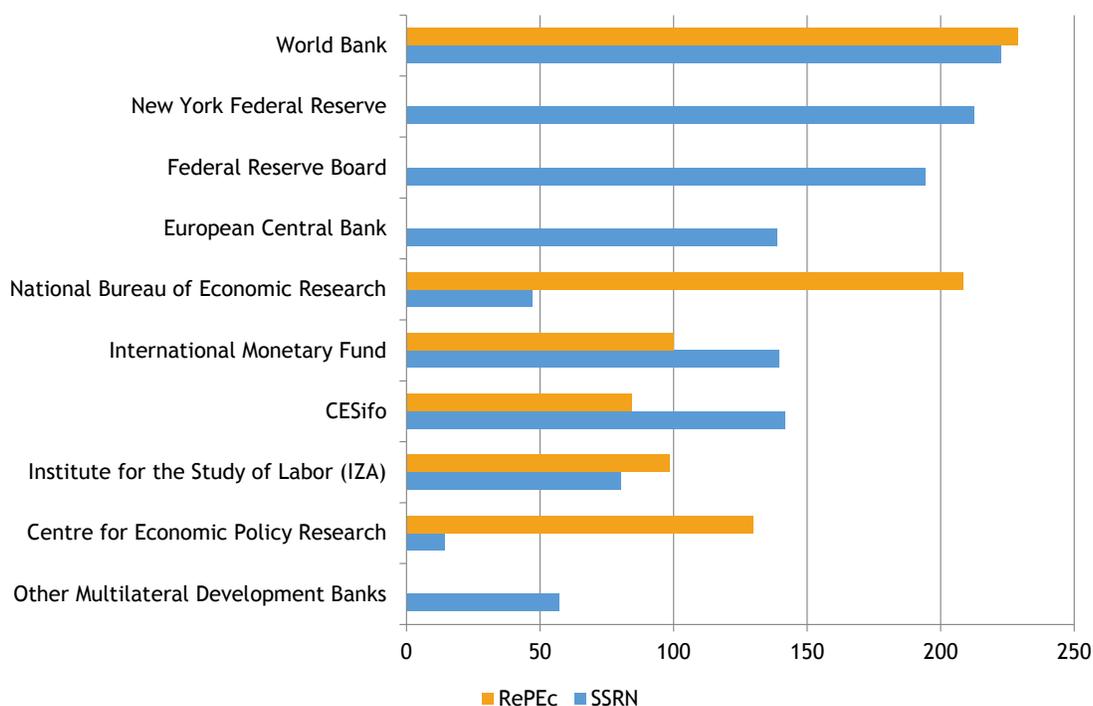
DECRG produces a wide range of research outputs, including working papers, books, data sets, policy reports, and peer-reviewed journal articles. The production of research begins with the Policy Research Working Paper (PRWP) series, established in 1988 as the primary vehicle for the dissemination of new research produced by the World Bank. The series is a stepping-stone to publication in a peer-reviewed journal, which ultimately certifies the quality of the research. This body of work then frequently feeds into outputs targeted to a broad audience of policy makers and other development stakeholders, whether in the form of a World Development Report, Policy Research Report, or other synthesis document.<sup>1</sup>

Given the central role of PRWPs in the production of research, download statistics for this series provide one useful indicator of overall demand for Bank research. PRWPs are disseminated through multiple channels, including two of the world’s largest online aggregators of social science research—Research Papers in Economics (RePEc) and the Social Science Research Network (SSRN)—and through the World Bank’s own websites. Data from RePEc and SSRN indicate high demand relative to comparator working paper series, while data

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<sup>1</sup>To see listings of all of DECRG’s outputs, visit <http://econ.worldbank.org/publications>.

Figure 1: Downloads per Paper via SSRN and RePEc



Source: RePEc, accessed September 29, 2014, <http://logec.repec.org/scripts/seriesstat.pf>. SSRN, accessed September 29, 2014, <http://www.ssrn.com/en/index.cfm/rps/>.

Note: Based on lifetime downloads of all items in each working paper series. Includes only series with 1,000 or more working papers. RePEc directs site visitors to copies of Policy Research Working Papers hosted on the World Bank’s website; the numbers reported in this figure reflect only downloads initiated via RePEc-generated requests. The category “Other Multilateral Development Banks” is comprised of the Inter-American Development Bank and the Asian Development Bank.

from the World Bank’s websites indicate particularly high demand for work authored by DECRG.

RePEc provides an online bibliographic database of research in economics and related disciplines. As of October 2014, RePEc listed 1.4 million pieces of research by more than 35,000 authors.<sup>2</sup> Download data from RePEc indicate that PRWPs are one of the most frequently downloaded series on a per paper basis compared with other major working paper series included on the site. PRWPs have been downloaded an average of 229 times per paper—placing the Bank ahead of major working paper series such as the National Bureau of Economic Research, the Center for Economic and Policy Research, and the IMF Working Paper series, among others (figure 1).

A similar story emerges from examination of SSRN data. As suggested by its name, SSRN focuses on dissemination of research work in the social sciences, and contains a collection of more than 473,000 downloadable documents. The PRWPs once again emerge as the most frequently downloaded working paper series on a per paper basis against the major comparators available in SSRN (figure 1). PRWPs have been downloaded an average of 223 times per paper, compared with 212 times per paper for the New York Federal Reserve, the next closest series. The World Bank also far outstrips other multilateral development banks (the Inter-American Development Bank and the Asian Development Bank), which together average 57 downloads per paper.

Downloads from the World Bank’s own websites extend

<sup>2</sup> RePEc, accessed November 14, 2014, <http://www.repec.org>.

the story, and allow us to differentiate downloads of PRWPs produced by authors from different parts of the World Bank. Over the period 2008–2013, more than 2,000 PRWPs were produced, with about one-third of these authored or co-authored by DECRG staff. Across the full set of PRWPs, papers were downloaded directly from the World Bank’s own websites an average of 379 times—but with a large differential depending on authorship. DECRG-authored or co-authored working papers were downloaded 72 percent more often on average than non-DECRG-authored papers.

Regardless of authorship, the PRWP series outperformed World Bank Economic and Sector Work (ESW) in terms of downloads, on average and at every percentile. ESW primarily consists of operational reports written by World Bank country economists in support of the policy dialogue with their client countries. Between 2008 and 2013, ESW reports were downloaded 148 times on average, with the median ESW report downloaded 48 times.<sup>3</sup> The corresponding figures for PRWPs were 379 and 260.

## Influence of Bank Research

Although download data reflect the general demand for World Bank research, they do not provide a direct indication of the influence that this work has on the broader research discourse. For this, the tools of bibliometric analysis are required. Bibliometrics provide a quantitative assessment of the influence of published research through analysis of citations. The availability of large databases such as SCOPUS, an online bibliographic database containing abstracts and citations from some 21,000 journals, has vastly expanded the ability to carry out this kind of investigation.

Bibliometric analysis provides a range of tools to assess influence—reflecting different judgments about how best to value different types of citations. For example, it is clear that a citation in a top-ranking journal should carry more weight than a citation in a lesser-known journal focusing on a narrow subfield. But

there is no agreement on exactly how to rank journals or weigh citations, which has given rise to a multitude of approaches to measuring influence (Engemann and Wall 2009). Given the lack of agreement, below are two different approaches to analyzing the influence of DECRG research. The first uses a neutral metric: an unweighted average of the number of citations per paper, benchmarked against comparator institutions. The second draws on the well-known rankings produced by RePEc, which synthesizes a broad set of underlying bibliometric indicators that adjust for many factors, such as the quality of the journal in which a citation appears.

How does DECRG-authored research stack up in terms of citations of its work? DECRG is clearly influential when compared against a broad set of academic and development institutions. Peer-reviewed journal articles and handbook chapters published by DECRG between 1995 and 2014 have been cited an average of 33 times in peer-reviewed journals, placing DECRG second only to Harvard University and far ahead of many other well-known research institutions (figure 2). By this metric, DECRG research clearly has wide influence.

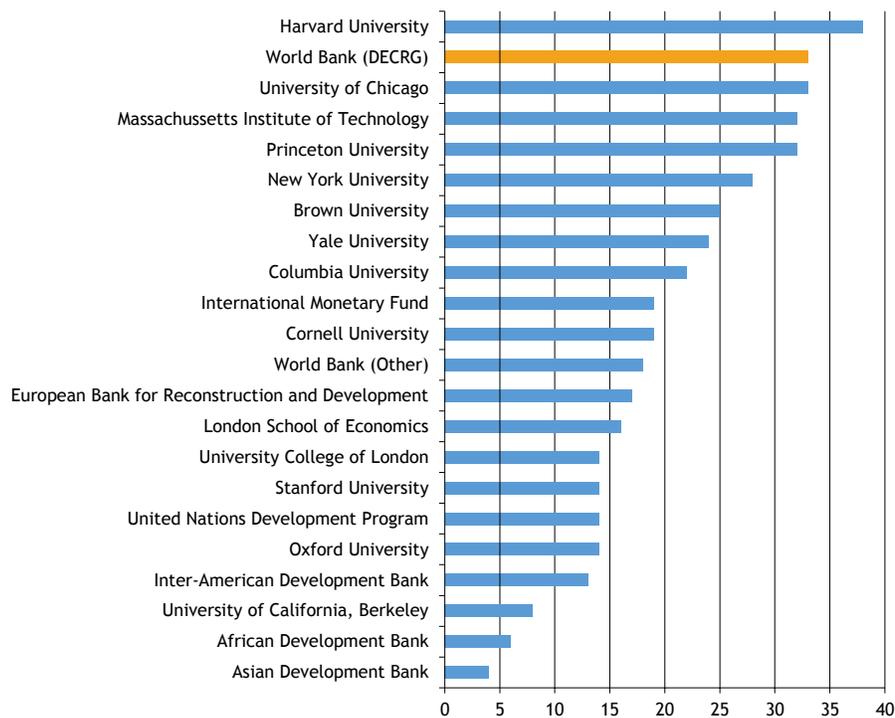
The more sophisticated set of rankings produced by RePEc provides a second way of measuring the influence of World Bank research. Instead of simply counting unweighted numbers of citations, RePEc aggregates across 32 different metrics that cover everything from number of works produced to citation counts, journal page counts, and RePEc web traffic. More than 40,000 registered authors are ranked on these 32 metrics, and these rankings are in turn used to rank the institutions to which the authors are affiliated.

Of more than 6,700 institutions, DECRG ranked number 12 in economics research overall, and ranked first in development economics (box 1). This placed DECRG ahead of Brown University, Harvard University, and the London School of Economics in the domain of development economics. DECRG’s high ranking as an institution is of course driven by the high ranking of many of

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<sup>3</sup> Original analysis of downloads of World Bank ESW by Doemeland and Trevino (2014). The statistics reported here reflect updated analysis for 2008–2013.

Figure 2: Average Number of Citations per Paper (Articles published between 1995 and 2014)



Note: Citation data drawn from the SCOPUS database, which covers 21,000 titles from a range of research fields. <http://www.elsevier.com/online-tools/scopus>.

the researchers who belong to it—and, in fact, a total of 19 DECRG researchers are ranked within the top 10 percent in the field of development economics. Since DECRG researchers work across many fields that are important for economic development, their expertise also reflects this diversity: 28 of them are ranked in the top 10 percent of their respective fields. DECRG researchers also rank in the top 1 percent of five different fields: Agricultural Economics, Banking, Human Migration, Health Economics, and Positive Political Economics.

#### Box 1: RePEc/IDEAS: Top 10 Institutions in the Field of Development Economics (as of October 2014)

Rank	Institution
1.	World Bank Group/DECRG
2.	Brown University (Economics Department)
3.	Harvard University (Economics Department)
4.	London School of Economics
5.	Yale University (Economics Department)
6.	National Bureau of Economic Research
7.	International Food Policy Research Institute
8.	MIT (Economics Department)
9.	International Monetary Fund
10.	Oxford University (Economics Department)

Source: RePEc Top 10% Institutions and Economists in the Field of Development, accessed November 11, 2014, <https://ideas.repec.org/top/top-dev.html>.

Note: The World Bank and DECRG are both scored in RePEc's ranking methodology. However, RePEc does not separately rank institutions and their sub-entities, as in the case of the World Bank vis-à-vis DECRG, but DECRG's score places it just behind the World Bank as a whole (Zimmermann 2012).

# Relevance of Bank Research

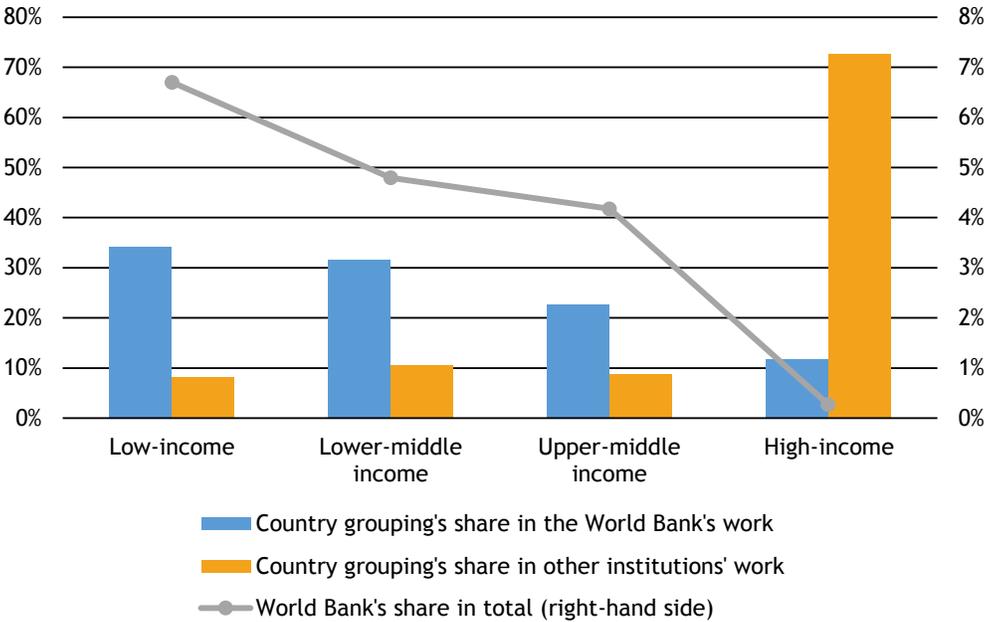
Although World Bank research is in demand and influential, this is not enough. It must also be relevant to the issues faced by the developing countries that the World Bank aims to serve. Given the broad range of challenges that developing countries experience, there is no single metric that allows us to gauge relevance. However, several metrics, each reflecting some aspect of relevance, suggest that DECRG research fills a gap in addressing the research needs of developing countries.

One way of judging the relevance of World Bank research to the needs of developing countries is to consider how the geographical focus of Bank research stacks up against other producers of research. It turns out that startlingly little empirical research is done on low-income countries. For example, over the 20-year period 1985-2004, only four papers were published in

the top 202 economics journals on Burundi, nine on Cambodia, and 27 on Mali (Das et al. 2013). To put that into perspective, some 36,649 empirical economics papers on the United States were published over the same timeframe in the same journals.

What is driving this distribution of research publications? Das et al. (2013) find that the most important factor is a country's gross domestic product, which alone accounts for 75 percent of the variation in per capita publications across countries. But for the World Bank this "research-wealth relationship" does not hold. Instead, the distribution of World Bank research is clearly tilted in favor of low-income and lower-middle-income countries (figure 3). More than one-third of the World Bank's journal articles have been on low-income countries, compared with only 11 percent on high-income countries. Among non-Bank authors, the picture is reversed: around 8 percent have been on low-income countries and over 70 percent on high-in-

Figure 3: Geographical Distribution of Research by Country Income Classification



Source: Calculations based on Das, Do, Shaines, and Sowmya 2013.  
 Note: World Bank country income classification is as of 2000.

come countries. The World Bank alone accounts for 7 percent of the total global output of research on low-income countries. These findings underline the point that Bank researchers fill a gap that is left by purely academic research.

It is also possible to gauge the relevance of DECRG research via its impact on other World Bank knowledge products—specifically, ESW reports targeted toward policy makers. A study by Doemeland and Trevino (2014) analyzed five years’ worth of download statistics for ESW. They find a great deal of variation in report downloads, with nearly one-third of ESW reports never having been downloaded a single time.

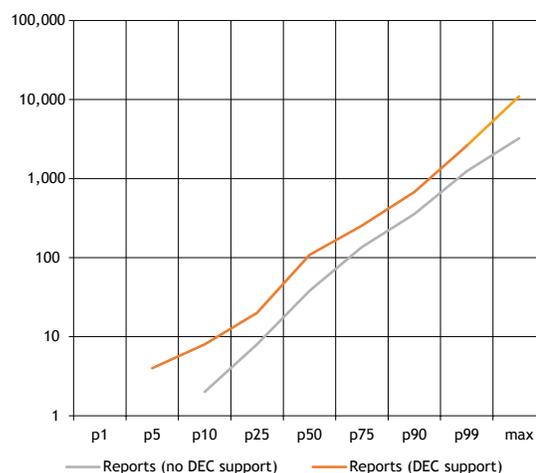
Doemeland and Trevino (2014) also looked at the relationship between downloads and cross support, that is, staff time provided across departments to support a project, and their findings were stark: the Development Economics Vice Presidency (DEC) was the only vice presidential unit whose cross support was linked with greater downloads and greater citations. DEC-supported reports received 302 downloads on average—more than double the 129 downloads per report for non-supported reports (figure 4). This relationship of increased downloads for DEC-supported reports also held at every percentile. This record of downloads points to the policy-driven nature of DEC

research, which has helped enhance the relevance of ESW reports specifically geared toward a policy making audience.

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Figure 4: Downloads of Policy Reports by Percentile, 2008-2013 (log scale)



Source: Original analysis of downloads of World Bank reports by Doemeland and Trevino (2014). Chart reflects updated analysis for 2008-2013 timeframe.



THE NEW KCP III



The KCP was established in 2002 and it is currently in Phase II. KCP II will be operationally closed in February 2017; in parallel, a reformed KCP III was set up and became active in December 2014. KCP's mission is to undertake research and data collection in key areas to support the development of effective policies and programs in developing countries, with an aim to reduce poverty and promote shared prosperity.

The key focus of KCP is to contribute to policy making in developing countries. In close collaboration with World Bank operations, the Bank's research, data collection, and analysis will focus on applied and policy-oriented questions, which will support government officials with policy-making guidance and contribute to understanding development issues in developing countries. In addition, KCP will also enhance research and data collection capacity in developing countries. KCP will encourage the Bank teams to work with researchers and data specialists from developing countries, with the aim of improving research and data collection

capacity. Unlike the KCP II, which is set up with four windows (Poverty Dynamics & Public Service Delivery Window, Investment Climate & Trade and Integration Window, Global Public Goods Window and Economic Development & Structural Change Window), the reformed KCP III is set up with a more flexible structure. KCP III, consistent with the World Bank Group's twin goals of ending extreme poverty and promoting shared prosperity, aims to carry out activities related to research, data collection, and analysis on the following indicative list of thematic areas:

- 01** Service Delivery and Aid Effectiveness  
Focusing on how to deliver "development" across multiple sectors
- 02** Poverty and Shared Prosperity  
Emphasizing the importance of economic growth and inclusion, including strong concerns for equity
- 03** Growth and Job Creation  
Focusing on understanding the dynamics of economic growth and job creation
- 04** Fragility and Risk Management  
Studying the particular challenges of fragile and conflict-affected areas, which are home to a significant share of the world's extremely poor people
- 05** International Cooperation & Global Public Goods  
Addressing the political economy, policy design, and evaluation challenges that arise in international cooperation
- 06** Innovation in Data Production Methods, Analysis, and Dissemination  
Addressing the need to establish strong baselines and a monitoring system for the poverty alleviation, shared prosperity, and sustainability goals
- 07** World Bank Flagship Reports  
Contributing to the World Development Report, Global Monitoring Report, the Doing Business Report, and Global Prospect Reports

3

PROGRESS &  
ACHIEVEMENTS IN 2015

The last batch of new projects for KCP II were approved in June 2014, and they are on track to be operationally completed by February 2017 and disbursed by June 2017. There are 57 ongoing projects in different stages of implementation and the progress reports prepared by the task team leaders are available on the KCP website. Four projects are highlighted in annex I (one per window).

Thirty-two projects were completed in FY2015. Outputs include high-quality papers, databases, data sets, and research tools covering a broad range of development topics and issues.

Table A.2 provides a full list of the completed projects, and the completion reports prepared by the Task Team Leaders are available on the KCP website. Highlights of the completed projects are provided here by window.

## WINDOW I: POVERTY DYNAMICS AND PUBLIC SERVICE DELIVERY

Window I addresses issues at the heart of poverty reduction: empowerment and sustainable development as well as public service delivery for human development. In FY2015, four projects were completed in this window and 25 projects are ongoing. The four completed projects covered a range of topics, such as core poverty measurement and inequality (TF015451: Global Poverty and Inequality Monitoring in the 21st century and TF0129678: How to Improve the World Bank's Global Poverty Monitoring); agriculture (TF010972: Governing Water for Agriculture); and social inclusion (TF010842: Economic and Gender Impact of peri-urban land titling).

*"900 million people in the world live on less than \$1 a day. 1.4 billion live under \$1.25 a day."* In order to achieve the WB's twin goals of reducing extreme poverty rate to 3% of the global population by 2030, the poverty monitoring is critical in assessing progress towards that goal. In the past two years, the PovcalNet team worked closely with all regions to recalculate poverty estimates. They combined the 2005 Purchasing Power Parity (PPP) exchange rates for household consumption from the ICP with data from more than

one thousand household surveys across 130 developing countries spanning 1981-2012. They also examined all existing methods and tested the robustness and consistency of its global poverty estimates by using different PPPs, national accounts and household survey data. It sets a new standard on the international poverty measurement.

To be transparent and better serve our clients, an online computational tool PovcalNet has been developed, which is open to the public. This web application provides statistics on poverty and inequality, using the same data and methods used for the World Bank's global poverty measures. It allows users to do their own calculations of global and regional poverty measures, using the underlying survey-based distributional data. Users can also use their own poverty lines and do their own country groupings. During the project period, PovcalNet has performed more than seventy million distributional analyses for users over the world. It demonstrates what the World Bank, as the leading development institution, can do for our clients and the international development community.

## Box 1: How to monitor global poverty and inequality in the 21st century?

Just as work begins on the post-Millennium Development Goals agenda, persistent measurement challenges, new conceptual approaches and analytical tools, and enhanced data availability combine to represent an important opportunity to review and upgrade the World Bank's global poverty and inequality monitoring system. An ambitious effort is called for. This research aims to improve methods for measuring and tracking well-being and its distribution, and will create several data sets. Progress in these efforts will contribute to improving the global poverty and inequality monitoring system.

A two-pronged approach is used. The first, it is to define and refine methods for measuring and tracking well-being and its distribution. The second, it is to emphasize the generation and dissemination of improved data and methodological guidelines to foster the effective use of information to monitor global poverty and inequality by country.

An important element of this research program is to advance our knowledge of synthetic panel methods. The infrequent collection of consumption data and panel data, particularly in developing countries, greatly hinders monitoring poverty trends and dynamics on a timely and consistent basis. Supported by KCP resources, two areas related to poverty measurement that centers on the broad topic of missing consumption data were studied. One is survey-to-survey imputation, and the other is the construction of synthetic panels from cross-sectional household surveys that can

substitute for actual panel data.

Other elements of the work program include work on deconstructing the inequality-growth relationship by drawing from micro data and developing methods that are used by poverty specialists to estimate poverty and inequality at various levels of aggregation with predicted data.

The team provided training and technical assistance on methods to construct synthetic panel data to colleagues in and outside the Bank. In addition, the team provided training and roundtable discussion sponsored by a European Union project and UNESCO at Paris-Dauphine University. The team organized a group within the Bank, including staff from operations and research, to discuss methodological advances in imputation work and disseminate the knowledge.



## WINDOW II: INVESTMENT CLIMATE & TRADE AND INTEGRATION

Window II focuses on the major elements of a business climate conducive to growth, with emphasis on the role of small- and medium-scale industries. There were 10 completed projects and 11 ongoing projects in the Investment Climate & Trade and Integration window. The 10 completed projects covered a wide range of topics, such as stability and growth (TF097808: Innovation and Growth); governance and institution (TF010782: How Does the Speed of Justice Affect Firms and TF012955: Land Tenure Regularization in Nigeria); risk management (TF012954: WDR 2014: Risk, Uncertainty and Crisis); trade (TF010230: Storage and Trade Policies for Improving Food Security and TF010706: Food Prices, Middlemen and Marketing Institutions: Evidence from Bangladesh); finance and development (TF10688: Understanding Capital Flows to Developing Countries, TF098583: On the Use of Domestic and International Debt Markets, TF014313: Enhanced Global Macro/Financial Model for Developing Countries, and TF012976: Macro and Micro Lessons from Project Data) and others. (Table A.2 has the complete listing.)

### How does the speed of justice affect firms?

The speed of justice is typically referred to as a key indicator of a country's business climate. Intuitively, slow delivery of justice is associated with a poorer business climate. However, the impact of the speed of justice on firms' health and behavior has not been formally documented. Similarly, court-level interventions for cutting delays have not been rigorously evaluated.

This project aims to evaluate a government-led, novel intervention taking place in the commercial court of Dakar, Senegal. The project team worked with the Ministry of Justice to (1) test the impact of a court-level intervention to shorten treatment delays; (2) measure

the impact of a legal reform of the pre-trial hearing procedure on the speed of treatment; and (3) exploit these exogenous variations in the speed of justice at the case level to provide a rigorous measure of the impact of variations in delays at the firm level.

The team conducted an event study of a reform aiming to shorten the length of civil and commercial pre-trial procedures in Senegal. The study found that the length of the pre-trial stage was reduced by 100 days, attributable to an increase in the decisiveness of each hearing.

The study also tested the impact of a reminder pop-up window displaying a number of randomly chosen ongoing cases and their treatment duration to judges in the Dakar regional court. By displaying a randomly picked portion of a judge's portfolio and the respective duration and number of hearings completed to date, which has enhanced a judge's knowledge of his/her portfolio and lower his/her propensity to procrastinate on that information—thus cutting down the number of hearings and increasing the speed of justice.

In both studies, the team exploited the exogenous variations in treatment delays generated by the intervention on the court personnel to measure the impact of the speed of justice at the firm level.

### How do middleman and marketing institutions affect food prices?

The dramatic increase in food prices in the international market in 2007-2008 and 2010-2011 attracted a lot of attention from the press, policy makers and academic economists. It is a widely held belief among politicians, bureaucrats, and the general population in many developing countries that collusion, especially among middlemen, and the resulting market power are responsible for such price anomalies in food markets.

The purpose of this study is to gather evidence on the

nature of marketing institutions in Bangladesh, as well as high frequency data on prices and costs at different layers of the distribution chain to discriminate between these competing explanations.

It is extremely important, especially from a policy perspective, to test for the existence and identify the location of any market power in the marketing chain.

The project team conducted surveys of market layers of the edible oil market in Bangladesh. The surveys tracked 574 traders in four layers of the market (supply order, brokerage, wholesale, and retail) for six months (from October 2012 to August 2013). Each trader was interviewed once a week to collect information on transaction volumes, prices, storage, credit, contracts, transport, price expectations, and trade disruptions. Apart from the survey, the study team also collected detailed information on market structure, the use of different types of payment contracts and enforcement of contracts, and storage frequency and capacity. The team also collected data on prices at different market locations.

The evidence from the research suggests that the price pass-through in the domestic market is imperfect not because of cartelization of market intermediaries, but because of credit constraints faced by the downstream traders (wholesale traders in this case). By implementing policy interventions aimed at fixing the non-existent cartelization problem, the government would be doing more harm than good.

The main research finding of this project is that the anomaly in price adjustment in the domestic market is not necessarily an outcome of collusive behavior of the traders in the supply chain. But more an outcome of market institutions governing credit access and contract enforcement has far-reaching implications for market reforms approached by donors and governments alike. The research findings imply that efficiency of marketing can be enhanced by improving traders' access to credit and by allowing development of both formal and informal market institutions for contract enforcements and provision of insurance.

## Box 2: How does capital flow to developing countries?

Developing countries have been receiving large capital inflows that have at times exerted upward pressure on currencies and inflation rates and, in some cases, generated large booms in the domestic financial sector and asset prices. A key question for policy makers is how to deal with these large and volatile capital inflows. Among other aspects, the answer hinges on how permanent these flows are and how volatile they might become.

This project aimed to shed new light on the nature of capital flows (mainly portfolio bond and equity flows) to all developing countries. The project mostly used novel micro-level data sets on portfolio flows by institutional investors. The goal was to study how financial institutions behave during good times and before, during, and after crises and shocks. In addition, the study provided a macro analysis on how countries have been dealing with capital flows.

The project reviewed aggregate data in a new way to shed light on how capital flows behave during crises, separating by the type of flows. The project also studied the mechanisms that move capital flows by analyzing more micro-level data on mutual fund flows.

The research shows that gross capital flows are very large and volatile, especially relative to net capital flows. Gross capital flows are also pro-cyclical. During expansions, foreigners invest more domestically and domestic agents invest more abroad. During crises, total gross flows collapse and there is a retrenchment in inflows by foreigners and outflows by domestic agents. These patterns hold for different types of capital flows and crises. This evidence sheds light on the sources of fluctuations driving capital flows and helps discriminate among existing theories. The research findings seem consistent with crises affecting domestic and foreign agents asymmetrically, as would be the case under the presence of sovereign risk or asymmetric information.

A woman with dark hair tied back, wearing a dark jacket over a white collared shirt, is seated at a desk. She is looking down at a document or a stack of cash. On the desk, there are several stacks of banknotes, some papers, and a calculator. The background is slightly blurred, showing what appears to be an office or a financial institution setting. The overall color scheme is warm and monochromatic, with shades of orange and brown.

The new stylized facts have important policy implications. In particular, policy makers have traditionally focused on net capital flows or, their counterpart, the current account to understand why crises occur and, more generally, how countries are integrating in international capital markets. The results show that the reduction in net capital inflows during crises is substantially smaller than the reduction in gross capital flows. Thus, during crises countries face a reduction in their ability not only to finance domestic investments with foreign savings, but also to share domestic idiosyncratic risks with foreigners. This became clearly apparent during the 2008-09 global financial crisis, when there was a significant reduction in financial globalization. Therefore, the policy discussion would benefit from a shift in focus from net capital flows toward gross capital flows.

The other lesson learned is that the volatility of mutual fund investments is quantitatively driven by the underlying investors and fund managers through (1) injections into/redemptions out of each fund and (2) managerial changes in country weights and cash.

The project provided several workshops and training courses for policy makers. It also engaged three researchers and one research institution from developing countries.

## WINDOW III: GLOBAL PUBLIC GOODS

Window III focuses on global issues, such as climate change, that require collective action and coordination across countries. In FY2015, 12 projects were completed in this window and there were seven ongoing projects. The completed projects covered climate change (TF097696: Green Growth Opportunities in Developing Countries, TF012675: The Economics of Adaptation to Salinity Intrusion, TF012996: Linking Bottom-up and Top-down Models for Assessing Economy-wide Impact, TF015268: Supporting Ethiopia's Push for 9 Million Improved Cooking Stoves to Improve Health and Combat Climate Change, Hands-on Capacity Building in Environmental Economics, and TF015238: Economy-wide Evaluation of Local/Regional Ecosystem Services from Forest Areas), other global public goods (TF015149: Improving PPP Time Series, TF015043: A Microdata Dissemination Challenge: Balancing Data Protection and Data Utility), and data and tools for development research (TF013210: Online Data Analysis Toolkit; TF010218: Mobilizing Spatial Economics and Information for Tiger Habitat Conservation, TF012673: Visualization and Analysis Application, TF015186: Hands-On Capacity Building in Environmental Economics: A Proposed Collaboration with the Environment for Development Initiative.) (Table A.2 has the complete listing.)

### What is needed to mobilize spatial economics and information for tiger habitat conservation?

This research is carrying out econometric analysis to guide the allocation of resources for tiger habitat conservation in Asian tropical forest countries. The project assisted in developing a high-resolution database for tracking the status of the remaining forest habitats for tigers in 12 Asian countries; conducted econo-

metric modeling to identify critical drivers of forest habitat destruction and protection costs in different areas; developed a resource allocation model for tiger habitat protection; and investigated the effectiveness of protected areas in slowing tropical forest clearing.

This research is expected to influence policies for maintaining forest cover, tiger conservation, and protected areas. Habitat conservation is primarily a development problem; thus, success for the Global Tiger Initiative and other conservation initiatives will require program designs tailored to the economic dynamics of forest clearing in tropical forest countries. This research estimated the impacts of changes in world forest product markets and national financial policies on tropical forest clearing. The research will provide valuable guidance for policy makers, conservation managers, and donor institutions about the challenges to be overcome in offsetting incentives for forest clearing, and about potential responses tailored to the circumstances of different countries and habitat areas.

From a formal analytical perspective, saving the tiger involves optimal spatial resource allocation with a limited budget; a short time horizon (to prevent extinction); a complex, constantly-changing spatial distribution of potential conservation benefits and costs; and the prospect of rapid, irreversible losses in areas where conservation is weak. This research equipped policy makers with a resource allocation model for tiger habitat protection incorporating information about threats to particular tiger subspecies, the quality of remaining habitat areas, the observed effectiveness of habitat protection, and the potential costs of protection projects for alternative habitats. The research provides the conservation managers with a forecasting model to pinpoint the most critical forest clearing problem areas in tiger habitats, and provides timely information for rapid redeployment of resources as the regional pattern of threats and opportunities shifts over time.

## How can assessment of the economy-wide impacts and cost-effectiveness of alternatives for greenhouse gas mitigation be more comprehensive?

Several low carbon growth studies have been carried out with support from Bank teams, including studies in Brazil, India, Indonesia, Mexico, and Poland, to identify options for low carbon growth. These and many other studies of the economic impacts and cost-effectiveness of greenhouse gas mitigation measures have been conducted using various methods, some analytically more rigorous than others. The method most suited in principle for capturing the full range of economic effects of GHG mitigation measures is computable general equilibrium (CGE) models. However, the current state of the art analytically limits the breadth and depth of what can be accomplished. Current national-level CGE models cannot yet be effectively linked to micro-level GHG abatement cost information for specific low-carbon energy or energy efficiency options, such as those derived from bottom-up engineering models. This significantly limits the level of detail that can be incorporated in examining specific low-carbon energy investments or policies. Yet, the bottom-up models do not reflect the full economy-wide opportunity costs of different GHG mitigation strategies.

This KCP study aims to answer two questions. (1) How can assessments of the economy-wide impacts and cost-effectiveness of alternatives for GHG mitigation and lower carbon growth become more comprehensive by incorporating a level of technology-specific detail normally considered only in bottom-up models for analyzing the marginal abatement cost of specific GHG mitigation activities? (2) How can the additional knowledge obtained by linking bottom-up and top-down models bring broader and more robust insights for policy and investment decision making?

The key findings of the study are as follows:

1. While a large-scale expansion of expensive renewable energy, particularly wind and solar, is beneficial environmentally, it tends to decrease welfare because of the increased costs of electricity supply.
2. There are mainly two types of policy instruments: fiscal (for example, investment and/or production subsidies) and regulatory (for example, renewable energy mandates through renewable energy portfolio standards) - to stimulate large-scale expansion of renewable energy. Our studies show that the fiscal policy is superior to the regulatory policy because the former would cause a lower loss in economic welfare and a larger reduction of GHG emissions than the latter.
3. Our studies determined, using a bottom-up engineering approach, that marginal abatement costs curves of GHG mitigation through energy efficiency improvements in the building sector. The comparison of results between these two sets of approach reveals that the bottom-up engineering approach overstates the benefits of energy efficiency measures thereby misleading to policy makers. This certainly has some policy impact.

## How do private and public good benefits from improved stoves compare?

This research was set up as a random controlled trial. Using an already existing sample frame for rural households in forest areas, randomly selected households were chosen from randomly selected villages in three states in Ethiopia. The study provided 350 households with stoves, under different treatments as to stove cost and involvement in social networks for learning about the stove, with about 110 control households. Stove use monitors were used to measure utilization of the new stoves over a roughly two-year period. A randomly selected subset of stove recipients also participated in controlled cooking trials, to estimate fuel-

wood savings, and to ascertain those stove attributes that contributed most to stove use. In parallel with the stove experiment, a choice experiment was done with randomly selected villagers in which participants were offered binary choices among a variety of combinations of payments to be received and restrictions on forest extraction.

The purpose of this study was to gain knowledge and insights to help the World Bank Group and client countries understand the trade-offs between household energy use, environmental risks, and climate change, and thereby help elucidate long-term strategies that address climate change and sustainable development.

This is one of the first studies of household stove improvement that has combined a randomized trial with real-time data on stove utilization and survey data on determinants of stove satisfaction, plus a choice experiment to explore how payments to reduce fuelwood use to maintain forest carbon stocks should be structured. Among the key findings from the randomized trial are that stove fuel efficiency is significantly lower in the field than in the laboratory; nevertheless, there is wide approval of the stove among users in rural households, as shown by user survey data and real-time monitoring of stove use. Environmental quality in the home is the largest determinant of satisfaction, with users expressing much lower priority for forest protection to limit global warming.

There is some evidence that users whose treatments placed them in social networks with other users had greater stove approval and use, whereas giving away the stove versus charging a subsidized price did not act to stimulate uptake. In the choice experiments, participants expressed preferences for carbon-saving payments going to individual households, versus to the community as a whole. Using information on how individuals traded off payments against forest use restrictions, and information on the improved fuel efficiency of the new stove, the implied cost per unit of CO<sub>2</sub> reduction was moderate, although higher than the depressed prices currently observed on working carbon credit markets. However, since many users indicated a

significant preference for the new stove based on less household air pollution and reduced fuelwood gathering, it is unclear what amount of carbon saving could be credited to a large roll-out of the new stoves.

## WINDOW IV: ECONOMIC DEVELOPMENT AND STRUCTURAL CHANGE

The fourth window analyzes the policies and factors that are necessary to make it possible for a developing country to upgrade its industrial structure continuously and develop rapidly. Six projects were completed and 14 projects are ongoing in this window. The completed projects discussed evaluation of programs that promote structural transformation (TF099198: Moving to Density: A Research Program on the Rural/Urban Transformation in Developing Countries, TF098053: Industrial Policy in an Uncertain Environment, and TF014272: Structural Transformation Analysis with MAMS) and others (TF012590: Global Analysis of Impact of Policies and Firm Dynamics in Trade, TF015374: Corporate Governance and Systematic Risk, and TF017655: The Impact of Wage Frequency on Employee Performance).

### What are the determinants of export participation, survival, and expansion at the firm level?

To understand the patterns that exporters follow to grow and diversify and the products and markets in which they struggle to survive can enhance knowledge about the overall export growth process in developing countries. The Exporter Dynamics Database (EDD), which was a project partially funded by KCP I and whose first release took place in May 2012, has filled in this gap by collecting transaction-level customs data from countries around the world to produce novel indicators on exporter growth and dynamics.

Building on the work started with the EDD, the objective of this current grant was to expand the research started with the EDD by delving deeper into the functioning of export and import markets at a micro (firm) level and by looking at the interaction between firm dynamics, firm productivity, and trade and industrial policies. At the end, the aim was to have a comprehensive firm-level data set for several countries such that we would be able to compare the links between input-output linkages, exporter dynamics, and productivity across countries. Moreover, another objective of this grant was to support research on the impact of different policies and shocks on exporters' growth, dynamics, and productivity, applying uniform methodologies that allow for comparisons across countries.

Summing up, this grant had two components: 1) data collection to update and expand the EDD and gather import and domestic product firm-level data, and 2) research that will provide an analytical framework for the in-depth study of firm-level productivity and trade dynamics and how they are impacted by trade and industrial policies.

The EDD is providing empirical and analytical support for the World Bank's work in the Trade and Competitiveness Global Practice. The EDD has been used extensively by Bank operations to understand firm entrance, expansion, and survival. The EDD is helping to improve the understanding of the micro-foundations of export growth in developing countries and providing insights on the factors that might be constraining export competitiveness and export expansion, resulting in more informed policy advice on how to support exporters' growth and diversification. For example, analysis using the data in the EDD has been part of the diagnosis conducted in trade policy strategy documents produced by the Bank to assess and guide policies in client countries.

The EDD has also generated novel and rigorous research that identifies major, novel stylized facts on exporter dynamics and stage of development. The research shows that larger countries and more developed countries have more exporters and an increasing share of

exports is controlled by the top 5 percent of exporters. The research also shows that gross entry and exit rates are higher at an early stage of development, while survival rates of entrants are greater in more developed countries. The findings from this study are discussed in light of trade theories for heterogeneous firms and the empirical literature on resource allocation, firm size, and development. The results also open up several questions on the implications of these theories/frameworks for our understanding of export dynamics and leave the door open for future research to delve deeper into them.

The EDD is helping to improve the understanding of the micro-foundations of export growth in developing countries and providing insights on the factors that might be constraining export competitiveness and export expansion, resulting in more informed policy advice on how to support exporters' growth and diversification. For example, analysis using the data in the EDD has been part of the diagnosis conducted in trade policy strategy documents produced by the Bank to assess and guide policies in client countries.

## Structural transformation analysis with MAMS

Transformation of the sectoral structure of production is a central component of economic development. It involves diversification, increased technological sophistication, and increased integration with the global economy. Therefore, policies in support of structural change are high on the policy agenda of most developing countries. Such policies involve encouraging (or discouraging) different sectors of production (defined more or less broadly), what may be termed industrial policy. In practice, it is difficult to design successful industrial policies. Successful policies accelerate growth by efficiently promoting sectors in which the country is able to become a competitive producer, over time fetching higher export prices.

The objective of the project was to develop and apply

a replicable and innovative approach to country analysis of strategies for structural transformation. And, drawing on project outputs, the project aimed to strengthen capacity in this area of research with special focus on researchers from developing countries.

The key methodological innovations of the project are the introduction of new features that draw on product space analysis into a CGE modeling framework. Some of these, including a formulation that addresses the ease with which labor can move between different production activities, are widely applicable in this field of economic analysis. Other innovations or methodological advances are done in various computer programs.

The project leads to future research that should address the context-specific factors (institutional, governance, and others) that explain why promotion succeed or fail. Sector Promotion (via tools such as taxes, subsidies, and infrastructure provision) in some settings succeeds and in others fails to raise capability

and output quality. With success, there are predominantly positive repercussions for other sectors, raising the pace of growth and poverty reduction. Although product space analysis offers one perspective on these issues, other angles (including governance and institutional strength) may also be important. Insights from such research would be valuable in their own right and could be fed into model-based analysis of strategies for structural transformation.

**Table 1. Key Indicators in FY2015**

	Journal Articles	Working Papers	Datasets	Research Tools	Number of conferences and events organized	Number of additional conferences and events at which research results were presented
Window I	5	15	7	0	67	80
Window II	10	21	11	5	9	84
Window III	3	24	138	26	50	40
Window IV	5	52	16	10	43	76
<b>Total</b>	<b>23</b>	<b>112</b>	<b>172</b>	<b>41</b>	<b>169</b>	<b>280</b>
<b>Developing country partners substantively engaged</b>						
Researchers	575	Institutions	199			
Number of Bank operational programs/projects with citations/references to the research findings funded by this project						99
Number of citations/references to the project's work in partner government's programs and policy documents						51

## Box 3: Putting Knowledge to Work Through the *KCP Perspectives*

The most recent issue of *KCP Perspectives: Putting Knowledge to Work* was published in April 2015. *KCP Perspectives* is a newsletter that highlights two completed KCP projects that have had a positive impact on development policies. For most research findings, it usually takes years after completing the research to reveal the impact on development policies. Dissemination is an important element of KCP-funded research; hence, task team leaders are required to elaborate on their projects' dissemination activities in their annual progress reports. Outputs, best practices, and lessons learned from completed projects are disseminated extensively and published in various formats, such as journals, books, databases, and web-based publications.

Past issues of *KCP Perspectives* can be found on the KCP website.



4

KCP FINANCES

The KCP II, from its inception in December 2008, has received \$30 million in cash contributions from 12 donors, namely, the United Kingdom, Finland, Sweden, Australia, the Republic of Korea, Norway, Canada, Japan, Denmark, Switzerland, China, and Singapore (see table 2, page 25; Annex 3, figure A.2, page 44). There are outstanding pledges totaling \$1.4 million from Japan, the Republic of Korea, and Norway, bringing total donor contributions to \$31.3 million.

The KCP III, which became active in December 2014, presently has five donors, namely, Norway, Estonia, Canada, the United Kingdom, and Finland. Negotiations are ongoing with current and prospective partners to contribute to the KCP III.

<h3>Norway</h3> <p>Norway was the first donor to contribute to the KCP III. Its pledge is for Nkr 30 million payable over three years.</p>	<h3>Estonia</h3> <p>Estonia pledged € 436,000 for the World Development Report 2016: Internet and Development. The pledge is payable in two tranches.</p>	<h3>United Kingdom</h3> <p>The United Kingdom, a founding member of the KCP, pledged £ 1.8 million, payable through October 2017.</p>
<h3>Canada</h3> <p>Canada contributed Can\$ 400,000 with Can\$ 200,000 for the WDR 2016: Internet and Development, and Can\$ 200,000 for the WDR 2017: Governance and the Law.</p>	<h3>Finland</h3> <p>Finland, the other founding donor together with the United Kingdom, pledged € 2,250,000 payable through June 2017.</p>	

**Table 2. KCP II Parent Accounts Statement (US dollars)**

	TF071173	TF071177	TF071178	TF071393	TOTAL
	Poverty Dynamics & Public Service Delivery	Investment Climate & Trade and Integration	Global Public Goods	Economic Development & Structural Change	
<b>Contributions received</b>					
United Kingdom	2,958,122	1,636,728	1,684,441	920,740	7,200,030
Finland	1,762,509	1,762,509	1,762,509	741,884	6,029,412
Sweden	1,472,393	28,099	696,118	21,074	2,217,684
Australia	1,593,740	1,064,580	664,580		3,322,900
Korea, Rep. of	1,000,000			1,968,064	2,968,064
Canada	773,403	486,942	193,517	492,536	1,946,399
Norway	402,855	402,855	1,794,592	402,855	3,003,158
Japan				1,000,000	1,000,000
Denmark				924,351	924,351
Switzerland	62,028	62,029	62,028	330,818	516,903
China				500,000	500,000
Singapore				300,000	300,000
<b>Total contributions received</b>	<b>10,025,050</b>	<b>5,443,742</b>	<b>6,857,786</b>	<b>7,602,323</b>	<b>29,928,901</b>
Administrative fee (1%)	(100,251)	(54,437)	(68,578)	(76,023)	(299,289)
<b>Net contributions received</b>	<b>9,924,800</b>	<b>5,389,304</b>	<b>6,789,208</b>	<b>7,526,300</b>	<b>29,629,612</b>
<b>Outstanding pledges (signed)</b>					
Japan				500,000	500,000
Korea, Rep. of	500,000				500,000
Norway			381,437		381,437
<b>Total outstanding pledges (signed)</b>	<b>500,000</b>		<b>381,437</b>	<b>500,000</b>	<b>1,381,437</b>
Administrative fee (1%)	(5,000)		(3,814)	(5,000)	(13,814)
<b>Net outstanding pledges</b>	<b>495,000</b>		<b>377,622</b>	<b>495,000</b>	<b>1,367,622</b>
Investment income	87,920	66,170	62,657	68,856	285,604
<b>Less:</b>					
Project allocations	(9,866,470)	(5,202,591)	(6,858,709)	(7,311,549)	(29,239,319)
Program management and administration	(304,233)	(189,221)	(226,873)	(352,894)	(1,073,222)
Technical reviewers' fees	(85,142)	(60,342)	(58,142)	(82,567)	(286,193)
<b>Estimated funds available</b>	<b>251,874</b>	<b>3,320</b>	<b>85,763</b>	<b>343,147</b>	<b>684,104</b>

**Table 3. KCP III Parent Account Statement**

	Pledge		Amount (\$)
	Currency	Amount	
<b>Contributions received</b>			
Norway	Nkr	10,000,000	1,358,603
Estonia	€	220,000	240,647
Canada	Can\$	200,000	158,945
United Kingdom	£	300,000	457,080
<b>Total contributions received</b>			<b>2,215,275</b>
<b>Administrative fee (5%)</b>			<b>(110,764)</b>
<b>Net contributions received</b>			<b>2,104,511</b>
<b>Outstanding pledges (signed)</b>			
Norway	Nkr	20,000,000	2,542,912
Estonia	€	216,000	241,564
Canada	Can\$	200,000	161,544
United Kingdom	£	1,500,000	2,357,700
Finland	€	2,250,000	2,516,288
<b>Total outstanding pledges (signed)</b>			<b>7,820,007</b>
<b>Administrative fee (5%)</b>			<b>(391,000)</b>
<b>Net outstanding pledges</b>			<b>7,429,007</b>
<b>Investment income</b>			<b>3,856</b>
<b>Less:</b>			
Set-up fee			(35,000)
Project allocations			(600,325)
<b>Estimated funds available</b>			<b>8,902,049</b>

KCP II ONGOING  
RESEARCH: **PROJECT  
HIGHLIGHTS**



## Window I: Poverty Dynamics and Public Service Delivery

### TF017729: Harmonized Microdata for Enhanced Global Poverty Monitoring: The International Income Distribution Database (I2D2)

Task Team Leader: Kathleen Beegle

KCP II Funding: US\$ 100,000

Region/Country: World

Timeline: 07/01/2014 - 12/31/2015

## Project Objective and Description

The objective of this project is the development and advancement of an accessible, worldwide micro database derived from national household surveys, known as the International Income Distribution Database (I2D2). The I2D2 is a harmonized database of core socioeconomic indicators covering 160 economies (127 developing and 33 developed) and more than 700 surveys. It can uniquely address questions such as: How has the global poverty incidence for children ages 0-5 years changed in the last decade? What percent of female-headed households in the Africa region are poor? What fraction of households is living on less than \$1.25/day? What proportion of households in South Asia has electricity? Is the gender wage differential larger or smaller for poor households? What portion of the poor is working for wages or self-employed? As such, I2D2 is a unique source for monitoring the shared prosperity of the World Bank from a global perspective.

tion metadata for each survey. In the longer term, it is expected that the I2D2 will incorporate the official welfare aggregates used for Povcalnet.

The I2D2 data are made available on request to World Bank Group staff and consultants. Since December 2014, 95 World Bank staff and consultants have been granted access for a range of analytical work done across various sectors.

The I2D2 has served as source data for a number of analytical projects in the Bank, for example, the Social Protection and Labor practice's analysis on access to pensions, the Water and Sanitation practice's work on access to water facilities, the Poverty practice's harmonization of several African surveys for a flagship report on labor in Africa and harmonization of South Asian household survey data for the Global Micro Database, the World Bank's flagship Global Monitoring report, and many others.

## Progress and Early Findings

One of the challenges in the course of developing I2D2 is integrating the I2D2 into a broader data management strategy of the Bank. In FY2015, the Poverty Global Practice has made this area part of its mandate, and the I2D2 will be integrated with the new Global Micro Database. The team released a new version of the database in July 2015, containing roughly 200 additional surveys that were added since the last release. In addition, the new release updated the documenta-



Window II: Investment Climate & Trade and Integration

### **TF015136: Improving the Management and Profits of Small Business and Their Measurement**

Task Team Leader: David McKenzie

KCP II Funding: US\$150,000

Region/Country: World

Timeline: 07/01/2013 - 12/31/2015

## **Project Objective and Description**

The development objective of this grant is to develop and validate improved measures of managerial practices and profits in micro and small enterprises, and to use these improved measures to evaluate policies designed to improve the business skills and profits of micro and small firms.

## **Progress and Early Findings**

The ongoing work has included management questions in additional surveys, tested the use of radio frequency identification (RFID) methods to measure profits, and undertaken management practice audits to assess the reliability of these questions. Two research papers have been prepared: one has been released as a working paper (on RFIDs) and the other is currently in draft status but was presented in several conference and university seminars.

The project is testing the use of RFID tags as a means of objectively measuring stock levels and stock flows in small retail firms in Sri Lanka. In principle this offers the potential to track stock movements accurately. We compare the stock counts obtained from RFID reads to physical stock counts and survey responses. There are three main findings. First, current RFID technology is more difficult to use, and more time-consuming to employ, than we envisaged. Second, the technology works reasonably well for paper products, but very poorly for most products sold by microenterprises: on average we were able to read only about one-quarter

of the products tagged, and there was considerable day-to-day variation in read efficiency. Third, a comparison of survey responses and physical stock-takes shows much higher accuracy for survey measures. As a result, it was concluded that this technology is currently unsuitable for improving stock measurement in microenterprises, except perhaps for a few products.

Management has been shown to have a large effect on the productive efficiency of large firms. But the majority of the labor force in developing countries works in enterprises with fewer than five workers. Do the practices of the managers of these firms matter for efficiency? We develop a set of 26 questions that measure business practices in marketing, buying and stock-keeping, record-keeping, and financial planning. These questions have been administered in surveys in Bangladesh, Chile, Ghana, Kenya, Nigeria, and Sri Lanka. As in Bloom and Van Reenen (2007), the measure is self-reported, but independent auditors blind to the survey measure report measures that are very highly correlated with the self-reports. The study shows that variation in business practices explains as much of the variation in outcomes-sales, profits, and labor productivity and total factor productivity of microenterprises as in larger enterprises. Using panel data from Sri Lanka, Kenya, and Nigeria, the study shows that better business practices are associated with higher business survival rates and faster sales growth. The effects of business practices is robust to including various measures of the owner's human capital. Examining the variation in business practices, the study finds that owners with higher human capital, sons and daughters of entrepreneurs, and firms with paid employees employ better business practices. Competition has less robust effects.

Window III: Global Public Goods

## **TF017687: Ecologically Cost-Effective Road Investment in Tropical Forests**

Task Team Leader: Susmita Dasgupta

KCP II Funding: US\$ 150,000

Region/Country: World

Timeline: 07/01/2014 - 12/31/2015

### **Project Objective and Description**

Conservation management in tropical forests has traditionally focused on demarcation and protection of relatively large areas that are deemed critical for biodiversity conservation. This strategy seeks to minimize ecological damage in part by preventing or severely restricting road improvements that increase the profitability of forest clearing within protected areas. In contrast, road improvements often play a central role in agricultural development strategies for poor regions. Potential conflict over the desirability of road improvements is particularly high in forested regions with significant agricultural potential. When protected-area strategies confront this conflict, they may fail to protect critical biodiversity.

The main objective of this project is to reduce such conflicts by developing an alternative approach to ecological protection, based on cost-effectiveness, which employs high-resolution spatial information on deforestation, the ecological value of forested land, and road improvement projects in tropical forest areas. The research is using new spatial information and spatial econometric analysis to assess the potential for steering road improvements through varied ecological landscapes along routes that preserve significant ecological value at acceptable economic opportunity cost.

### **Progress and Early Findings**

The research developed:

1. Digital maps and threat status data for more than 25,000 species, provided by the International Union for Conservation of Nature and BirdLife International. With these data, the research is developing a high-resolution map of ecological loss potential for the global tropical forest biome.
2. A spatial panel data set on tropical forest loss, constructed from newly-available, high-resolution measures of monthly and annual forest loss since 2000.
3. A geocoded panel data set on road links in tropical forest areas.

The research is simulating tropical forest losses from potential road improvements. This map of simulated tropical forest losses will be overlaid on the map of ecological loss potential (Dataset 1) to produce a high-resolution map of projected ecological losses from potential road improvements by country.

The preliminary results from the pilot case of Bolivia suggest that the ranking of road corridors by projected biodiversity loss is not sensitive to the clearing pattern in Bolivia. If this pattern holds across countries, it will have an important implication for biodiversity conservation planning in road projects. A single buffer-zone biodiversity risk map, produced using an arbitrarily-specified off-road forest clearing function, would suffice for assessing the biodiversity risk associated with road improvement in each corridor.

Window IV: Economic Development and Structural Change

**TF014655: Job Creation, Structural Change, and Economic Development in MENA with Lessons from East Asia**

Task Team Leader: Mary Hallward-Driemeier

KCP II Funding: US\$ 1,485,000

Region/Country: World

Timeline: 05/01/2013 to 12/31/2015

## Project Objective and Description:

The development objective is to improve the flexibility and growth of economies in the Middle East and North Africa (MENA) expanding job opportunities and improving the targeting and impact of interventions designed to expand employment. The project aims to learn from current conditions and policies with an eye to inform policy design and choices in the future.

## Progress and Early Findings

The work is looking at a range of issues around job creation, structural transformation, productivity, and growth. Specific projects this year continued to focus on issues around competitiveness, job creation, and labor market policies. Work has contributed to high-profile country reports in Vietnam and Turkey, drawing on results from Indonesia, Morocco, and Tunisia as well.

The work continues to demonstrate the benefits of deepening standardized analysis of firm census data, including being able to use the data with local researchers who can work inside the data fire walls with the confidential raw data. The standardization enables comparability across countries, and allows for some results to be generated quickly. This helps identify hypotheses to pursue in a particular country.

The work in Vietnam is contributing to a central chapter in the Vietnam 2035 report on private sector issues. The work is looking at the productivity and job dynamics of registered firms from 2004 to 2012. There

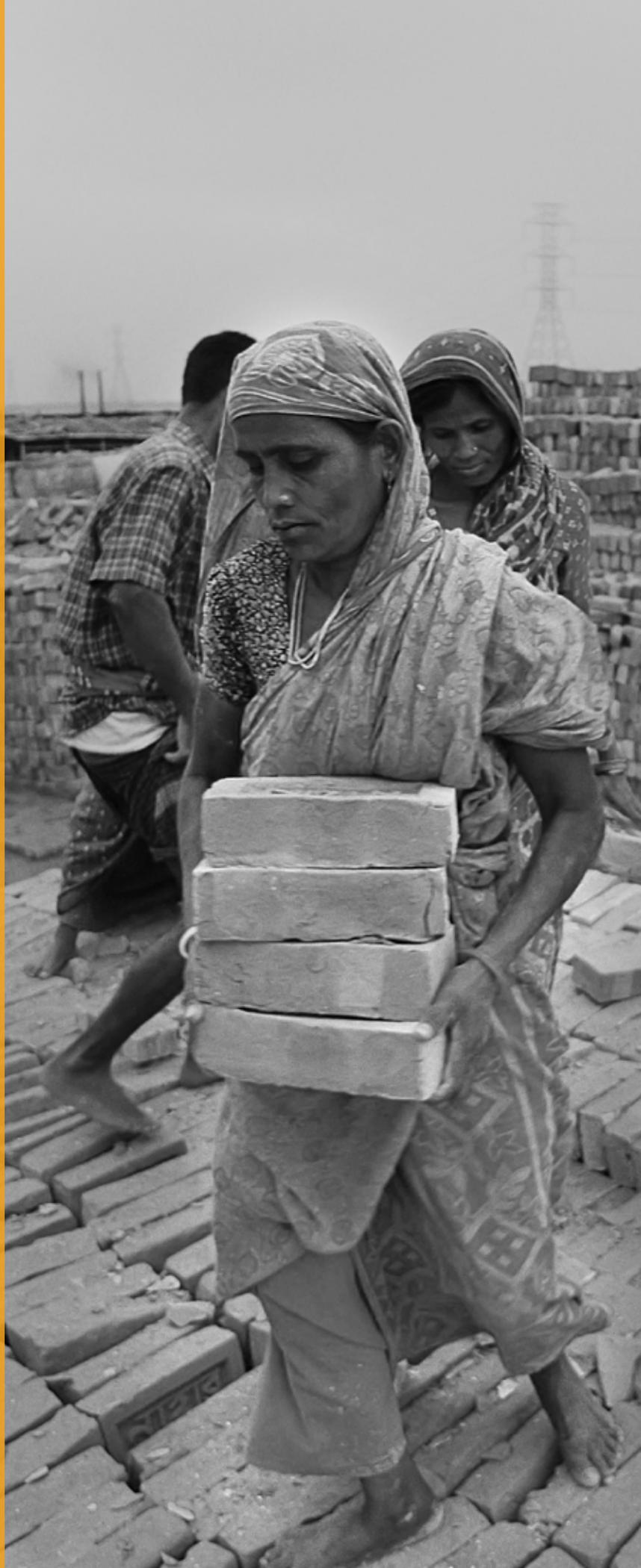
are particularly striking findings by ownership. State-owned enterprises, while producing a significant share of output, have been consolidated and downsized over time. The fall in employment is even larger, consistent with a rise in capital intensity in these firms. The work also points to the gains made by foreign-owned firms and that they are driving not only much of the productivity growth, they also are adding jobs over time.

In contrast, the private domestic sector is not benefitting from spillovers from the foreign firms and face an unequal tax and regulatory playing field. Addressing these challenges will be important for maintaining overall growth and productivity in Vietnam if the country is to achieve high-income status by 2035. Openness to trade and investment, a workforce that is relatively well (and relatively evenly) educated, and public investments to promote growth are policies that could provide lessons for other countries. However, the costs of state involvement on larger firm dynamics and productivity growth offer a more cautionary tale that would also resonate in parts of MENA.

The cross-country work on which firms create the most jobs continues to stress the importance of entry as additional countries are added to the analysis. It also explores how effective strategies to identify “gazelles” will be. The project is developing 10 alternative ways to identify gazelles, based on growth, absolute changes, sustained expansion, etc. It then looks at subsequent survival rates, productivity, and growth, and finds that high-performing status is only very rarely sustained. Although it is attractive in theory, in practice the quest for gazelles is elusive.



KCP II  
RESEARCH PROJECTS IN  
PROFILE



# World Development Report 2016: Digital Dividends— Ensuring High Social and Economic Returns from Investments in Information and Communications Technology

Task Team Leaders: Deepak Mishra & Uwe Deichmann

KCP II Funding: US\$ 450,000

Timeline: 07/01/2014 - 12/31/2015

Over the past two decades, digital technologies have had a profound impact on social and economic development. No major technology has reached more people in such a short time. More people in developing countries today have access to a mobile phone than to electricity or improved sanitation. The private benefits of the digital revolution are undeniable—easier communication, greater access to information, and new forms of leisure. However, the 2016 World Development Report: Digital Dividends finds that the digital revolution has fallen short of expectations in generating the broader benefits typically associated with technology—higher growth, more jobs, and better public services. The Report thus analyzes how to make digital technologies—most importantly the Internet and mobile phones—a more effective force for development.

WDR 2016 reviews the available evidence and presents new analysis of the impact of digital connectivity in three areas: Has it benefited businesses and promoted growth? Has it improved people's access to economic opportunities? And has it helped governments improve service delivery? The Report identifies the channels through which these objectives can be achieved, examines the development impact of digital technologies, and explores policy options. It suggests that the digital development agenda needs to stand on three pillars: closing the digital divide by making the Internet universal and affordable; strengthening the analog foundations that enable firms, workers, and governments to leverage digital technologies; and addressing complex issues of Internet governance and digital markets that cross international boundaries.

## Main Findings

**Digital technologies can promote inclusion, efficiency, and innovation.** Declining costs of collecting, storing, analyzing, and sharing information have benefits for the economy. WDR 2016 documents many examples. E-government tools such as India's digital identification system, Aadhaar, help expand public services to poor and marginalized populations, promoting their inclusion into the economy and society. The Internet augments labor and capital and lowers coordination costs, leading to productivity increases and greater efficiency, as demonstrated by the millions of enterprises in China doing business on Alibaba, an on-line trading platform. And by automating the production process and the final product, digital technologies can support new business models and promote significant innovation, as demonstrated by the mobile money revolution, which started in Kenya and has since spread to nearly 90 countries.

Digital technologies have spread rapidly, but digital dividends have not. There are instances where digital technologies have boosted growth, expanded opportunities, and improved service delivery. Yet, these are often isolated and limited cases that do not add up to a broad-based development impact. In most developing countries, the full transformative potential of digital technologies remains largely unrealized. Moreover, the disproportionate share of their benefits has gone to those most equipped to take advantage of the new technologies—those already better-off, educated, influential, and well-connected.

Just as the Internet brings significant benefits, it also carries risks. The existing literature is long on the benefits and short on the risks of the digital revolution. WDR 2016 presents a more balanced picture. It encourages policy makers in developing countries to seize the opportunities as well as manage the risks from these technologies. Specifically, it points to three risks: divergence, inequality, and control.

Firms in low- and middle-income countries have adopted digital technologies more slowly than would be expected. The risk is that in the absence of a competitive business environment, which encourages digital adoption, the unconnected firms will fall further behind their peers, increasing productivity differentials within and across countries.

Digital technologies are profoundly changing the world of work. The risk is that increasing automation of routine tasks, even in white collar jobs, could worsen the polarization of labor markets, with many mid-level workers being pushed into lower-paying jobs. The Report presents new evidence of job market polarization not just in industrialized countries, but also in many low- and middle-income countries.

Many governments have deployed digital technologies to support service delivery. But their successes are often limited to simple tasks, such as information provision. They have been less successful in overcoming the more difficult problems of weak provider management and barriers to collective action by citizens. The

risk is that, in the absence of strong institutions, governments may use these technologies predominantly for greater control of their citizens, rather than to empower them.

WDR 2016 shows that while the digital revolution is forging ahead, its analog complements are not keeping pace. Maximizing digital dividends and mitigating risk require a better understanding of how technology interacts with other factors important for development—what the Report calls the “analog complements.” Specifically, WDR 2016 focuses on three complements, addressing these risks: business regulations, skills development, and accountable institutions. Investing in these analog complements is essential to increasing digital dividends and ensuring they are sustained and widely shared.

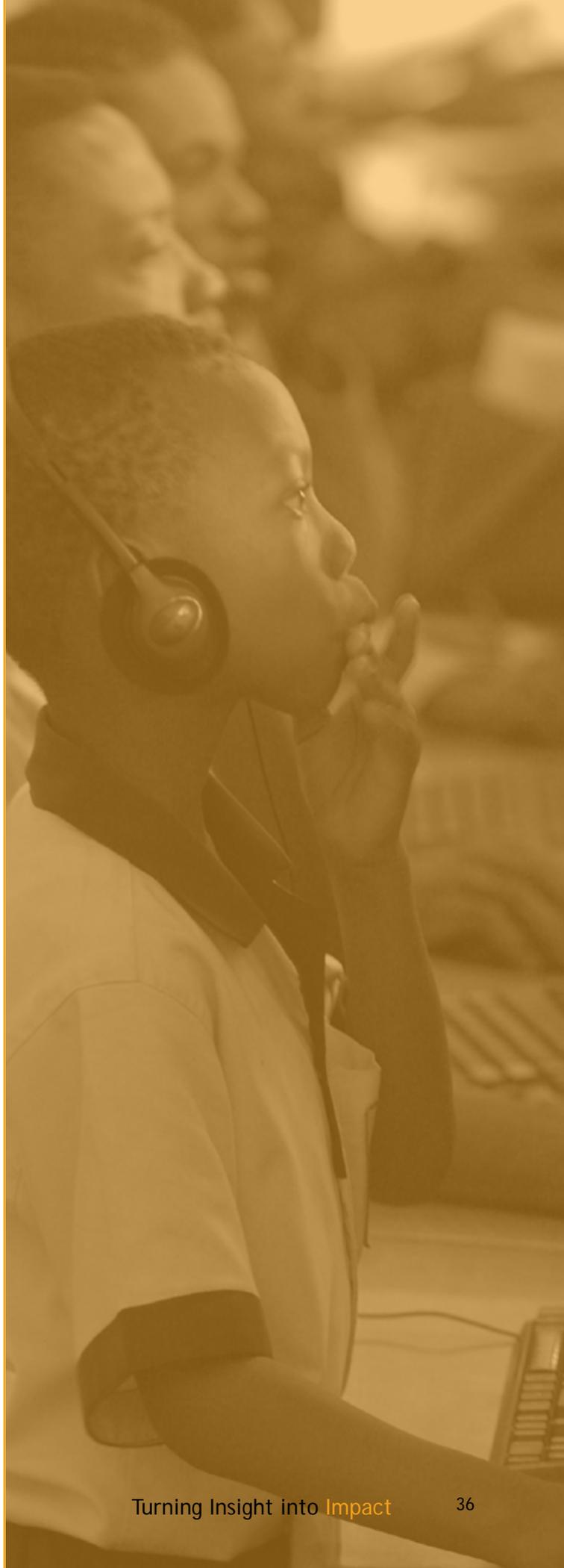
## Policy Implications

*Sectoral policies to bridge the digital divide.* Policies in the information and communications technology sector based on market competition, private sector participation, and light-touch regulations have lowered prices and raised access to mobile phones surprisingly quickly. Achieving universal and affordable access to the Internet—a necessity in the emerging digital economy—has been more difficult. Almost four billion people remain unconnected. WDR 2016 proposes a road map to make the Internet universal and affordable. It is based on applying proven principles along the Internet value chain, from the first mile where connections enter a country to the last where they reach the user. Countries also need to deal with new, second-generation challenges, including cyber security, content filtering and censorship, and protecting users’ privacy. Solutions are still emerging for these subjects and many countries will need assistance in creating an open and trusted environment for the Internet to achieve its full potential.

*National policies to strengthen the analog foundations.* Making the Internet universally accessible, affordable,

open, and safe will bring immediate rewards. But to achieve broader development benefits, investments in digital technologies need to be matched by analog complements—reforms that help firms, people, and governments take better advantage of the Internet. Countries with strong track records on digital development, such as Estonia and Singapore, have not only invested in information and communications technologies, but also greatly improved their business climate, human capital, and governance. WDR 2016 proposes many specific reforms and investments in these three areas, including effective regulations that create a business environment in which firms can leverage the Internet to compete and innovate for the benefit of consumers; development of skills that match the demands of the 21st century workplace so workers, entrepreneurs, and public servants can take advantage of opportunities in the digital world; and stronger institutions that encourage an accountable and capable government that effectively uses the Internet to empower its citizens and deliver services.

*Global cooperation to help in managing problems that cross borders.* In addition to sectoral and national policies, there are tasks that go beyond the remit of individual countries where international institutions such as the World Bank Group can often play a constructive role. The first is international Internet governance. Consensus has yet to emerge on how to maintain the benefits of a global, open Internet supported by broad multi-stakeholder consensus, and address increasingly severe challenges, such as cybercrime, unwarranted surveillance, and access restrictions to online content. The second is creating a truly global digital market. Even in the European Union, digital trade integration lags well behind integration for physical trade. Third is better leveraging information for sustainable development. WDR 2016 proposes that the Internet could be more effectively used for providing faster feedback and knowledge sharing, scaling up information as an input to decision making, and creating public information goods to tackle protracted challenges from climate change to poverty eradication.



# The Economics of Adaptation to Salinity Intrusion: The Case of Coastal Bangladesh

Task Team Leader: Susmita Dasgupta

KCPH Funding: US\$ 140,000

Timeline: 7/1/2012 - 12/31/2014

Partners: Institute of Water Modeling, Bangladesh; Soil Research Development Institute, Ministry of Agriculture, Bangladesh; Development Policy Group, Bangladesh.

**W**ith a virtual certainty that sea-level rise (SLR) will continue for a long time (beyond 2100), even if greenhouse gas emissions were stabilized today, it is essential for low-lying coastal regions of the world to gain understanding of the potential impacts of SLR and begin planning adaptation. The potential impacts of climate change on coastal regions include progressive inundation from SLR, heightened storm damage, loss of wetlands, and increased salinity from saltwater intrusion. While most research has focused on inundation and losses from heightened storm surges, increased salinity from saltwater intrusion may actually pose the greatest threat to livelihoods and public health through its impacts on agriculture, aquaculture, infrastructure, coastal ecosystems, and the availability of fresh water for household and commercial use.

The objective of this research was to assess these risks and identify adaptation measures for Bangladesh, one of the most climate vulnerable countries in the world. The research focused on the southwest coastal region of Bangladesh, as the region already has a serious problem from increasing salinization of river water, which will worsen due to a changing climate. The research included application of models to quantify the diffusion of salinity across the area for alternative scenarios of climate change; quantification of physical and economic impacts on agriculture, infrastructure, fresh water supplies, and ecosystems; estimation of salinity-related health threats; and identification of adaptation policy options.

## What has been learned so far?

In densely populated and land scarce Bangladesh, poor households are disadvantaged with regard to land

access, and many end up settling in low-lying regions close to the coast. Currently around 11.8 million poor people are located in 19 coastal districts of Bangladesh. Alarming, this figure includes many extremely poor people who are not even able to meet the basic needs of food expenditure. Areas close to the sea already are prone to tidal surges and cyclones. Soil and water are saline at certain times of the year, and living conditions in these areas are harsh. To make ends meet, working-age (mostly male) family members frequently migrate from households in coastal areas. Family members left behind live on their remittances and face a greater likelihood of extreme poverty.

*Impact of climate change on river/surface water salinity.* Climate change will cause significant changes in river salinity in the southwest coastal area of Bangladesh during dry season (October to May) by 2050. These changes will likely lead to significant shortages of drinking water in the coastal urban areas, scarcity

of water for irrigation for dry-season agriculture, and significant changes in the coastal aquatic ecosystems. Changes in river salinity and the availability of freshwater will affect the productivity of several capture fisheries, along with adverse effects in the wild habitats of freshwater fish and giant freshwater prawn. In addition, increase in salinity is expected to induce an overall shift in the World Heritage Sunderbans mangrove forest from Sundari (the single most dominant and important species, with the highest market value) to Gewa and Guran. The estimates further identified districts likely to be significantly affected by the increase in river salinity in a changing climate.

Impact of climate change on soil salinity. Salinization of soil in coastal Bangladesh is a major risk from climate change. Estimates further indicate that across 41 monitoring stations, the median projected change in soil salinity is 26 percent by 2050. Above the median, 25 percent of the stations are expected to have changes of 42 percent or higher, and 10 percent will have projected changes greater than 56 percent. Many areas in the Barisal, Chittagong, and Khulna districts will have very significant increases in soil salinity during the coming decades.

Impact of increased soil salinity on agriculture. Many subdistricts in coastal Bangladesh have already suffered large yield losses for high-yielding-variety rice and substantial price changes from rising salinity, and the coastal region losses will be compounded by further salinity increases in the coming decades. The decline in output of high-yielding-variety rice is expected to be especially serious in nine coastal upazilas, where incidence of poverty is high and crop yields are already marginal. Without newly developed coping strategies, the predicted changes will produce significant income declines from high-yielding-variety rice production in many areas, including a 10.5 percent loss in Barisal region and a 7.5 percent loss in Chittagong region.

Impact of increased salinity on infrastructure maintenance. Large and significant effects of groundwater salinity on maintenance expenditure for paved roads

in coastal Bangladesh can be expected. The implied welfare impact may be substantial in a changing climate, particularly for poor households, if diversion of expenditures to road maintenance reduces support for community sanitation, health, and other infrastructure related programs.

Impact of increased salinity on health. Controlling for many other determinants of infant mortality, the analysis found that increased salinity exposure of mothers during the last month of pregnancy creates significant risks for their newborn children. The estimated impact of increased maternal exposure to salinity on infant mortality is comparable in magnitude to the estimated effects of traditionally-cited variables such as maternal age and education, gender of the household head, household wealth, toilet facilities, drinking water sources, and cooking fuels.

Climate change, livelihood threats and household responses. A household decision model relating spatial deployment of working-age, migration-capable members to inundation and salinization threats indicates households subject to high inundation and salinization threats have out-migration rates for working-age adults (particularly males), dependency ratios, and poverty incidence that are significantly higher than their counterparts in non-threatened areas. The critical zone for inundation risk lies within 4 km of the coast, where about 8 percent of the population of Bangladesh currently resides, with lesser impacts observed for coastal-zone households at higher elevations.

## Implications for Policy Making in Bangladesh

Climate change will further aggravate already very difficult living conditions in the coastal region. Left unattended, as many as 5.3 million of Bangladesh's poor will be vulnerable to natural resource degradation due to increase in soil and surface water salinity by 2050. Adaptation to climate change takes time. Therefore, the moment is now for the Government of Bangladesh

and its development partners to prepare and implement policies that reduce vulnerability to climate change.

Standard climate change adaptation measures, such as saline-resistant crops, low-salinity drinking water supplies, pretreatment of building materials, and greater road maintenance expenditures to offset salinity-accelerated depreciation, focus on directly offsetting welfare losses due to salinity. In addition, increased infrastructure investment to improve market access, especially road improvement, may offer a promising option for poverty alleviation in coastal areas. At present, isolated settlements in the coastal region face travel times to market centers as much as nine hours. Estimates indicate reduction in travel times for isolated settlements by 2.5 hours would significantly improve their economic welfare. The benefits of increased mobility are enhanced by the threat of climate change, but they exist even in its absence, making such investments an attractive, low-regret option.

## Broader Perspective

These research findings paint a potentially bleak picture of the risks for poor households in low-lying coastal regions in the developing world. Natural resource degradation in a changing climate will threaten to create poverty traps that will pose a serious threat to the goals of ending poverty and promoting shared prosperity. The threats would persist well beyond 2050, even with cuts in greenhouse gas emissions today.

The families in coastal Bangladesh are already on the “front line” of climate change. Their experience with widespread inundation and salinization of soil and water foretells future decisions by hundreds of millions of families worldwide who will face similar threats by 2100. For sustainable poverty alleviation, it is imperative for policy makers to begin planning to cope with climate change.

## Dissemination of the Research

### Journal Publication

- Climate Change and Soil Salinity: The Case of Coastal Bangladesh, in *Ambio*

### Working Papers

- Climate Change, Soil Salinity, and the Economics of High-Yield Rice Production in Coastal Bangladesh
- Climate Change, Groundwater Salinization and Road Maintenance Costs in Coastal Bangladesh
- Drinking Water Salinity and Infant Mortality in Coastal Bangladesh
- Facing the Hungry Tide: Climate Change, Livelihood Threats, and Household Responses in Coastal Bangladesh

### Web Feature

- Salinity Intrusion in a Changing Climate Will Hit Coastal Bangladesh Hard

### Blogs

- The Hidden Dimensions of Poverty: Prospective Impacts of Climate Change on Land Degradation and Rural Livelihoods in Bangladesh
- Left Unattended, 5.3 Million of Bangladesh's Poor Will Be Vulnerable to the Effects of Climate Change in 2050

### Conference Presentations

- Annual Conference of the European Association of Environmental and Resource Economists (EAERE 2015 Conference) at Helsinki, Finland: Presentation of Facing the Hungry Tide: Climate Change, Livelihood Threats, and Household Responses in Coastal Bangladesh
- Annual Conference of the European Association of Environmental and Resource Economists (EAERE 2015 Conference) at Helsinki Finland: Presentation on Climate Change and Poverty: The Case of Coastal Bangladesh

### Communications with the Government of Bangladesh

- Letters were prepared with summaries of research findings and references and shared with the relevant ministries of the Government of Bangladesh from the World Bank Country Office under the letterhead of Dr. Johannes Zutt, Country Director, World-Bank-Dhaka.

# Prospects for “Green Growth” in Developing Countries

**Task Team Leader:** Michael Toman

**KCP II Funding:** US\$ 400,000

**Timeline:** 06/15/2010 – 06/15/2015

At a 1992 United Nations conference in Rio de Janeiro on connections between economic development and the state of the natural environment, the global community rhetorically embraced the concept of “sustainable development”. This phrase meant meeting the needs of people today without compromising the ability of future generations to meet their needs. At that time, long-term threats such as global climate change, loss of biodiversity, destructive over-fishing, and land desertification were coming into sharper focus as threats to human well-being, not just the environment.

Prolonged debate followed the Rio conference as to what actions were needed to achieve sustainable development. Was human impact on the environment exceeding its “carrying capacity,” calling for rapid and drastic changes in the way economic activity drew upon the environment as a source of materials and a sink for wastes? Could we instead accept at least some degradation of the environment so long as enough other investments in economic growth, including investments in less environmentally harmful technologies, were made? Moreover, while sustainable development conveyed an intergenerational obligation, how does it relate to meeting the needs of the current poor?

In 2012, another UN conference on environment and development was held in Rio. This conference took place in the wake of a global recession that raised concerns in rich and poor countries alike about how to restart economic progress. At the same time, concerns over global environmental threats, climate change in particular, had increased significantly over the intervening 20 years, as had concerns about the difficulties in effectively addressing them.

In that context, dialogue on environment and development shifted from sustainable development to “green growth”. The idea was that some combinations of policies could accelerate economic growth and reduce poverty while also reducing long-term environmental degradation. However, there was limited understanding of what such combinations of policies might be. Accordingly, our research on green growth has sought to clarify, conceptually and empirically, some of the pathways through which green growth can occur.

## Conceptual Insights

The conceptual analyses done under the project highlighted, first, that green growth is not an idea orthogonal to conventional economic analysis of growth. A more fundamental problem is that standard growth analysis often leaves out the ways that economic productivity and human welfare depend on different forms of “natural capital.” A significant body of literature including those connections does exist however, and it can be used to understand how interactions between natural and other forms of capital affect the environmental sustainability of growth and the economic productivity of the environment, broadly defined. Among other insights, that literature shows how growth with natural capital can be what economists call “path dependent.” That is, where you get depends on where you start, not just what you do along the way. In particular, there can be threshold levels of environmental damage beyond which growth will inevitably lead to permanent environmental degradation unless very costly measures to correct the problem are utilized. Research on economic development and the environment also has highlighted the importance of accounting for “knowledge capital” gained through innovation

in reaction to environmental degradation, and the need for public policies to support adequate provision of such knowledge.

One well-established principle in the environment and development literature is that economic welfare and environmental sustainability can be improved by correcting for the inability of a market economy to correct “externalities,” such as harmful pollution and excessive habitat loss. The conceptual analysis of green growth in this project thus focused on a different question: how can growth policies support or impede the technological transformation of an economy facing environmental challenges to growth? That work has emphasized in particular that the size of initial “startup” costs for effectuating such transformations can strongly influence the extent to which the economy can grow out of potential “environmental poverty traps.” In that context, the research has shown how investing in more environmentally resilient technologies can provide a valuable option for sustaining economic progress, even if the expected return from a more resilient technology is lower than an incumbent technology.

## Empirical Work: Energy Efficiency in China

Improved energy efficiency is often touted as an obvious form of win-win policy for lowering production costs and reducing environmental impacts. The empirical research in this project focused on industrial energy efficiency in China. The research sought to address several questions: how much of the observed energy efficiency improvements in Chinese industry over the last couple of decades was due to changes in energy prices, versus technological modernization as a result of sector-level industrial development policies? What were the processes through which new technologies with greater energy efficiency were adopted? Four sectors were considered: iron and steel, aluminum, concrete, and pulp and paper.

Case studies based on in-depth interviews with individual plant managers revealed that the processes of

new technology adoption were more complicated than standard economic analysis might indicate. Adoption decisions at the enterprise level involved a great deal of site-specific “technology learning” facilitated by trial and error experimentation. Across the sectors there were varied influences on the provision of information, including sector-level institutions for technology development and diffusion and joint ventures with international partners.

Econometric analysis using a unique data set on inputs and outputs of individual industrial enterprises also indicated that a variety of factors related to China’s industrial development policies influenced energy efficiency, beyond the direct effects of energy prices. Among the most important of such influences was the movement away from small-scale village-level industrial enterprises toward consolidated, larger-scale enterprises with improved access to international state of the art technologies. Changes in scale and technique had the effect of greatly reducing the energy intensity of production in the sectors studied, even though this was not the primary objective. Technique changes in turn were fostered by several approaches, including investment joint ventures with foreign partners that provided access to more productive technologies.

For the component of the research on “bottom-up analyses” of the technology shifts in the four sectors, we sought to measure the difference between observed energy use and CO<sub>2</sub> emissions, and the results that would have occurred without the technology shifts. Although this approach could not fully control for the separate effect of energy price increases on industrial energy efficiency, the research suggests that CO<sub>2</sub> emissions in the four sectors were reduced by a factor of about 2.3 circa 2010, relative to the counterfactual scenario. Given the large scale of Chinese industry, the implied savings were equal to about 9% of global emissions at that time.

It is likely that there remains potential for further improvements, since modernization efforts have been uneven across provinces over time. These findings underscore the important potential influence of industrial and trade policies on energy use and CO<sub>2</sub>

emissions. As modernization continues, however, returns in terms of energy efficiency and CO2 emissions limitations will diminish, and the effects of energy (and potentially CO2) prices will have to assume greater prominence. In addition, the large scale of energy savings in China reflect that country's particular history of industrial development, including a legacy of very inefficient capital and relatively effective institutions for effectuating technology transformations. Additional work is needed to evaluate what efficiency improvements might be achieved in practice in other rapidly growing developing countries.



SOCIETE  
GENERALE

SOCIETE  
GENERALE

KCP II & KCP III  
PROJECTS PORTFOLIO

YUGOSLAV BANK

ABALJA PETRA



Figure A.1. KCP II Donor Contributions Received by Window

From Inception to June 30, 2015

(US\$ thousands)

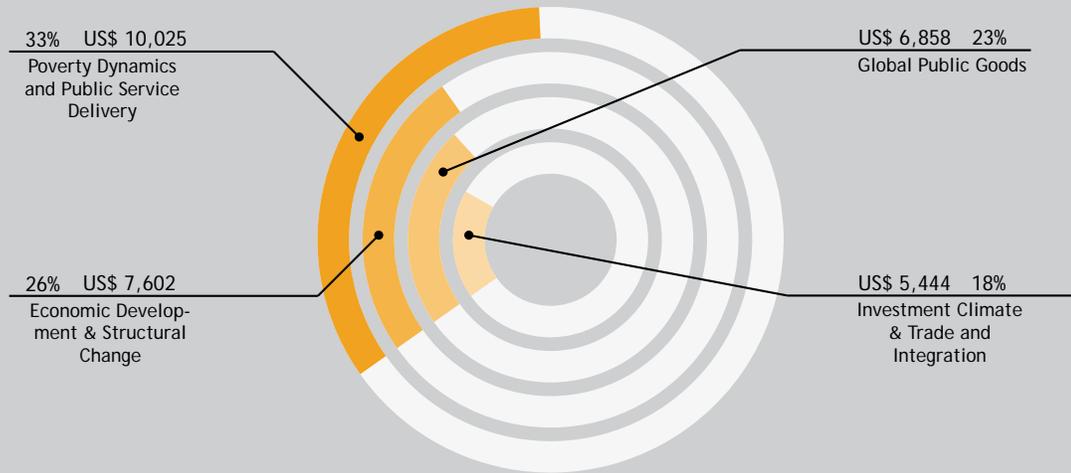
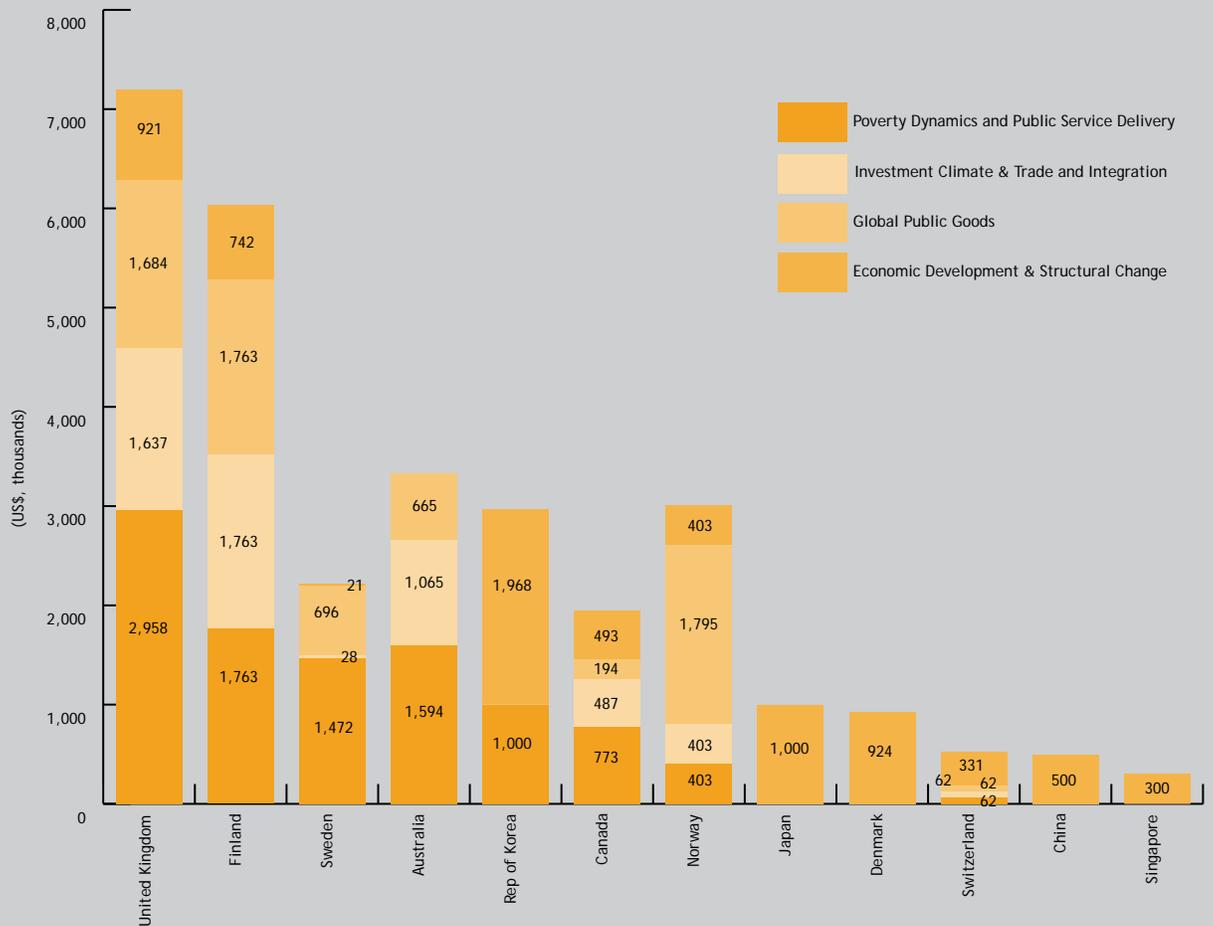


Figure A.2. KCP II Donor Contributions Received by Donor

From Inception to June 30, 2015

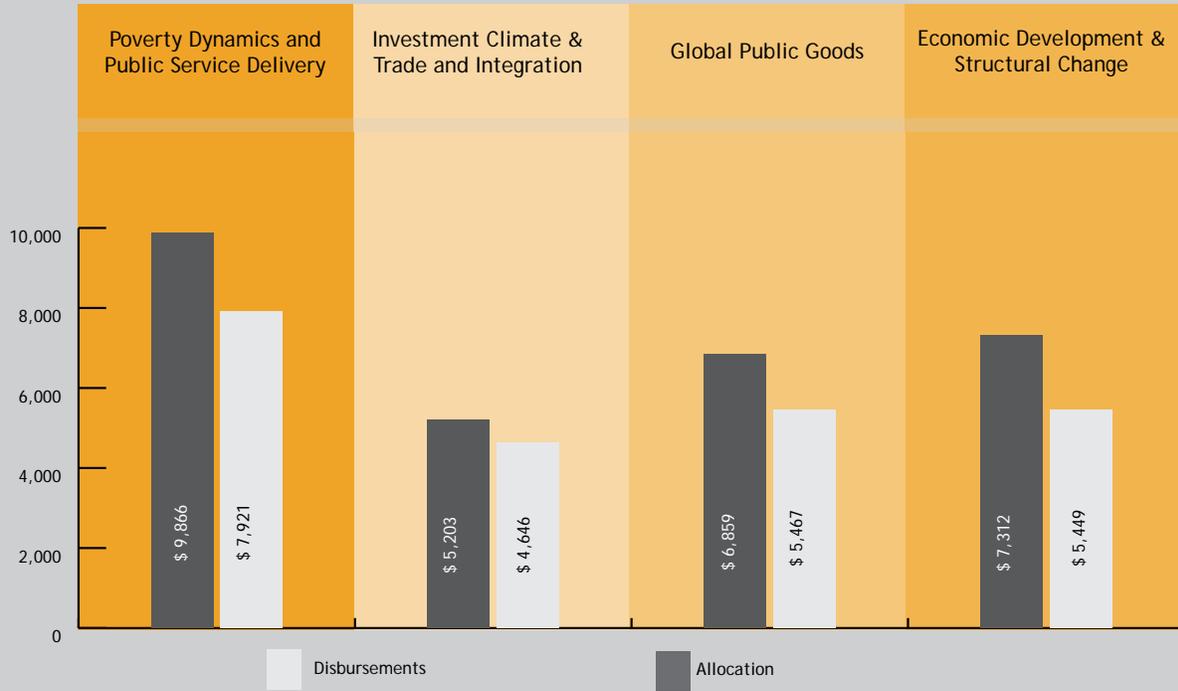
(US\$ thousands)



### Figure A.3. KCP II Allocations and Disbursements

From Inception to June 30, 2015

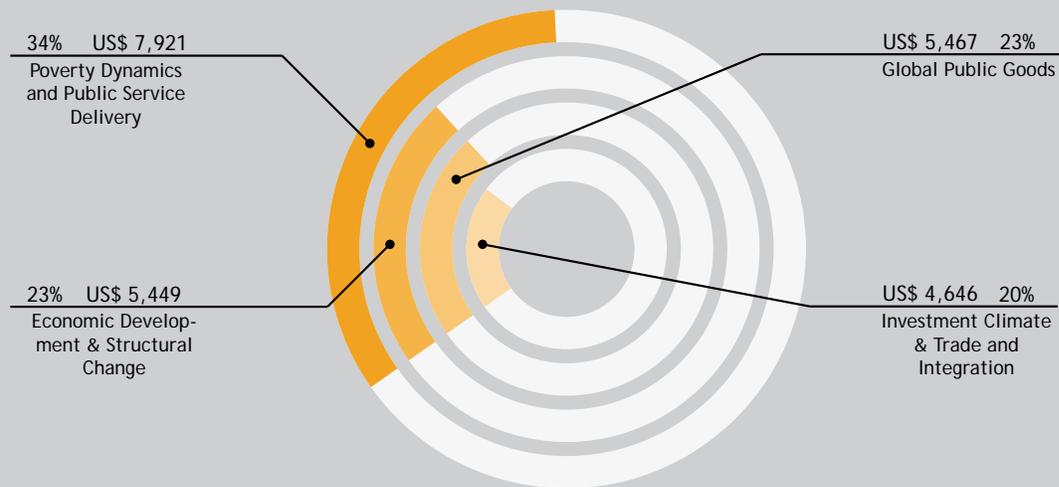
(US\$ thousands)



### Figure A.4. KCP II Disbursements by Window

From Inception to June 30, 2015

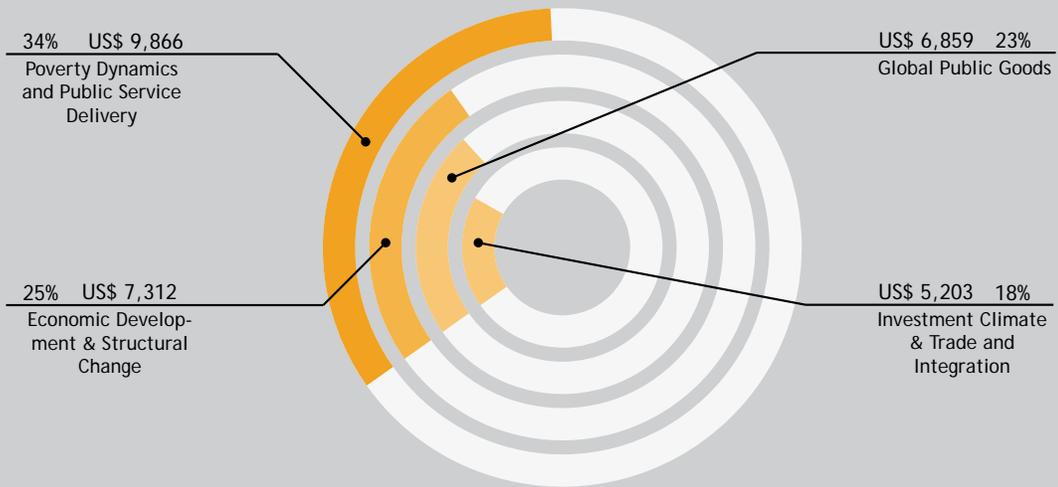
(US\$ thousands)



## Figure A.5. KCP II Allocations by Window

From Inception to June 30, 2015

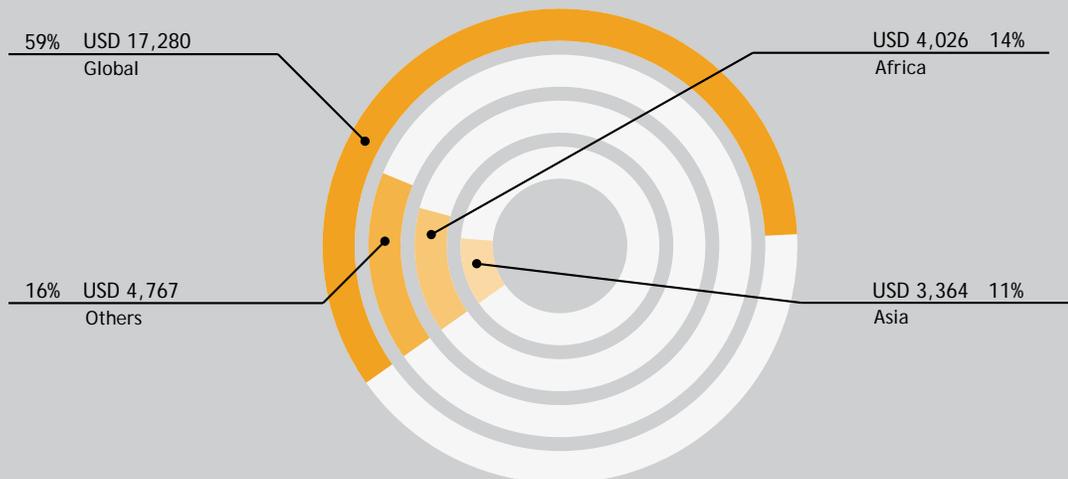
(US\$ thousands)



## Figure A.6. KCP II Allocations by Region

From Inception to June 30, 2015

(US\$ thousands)



## Table A.1. KCP II Allocations and Disbursements

	Fund	TTL	Project Name	Allocations	Disbursements	Available
POVERTY DYNAMICS and PUBLIC SERVICE DELIVERY (TF071173)						
1	TF094157	Legovini	Impact Evaluation of Youth-Friendly Services on Voluntary Counseling and Testing among the Youth Aged 15-24 Years in Kenya	99,659	99,659	0
2	TF094625	Das	Learning and Educational Achievements in Pakistan (LEAPS): Continuation	173,220	173,220	0
3	TF094626	Goldstein	The Effects of Home Based HIV Counseling & Testing: IE of a Program in Kenya	83,010	83,010	0
4	TF094627	de Walque	HIV/AIDS Treatment and Prevention	99,999	99,999	0
5	TF094628	Beegle	Kagera Health and Development Survey 2010: Long-Run Patterns of Growth and Poverty in Africa	162,386	162,386	0
6	TF094629	Lanjouw	Economic Growth and Crisis in Africa: Improving Methods for Measuring Poverty	119,956	119,956	0
7	TF094650	Goldstein	The Impact of Providing Land Titles in Ghana	69,991	69,991	0
8	TF094652	Goldstein	Impact of Urban Land Titling: Evidence from Land Lottery in Burkina Faso	0	0	0
9	TF095034	Chen	Poverty Mapping in China	24,078	24,078	0
10	TF096467	Milante	WDR 2011: Conflict and Development	1,276,492	1,276,492	0
11	TF097370	Revenga, Shetty	World Development Report 2012 - Gender Equity and Development	817,388	817,388	0
12	TF097381	Giles	Policy, Governance and the Private Sector in the Provision of Public Services: Evidence from Indonesia's Health Sector	224,507	224,507	0
13	TF098362	Chen	Correcting the Sampling Bias of China Urban Household Survey	54,968	54,968	0
14	TF098792	Ozler	TASAF R3 Survey Support	130,000	130,000	0
15	TF098797	Beegle	LSMS: Improving the Quality and Comparability of Income Data through Research and Dissemination	147,977	147,977	0
16	TF098893	Carletto	Measuring Development Indicators for Pastoralist Populations	94,999	94,999	0
17	TF098991	Galasso	Learning from Interventions to Improve Parenting Skills in Chile	80,000	80,000	0
18	TF099007	Kondylis	Measuring Inequality and Inequality of Opportunity Using DIME Microdata	27,848	27,848	0

	Fund	TTL	Project Name	Allocations	Disbursements	Available
19	TF099270	Martin	Implications for Poverty of Productivity Growth in Agriculture & Non-Agriculture	99,128	99,128	0
20	TF010642	Galasso	A 10-Year Follow-up of a Community-Level Nutrition Program in Madagascar	82,086	82,086	0
21	TF010644	Kondylis	Implementing a Multi-Disciplinary Tool for Social Capital Measurement	99,748	99,748	0
22	TF010746	Das	Quality of Care in Health Markets: Supply- and Demand-Side Perspectives	335,000	334,814	186
23	TF010841	Deininger	Gendered Impacts of Low-Cost Land Titling in a Post-Conflict Environment: The Case of Rwanda	149,939	149,939	0
24	TF010842	Deininger	Economic and Gender Impacts of Peri-Urban Land Titling: The Case of Dar es Salaam	99,761	99,761	0
25	TF010972	Kondylis	Governing Water for Agriculture: What Institutions for Which Contexts?	149,935	149,935	0
26	TF012967	Chen	How to Improve the World Bank's Global Poverty Monitoring	150,000	153,366	(3,366)
27	TF012968	Lanjouw	Changeable Inequalities: Facts, Perceptions and Policies	223,873	223,873	0
28	TF012991	Giles	Early Childhood Nutrition, Availability of Health Service Providers and Life Outcomes as Young Adults: Evidence from Indonesia	160,000	95,563	64,438
29	TF013050	van de Walle	Welfare Impacts of Marital Status Shocks in Senegal and the Implications for Social Protection Policy	90,000	21,161	68,839
30	TF013078	Piza	Can a Formal Address Do the Job? Favela Pacification in Rio de Janeiro	100,000	90,686	9,314
31	TF013079	Beegle/Galasso	The Role of Public Works Programs in Enhancing Food Security: The Malawi Social Action Fund	210,898	210,898	0
32	TF014986	Gauri	WDR 2015 "The Behavioral and Social Foundations of Economic Development"	679,624	594,017	85,607
33	TF015397	Khemani	Uganda: Building Institutions for Government Accountability	200,000	169,957	30,043
34	TF015400	de Walque	An Evaluation of Long-Term Impacts of an Integrated Early Childhood Intervention for Low-Income Families in Rio de Janeiro, Brazil	125,000	4,267	120,733
35	TF015097	Rao	Using Behavioral Economics to Measure and Improve CDD Operations	100,000	40,300	59,700
36	TF015194	di Maro	Behavioral Economics for Better Public Service Management	125,000	124,940	60
37	TF016848	Kraay	How Do We Motivate Public Sector Workers in Developing countries?	150,000	149,648	352

	Fund	TTL	Project Name	Allocations	Disbursements	Available
38	TF015451	Lanjouw	Global Poverty and Inequality Monitoring in the 21st Century	440,000	429,106	10,894
39	TF015742	Gauri	WDR 2015: Building an Evidence Base for the World Development Report	375,000	342,787	32,213
40	TF018342	Wagstaff	Improving Data on Population Health and Skills Using Tablet-Compatible Household Survey Diagnostic Instruments	150,000	15,003	134,997
41	TF018228	Do	Demand Curve for Clean Water and Its Determinants in a Low-Income Context	200,000	117,890	82,110
42	TF017729	Beegle	Harmonized Microdata for Enhanced Global Poverty Monitoring: The International Income Distribution Database (I2D2)	100,000	93,677	6,323
43	TF018343	Jacoby	Decentralizing Irrigation Management: Evidence from the Indus Basin of Pakistan	150,000	0	150,000
44	TF018344	Das	Quality of Care, Its Determinants and How It Can Be Improved	150,000	6,795	143,205
45	TF018647	Ozler	Weekend Special: A Sports-Based Intervention to Encourage Uptake of Voluntary Medical Male Circumcision in Zimbabwe	200,000	0	200,000
46	TF017875	Chen	Assessing the Impact of 2011 ICP PPPs on Global Poverty Estimates	135,000	30,494	104,506
47	TF018042	Saliola	Equality of Opportunity in Global Prosperity	200,000	165,427	34,573
48	TF018077	Serajuddin	National Account vs Survey Based Welfare	150,000	0	150,000
49	TF018112	Goldstein	Gender, Insurance and Agricultural Productivity	100,000	99,430	570
50	TF018345	Carletto	Census Independent Sampling Strategy Using Satellite Imagery: Validating and Improving a Proposed Methodology in Myanmar	50,000	0	50,000
51	TF018041	Carletto	Improving Poverty and Shared Prosperity Measurement: An Experiment to Measure Purchases of Food Away from Home	100,000	24,917	75,083
52	TF018996	Chandra	GMR 2015-2017 "Monitoring and Reporting the Twin Goals"	250,000	0	250,000
53	TF017980	Larson	What Happens in Rural Areas When Food Prices Spike?	100,000	14,941	85,059
<b>TOTAL - POVERTY DYNAMICS AND PUBLIC SERVICE DELIVERY</b>				<b>9,866,470</b>	<b>7,921,030</b>	<b>1,945,440</b>

	Fund	TTL	Project Name	Allocations	Disbursements	Available
<b>INVESTMENT CLIMATE &amp; TRADE AND INTEGRATION (TF071177)</b>						
54	TF094158	Legovini	Strengthening Agricultural Production Systems and Facilitating Access to Markets: Impact Evaluation of Nigeria's Commercial Agriculture Development	91,519	91,519	0
55	TF094551	McKenzie	How Much do Management Practices Matter? A Randomized Experiment in India	49,999	49,999	0
56	TF094563	McKenzie	Employment Creation in Large and Small Firms	44,368	44,368	0
57	TF094565	Schmukler	Globalization, Risk, and Crises	69,795	69,795	0
58	TF094566	Hall-Driemeier	Comparable Disaggregated Census Data across Developing Countries	69,828	69,828	0
59	TF094567	Ozler	An Experimental Study of 'Poverty Traps' among Micro-Entrepreneur Groups	128,000	128,000	0
60	TF094568	Giles	Labor Markets and Impacts of the Financial Crisis: Evidence from China and India	225,000	225,000	0
61	TF094570	Dupriez	Modeling and Analysis of Consumption Patterns	148,830	148,830	0
62	TF094573	Demirguc-Kunt	Regulation and Bank Stability	249,684	249,684	0
63	TF094600	Jacoby	Transport Costs and Development: Evidence from China's Infrastructure Boom	40,000	40,000	0
64	TF094784	Peria	The Financial Crisis and Foreign Bank Participation in Developing Countries	39,930	39,930	0
65	TF094947	Fernandes	Services, FDI and Endogenous Productivity Effects in the European Neighborhood Policy—A Quantitative Assessment for Georgia	89,826	89,826	0
66	TF095040	Ozden	Migration of Turkey's Top Students - Brain Drain and Brain Gain	0	0	0
67	TF095146	Hevia	FDI and Macroeconomic Stability	39,910	39,910	0
68	TF095266	Dailami	Analyzing the Impact of Financial Crisis on International Bank Lending to Developing Countries	98,530	98,530	0
69	TF095859	Kraay	The Growth Effects of Fiscal Policy in Developing Countries	44,940	44,940	0
70	TF095860	Kraay	Reticent Respondents and Cross-Country Survey Data on Corruption	74,860	74,860	0
71	TF097625	Peria	Bank Competition and Access to Finance	56,215	56,215	0

	Fund	TTL	Project Name	Allocations	Disbursements	Available
72	TF097641	McKenzie	Can Microfinance Foster Entrepreneurship in Poor Communities?	73,119	73,119	0
73	TF097808	Maloney	Innovation and Growth	65,576	65,576	0
74	TF097838	Legovini	Reducing Informality among Firms in Minas Gerais, Brazil	79,464	79,464	0
75	TF097841	Klapper	Private Sector Dynamics in Côte d'Ivoire	30,489	30,489	0
76	TF097855	Keefer/Kraay	Worldwide Governance Indicators	95,950	95,950	0
77	TF097976	Demirguc-Kunt	Will There be a Phoenix Miracle? Firm-Level Evidence from Financial Crises	49,912	49,912	0
78	TF098583	Schmukler	On the Use of Domestic and International Debt Markets	100,000	99,989	11
79	TF098652	Kee	On FDI Spillovers	34,974	34,974	0
80	TF099120	Loayza	Fiscal Multipliers and the State of the Economy	30,000	30,000	0
81	TF099249	Anginer	Bank Bailouts & Moral Hazard	47,300	47,300	0
82	TF010230	Martin	Storage and Trade Policies for Improving Food Security	129,929	129,929	0
83	TF010373	Bown	Least Developed Countries and the Externality Impact of WTO Dispute Settlement	75,472	75,472	0
84	TF010545	Kraay	Macroeconomic Impacts of Aid and Public Spending	50,000	50,000	0
85	TF010688	Schmukler	Understanding Capital Flows to Developing Countries	89,999	89,999	0
86	TF010695	Ozden	Database of Emigration Laws and Policies in Developing Countries	39,893	39,893	0
87	TF010705	Klapper	Global Financial Inclusion Indicators	40,000	40,000	0
88	TF010706	Shilpi	Food Prices, Middlemen, and Marketing Institutions: Evidence from Bangladesh	123,142	123,142	0
89	TF010782	Kondylis	How Does the Speed of Justice Affect Firms? Experimental Evidence from Senegal	97,822	97,822	0
90	TF011089	Nguyen	Currency Wars	31,875	31,875	0
91	TF012954	Loayza	WDR 2014 "Managing Risk for Development"	596,667	596,306	361
92	TF012955	Deininger	Land Tenure Regularization in Nigeria: Potential Benefits and Implementation Modalities	110,000	109,685	315
93	TF012976	Kraay	Macro and Micro Lessons from Project Data	50,000	49,584	416
94	TF013049	McKenzie	Generating Job Matches between Firms and Young Women in Jordan	115,000	115,000	0

	Fund	TTL	Project Name	Allocations	Disbursements	Available
95	TF014284	Anginer	Bank Capital and Systemic Stability: A Cross-Country Analyses	39,783	39,783	0
96	TF014313	Vashakdmadze	Enhanced Global Macro/Financial Model for Developing Countries	135,000	134,972	28
97	TF015398	Klapper	Salary Susu Plus: The Impact of Formal Savings on Spending and Borrowing	50,000	34,410	15,590
98	TF015098	Kraay	Worldwide Governance Indicators 2014-15	50,000	45,025	4,975
99	TF015108	Schmukler	Firm Financing from Capital Markets	75,000	74,976	24
100	TF015136	McKenzie	Improving the Management and Profits of Small Businesses and Their Measurement	150,000	142,939	7,061
101	TF015145	Gine	Behaviorally Informed Mystery Shopping Tools for Consumer Protection Policy Makers	100,000	49,657	50,343
102	TF015344	Peria	Global Financial Development Report	199,990	199,990	0
103	TF015212	Ahmed	The Gains from International Migration Revisited	125,000	85,458	39,542
104	TF018346	Ozden	Demographic Change and International Integration	200,000	5,170	194,830
105	TF018326	Saliola	Benchmarking Public Procurement	150,000	34,788	115,212
106	TF017899	Ruiz-Ortega	Credit Bureau in Mexico	50,000	10,500	39,500
107	TF018347	Schmukler	Capital Flows: Geography, Drivers and Implications	110,000	44,186	65,814
108	TF017867	Peria	Corporate Governance and Debt Maturity	50,000	27,750	22,250
<b>TOTAL - INVESTMENT CLIMATE &amp; TRADE AND INTEGRATION</b>				<b>5,202,591</b>	<b>4,646,319</b>	<b>556,272</b>

#### GLOBAL PUBLIC GOODS (TF071178)

109	TF094962	Toman	Improving Governance of African River Basins - Determinants of Successes and Failures in Past Reforms	120,000	120,000	0
110	TF094963	Toman	Economic Impacts of Low Carbon Growth Scenarios in Selected Developing Countries	178,800	178,800	0
111	TF094964	Kessides	Improving Efficiency and Climate Change Mitigation - Electricity Market Competition and Low-Carbon Generation Technologies	49,508	49,508	0
112	TF094965	Timilsina	Economics of Biofuels and Potential Impacts on Biodiversity	120,546	120,546	0
113	TF097048	de Walque	Research on HIV/AIDS Prevention and Treatment	51,734	51,734	0

	Fund	TTL	Project Name	Allocations	Disbursements	Available
114	TF097696	Toman	Green Growth Opportunities in Developing Countries	400,000	385,135	14,865
115	TF097836	Mistiaen	Survey Data Repository and Management Toolkit	218,464	218,464	0
116	TF098661	Timilsina	Quantifying the Transaction Costs of Selected Energy Efficiency Measures to Reduce GHG Emissions	74,030	74,030	0
117	TF099394	Van Rensburg	Enhanced Global Macro/Financial Model for Developing Countries	81,939	81,939	0
118	TF099603	Lederman	International Survey on Intellectual Property Enforcement Agencies	17,724	17,724	0
119	TF099762	Toman	The Electricity/Groundwater Nexus for Indian Farmers: Implications of Electricity Subsidy Reform for Efficiency and Distribution	0	0	0
120	TF010218	Dasgupta	Mobilizing Spatial Economics and Information for Tiger Habitat Conservation	297,446	297,446	0
121	TF010291	Fantom	Data Resource Center for Structural Economic Analysis	159,837	159,837	0
122	TF010390	Toman	Economic Valuation of Losses Due to "Amazon Dieback"	275,724	275,724	0
123	TF010467	Toman	Community Forestry and Pro-Poor Carbon Sequestration in Nepal	377,062	377,062	0
124	TF010503	Bussolo/Go	Global Demand System for Consumer Behaviour	99,890	99,890	0
125	TF010600	Toman	International Cooperation and Conflict over Water	47,949	47,949	0
126	TF010730	Veerappan	Open Metadata and Methods Application	363,600	363,600	0
127	TF012673	Veerappan	Visualization and Analysis Application	182,683	182,683	0
128	TF012675	Dasgupta	The Economics of Adaptation to Salinity Intrusion: The Case of Coastal Bangladesh	139,663	139,663	0
129	TF012996	Timilsina	Linking Bottom-up and Top-Down Models for Assessing Economy-Wide Impacts of Discrete Climate Change Mitigation Measures	70,000	69,783	217
130	TF013210	Zhao	Online Data Analysis Toolkit (ODAT)	140,000	58,684	81,316
131	TF014304	Lokshin	Development of Innovative Tools and Technologies for the Global Research Community.	300,000	131,863	168,137
132	TF015043	Welch	A Microdata Dissemination Challenge: Balancing data Protection and Data Utility	86,579	86,579	0
133	TF015149	Hamadeh	Improving PPP Time Series	100,000	99,220	780

	Fund	TTL	Project Name	Allocations	Disbursements	Available
134	TF015186	Toman	Hands-On Capacity Building in Environmental Economics: A Proposed Collaboration with the Environment for Development Initiative	175,000	164,345	10,655
135	TF015268	Toman	Supporting Ethiopia's Push for 9 Million Improved Cooking Stoves to Improve Health and Combat Climate Change	125,000	125,000	0
136	TF017347	Chen	Improving and Expanding PovcalNet	100,000	30,967	69,033
137	TF016340	Veerappan	Data Version Management and Linked Data	100,000	10,200	89,800
138	TF015238	Toman/Strand	Economy-wide Valuation of Local/Regional Ecosystem Services from Amazon Forest Area	99,531	99,531	0
139	TF017449	Toman	Economic Valuation of Changes in Amazon Forest Area	1,800,000	1,082,317	717,683
140	TF017934	Ahmed	Sustainable Poverty Reduction and Shared Prosperity under a Changing Climate	150,000	83,144	66,856
141	TF017654	Sajaia	Functionality to Conduct Complex Household and Agricultural Surveys with CAPI	56,000	55,810	190
142	TF017777	Feng	UNICEF-WHO-The World Bank Joint Child Malnutrition Dataset Expansion	150,000	30,000	120,000
143	TF017687	Dasgupta	Ecologically Cost-Effective Road Investment in Tropical Forests	150,000	97,427	52,573
<b>TOTAL - GLOBAL PUBLIC GOODS</b>				<b>6,858,709</b>	<b>5,466,603</b>	<b>1,392,106</b>

#### ECONOMIC DEVELOPMENT AND STRUCTURAL CHANGE (TF071393)

144	TF097645	Goldstein	Stimulating Industrial Upgrading in Sub-Saharan Africa	192,992	192,992	0
145	TF097765	Sepulveda	Research Agenda in New Structural Economics	144,553	144,553	0
146	TF097766	Sepulveda	Structural Transformation, Enterprise Policies, and Economic Growth	118,156	118,156	0
147	TF097767	Sepulveda	Country Case Studies on Structural Change and Industrial Policies	297,842	297,842	0
148	TF098053	Loayza	Industrial Policy in an Uncertain Environment	72,698	72,698	0
149	TF098106	Fernandes	Export Transaction Database	148,794	148,794	0
150	TF098764	Giles	Structural Transformation and Rural Social Protection Policies: Evidence from China	250,000	250,000	0
151	TF099128	Fernandes	Upgrading the Networking and Technological Capacity of Suppliers in South Africa	172,533	172,533	0

	Fund	TTL	Project Name	Allocations	Disbursements	Available
152	TF099198	Deichmann	Moving to Density: A Research Program on the Rural-Urban Transformation in Developing Countries	500,000	498,173	1,827
153	TF099203	Deichmann	Testing the Robustness of the Energy Intensity Kuznets Curve	29,996	29,996	0
154	TF099604	Lederman	Commodity Prices, Household Adjustments, and Structural Transformation	42,146	42,146	0
155	TF010008	Hallward-Drie-meier	Industrial Structure, Productivity, Growth and Welfare	148,527	148,527	0
156	TF010181	Giles	Early Work Experiences and the Skills of Young Adults: Evidence from Senegal	140,985	140,985	0
157	TF010228	Beegle	WDR 2013 "Jobs"	701,927	701,927	0
158	TF010795	Hon	Structural Transformation, Macroeconomic Behaviors and Industrial Policies	65,410	65,410	0
159	TF012590	Fernandes	Global Analysis of the Impact of Policies and Firm Dynamics in Trade	159,990	159,990	0
160	TF013183	Go	Structural Change in a Dynamic World	200,000	174,504	25,496
161	TF013506	Deichmann	Understanding the Broader Impacts of Transport Infrastructure Investments	300,000	187,434	112,566
162	TF014272	Lofgren	Structural Transformation Analysis with MAMS	140,000	139,999	1
163	TF014655	Hallward-Drie-meier	MENA Job Creation, Structural Change and Economic Development	1,485,000	384,889	1,100,111
164	TF015211	Lofgren	Simple Global Analysis with R23 Model and Database for 200+ Countries	100,000	97,542	2,458
165	TF015022	Schmukler	Institutional Investors	50,000	49,768	232
166	TF015048	Deiningner	Promoting Rural-Urban Integration in China	100,000	16,200	83,800
167	TF015161	Giles	Community, Family and Household Support for the Elderly in the Wake of Rapid Urbanization: Evidence from Rural China	200,000	187,272	12,728
168	TF015202	Maliszewska	Aging: The Changing Nature of Intergenerational Flows in Developing Countries	150,000	125,000	25,000
169	TF015375	Maliszewska	The coming Wave of Educated Workers: Size and Impact on Global Inequality and Poverty	150,000	81,844	68,156
170	TF015374	Peria	Corporate Governance and Systemic Risk	50,000	49,800	200
171	TF017655	Kanz, Klapper	The Impact of Wage Frequency on Employee Performance: A Field Experiment with Factory Workers Receiving Electronic Wage Payments in Bangladesh	100,000	99,932	68

	Fund	TTL	Project Name	Allocations	Disbursements	Available
172	TF017704	McKenzie	Upgrading Management Technology in Colombia: A Randomized Experiment	100,000	100,000	0
173	TF017688	Peria	GFDR	250,000	0	250,000
174	TF017690	Deichmann	WDR 2016: "The Internet and Development"	450,000	443,761	6,239
175	TF017711	Ruiz-Ortega	Training to MFIs in Guatemala	100,000	34,000	66,000
176	TF018348	Vashakmadze	Global Economic Prospects Flagship	200,000	92,381	107,619
<b>TOTAL - ECONOMIC DEVELOPMENT AND STRUCTURAL CHANGE</b>				<b>7,311,549</b>	<b>5,449,048</b>	<b>1,862,501</b>
<b>KCP II TOTAL ALLOCATIONS &amp; DISBURSEMENTS , JUNE 30, 2015</b>				<b>29,239,319</b>	<b>23,483,000</b>	<b>5,756,320</b>

## Table A.2. Completed KCPII Projects in FY2015

	Project Name	Fund	Team Leader	Disbursements
<b>POVERTY DYNAMICS AND PUBLIC SERVICE DELIVERY</b>				
1	Governing Water for Agriculture: What Institutions for Which Contexts?	TF010972	Kondylis	149,935
2	Economic and Gender Impacts of Peri-Urban Land Titling: The Case of Dar es Salaam	TF010842	Deininger	99,761
3	How to Improve the World Bank's Global Poverty Monitoring	TF012967	Chen	149,901
4	Global Poverty and Inequality Monitoring in the 21st Century	TF015451	Jolliffe	429,106
<b>TOTAL - POVERTY DYNAMICS AND PUBLIC SERVICE DELIVERY</b>				<b>828,703</b>
<b>INVESTMENT CLIMATE &amp; TRADE AND INTEGRATION</b>				
5	Food Prices, Middlemen, and Marketing Institutions: Evidence from Bangladesh	TF010706	Shilpi	123,142
6	Storage and Trade Policies for Improving Food Security	TF010230	Martin	129,929
7	Understanding Capital Flows to Developing Countries	TF010688	Schmukler	89,999
8	How Does the Speed of Justice Affect Firms? Experimental Evidence from Senegal	TF010782	Kondylis	97,822
9	Innovation and Growth	TF097808	Maloney	65,576
10	On the Use of Domestic and International Debt Markets	TF098583	Schmukler	99,989
11	Land Tenure Regularization in Nigeria: Potential Benefits and Implementation Modalities	TF012955	Deininger	109,685
12	Macro and Micro Lessons from Project Data	TF012976	Kraay	49,584
13	WDR 2014 "Risk, Uncertainty, and Crisis"	TF012954	Loayza	594,305
14	Enhanced Global Macro/Financial Model for Developing Countries	TF014313	Vashakmadze	134,972
<b>TOTAL - INVESTMENT CLIMATE &amp; TRADE AND INTEGRATION</b>				<b>1,495,004</b>

	Project Name	Fund	Team Leader	Disbursements
<b>GLOBAL PUBLIC GOODS</b>				
15	Mobilizing Spatial Economics and Information for Tiger Habitat Conservation	TF010218	Dasgupta	297,446
16	Green Growth Opportunities in Developing Countries	TF097696	Toman	385,135
17	The Economics of Adaptation to Salinity Intrusion: The Case of Coastal Bangladesh	TF012675	Dasgupta	139,663
18	Linking Bottom-Up and Top-Down Models for Assessing Economy-Wide Impacts of Discrete Climate Change Mitigation Measures	TF012996	Timilsina	69,783
19	Online Data Analysis Toolkit (ODAT)	TF013210	Zhao	56,794
20	Visualization and Analysis Application	TF012673	Veerappan	182,683
21	A Microdata Dissemination Challenge: Balancing Data Protection and Data Utility	TF015043	Dupriez/Welch	86,579
22	Improving PPP Time Series"	TF015149	Hamadeh	99,220
23	Supporting Ethiopia's Push for 9 Million Improved Cooking Stoves to Improve Health and Combat Climate Change	TF015268	Toman	125,000
24	Hands-On <i>Capacity Building</i> in Environmental Economics: A Proposed Collaboration with the Environment for Development Initiative	TF015186	Toman	164,345
25	Economy wide Valuation of Local/Regional Ecosystem Services from Amazon Forest Area	TF015238	Toman/Strand	99,531
26	Functionality to Conduct Complex Household and Agricultural Surveys with CAPI	TF017654	Zurab Sajaia	55,810
<b>TOTAL - GLOBAL PUBLIC GOODS</b>				<b>1,761,989</b>
<b>ECONOMIC DEVELOPMENT AND STRUCTURAL CHANGE</b>				
27	Moving to Density: A Research Program on the Rural-Urban Transformation in Developing Countries	TF099198	Deichmann	498,173
28	Industrial Policy in an Uncertain Environment	TF098053	Loayza	72,698
29	Global Analysis of the Impact of Policies and Firm Dynamics in Trade	TF012590	Fernandes	159,990
30	Structural Transformation Analysis with MAMS	TF014272	Lofgren	139,999

	Project Name	Fund	Team Leader	Disbursements
31	Corporate Governance and Systemic Risk	TF015374	Peria/Anginer	44,327
32	The Impact of Wage Frequency on Employee Performance: A Field Experiment with Factory Workers Receiving Electronic Wage Payments in Bangladesh	TF017655	Martin Kanz/ Leora Klapper	99,932
<b>TOTAL - ECONOMIC DEVELOPMENT AND STRUCTURAL CHANGE</b>				<b>1,015,119</b>
<b>TOTAL</b>				<b>5,100,815</b>

## Table A.3. Ongoing KCPII Projects in FY2015

	Project Name	Trust Fund	Allocation (US\$)	Team Leader
<b>POVERTY DYNAMICS and PUBLIC SERVICE DELIVERY</b>				
1	Quality of Care in Health Markets: Supply- and Demand-Side Perspectives	TF010746	335,000	Jishnu Das
2	Can a Formal Address Do the Job? Favela Pacification in Rio de Janeiro	TF013078	100,000	Caio Piza
3	Early Childhood Nutrition, Availability of Health Service Providers and Life Outcomes as Young Adults: Evidence from Indonesia	TF012991	160,000	John T. Giles
4	Welfare Impacts of Marital Status Shocks in Senegal and the Implications for Social Protection Policy	TF013050	90,000	Dominique Van De Walle
5	World Development Report 2015: The Behavioral and Social Foundations of Economic Development	TF014986	679,624	Varun Gauri/ Karla Hoff
6	Uganda: Building Institutions for Government Accountability	TF015397	200,000	Stuti Khemani
7	An Evaluation of Long-Term Impacts of an Integrated Early Childhood Intervention for Low-Income Families in Rio de Janeiro, Brazil	TF015400	125,000	Damien de Walque
8	Behavioral Economics for Better Public Service Management	TF015194	125,000	Vincenzo Di Maro
9	How Do We Motivate Public Sector Workers in Developing Countries?	TF016848	150,000	Aart C. Kraay
10	Using Behavioral Economics to Measure and Improve CDD Operations	TF015097	100,000	Vijayendra Rao
11	WDR 2015 Building an Evidence Base for the World Development Report	TF015742	375,000	Varun Gauri/ Karla Hoff
12	Improving Data on Population Health and Skills Using Tablet-Compatible Household Survey Diagnostic Instruments	TF018342	150,000	Adam Wagstaff/ Deon Filmer/ Michael Lok- shin
13	Demand Curve for Clean Water and Its Determinants in a Low-Income Context	TF018228	200,000	Quy-Toan Do/ Hanan Jacoby
14	Harmonized Microdata for Enhanced Global Poverty Monitoring: The International Income Distribution Database (I2D2)	TF017729	100,000	Kathleen Beegle
15	Decentralizing Irrigation Management: Evidence from the Indus Basin of Pakistan	TF018343	150,000	Hanan Jacoby/ Ghazala Mansuri

	Project Name	Trust Fund	Allocation (US\$)	Team Leader
16	Quality of Care, Its Determinants and How It Can Be Improved	TF018344	150,000	Jishnu Das
17	Weekend Special: A Sports-Based Intervention to Encourage Uptake of Voluntary Medical Male Circumcision in Zimbabwe	TF018647	200,000	Berk Ozler/ Jed Friedman
18	Assessing the Impact of 2011 ICP PPPs on Global Poverty Estimates	TF017875	135,000	Shaohua Chen
19	Equality of Opportunity in Global Prosperity	TF018042	200,000	Federica Saliola
20	National Account vs Survey Based Welfare	TF018077	150,000	Umar Serajuddin
21	Gender, Insurance and Agricultural Productivity	TF018112	100,000	Markus Goldstein
22	Census Independent Sampling Strategy Using Satellite Imagery: Validating and Improving a Proposed Methodology in Myanmar	TF018345	50,000	Espen Prydz/ Calogero Carletto
23	Improving Poverty and Shared Prosperity Measurement: An Experiment to Measure Purchases of Food Away from Home	TF018041	100,000	Renos Vakis/ Calogero Carletto
24	GMR 2015-2017 "Monitoring and Reporting the Twin Goals"	TF018996	250,000	Jamus Lim/ Vandana Chandra
25	What Happens in Rural Areas When Food Prices Spike?	TF017980	100,000	Donald Larson
<b>INVESTMENT CLIMATE &amp; TRADE AND INTEGRATION</b>				
26	Salary Susu Plus: The Impact of Formal Savings on Spending and Borrowing	TF015398	50,000	Leora Klapper
27	Improving the Management and Profits of Small Businesses and Their Measurement	TF015136	150,000	David McKenzie
28	Worldwide Governance Indicators 2014-15	TF015098	50,000	Aart Kraay
29	Behaviorally Informed Mystery Shopping Tools for Consumer Protection Policy	TF015145	100,000	Xavier Gine
30	Firm Financing from Capital Markets	TF015108	75,000	Sergio Schmukler
31	The Gains from International Migration Revisited	TF015212	125,000	S. Amer Ahmed
32	Demographic Change and International Integration	TF018346	200,000	Caglar Ozden/ Aaditya Mattoo
33	Benchmarking Public Procurement	TF018326	150,000	Federica Saliola
34	Credit Bureau in Mexico	TF017899	50,000	Claudia Ruiz Ortega

	Project Name	Trust Fund	Allocation (US\$)	Team Leader
35	Capital Flows: Geography, Drivers and Implications	TF018347	110,000	Sergio Schmukler
36	Corporate Governance and Debt Maturity	TF017867	50,000	Soledad Martinez Peria / Deniz Anginer
<b>GLOBAL PUBLIC GOODS</b>				
37	Development of Innovative Tools and Technologies for the Global Research Community	TF014304	300,000	Michael Lokshin
38	Improving and Expanding PovcalNet	TF017347	100,000	Shaohua Chen
39	Data Version Management and Linked Data	TF016340	100,000	Malarvizhi Veerappan
40	Economic Valuation of Losses Due to “Amazon Die-back”	TF017449	1,800,000	Michael Toman
41	Sustainable Poverty Reduction and Shared Prosperity under a Changing Climate	TF017934	150,000	S. Amer Ahmed
42	UNICEF-WHO-The World Bank Joint Child Malnutrition Dataset Expansion	TF017777	150,000	Juan Feng/ Umar Serajuddin
43	Ecologically Cost-Effective Road Investment in Tropical Forests	TF017687	150,000	Susmita Dasgupta
<b>ECONOMIC DEVELOPMENT AND STRUCTURAL CHANGE</b>				
44	Structural Change in a Dynamic World	TF013183	200,000	Maryla Maliszewska
45	Understanding the Broader Impacts of Transport Infrastructure Investments	TF013506	300,000	Uwe Deichmann
46	Job Creation, Structural Change, and Economic Development in MENA with Lessons from East Asia	TF014655	1,485,000	Mary Hallward-Drie-meier
47	Simple Global Analysis with R23 Model and Database for 200+ Countries	TF015211	100,000	Maryla Maliszewska
48	Promoting Rural-Urban Integration in China	TF015048	100,000	Klaus Deininger
49	Community, Family and Household Support for the Elderly in the Wake of Rapid Urbanization: Evidence from Rural China	TF015161	200,000	John Giles
50	Aging: The Changing Nature of Intergenerational Flows in Developing Countries	TF015202	150,000	Maryla Maliszewska
51	The Coming Wave of Educated Workers: Size and Impact on Global Inequality and Poverty	TF015375	150,000	Maryla Maliszewska
52	Institutional Investors	TF015022	50,000	Sergio Schmukler
53	Upgrading Management Technology in Colombia: A Randomized Experiment	TF017704	100,000	David McKenzie/ William Maloney

	Project Name	Trust Fund	Allocation (US\$)	Team Leader
54	GFDR 2015: Long-Term Finance	TF017688	250,000	Soledad Martinez Peria/ Thierry Tressel
55	WDR 2016: "The Internet and Development"	TF017690	450,000	Deepak Mishra/ Uwe Deichmann
56	Training to MFIs in Mexico	TF017711	60,000	Claudia Ruiz Ortega
57	Global Economic Prospects Flagship	TF018348	200,000	Ekaterine Vashakmadze

**Table A.4. KCP III Applications (US dollars)**

	Count	Amount
Approved with reduced award	29	3,300,000
Reduction in award		5,200,000
Declined	23	3,820,000
<b>Total applications</b>	<b>52</b>	<b>12,320,000</b>

## Table A.5. New KCP III Projects Approved in FY2015

	Project Name	Approved Amount (US\$)	Team Leader
<b>FRAGILITY AND RISK MANAGEMENT</b>			
1	Global Finance Development Report 2016 - Global Banking	200,000	Soledad Martinez Peria
<b>INNOVATION IN DATA PRODUCTION METHODS, ANALYSIS AND DISSEMINATION</b>			
2	Producing, Analyzing and Visualizing Global Income Distributions	60,000	Tariq Afzal Khokhar
3	Calibration in Sample Survey Estimation: Improving the Quality of Socio-Economic Indicators by Using Auxiliary Information	75,000	Olivier Dupriez
4	Generation of Synthetic Data for Ex-Ante Impact Assessments	90,000	Olivier Dupriez
5	Worldwide Governance Indicators 2016-2018	100,000	Aart C. Kraay
6	2016 World Bank Survey of Bank Regulation and Supervision	200,000	Soledad Martinez Peria
7	Poverty Imputation Handbook and Research	100,000	Hai-anh Dang
8	Measuring and Analyzing Teacher Knowledge and Behavior	100,000	Deon Filmer
9	Benchmarking the Private Sector in Sub-Saharan Africa	300,000	Valeria Perotti / Jorge Luis Rodriguez Meza
<b>INTERNATIONAL COOPERATION AND GLOBAL PUBLIC GOODS</b>			
10	Mega-Regional Trade Agreements: Implications for Developing Countries	100,000	Maryla Maliszewska
11	The Role of Confidence in the Cross-Border Transmission and Propagation of Shocks	210,000	Hans Lofgren/ Raju Huidrom
12	China Climate Policy Modeling	50,000	Govinda Timilsina
13	Migration and Labor Market Implications in the South	100,000	Caglar Ozden
14	Trade Policy, Poverty and Shared Prosperity	100,000	Aaditya Mattoo / Bob Rijkers
<b>SERVICE DELIVERY AND AID EFFECTIVENESS</b>			
15	Kenya Patient Safety Impact Evaluation	150,000	Jishnu Das
16	Extension of the RESPECT Study in Tanzania to the Population of Commercial Sex Workers and Women at High Risk in Dar-es-Salaam	75,000	Damien de Walque

	Project Name	Approved Amount (US\$)	Team Leader
<b>WORLD BANK FLAGSHIP REPORTS</b>			
17	Economic Spillovers in an Era of Globalization: Facts, Channels and Implications	120,000	Hans Lofgren / Raju Huidrom
18	Global Monitoring Report	120,000	Maryla Maliszewska
19	World Development Report 2017: Governance and the Law	25,000	Luis-Felipe Lopez-Calva
20	WDR 2015 Operationalization	150,000	Varun Gauri
<b>GROWTH AND JOB CREATION</b>			
21	Job Quality Framework	150,000	Rita Ramalho
22	International Benchmarking for Country Diagnostics	50,000	Norman Loayza
23	Micro and Small Firm Death in Developing Countries	75,000	David McKenzie
24	Economy-Wide Effects of Expanded Electricity Access and Impacts of Household Electricity Tariff Changes in Ethiopia	100,000	Michael Toman
25	Getting Water and sewerage Connections in 31 Mexican States and Mexican City	100,000	Frederic Bustelo
<b>POVERTY AND SHARED PROSPERITY</b>			
26	Equality of Opportunity in Global Prosperity	150,000	Tazeen Hasan
27	The Effect of Improved Biomass Cookstoves on Indoor Air Quality and Respiratory Health in Rural Ethiopia	100,000	Michael Toman
28	Living Life	100,000	Federica Saliola
29	What Drives the Demand for Islamic Finance? Evidence from Field Experiments with Low-Income Households in Indonesia	50,000	Martin Kanz



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Department of Foreign Affairs and Trade  
<http://www.dfat.gov.au/>

## Canada

Department of Foreign Affairs, Trade and Development  
<http://www.international.gc.ca/international/index.aspx?lang=eng>

## China

Ministry of Finance  
<http://www.mof.gov.cn/>

## Denmark

Ministry of Foreign Affairs of Denmark  
<http://um.dk/en>

## Finland

Department of Global Affairs, Ministry  
for Foreign Affairs  
[www.formin.fi/english](http://www.formin.fi/english)

## Japan

Ministry of Finance  
<http://www.mof.go.jp/english>

## Korea

Ministry of Strategy and Finance  
<http://english.mosf.go.kr/>

## Norway

Norwegian Agency for Development Cooperation  
(NORAD)  
<http://www.norad.no/en/front-page>

Ministry of Foreign Affairs  
<http://www.regjeringen.no/en/dep/ud.html?id=833>

## Singapore

Ministry of Finance  
<http://www.mof.gov.sg/>

## Sweden

Swedish International Development Cooperation  
Agency (Sida)  
[www.sida.se/English/](http://www.sida.se/English/)

Ministry of Foreign Affairs  
<http://www.regjeringen.no/en/dep/ud.html?id=833>

## Switzerland

Swiss Agency for Development and Cooperation,  
Federal Department of Foreign Affairs  
<http://www.sdc.admin.ch/>

## United Kingdom

Department for International Development (DfID)  
<http://www.dfid.gov.uk/>

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## Canada

Department of Foreign Affairs, Trade and Development  
[http://www.international.gc.ca/international/index.aspx-  
?lang=eng](http://www.international.gc.ca/international/index.aspx?lang=eng)

## Estonia

Ministry of Foreign Affairs  
<http://vm.ee/en>

## Finland

Department of Global Affairs, Ministry  
for Foreign Affairs  
[www.formin.fi/english](http://www.formin.fi/english)

## Norway

Ministry of Foreign Affairs  
<http://www.regjeringen.no/en/dep/ud.html?id=833>

## United Kingdom

Department for International Development (DfID)  
<http://www.dfid.gov.uk/>



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