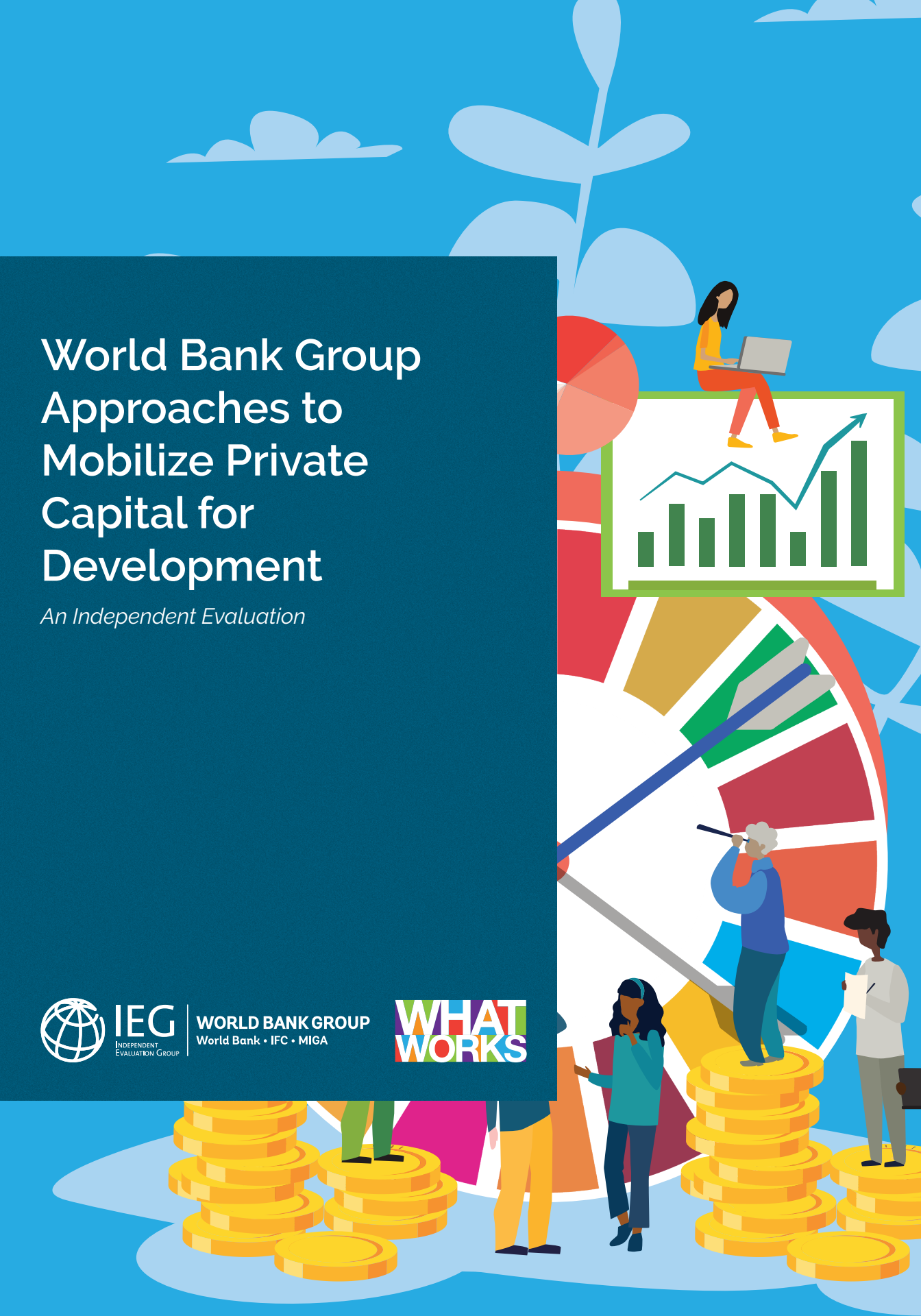
World Bank Group Approaches to Mobilize Private Capital for Development

An Independent Evaluation



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© 2020 International Bank for Reconstruction and Development / The World Bank
1818 H Street NW
Washington, DC 20433
Telephone: 202-473-1000
Internet: www.worldbank.org

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EDITING AND PRODUCTION
Amanda O'Brien

GRAPHIC DESIGN
Luísa Ulhoa

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July 20, 2020

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Abbreviations

4G	Colombia Fourth Generation Roads Concession Program
AMC	Asset Management Company
COVID-19	coronavirus pandemic
DFI	development finance institution
DPO	development policy operation
EMDE	emerging market and developing economy
FCS	fragile and conflict-affected situation
FDI	foreign direct investment
FY	fiscal year
G-20	Group of Twenty
G2G	government-to-government
GCBF	Green Cornerstone Bond Fund
GDP	gross domestic product
GP	Global Practice
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IEG	Independent Evaluation Group
IFC	International Finance Corporation
LIC	low-income country
LMIC	lower-middle-income country
MCPP	Managed Co-lending Portfolio Program

MDB	multilateral development bank
MFD	Maximizing Finance for Development
MIGA	Multilateral Investment Guarantee Agency
ODA	official development assistance
OECD	Organisation for Economic Co-operation and Development
PBG	policy-based guarantee
PCM	private capital mobilization
PPP	public-private partnership
SAFE	State Administration for Foreign Exchange
SDG	Sustainable Development Goal

All dollar amounts are US dollars unless otherwise indicated.

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The evaluation was conducted under the guidance of José Carbajo (director, Financial, Private Sector, and Sustainable Development), Stoyan Tenev (former manager, IEG), Marialisa Motta (manager, Financial, Private Sector, and Sustainable Development), and Alison Evans (Director-General, Evaluation).

Key Concepts

Cascade The Cascade is how the World Bank Group operationalizes its Maximizing Finance for Development approach. To maximize the impact of scarce public resources, the Cascade first seeks to mobilize commercial finance, enabled by upstream reforms where necessary. Where risks remain high, the priority is to apply guarantees and risk-sharing instruments. Official and public resources are applied only where market solutions are not possible through sector reform and risk mitigation. (Described in *Forward Look: A Vision for the World Bank Group in 2030—Progress and Challenges*, World Bank Group 2017.)

catalyzation, or catalyzing private capital World Bank Group activities that, in the absence of any active or direct role or cofinancing by the Bank Group, have a role in Maximizing Finance for Development. Examples include International Development Association–issued bonds, the Global Infrastructure Facility, and loans, credits, and technical assistance to improve the policy and enabling environment as well as public investments that complement private investments.

core mobilization Third-party finance deployed as a result of an active and direct effort on the part of the International Finance Corporation. Such activity would usually be evidenced through the payment of a fee. Core mobilization includes third-party funding from both private and public sources (including other multilateral development banks, development finance institutions, and sovereign wealth funds) on commercial terms that are raised due to active and direct efforts by the International Finance Corporation.

Maximizing Finance for Development The World Bank Group's coordinated approach to private capital mobilization. The World Bank Group aspires to responsibly crowd in private capital without pushing the public sector into unsustainable debt and contingent liabilities. This entails pursuing private sector solutions where they can help achieve development goals and reserving scarce public finance for where it is most needed.

off–balance sheet Typically, World Bank Group lending and advisory activities use the assets of the respective institution's balance sheet to support client countries or corporates. Any proceeds from AAA-rated bonds issued by the World Bank Group, including the International Development Association, and used for its own funding go onto the balance sheet and are then channeled toward lending activities. International Finance Corporation advisory services and World Bank advisory services and analytics are similarly funded using the respective balance sheets or supported by public sector–linked trust funds. Capital raised through private capital mobilization activities is considered an off–balance sheet item and is channeled directly to support the client.

private capital mobilization Includes both private direct mobilization and private indirect mobilization (see entries for further explanation). Multilateral development banks have defined this as investment by a private entity, which is defined as a legal entity that is (i) carrying out or established for business purposes and (ii) financially and managerially autonomous from national or local government. Private capital mobilization is the measure of reporting by all World Bank Group institutions as part of the joint reporting to the Group of Twenty on a calendar-year basis.

private capital mobilization ratio The volume of private capital mobilized by a World Bank Group institution relative to its own lending commitments in a year. The International Bank for Reconstruction and Development, in its capital increase commitments on mobilization, uses private capital mobilization as its numerator. Because this is counted at the time of Board of Executive Directors commitment, it is likely an overestimate of actual mobilization.

private direct mobilization Financing from a private entity on commercial terms because of the direct and active involvement of a multilateral development bank. Evidence of direct involvement includes mandate letters, fees linked to financial commitment, or other validated or auditable evidence of a multilateral development bank's direct role leading to the commitment of other private financiers. Private direct mobilization does not include sponsor financing. (*Multilateral Development Bank Task Force Reference Guide* 2018.)

private indirect mobilization Financing from private entities provided in connection with a specific activity for which a multilateral development bank is providing financing, but where no multilateral development bank is playing an active or direct role that leads to the commitment of the private entity's finance. Includes sponsor financing if the sponsor qualifies as a private entity. (*Multilateral Development Bank Task Force Reference Guide* 2018.)

Overview

Mobilizing private capital is critical to achieving several Sustainable Development Goals (SDGs). According to the United Nations Conference on Trade and Development's *World Investment Report 2016*, achieving the SDGs will require $2–3 trillion a year through 2030. Mobilizing that much capital necessitates broadening the sources of financing and increasing private capital mobilization (PCM) in addition to domestic revenues. PCM is critical for SDGs such as affordable and clean energy, financial inclusion, zero hunger, decent work and economic growth, industry, innovation and infrastructure, and climate action. Action on climate change requires private investment to heighten efficiency, reduce externalities, and expand domestic and foreign partners (SDG 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development).

The World Bank Group and its development partners have adopted an official definition of PCM and jointly report on PCM progress every year to their shareholders and the Group of Twenty (G-20). Multilateral development banks (MDBs) and European development finance institutions (DFIs) have agreed to a common definition for PCM, which consists of private direct mobilization and private indirect mobilization. Since 2016, the MDBs and European DFIs have jointly reported on PCM progress to the G-20 and its shareholders. In 2018, the MDBs and European DFIs reported more than $69 billion in private capital mobilized in low- and middle-income countries. In addition to private direct and private indirect mobilization, the International Finance Corporation (IFC) reports its PCM achievements through the *core mobilization* indicator, which counts capital mobilized on commercial terms from private and public sources (for example, other MDBs, DFIs, and sovereign wealth funds).

The Bank Group mobilizes private capital by combining two complementary approaches. One involves deploying a mix of financing and guarantee instruments, setting up investment platforms, using short-term financing initiatives, and providing public-private partnership (PPP) transaction advisory. The other involves working with clients (governments and private corpora-

tions), investors (for example, project sponsors and institutional investors), financing partners (such as commercial banks), and development partners. The World Bank mobilizes private capital primarily, though not exclusively, through guarantee instruments. Although the World Bank does leverage its balance sheet to mobilize private capital, its principal contribution to increasing private capital flows toward Maximizing Finance for Development is via the catalyzation of private capital (see Key Concepts). IFC has a suite of instruments to mobilize private capital, including debt and equity financing platforms that pool capital from institutional investors, insurance firms, and sovereign agencies. All activities of the Multilateral Investment Guarantee Agency (MIGA)—including its political risk insurance and nonhonoring guarantee instruments—facilitate PCM.

This evaluation assesses how relevant and effective the Bank Group has been at channeling private capital for development, the factors that have driven results, and opportunities for the future. It starts by reviewing Bank Group progress in meeting its PCM targets. It then reviews the relevance and effectiveness of PCM projects and instruments and assesses their links to country outcomes. Next, it identifies drivers of results and constraints on PCM. Finally, it gauges the potential for PCM growth and provides recommendations for the future. The evaluation is based on the Bank Group's PCM activities between 2007 and 2018.

Key Findings on PCM Targets

The Bank Group has committed to mobilizing private capital to help meet the 2030 SDGs. In responding to global challenges, the Bank Group has adopted both G-20 commitments and corporate targets for PCM. The two institutions maintain different sets of definitions internally per their business model and operational needs. The World Bank counts PCM activities at Board of Executive Directors approval rather than financing commitments from third-party capital providers. This tends to overcount World Bank PCM volumes in the case of project cancellations after approval. IFC counts public sources of capital in its core mobilization ratio but at the project commitment stage. The G-20 target for the International Bank for Reconstruction and Development (IBRD) is to increase PCM volume to $6.3 billion by 2020.

The G-20 target for IFC is to increase PCM volume to $10.1 billion by 2020 (table O.1). The corporate target for IBRD is a PCM mobilization ratio of 25 percent by 2020, sustained until 2030. The corporate target for IFC is a core mobilization ratio of 80 percent by 2020, sustained until 2030.

Table O.1.1. Private Capital Mobilization Levels and Targets by Bank Group Institution

	Volume ($, billions)		Mobilization Ratio (%)[a]	
Institution	2017 level	2020 G-20 target	2017 ratio	2020–30 corporate target ratio
IFC	7.5	10.1	63	80
World Bank	5.9	6.3	15	25 (for IBRD)

Source: Multilateral development bank report to the G-20, Bank Group Capital Increase Package Proposal.

Note: G-20 = Group of Twenty; IBRD = International Bank for Reconstruction and Development; IFC = International Finance Corporation. G-20 private capital mobilization targets are at the Bank Group level.

a. Measured as private capital mobilization for IBRD and core mobilization (private and public capital mobilization) for IFC. (See Key Concepts, page x).

IBRD progress on PCM targets has slowed since 2017, but scaling up is feasible. IBRD met its $5.9 billion G-20 target in 2017 through partial risk guarantee issuances to critical energy and infrastructure projects. Since 2017, IBRD's PCM volumes have dropped to $3.7 billion in 2018 and to $2.6 billion in 2019. Although it may be difficult for IBRD to meet its G-20 2020 target of $6.3 billion, it can realistically meet its corporate target of a 25 percent mobilization ratio on average over the next 10 years.

IFC has increased its mobilization ratio since 2017 and exceeded its core mobilization targets in 2018 and 2019. This is partly because of increases in mobilization from public sources (for example, MBDs, DFIs, and sovereign wealth funds). IFC's core mobilization volume grew from $7.5 billion (63 percent mobilization ratio) in 2017 to $11.6 billion (100 percent mobilization ratio) in 2018. In 2019, IFC mobilized $10.2 billion (114 percent mobilization ratio).

MIGA has no explicit PCM targets because all of its interventions count as PCM. MIGA's interventions through political risk insurance, nonhonoring guarantees, and credit enhancement products count toward PCM commit-

ments. MIGA's reinsurance activities, through treaty and facultative reinsurance, further increase its capacity for PCM. Thus, MIGA has been growing its PCM portfolio in line with its overall business targets and priorities.

Climate-linked mobilization commitments are growing in the Bank Group portfolio. The Bank Group climate-linked mobilization volume was 45 percent of total PCM in 2018 compared with 28 percent in 2016. This ratio is similar to the overall ratio achieved by MDBs, which is an average of 46 percent of their project portfolios.

Key Findings on Relevance

Bank Group PCM approaches are relevant to both country and corporate clients. Over the evaluation period (2007–18), the Bank Group has pioneered and deployed PCM instruments that are relevant for country and corporate clients. (The PCM harmonized definition and reporting on which the evaluation is based came into effect in 2016–17. This report refers to the harmonized definition of PCM, but it evaluates the performance of each instrument and platform based on its specific objectives at the time when it was approved.) PCM instruments have crowded in commercial banks, institutional investors, sovereign wealth funds, asset managers, and pension funds; supported client countries' policy reforms (for example, through World Bank policy-based guarantees); and helped projects fill the financing gap (for example, World Bank guarantee projects in Albania and Montenegro). In addition to PCM instruments, corporate clients in Sub-Saharan Africa and Latin America and the Caribbean, for example, have used IFC's mobilization platforms—the IFC Asset Management Company (AMC) and the Managed Co-lending Portfolio Program (MCPP)—to diversify funding sources and get longer-term financing than is available locally (for example, energy and transport infrastructure projects in Ghana, Honduras, Nigeria, and Paraguay).

PCM approaches partially meet investors' priorities and expectations. Bank Group engagement with institutional investors, commercial banks, and project sponsors used a wide range of PCM modalities. Institutional investors' expectations have been partially met in equity mobilization platforms because of lower-than-expected financial returns and lack of investable projects in the pipeline. Commercial banks and investors found debt platforms

relevant because they helped diversify their portfolio exposure in private firms based in emerging markets and developing economies.

Key Findings on Effectiveness

Bank Group approaches are mostly effective in mobilizing private capital. World Bank guarantees had positive outcomes by de-risking and improving projects' bankability at the commitment stage and increasing access to infrastructure services for beneficiaries at the project maturity stage. However, guarantee projects did not lead to subsequent PCM engagements in other sectors within the country. IFC syndicated loans increased client firms' access to finance. IFC debt and bond mobilization platforms—the Green Cornerstone Bond Program and the MCPP—were effective in meeting client and investor expectations. Equity platforms such as AMC showed mixed results in meeting IFC's development objectives: at maturity, funds managed by AMC partially met IFC's development objectives, according to a 2018 Independent Evaluation Group meso evaluation. PPP advisory projects have created a large role for domestic and South-South investors from emerging markets. MIGA has positioned itself well among MDBs in addressing PCM thanks to its new products and the share of its exposure that gets reinsured (for example, power generation projects in Sub-Saharan Africa and capital optimization projects in Latin America and the Caribbean).

Projects with domestic investor participation, MDB involvement, and World Bank–IFC–MIGA collaboration have better PCM project outcomes. Projects with domestic investor participation had greater success (80 percent) than those with overseas investors only (60 percent), and they had success rates similar to projects with both domestic and overseas investors. Domestic investor participation improved project outcomes because domestic investors engaged actively in project design and implementation, bringing knowledge of the local market and regulations. The presence of a bilateral DFI was not associated with significantly improved project performance. However, the presence and involvement of other MDBs was associated with high success rates (90 percent versus an average of 70 percent for PCM projects without MDB participation). The difference was partly due to greater resource availability from MDBs; similarities in due diligence; environmental, social, and

governance compliance requirements; and monitoring from multiple parties after financial close to ensure greater quality of outputs and outcomes. Evidence from energy sector projects indicates that concomitant World Bank, IFC, and MIGA interventions have a positive effect on PCM outcomes. These joint interventions involve either working sequentially as a project's de-risking needs evolve to financing needs or working concurrently as One Bank Group on upstream issues.

IFC's PCM approaches have led to demonstration effects with corporate clients. IFC PCM projects attracted repeat client business, particularly in East Asia and Pacific and in Latin America and the Caribbean. Europe and Central Asia attracted the most repeat client business for MIGA. (Repeat engagements could mean that IFC or MIGA support the expansion of an ongoing project or an existing client in a new project. Investors' engagement in repeated business indicates that they trust the Bank Group's PCM approaches and believe that projects developed through the Bank Group will be sustainable.) Nonfinancial additionality, however, was limited. Only 21 percent of IFC projects had evidence of nonfinancial additionality (18.8 percent with both types of additionality), manifested in addressing environmental, social, and governance issues throughout the life cycle of the project.

PCM project performance is not systematically related to the amount of private capital that countries subsequently attract. Countries with successful PCM projects do not necessarily receive increased private capital flows or have spillover effects. It takes time and sustained investment in a sector for the Bank Group to mobilize an amount of private capital sufficient to trigger a demonstrable increase in countries' overall private capital flows. It is also essential for governments and the Bank Group to continue to support business environment reforms post-PCM and to address constraints that may persist and need to be addressed to facilitate private investments in the long term.

Enabling environment reforms are often necessary for PCM and should be sustained, but an opportunistic approach to reforms may also lead to PCM. In the context of the World Bank's enabling environment work, projects achieved financial close and mobilized private capital in two scenarios: (i) when the Bank Group–supported reforms addressed sector and macro-

economic constraints in a comprehensive way (for example, energy sector regulations and business regulation reforms), and (ii) when the Bank Group responded flexibly to opportunistic situations in a particular subsector (for example, PPP advisory in the transport sector) or in lightly regulated environments in the absence of upstream reform.

Constraints on PCM

The World Bank and IFC country strategy cycles are not fully aligned with PCM ambitions. During the evaluation period, countries' track records and potential did not drive the targeting of the World Bank and IFC's PCM approaches in attracting private capital. Country Partnership Frameworks and Country Private Sector Diagnostics are essential for formulating PCM strategies. However, interventions based on a single three-year country strategy cycle may not be sufficient, especially for attracting institutional investors with much longer investment horizons. Insurance investors, for example, pursue bankable assets (such as infrastructure) that can generate steady returns over a 20- or 30-year period.

IBRD PCM targets have not cascaded to Regional units and Global Practices (GPs), while IFC has mobilization targets in its scorecard. World Bank memorandums of understanding between Regional vice presidencies and GPs—and related scorecards—do not include PCM targets, yet there is a need to better align staff incentives to reward achievement of PCM targets. World Bank GP staff are not benefiting from the comparative advantage available within the Infrastructure, Public-Private Partnerships, and Guarantees unit of the World Bank or within the World Bank Treasury, the staff of which often have greater expertise with financial instruments and a longer track record in financial structuring of complex projects than the task team leaders and sector specialists do. IFC does have mobilization targets in its Corporate Scorecard, including targets on IFC's own account long-term finance and total long-term finance targets.

IFC PCM approaches are not consistently aligned with investors' risk appetites. Institutional investors have limited risk appetite to cofinance the unlisted infrastructure and financial sector projects that IFC typically supports. Domestic investors in emerging markets and developing economies are un-

derserved by the Bank Group's umbrella support (for example, IFC syndications) and lack local currency funding instruments. In some cases, adequate risk return analysis for IFC exposure and industry regulatory requirements are not fully aligned with the approaches (for example, MCPP). Furthermore, tapping a new investor base, such as the insurance industry, requires additional resources, new skills, and better risk monitoring and auditing.

Governments need to address constraints on PCM, including the enabling environment, client capacity, working with other MDBs, and competition from government lenders. Several business environment constraints limit PCM, including poor governance and regulatory barriers to private capital flows. Client countries have limited understanding of PCM instruments and platforms and limited capacity to identify a pipeline of bankable projects and value them correctly. The Bank Group's addressable market has been shrinking in recent years. The reduction is due to bilateral initiatives (for example, export credit agencies) and sovereign initiatives (for example, government-to-government initiatives, sovereign wealth funds, and state-owned banks) that can channel public capital without the participation of MDBs, including the Bank Group. This is particularly evident in middle-income countries. Governments are primarily responsible for addressing those constraints, in some cases with Bank Group support through policy lending or technical assistance.

Opportunities to Scale Up PCM and Recommendations

All Bank Group client countries—including low-income countries (LICs) and lower-middle-income countries (LMICs)—have PCM potential. Private capital flows to Bank Group client countries are below potential, suggesting an opportunity to mobilize more, especially among LICs and LMICs. Independent Evaluation Group models suggest that, given investment climate and income levels, the capacity of client countries to absorb private capital flows—including foreign direct investment, portfolio, and private sector borrowing—is at 50–80 percent of its potential. The Bank Group can develop a PCM project pipeline in the LICs and LMICs. When a country's governance, capital markets, and business environment meet a certain threshold (which

is more likely in upper-middle-income countries), private sector flows are likely to happen without MDB or Bank Group involvement. At that point, the additionality of the Bank Group's PCM activities and the mobilization potential of the Bank Group are likely to decline.

The coronavirus pandemic (COVID-19) response requires mobilizing both public sources and institutional investor capital sources in the short to medium term. The pandemic will likely limit the expansion of traditional PCM instruments such as B loans. Platform approaches such as AMC or MCPP, by contrast, tend to have longer investment horizons (for example, 5–12 years). Furthermore, according to a BlackRock Investor Pulse Survey in March 2020, investors' interest in private equity has remained steady or increased as the valuations of underlying project assets have declined because of COVID-19. Both traditional Bank Group PCM solutions (for example, World Bank and MIGA guarantees, trade finance, and short-term liquidity facilities) and countercyclical approaches (for example, the Distressed Assets Recovery Program) can continue to play important roles in mobilizing private capital in light of the ongoing pandemic.

Three near-term actions can enhance the ability of the Bank Group to mobilize private capital and thus improve the probability of meeting corporate targets and improving PCM outcomes:

» Prioritize client countries for PCM approaches, with corresponding targets cascading to the Regional units and GPs (IBRD), to meet the 2030 PCM targets. Country strategies can be used to discuss PCM opportunities and priorities, including in LMICs and LICs, at the same time as engaging in longer-term strategic discussions about attracting institutional investors who have much longer investment horizons. IBRD needs to cascade PCM objectives to the Regional units and GPs, with clear incentives for operational units to meet them.

» Expand PCM platforms, guarantees, and disaster risk management products commensurate with project pipeline development (Bank Group). There is room for guarantees—particularly policy-based guarantees—to grow to support new project financing or refinancing efforts. World Bank disaster risk management products and programmatic PPP solutions are experiencing a renewed demand. They could be scaled up with support from the World

Bank Treasury and Infrastructure, Public-Private Partnerships, and Guarantees units, especially in view of client governments' responses to pandemics.

» Develop new PCM products and improve product alignment with the needs of new investor groups and partners (IFC and MIGA). Simpler products comparable to investors' existing portfolios and with exposure to emerging markets and developing economies are relevant to most investors. Global and regional clients also seek innovative instruments. Pooled currency facilities and short-term liquidity facilities will be even more relevant in view of the pandemic. There is market demand for political risk guarantee solutions that offer comprehensive coverage or support collective investment vehicles targeting LMICs and LICs. Pilot approaches on innovative instruments and better investor alignment can scale up PCM and improve development outcomes.

Management Response

Management of the World Bank Group institutions would like to thank the Independent Evaluation Group (IEG) for its report, *World Bank Group Approaches to Mobilize Private Capital for Development*. This evaluation faced the challenging task of examining one of two main aspects of the Bank Group's efforts to support and facilitate the mobilization of private capital—a core principle of the Bank Group's Maximizing Finance for Development (MFD) strategy. Management is keen to receive IEG's complementary FY23 evaluation on the Bank Group's activities supporting the catalyzation of private capital. That evaluation is anticipated to provide insight on the World Bank activities that support private capital mobilization but are not covered in the current evaluation.

World Bank Management Response

Management appreciates that the report affirms the relevance of the Bank Group's private capital mobilization approach. The report concludes that the private capital mobilization (PCM) approach is (i) relevant to both country and corporate clients; (ii) mostly effective in mobilizing private capital, with potential existing even in low-income and lower-middle income countries; and (iii) partially meets investors priorities and expectations. The report also notes that the PCM approach is appropriate as part of the response to the coronavirus (COVID-19) crisis, which requires mobilizing both public and institutional investor capital in the short and medium term. All this is possible because the Bank Group institutions have been working in close alliance, especially after the comprehensive preparation under the Country Partnership Framework reform. The World Bank's official corporate target for PCM is the commitment to its Board of Executive Directors to a target of 25 percent for the International Bank for Reconstruction and Development (IBRD), on average, over the period FY19–30, as part of the IBRD capital package. The target of 25 percent on average recognizes the significant year-to-year fluctuation in private capital mobilized.

The Bank Group has been effective in coordinating with other development partners in advancing the PCM agenda toward the achievement of the Sustainable Development Goals (SDGs). IEG notes that "to achieve the SDGs by 2030, development institutions will need to leverage an unprecedented amount of private sector capital." In 2016 the Bank Group, along with the other multilateral development banks (MDBs), issued a joint statement to mobilize increased investment from the private sector and institutional investors; in 2017, the finance ministers of the Group of 20 approved a set of principles that give the Bank Group and other MDBs a framework for increasing private investment to support countries' development objectives; and in 2017, the Bank Group introduced the MFD approach to systematically leverage all sources of finance, expertise, and solutions to support developing countries' sustainable growth (World Bank Group 2017). The PCM projects have already contributed to several SDGs, including "greater financial inclusion and greater access to infrastructure—affordable and clean energy for firms and households," with management recognizing that more can be done to benefit the social sectors.

Definitional issues in the report may inadvertently confuse the interpretation of the types of activities undertaken by Bank Group institutions to support PCM. In adopting the Hamburg Principles in 2016, the Group of 20 nations welcomed the role of the MDBs in mobilizing and catalyzing private capital. MDBs have harmonized on the definition of PCM, which includes both direct and indirect capital mobilization. However, the full range of World Bank lending and analytical engagement that help create and strengthen the enabling environment to support PCM efforts are not captured under the framework applied in this report. In this context, it would be more accurate to describe the report's conceptual framework as being focused on "private direct and indirect mobilization" rather than characterizing it as a comprehensive framework for "mobilization of private capital." The report's goal of assessing the relevance and effectiveness of the Bank Group's efforts, to mobilize private capital for development and to identify factors driving results, was therefore not entirely achieved given the limited sample (in both scale and scope) of World Bank projects considered in the report. Management notes IEG's plan to complement the findings of this report with an evaluation on the World Bank's role in "catalyzation," which will

include extensive World Bank activities not considered in the current report. However, the follow up evaluation will not be delivered until FY23, which creates an unfortunate time lag between these two complementary reports and may lead to spurious conclusions and limited understanding of Bank Group's comprehensive role in supporting the mobilization of private capital.

An analysis or interpretation based on limited data should include proper caveat that it is not representative, thereby limiting the possibility of spurious conclusions. As noted, the report's scope is limited to the Bank Group's direct and indirect PCM approaches. With respect to the World Bank, it therefore focuses only on activities directly supporting private capital mobilization—which is less than 1 percent of the total Bank Group portfolio over the 12-year review period. Defining the World Bank's portfolio for private indirect mobilization (PIM) is particularly challenging because World Bank Operational Systems did not capture this information prior to 2016. Moreover, the reliance on interviews and dated evaluations for the World Bank's PIM projects may not provide conclusive evidence (thereby further compromising an already small sample). Management believes that this limitation and narrow scope is not sufficiently flagged up front and elaborated within the report. Similarly, the report states that World Bank projects with PCM achieved higher outcome success rates than those without PCM (83 percent compared with 76 percent). Given the small and nonrepresentative sample of World Bank PCM projects (12 with IEG-validated outcome ratings), the average outcome rating could change significantly through the rating of a few additional projects. Therefore, extrapolating results and success rates to the entire PCM portfolio could be misleading.

Recommendations

Recommendation 1: **To meet the 2030 PCM targets, prioritize client countries for PCM approaches, with corresponding targets cascading to the Regional units and Global Practices (GPs; for IBRD).**

Both the PCM target stated in the IBRD capital increase and the World Bank's commitment to the MFD approach have been inculcated in the Regions and Practice Groups, and Country Partnership Frameworks are being used to discuss opportunities for private sector involvement and MFD. To

strengthen staff incentives, we recognize the need to continue improving the tracking system for PIM and to recognize private capital and other funds mobilized along with IBRD and International Development Association (IDA) resources. For example, the Infrastructure Finance, Public-Private Partnerships (PPP), and Guarantees GP has started to track and report on "MFD-enabling" projects from fiscal year (FY)18 onward. That said, it is neither practical nor advisable to cascade down the corporate target for PCM to the Regions and the GPs, due to the nature of PCM described above.

Recommendation 2: **Expand PCM platforms, guarantees, and disaster risk management products commensurate with project pipeline development (Bank Group).**

Management agrees that it may be beneficial to consider possible enhancements to the PCM platforms.[1] Several efforts have already been made in response to COVID-19, but more medium-term and sustainable options should be considered. One such example comes from the disaster risk management product. The Bank Group has learned that, after a disaster, quick access to predictable financing is critical for emergency response, as even small delays cost lives and livelihoods. This is how the World Bank's development policy financing with catastrophic deferred drawdown option (Cat DDO) instrument came into being. In FY20, the Cat DDO was triggered in eight countries, providing over $1.2 billion in immediate financing for countries responding to COVID-19. The other example comes from PPP arrangements. To provide governments with strategic short-term advice on the impacts of the pandemic, the Public-Private Infrastructure Advisory Facility collaborated with the World Bank's Infrastructure Finance, PPP, and Guarantees Group to establish a rapid response program. Phase 1 has already been deployed. Through this program, national PPP units, ministries of finance, sector ministries, and utilities can request short interventions of remote, targeted technical advice to undertake a fast assessment of the impact of COVID-19 on their PPP programs.

International Finance Corporation Management Response

Since the launch of what is now known as the B Loan program in 1959, fostering and enabling third-party investment, alongside funding from the International Finance Corporation (IFC), has been a key part of IFC's investment approach. IFC's Articles of Agreement call for the institution to "seek to stimulate, and to help create conditions conducive to, the flow of private capital, domestic and foreign, into productive investment in member countries." Along with creating markets, mobilizing finance is a critical element of IFC 3.0, including in its explicit undertakings to the Board as part of the capital increase. IFC welcomes this thematic evaluation and appreciates IEG's findings that IFC has delivered results in line with expectations and that its products have found relevance with investors and delivered benefits to clients.

Mobilization is at the core of IFC's mission and all its activities focus on fostering private sector investment. However, mobilization can be broadly construed, with activities ranging from policy reform, which facilitates investment flows, to actively securing finance to support an individual project. The report takes a very high-level view of mobilization, reflecting a country outcomes lens. However, IFC targets countries based on its comprehensive country strategies, which shape how IFC originates projects for its own account through upstream and business development efforts. IFC's deal origination efforts in turn lead to and attract mobilization, and IFC's mobilization is delivered through a project-based approach informed by country strategies but responsive to specific project, investor and mobilization product requirements. Although a country lens approach to mobilization might focus on interventions to facilitate portfolio flows in publicly traded, standardized instruments that fit best with mainstream institutional investor needs, IFC's "core mobilization" approach, which is the focus of IEG's evaluation of IFC activity, is entirely a project lens construct requiring IFC to find ways in which investors can be brought into customized, private credit and equity transactions designed to achieve specific development outcomes. The two approaches, though not mutually exclusive, are very different and

this distinction matters in terms of product design, investor selection, and overall mobilization strategy.

Definitional precision is therefore crucial in allowing for a meaningful comparison of different activities across different Bank Group entities. IFC management therefore wishes to clarify the exact nature of IFC's core mobilization. The harmonized MDB Guidelines on mobilization, established in 2016, clearly distinguishes between *indirect mobilization* (where there is coparticipation of private investors in Bank Group–financed transactions) from *direct mobilization*, where third-party investment is deployed into Bank Group–financed projects as a consequence of an active and direct effort by an MDB. The sum of indirect and direct mobilization is recognized as total PCM. Because *indirect mobilization* may be said to occur in every IFC project (for example, equity provided by a sponsor), IFC has developed strict procedures and policies for recognizing only third-party finance (from both public and private sources) that was specifically sourced and structured on commercial terms through an active and direct effort on the part of IFC as core mobilization. To that end, core mobilization is not, as suggested by IEG, IFC's measure of private capital mobilized; instead, core mobilization is a specific and clearly bounded measure of direct mobilization—a subset of all private capital mobilized. In conflating core mobilization and private capital mobilized, IEG is underrepresenting IFC's total mobilization activity. In 2019, IFC reported $19.5 billion in total private capital mobilized, comprising $9.1 billion in private direct mobilization and $10.4 billion in PIM. In FY20, IFC reported $10.8 billion in core mobilization. IFC management believes that definitional precision is important not only to ensure appropriate representation of the quantum and nature of IFC's activities but also to allow for an evaluation of IFC's activities within their specific context: in the case of IFC, as an evaluation of core mobilization, a focus specifically on IFC's ability to generate coinvestments from specific types of investors in specific types of financing directly to individual IFC-originated projects.

To that end, IFC management acknowledges IEG's conclusion that mobilization platforms are in place to channel third-party mobilization and that the successful deployment of that mobilization capacity is only ever a function of the pipeline that IFC generates. IFC management also acknowledges IEG's conclusion that appropriate staff resourcing is an essential condition for

mobilization. IFC would highlight that financial structuring skills predominate at IFC and would further note that it has created focused resources to specifically support its major mobilization activities—syndications, Asset Management Company (AMC), PPP, trade finance—reflecting the recognition of the need to resource "active and direct" mobilization. It also reflects a commitment to continue to innovate and develop products to support additional investor participation and, as noted in the report, to maintain its market leadership.

However, IFC management believes that recommendations regarding product development and investor engagement would have been more instructive if set in a demand-driven context, including specific consideration of the nature of the investor and the context of the asset class. The report notes that there is a disconnect between some IFC mobilization products and the investment strategies of certain large investors and thus recommends the development of products that cater to an investors existing investment strategies and asset allocation preferences. Given that a link with an IFC project is a necessary condition of core mobilization, taking IEG's recommendation to the extreme would thus suggest a significant change in IFC's investment strategy. IFC would instead suggest that the real challenge is therefore to develop mobilization products and platforms that conform to the regulatory and institutional requirements of different types of investors (not just institutional capital) but that are designed to specifically enable investors to channel financing to the types of projects financed by IFC in the markets in which IFC is strategically focused. Such a process would not lend itself automatically to simplified products. In fact, IFC's experience suggests the opposite: that crowding new investors into new asset classes in markets that are aligned with IFC's strategy is a complex undertaking, requiring proactive engagement with a wide range of partners, as well as long-term research and development. Further, IFC would note that even when the asset class or mobilization product is already familiar, IFC plays a crucial role in proactively channeling capital to more challenging and complex markets and sectors. Proactive engagement is required to help investors, who have different risk appetites, gain comfort in these markets. Whether recently through the AMC, Green Cornerstone Bond Fund (GCBF), or Managed Co-lending Portfolio Program (MCPP) or six decades ago starting with the B Loan, IFC

has demonstrated its ability to customize products and pioneer platforms that meet the needs of different types of investors and to create the conditions necessary for actually delivering capital from new investors to its clients at scale in the markets that align with IFC's strategic priorities.

IFC management notes that IFC's mobilization products exist within material and sophisticated financial ecosystems with different operating regulations, investment expectations, and surrounding financial infrastructure. However, a granular review of specific asset classes and products is absent from IEG's analysis, which mainly provides generalized findings and aggregated representations. Further, the basis of some of these findings is not always clear and the report appears to be open to significant subjective judgment with primary sources limited only to an internal data set that is relatively narrowly drawn and a series of interviews with a small number of market counterparts. The report takes a supply-driven approach to product development, project origination, and country strategy fulfillment efforts without considering market demand, exploring the external landscape of products and investors, or providing context to specific capital flows by mobilization product. Disaggregating by product, asset class, and type of investor would allow for a more meaningful evaluation of IFC's performance, given the specific product operating environments and the relative overall level of flows in that product to the markets in which IFC is active.

IFC management would therefore like to highlight several observations related to its debt mobilization activities.

» Institutional investors: Notwithstanding the fact that IFC works with commercial banks, insurance companies, and institutional investors to mobilize debt funding for IFC loan projects, the report's recommendations appear to focus significantly on potential opportunities with institutional investors. The rationale for focusing exclusively on this specific and limited subset of investors is not clearly articulated or explained. While scaling engagement with institutional investors may hold some promise for expanding debt mobilization by IFC and its development finance institution peers, the banking markets continue to provide a significant source of mobilization for development finance institution–originated loan projects. Further, data on investment flows would suggest that capital flows from institutional investors into

emerging market loans is currently negligible in the context of their overall holdings. In assessing the performance of and potential for IFC to mobilize from institutional investors for emerging market loans, the report could therefore have framed IFC's activities against the context of overall capital flows from that *type of investor into that type of asse*t. Given the nascent state of institutional investor participation in emerging market loans, IFC is therefore disappointed that IEG did not acknowledge the pioneering nature of this mobilization product, which has to date raised $10 billion.

» Insurance companies: In assessing alternative sources of mobilization beyond the bank markets, IFC is disappointed that the evaluation did not review IFC's engagement with the nonpayment insurance market, a fast-growing source of mobilization capacity. Since 2013, IFC has been actively working with private sector insurers to mobilize unfunded risk participations, supporting IFC's ability to increase long-term lending; this is an area IFC has scaled materially in the last few years. It is with this background that IEG's conclusion that "several detailed requirements that need to be filled before such complex investment opportunities, such as unfunded risk participation with MCPP, can be considered" seems to run contrary to demonstrable mobilization activity. IFC now works with 13 different private sector insurers using a range of different products. IFC is already operating two unfunded MCPP facilities with $1.5 billion of capacity from three insurers and, in June 2020, launched a third facility with 6 insurers for an additional $2 billion.

» B Loans: IFC acknowledges IEG's findings that the B Loan has been relevant and that IFC debt mobilization activities have met client needs. However, the report also incorrectly conveys some fundamental misunderstandings about the B Loan program and IFC syndications activities. First, by its nature, the B Loan operates to facilitate cross-border and foreign direct investment (FDI). Although IFC undertakes other mobilization activities that clearly leverage domestic capital and financial markets (for example, through local currency mobilization), the B Loan is not structured as a primary platform for local investment. IFC mobilizes local investors frequently and with great success, but B Loans are not intended to serve this purpose. Secondly, IFC would note that by design its syndication strategies at the individual project level focus on most efficiently delivering to clients their required level of debt financing,

which may include cross-border syndicated lending, domestic bank finance or capital market activities. IFC does not specifically consider its role in deepening the syndicated loan market per se and it is not altogether clear why any demonstration effects should be bounded by a specific investment approach. IFC's mobilization activities create demonstration by supporting first-time investors in new markets or by widening the lender groups for emerging market borrowers. This is particularly true in the context of introducing banks, which may be already familiar with our syndication products, to projects in new markets particularly increasing mobilization in IDA countries or fragile and conflict-affected situations (FCS). IFC would however be receptive to engaging to better understand IEG's analysis, evaluate the options, and consider how further targeting the development of syndicated loan markets might support country-level outcomes in the context of broader efforts to mobilize private sector capital. However, at this stage, having been unable to review the complete data set, IFC has some reservations about the quality and availability of data, as well as the methodological approach and underlying assumptions.

» MCPP: IFC welcomes IEG's findings on the relevance and effectiveness of the MCPP-SAFE (State Administration for Foreign Exchange) program with respect to both investor satisfaction and client outcomes. However, the report appears to fundamentally confuse certain aspects of IFC's MCPP debt mobilization platform. The MCPP's portfolio syndication process, as described and evaluated for MCPP-SAFE in the report, is consistent across all MCPP facilities. Under this process, MCPP participants agree in advance on borrower eligibility criteria and commit an envelope of capital to IFC. IFC then deploys this capital automatically over time alongside its own commitments to borrowers that meet the criteria—without further review or approval by the participants. Although every MCPP facility follows the same standardized process, each facility uses one of three unique legal and operating structures to deliver participants' capital to borrowers, based on the specific requirements of three different investor types: one each for sovereign wealth funds, institutional investors, and insurance companies. In only one of the three MCPP structures (MCPP Infrastructure) does IFC also make an investment directly into the structure. In questioning the adequacy of the overall return profile of the MCPP, the report therefore appears to incorrectly conflate the

entire MCPP platform with this single structure that also includes an IFC investment. Furthermore, the conclusion itself appears to infer a threshold condition that was never envisaged in the design of these particular projects. IFC investment was explicitly designed and structured with a return expectation below hurdle (but with some blended finance support from the Swedish government) to enable the participating private institutional investors to meet their regulatory constraints, as well as to incentivize these investors to commit capital at scale to this developmentally crucial asset class. These return expectations were disclosed to the Board upfront, and the projects were approved on this basis. Such an approach does not seem inconsistent with the recommendations suggested elsewhere in the report to customize mobilization products to meet investor requirements or with other examples cited by IEG. However, IFC management acknowledges that designing any additional first-loss structures will require a rebalancing of the risk-return profile between IFC and institutional investors, and it will review lessons learned from this initial program before contemplating further efforts in this vein.

» GCBF: The report appears to also question the scalability of the GCBF structure that IFC established together with Amundi. Market evidence suggests that the structure is replicable and a number of private sector partners have already launched similar products. Further, the structure was specifically designed to reflect the regulatory requirements of institutional capital and the underlying assets are tradeable securities, which is entirely consistent with the primary debt asset allocation of institutional investors. To that end, IFC management would be interested to understand what further requirements IEG believe should be considered to support additional scaling of this asset class.

With respect to the sections of the IEG report referring to AMC, IFC Management wishes to note that AMC's business model has been validated in the context of market demand, mobilizing $8 billion of capital from 55 high-caliber institutional investors. Further, IFC Management has reservations about the IEG approach and as such, the conclusions presented in the report.

» IEG approach (recycling without updates): AMC-related references in this report are derived from a previous evaluation that took place in 2018. IFC Management has already commented on the 2018 IEG evaluation and has extensive reservations about the findings, and the comments provided at that

time are still relevant in the context of this report. To that end, it would have been more productive if the references from the old report were not merely repeated in the new report. Further, IFC's Management is disappointed that given the significant developments since 2018, the report fails to provide an updated context to AMC's activities.

» IEG approach (unreasonable generalization): IFC would also note that the 2018 evaluation was a meso evaluation, a lighter, shorter evaluation approach that was conducted as part of a pilot process. This evaluation did not cover AMC as a whole, but rather only reviewed a subset of AMC's activities through a study of 5 selected AMC Funds. The findings were therefore specific to the context of those funds and IFC has concerns that this evaluation misrepresents these specific fund level findings as *general conclusions on AMC and IFC's equity mobilization platform*. IFC Management would highlight that IEG's assessment of the development impact of AMC's funds is limited and incomplete in this regard being drawn solely from a review of 5 out of 13 funds that AMC manages. The report does not assess, nor does it even mention the remaining 8 funds in AMC's portfolio whose development impact has not been evaluated by IEG to date. To the best of IFC Management's knowledge, the majority of the remaining funds have met or are currently meeting their objectives. IFC Management believes that an assessment of AMC's full development impact can only be drawn from a comprehensive analysis of all AMC funds, and short of such an analysis, any conclusions are premature.

Multilateral Investment Guarantee Agency Management Response

Multilateral Investment Guarantee Agency (MIGA) contributions to PCM. MIGA welcomes the IEG evaluation on the Bank Group approaches to mobilize private capital for development (FY07–18) and finds it useful and important. MIGA notes the report as timely, since the "Billions to Trillions" challenge—using the (few) billions of ODA (official development assistance) dollars to raise trillions of private capital—is fundamental to achieving the 2030 global development agenda on SDGs. MIGA agrees broadly with the report's findings that all MIGA activities through its political risk insurance (PRI) and nonhonoring of financial obligations guarantee instruments

directly mobilize private capital. Further, MIGA's reinsurance activities through treaty and facultative reinsurance, enhance the MIGA's capacity for PCM. MIGA notes that reinsurance is not, strictly speaking, PCM, as per the agreed MDB methodology, which does not include reinsurance as either private direct mobilization or PIM. Even so, MIGA agrees with the report's view that reinsurance does bring private sector participation into emerging markets and developing economies and that MIGA's reinsurance program is instrumental in doing so.

Country conditions and PCM. The report finds that equity guarantees are used most in MIGA projects, with more guarantees provided in countries with weak scores for ease of doing business, protecting minority investor rights, and regulatory quality. MIGA agrees with these findings and notes that this as a broad validation of the Agency's strategic priorities, particularly because it is IDA and FCS countries that have the weakest scores for ease of doing business, protecting minority investor rights, and regulatory quality. These findings are also consistent with the MIGA mandate for facilitating foreign investments into developing countries by providing PRI and non-honoring guarantees to private sector investors and lenders against non-commercial risks. In particular, the PRI product caters to equity investors as they bring FDI into developing countries that has the potential to contribute to economic growth and poverty reduction. The report's findings related to equity as the most-guaranteed investment type also illustrate well the continuing importance of the PRI product. MIGA also notes that based on recent IEG data, MIGA's development outcome success rates (FY13–18) in IDA and FCS countries, at 77 percent and 78 percent, respectively, are higher than the MIGA-wide development outcome success rate of 69 percent.

MIGA also notes that the report's findings regarding the importance of MIGA guarantee support for PCM in weak regulatory quality environments is consistent with the findings of the FY14 IEG evaluation of the Bank Group support for PPPs. The PPP evaluation found that MIGA guarantees increased investors' confidence and effectively supported the implementation of PPPs in those countries that were developing their PPP frameworks. MIGA guarantees helped increase investors' confidence and improve their capacity to raise capital, lower their financing costs, and mediate disputes with gov-

ernments. The PPP evaluation concluded that strengthening MIGA's role in Bank Group–wide efforts to foster PPP frameworks would enhance the potential for bringing PPPs to more nascent and emerging countries.

MIGA's influence on public sector clients. The report states that MIGA's influence on public sector clients is limited to environmental and social compliance and practices. The report refers to the IEG evaluation on MIGA's nonhonoring guarantees in noting that, other than the support for better environmental and social sustainability practices, there was no evidence that MIGA's nonhonoring insurance has encouraged public sector clients to adopt increased transparency and disclosure, good corporate governance practices, antimoney laundering, anticorruption, or antifraud practices. However, MIGA notes from project evaluations validated by IEG that there is evidence that MIGA has contributed to improved corporate governance, more innovation, and increased knowledge transfer. MIGA also notes that the Agency promotes transparency and disclosure through the "Summary of Proposed Guarantee" published on MIGA's external website (www.miga.org) prior to projects being considered by the Board. This sends a strong signal to the market and stakeholders with respect to transparency, which would not otherwise be available without MIGA's involvement. In addition, MIGA achieves oversight relating to anti-money laundering, anticorruption, and fraudulent practices through the Agency's integrity due diligence work on guarantee holders and project enterprises, including integrity action plans and compliance reports in appropriate cases.

Challenges to MIGA guarantees. The report states that the common challenges to MIGA guarantees revolve around MIGA's comparative position and considerations about external debt and fiscal sustainability. With regard to the latter concern, MIGA notes the following: (i) the extensive debt sustainability work undertaken in nonhonoring guarantee projects for assessing the ability of the beneficiary of the MIGA-guaranteed loan to service its existing debt and the additional debt envisaged in the project; (ii) MIGA only provides nonhonoring cover to countries with strong credit ratings, thereby mitigating ex ante providing the product to countries that are not in a strong position to service additional external debt; (iii) ex post information on debt servicing requirements is typically incorporated in countries' projected debt

service forecasts and as such is an indicator that MIGA monitors carefully in its quarterly review of a country's nonhonoring credit rating; (iv) MIGA has internal limits on the dollar value of nonhonoring exposure it can provide to a single country, and these amounts are typically very small compared with a country's gross domestic product, thereby significantly limiting MIGA's potential contribution to a country's debt servicing obligations and hence potential to risk jeopardizing a country's external debt or fiscal sustainability. Moreover, under the Bank Group Cascade approach, task teams are consistently testing—and advising countries on—whether a project is best delivered through sustainable private sector solutions (private finance or private delivery), and if not, whether Bank Group support for an improved investment environment or risk mitigation measure, such as a MIGA guarantee, could help achieve such solutions.

Cascade approach and PCM. The report finds that concomitant World Bank, IFC, and MIGA interventions—including by applying the Cascade framework—have a positive effect on PCM outcomes, based on evidence from energy sector projects. The Bank Group joint interventions ranged from working sequentially as a project's derisking needs evolve to financing needs or working concurrently as One Bank Group on upstream issues. As noted in the report, the Bank Group will adopt a systematic organization-wide approach to creating markets by linking policy reform, advisory, investment, and mobilization to deliver solutions packages using the Cascade approach as the operating system for MFD. The report also finds that a "bigger and better" Bank Group will also support growth of MIGA mobilization products, since the Agency supports and relies on IBRD and IFC for their work on upstream reforms that support private sector investments.

MIGA notes that these findings also provide a useful illustration of the Bank Group's vision as an integrated solutions provider for client countries, envisaged under the 2013 Bank Group strategy, which is important from a PCM standpoint as well. The energy sector projects highlighted in the report illustrate well the unique roles of the three Bank Group (IBRD/IDA, IFC, MIGA) institutions in the energy sector. The Bank Group has the capacity to provide development solutions along the entire delivery chain to client countries,

from upstream support for the enabling environment to downstream transactions and execution, including PCM.

MIGA notes that these findings are also consistent with those of the IEG's FY15 electricity access evaluation, which identified MIGA's value added in joint Bank Group projects in the electricity sector as (i) providing long-term PRI for high-risk countries not available from international commercial insurers, (ii) enhancing credit worthiness of projects, and (iii) mobilizing additional capital. Overall, MIGA provides long-term PRI for high-risk projects and countries, which is not available from international commercial insurers.

Recommendation

Recommendation 3: **Develop new products and improve product alignment with the needs of new investor groups and partners (IFC and MIGA).**

The report states the following: "*Continue to innovate instruments*. Global and regional clients also seek innovative instruments to, for example, better support local currency financing through pooled currency facilities. Certain innovative approaches require projects to engage with credit rating agencies. Green financing and new instruments addressing climate change require working with international consortia, research and rating agencies, and data providers. There is market demand for political risk guarantee solutions that offer comprehensive coverage or support collective investment vehicles targeting lower-middle-income and low-income countries. Such opportunities can be translated into innovative new MIGA products. Pilot approaches using innovative instruments and better investor alignment can help scale up PCM and improve outcomes."

MIGA agrees broadly with the recommendation. MIGA recognizes that to deliver on PCM, and more broadly its FY21–23 Strategy focused on IDA or FCS and climate finance, the Agency will need to increase its innovation and new product applications. The market for supporting FDI is limited; FDI itself is flat or shrinking; and MIGA already has a significant share of its addressable market, especially in its core priority areas. The Agency is already exploring opportunities for six product application innovations, although these will progress at different speeds, especially in a post–COVID-19 context, and

not all may be ultimately scalable for impact. MIGA is already developing product application innovations in the areas of capital markets, local currency, trade finance, and support for local investors. To help foster innovative approaches, as well as to continue to grow its existing PRI and nonhonoring product opportunities, MIGA will closely and systematically collaborate with the World Bank and IFC, including to leverage their expanded upstream work, which is expected to generate more investable transactions. In addition, MIGA will strengthen its partnerships and collaboration with other MDBs, as well as export credit agencies, to offer more complementary and comprehensive products and solutions.

[1] Referred to in this report. "Bank Group PCM instruments and platforms fall into five broad categories. They are (i) debt mobilization, (ii) equity mobilization, (iii) bond mobilization, (iv) guarantee-linked mobilization, and (v) advisory mobilization (primarily via public-private partnership [PPP]). . . . Both instrument approaches and platform approaches require a pipeline of development projects."

Management Action Record

IEG Findings and Conclusions Country strategies can be used to discuss private capital mobilization (PCM) opportunities and priorities, including in lower-middle-income and low-income countries. Given the variation in the roles that different types of private capital play in different income groups, it is important to tailor programs to countries' individual characteristics and target mobilization efforts at specific types of private capital flows. In many countries, upstream sector and policy work to support legal and regulatory reforms for financial sector deepening remain critical to PCM and investors' interest. Ensuring that reforms are supported over time—including after private capital is mobilized—is essential to ensuring sustainability of the PCM approaches, replication, and demonstration effects. The World Bank Group needs to respond flexibly and quickly as development opportunities arise. Furthermore, ensuring that the World Bank includes PCM targets in its Regional and Global Practice (GP) scorecards is important for the institution to reach its 2030 targets. The International Bank for Reconstruction and Development (IBRD) needs to cascade PCM objectives to the Regions and Practice Groups, with clear incentives for operational units to meet them.

IEG Recommendations **Recommendation 1. To meet the 2030 PCM targets, prioritize client countries for PCM approaches, with corresponding targets cascading to the Regional units and GPs (for IBRD).**

Acceptance by Management Disagree (IBRD).

Management Response Management does not agree with IEG's recommendation that "IBRD needs to cascade PCM objectives to the Regional units and GPs, with clear incentives for operational units to meet them." The volume of private capital mobilized could fluctuate significantly year to year, owing to its opportunistic nature as well as whether projects supporting country programs are well suited for PCM efforts. The World Bank's corporate target for PCM has been set as an average over fiscal year (FY)19–30. Within this context, both the target stated in the IBRD capital increase and the World Bank's commitment to the MFD approach has been inculcated in the Regions and Practice Groups, and Country Partnership Frameworks are being used to discuss opportunities for private sector involvement and MFD. In relation to strengthening staff incentives,

we acknowledge the need to continue improving the tracking system for private indirect mobilization and to recognize private capital and other funds mobilized along with IBRD and International Development Association (IDA) resources. That said, it is neither practical nor advisable to cascade down the corporate target for PCM to the Regions and the GPs owing to the nature of PCM described above; doing so could even be counterproductive to development as it could favor one approach over another.

IEG Findings and Conclusions a. *Expand existing PCM platform approaches (in IFC).* Much of the internal narrative on PCM has been about bankability of projects, which favors a debt approach.

However, the heterogeneity of clients and investor constituencies suggests that a strong pipeline of investable and insurable projects is required to expand the scope and scale of current PCM approaches, including IFC platforms such as the Asset Management Company (AMC), the Managed Co-lending Portfolio Program (MCPP), and the GCBF. For example, the insurance industry has the capacity to fund long-term infrastructure projects (given the asset-liability match) and support green initiatives.

Private capital raised through the AMC or the MCPP platforms meets the necessary condition to mobilize private capital. However, the necessary condition is met only when a healthy pipeline of projects is developed in proportion to the private capital raised in the form of funds and those projects achieve their development outcomes.

b. *Expand PCM approaches to support policy reforms and disaster risk financing, leveraging Treasury and advisory capabilities (in IBRD).* For IBRD, guarantees have been the primary instrument for PCM. There is room for them to grow, especially instruments tied to client reforms. World Bank disaster risk management products and programmatic PPP solutions are experiencing a renewed demand and could be scaled up with support from the World Bank Treasury and Infrastructure, Public-Private Partnerships, and Guarantees units.

IEG Recommendations **Recommendation 2. Expand PCM platforms, guarantees, and disaster risk management products commensurate with project pipeline development (Bank Group).**

Acceptance by Management Agree (IFC); Agree (IBRD).

Management Response **IFC response.** IFC management acknowledges IEG's conclusion that mobilization platforms are in place to channel third-party mobilization and that the successful deployment of that mobilization capacity is a function of the pipeline that IFC generates. Whether recently through the Asset Management Company (AMC), the Green Cornerstone Bond Fund (GCBF), or the MCPP or six decades ago starting with the B Loan, IFC has demonstrated its ability to customize products and pioneer platforms that meet the needs of different types of investors and to create the conditions necessary for actually delivering capital from new investors to its clients at scale.

IBRD response. World Bank management agrees that it is beneficial to consider enhancements to the PCM platforms. However, it is not clear how IEG has identified and defines "room to grow" when referring to the use of these instruments and platforms as the statement is general and not contextualized. Nonetheless, the World Bank has consistently demonstrated appropriate and informed use of the PCM platforms to effectively and efficiently address client needs. Efforts have already been made in response to the coronavirus pandemic (COVID-19), and medium term and sustainable options have been considered. One such example is use of the disaster risk management product. The Bank Group has learned that after a disaster, quick access to predictable financing is critical for emergency response, as even small delays may cost lives and livelihoods. This is how the World Bank's development policy financing with catastrophic deferred drawdown option (Cat DDO) instrument was developed. In FY20, Cat DDOs were triggered in eight countries, providing over $1.2 billion in immediate financing for countries responding to COVID-19. Another example is public-private partnership (PPP) arrangements. To provide governments with strategic short-term advice on the impacts of the pandemic, the Public-Private Infrastructure Advisory Facility, in collaboration with the World Bank's Infrastructure Finance, PPP, and Guarantees Group, established a rapid response program. Phase 1 has already been deployed. Through this program, national PPP units, ministries of finance, sector ministries, and utilities can request short interventions of remote, targeted technical advice to undertake a fast assessment of the impact of COVID-19 on their PPP programs. It is important to note that these efforts and the manner in which they were structured was in response to demonstrated need and based on in-depth knowledge of

the specific markets and institutional contexts for which they were designed. Expansion of these products in response to critical need was achieved through innovation, selectivity, and coordination. Management will therefore encourage the most effective and appropriate use of available PCM products and platforms to address client needs.

IEG Findings and Conclusions

- **Simplify products for most institutional investors.** Although IFC has developed complex instruments and platforms to mobilize private capital, it has not fully developed its approach to institutional investors. To engage with institutional investors, IFC needs to accept their investment objectives, project parameters, decision-making processes, and industry best practices. These may stand in contrast to those on which IFC has achieved the current platform deals with the MCPP and the GCBF. Most institutional investors lack the capacity to work with complex Bank Group instruments and platforms and develop custom portfolios. Simpler products with solutions comparable to their existing portfolios but with exposure to emerging markets and developing economies are relevant to these investors.

- **Maintain leadership in products for sophisticated investors.** A small group of sophisticated investors prefers complex products, such as securitization of emerging market and developing economies projects. Hence, scaling up Bank Group PCM operations requires making trade-off decisions within and across the various instruments and platforms. IFC can continue to maintain its leadership in this space if it staffs and resources these platforms appropriately, for example, by adding IFC advisory services offerings to increase capacity and knowledge in new emerging markets and developing economies issuers.

- **Continue to innovate instruments.** Global and regional clients also seek innovative instruments, for example, to better support local currency financing through pooled currency facilities. Certain innovative approaches require projects to engage with credit rating agencies. Green financing and new instruments addressing climate change require working with international consortia, research and rating agencies, and data providers. There is market demand for political risk guarantee solutions that offer comprehensive coverage or support collective investment vehicles targeting lower-middle-income and low-income countries. Such opportunities can be translated into innovative new MIGA products. Pilot approaches using innovative instruments and better investor alignment can help scale up PCM and improve outcomes.

» **Conduct regular reviews.** Risk assessments of each instrument and platform, analyzing implications for the three institutions' balance sheets and determining the corresponding financial needs, are required before scaling up. PCM instruments and platforms' alignment with investors' risk appetite, internal capacity, and engagements over time need to be reviewed, as they are for client countries and client corporates.

IEG Recommendations Recommendation 3. Develop new products and improve product alignment with the needs of new investor groups and partners (for IFC and MIGA).

Acceptance by Management Partially Agree (IFC); Agree (MIGA).

Management Response IFC response. Recommendations with regard to product development and investor engagement would have been more instructive if set in a demand-driven context, including specific consideration of the nature of the investor and the context of the asset class. The rationale for recommendations focusing exclusively on institutional investors is not clearly articulated or explained, nor is there any definition provided to help segment different forms of institutional capital (there is no definition of a "sophisticated investor" or what it means to "prefer complex products").

IFC suggests that the challenge is not to develop "simpler products with solutions comparable to their existing portfolios" but to create mobilization products that are designed to specifically enable investors to channel financing to the types of projects financed by IFC and to provide comfort to enable greater investment in the markets in which IFC is strategically focused. Such a process would not lend itself automatically to simplified products. In fact, IFC's experience suggests the opposite: that crowding new investors into new asset classes in markets that are aligned with IFC's strategy is a complex undertaking, requiring proactive engagement with a wide range of partners and long-term research and development.

Finally, IFC management acknowledges IEG's conclusion that appropriate staff resourcing is an essential condition for mobilization. IFC emphasizes that financial structuring skills predominate at IFC and would further note that it has created focused resources to specifically support its major mobilization activities. It also reflects a commitment to continue to innovate and develop products to support additional investor participation and maintain its market leadership.

MIGA response. MIGA agrees broadly with the recommendation. MIGA recognizes that to deliver on PCM, and more broadly its FY21–23 strategy focused on IDA countries or fragile and conflict-affected situations and climate finance, the Agency will need to increase its innovation and new product applications. The market for supporting foreign direct investment is limited—foreign direct investment itself is flat or shrinking—and MIGA already has a significant share of its addressable market, especially in its core priority areas. The Agency is already exploring opportunities for six product application innovations, although these will progress at different speeds, especially in a post–COVID-19 context, and not all may be ultimately scalable for impact. MIGA is already developing product application innovations in the areas of capital markets, local currency, trade finance, and support for local investors. To help foster innovative approaches, as well as to continue to grow its existing PRI and nonhonoring product opportunities, MIGA will closely and systematically collaborate with the World Bank and IFC, including to leverage their expanded upstream work, which is expected to generate more investable transactions. In addition, MIGA will strengthen its partnerships and collaboration with other MDBs, as well as export credit agencies, to offer more complementary and comprehensive products and solutions.

Report to the Board from the Committee on Development Effectiveness

The Committee on Development Effectiveness met to consider the report entitled *World Bank Group Approaches to Mobilize Private Capital for Development* and the draft management response.

The committee welcomed the evaluation, commending the Independent Evaluation Group (IEG) for the diagnostic, methodology, comprehensiveness, and quality of the report. Members noted the relevance and timeliness of the topic given the context of discussions on the *Forward Look* and capital package implementation and the challenges posed by the coronavirus pandemic on external financial flows toward developing countries. Acknowledging members' concern on management's disagreement and partial agreement on the recommendations, IEG and management agreed to engage to understand management's challenges, present the case more clearly, and ensure ownership of the recommendations. Members asked for regular updates to the Board of Executive Directors, with the chair suggesting an update to the Board in 4 to 6 months, subject to the Bank Group's management readiness. Members acknowledged that the new Management Action Record process would also serve as a platform for the Board to learn the progress made toward implementing the recommendations.

Although encouraged to learn that the Bank Group's approaches were relevant and mostly effective in meeting the expectations and priorities of client countries and investors, members acknowledged room for improvement. They called for the World Bank to give greater priority to scale up its private capital mobilization (PCM) efforts and the Cascade approach, with the objective of meeting the capital package commitments, and to help client countries advance toward meeting the Sustainable Development Goals. Management noted IEG's findings that the International Bank for Reconstruction and Development can realistically meet its corporate target of a 25 percent

mobilization ratio on average by 2030 and that management is committed to meeting that goal. Noting management's explanations on how decentralization and training opportunities for Country Management Units could help advance the PCM agenda, members highlighted the need to differentiate by sector and by country, with some encouraging a move toward International Development Association countries and greater attention paid to domestic PCM and local capacity building.

Members agreed with the recommendation on testing pilot instruments and encouraged management to come up with innovative approaches and instruments to extend the reach and impact of development finance. They underscored the importance of Country Private Sector Diagnostics to create a more positive environment for cascading PCM targets and suggested enhancing cooperation among the Bank Group institutions. Acknowledging management's remarks on the relevance of collaborating with other multilateral development banks to create the right markets, members asked for clarifications on differences in measurement, challenges to improving the collaboration, and whether the presence of bilateral development finance institutions improved project performance. Members looked forward to the future evaluation on the catalyzation approach to capital mobilization, which will complement this evaluation.

Members were pleased to learn about the International Finance Corporation exceeding its core mobilization targets and meeting client expectations. They agreed with IEG's recommendation that the positive results could be consolidated by improving product alignment with investors' needs, while maintaining goals, procedures, and environmental and social standards. Members acknowledged management's explanations that the International Finance Corporations efforts need to be calibrated and delivered within the specific regulatory and operating environment of different asset classes and investor groups and that such efforts and further product development are not a simple process.

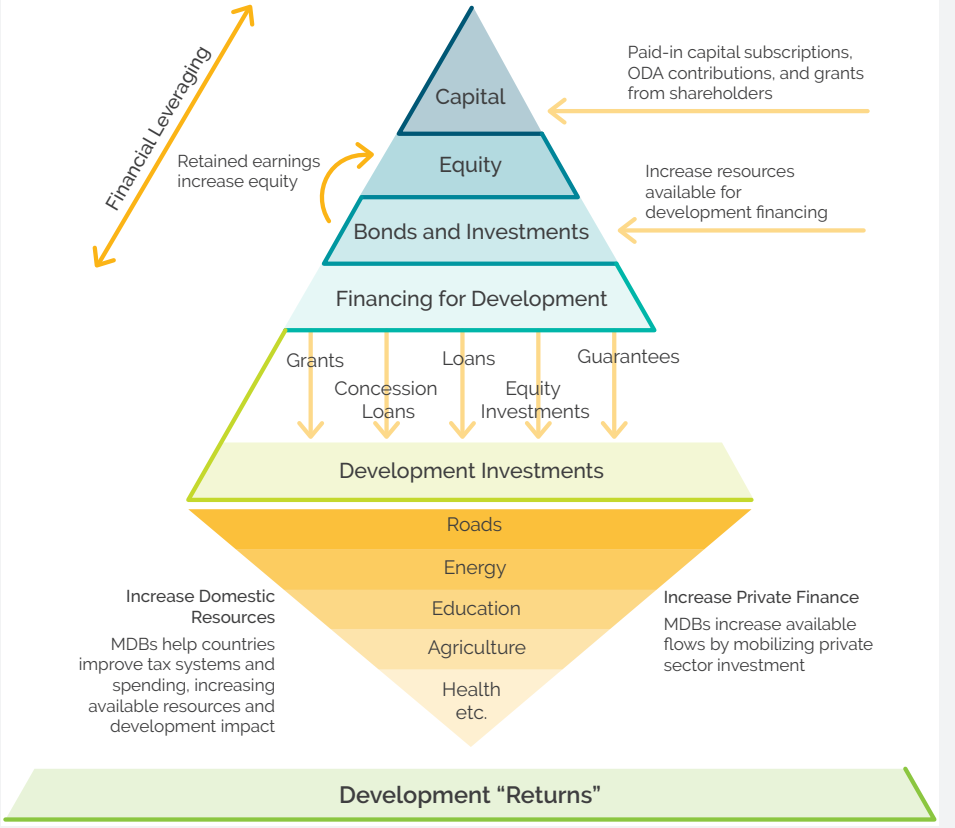
1 | Background and Context

Why Does Private Capital Mobilization Matter?

Private capital is critical for achieving the 2030 Sustainable Development Goals (SDGs). The Sustainable Development Agenda requires financing on a massive scale. Private capital mobilization (PCM) is critical for SDGs such as affordable and clean energy, financial inclusion, zero hunger, decent work and economic growth, industry, innovation and infrastructure, and climate action. Action on climate change requires private investment to heighten efficiency, reduce externalities, and expand domestic and foreign partners (SDG 17). In 2015, the multilateral development banks (MDBs) committed to leveraging the current "billions" of development finance to "attract, leverage, and mobilize 'trillions' in investments of all kinds: public and private, national and global, in both capital and capacity," particularly for infrastructure (World Bank Group 2015). Consequently, the MDBs aspire to tap into more private sector investment. Although the largest supply of development resources remains domestic public spending, the greatest potential for expansion or *scaling up* lies with private finance and engaging private business in the development process (box 1.1).

Box 1.1. Multilateral Development Bank Strategy for Billions to Trillions—Multilateral Development Bank Contributions

Figure B1.1. Multilateral Development Bank Strategy for Billions to Trillions



Source: World Bank Group 2015, 3.

"Drawing in private sector business and investment will be key to reaching the trillions needed to achieve the SDGs [Sustainable Development Goals]. At the interface of the public and private sectors, we are ready to play a catalytic role to unlock the potential of private finance.

"By design, MDB [multilateral development bank] private sector operations leverage other sources of finance, particularly private sector co-investment. MDBs generally finance only a share of total project cost, mobilizing additional investors through syndications and other pooled funding structures. This finance, along with the accompanying

(continued)

Box 1.1. Multilateral Development Bank Strategy for Billions to Trillions—Multilateral Development Bank Contributions *(continued)*

structuring, advice and risk mitigation, helps crowd in additional project finance. When MDBs invest in new areas or in high-risk environments there is an important demonstration effect that can lead to additional projects and new investors."

Source: World Bank Group 2015, 5.

Note: MDB = multilateral development bank; ODA = official development assistance.

Global investor priorities and official development assistance (ODA) flows vary significantly within World Bank Group client countries. ODA has remained prominent for low-income countries (LICs) in recent years, whereas middle-income countries have increased their reliance on foreign direct investment (FDI) and portfolio flows from global investors. ODA to middle-income countries and LICs is about $150 billion yearly, or 0.3 percent of gross national income (OECD data). It has stagnated over the past decade at about 11 percent of external finance for middle-income countries and LICs. For LICs, however, ODA is the most significant source of external finance (36 percent). Remittances are becoming an increasingly important component of external finance for developing economies, even more so for LICs. In contrast, debt-related flows and portfolio investments are highly volatile. The latter play a smaller role in LICs, where capital markets are relatively less developed. FDI and portfolio investments (and loans, to an extent) contribute to the development of the productive capacity of the economy. On average for the five years 2013–17, external finance equaled 6 percent of gross domestic product (GDP) in middle-income countries and LICs, of which FDI was 2.3 percent, portfolio investments were 1.1 percent, loans were 0.5 percent, remittances were 1.4 percent, and ODA was 0.6 percent of GDP. In LICs, external finance equaled 12.4 percent of GDP, of which FDI was 2.6 percent, portfolio investments were 0.1 percent, loans were 1.8 percent, remittances were 3.4 percent, and ODA was 4.5 percent of GDP.

Current PCM levels fall far short of the commitments needed to achieve the SDGs, and the MDBs collectively need to do better. In 2018, MDBs and

European development finance institutions (DFIs) mobilized $69.4 billion in private long-term finance for low- and middle-income countries. This is far short of the $2–3 trillion a year necessary to achieve the SDGs. Moreover, less than half of the amount mobilized in 2018 ($33.1 billion) was for SDG infrastructure (including power, water, transportation, telecommunications, information technology, and social infrastructure such as schools and hospitals), which need PCM the most. The rest was mobilized to support financial inclusion, agribusiness, and manufacturing services. The Bank Group remains one of the largest contributors to PCM toward SDGs, with about $32 billion mobilized in low- and middle-income countries in 2018.

The value proposition of PCM can be viewed from the perspectives of four types of stakeholders: developing countries, investee companies, investors, and the Bank Group. By channeling investors' capital to developing countries, PCM helps diversify their funding sources, increasing the number and size of projects that contribute to improving development outcomes and to achieving the SDGs (for example, increased access to electricity or finance). Investee companies get access to finance for larger projects and meet more stringent governance requirements. PCM instruments and platforms provide investors with unique pipelines of projects in emerging markets and developing economies (EMDEs) to which they might not otherwise have access. Finally, PCM generates income for the Bank Group and saves Bank Group financial resources to channel to sectors that are less likely to attract private investment (for example, social sectors).

The Bank Group's PCM Approaches

The Bank Group and its development partners have adopted a PCM framework and methodology to leverage the private sector more. Maximizing Finance for Development (MFD), announced in 2017, aims to help countries attract capital for national financing strategies (World Bank Group 2017). It builds on Bank Group experiences in working with clients to crowd in the private sector without pushing the public sector into unsustainable debt and contingent liabilities.[1] This entails pursuing private sector solutions where they can help achieve development goals and reserving scarce public finance for where it is most needed. This approach builds on the principles of the

2017 *Principles of MDBs' Strategy for Crowding-In Private Sector Finance for Growth and Sustainable Development* (the "Hamburg Principles") and the *Joint MDB Statement of Ambitions for Crowding in Private Finance*. These documents committed MDBs to collectively increase the private financing mobilized by 25–35 percent by 2020.

The Bank Group adopted specific targets for PCM and a systematic organization-wide solutions approach for the MFD agenda. The Group of Twenty (G-20) target is to increase PCM volume to $6.3 billion for the International Bank for Reconstruction and Development (IBRD) and to $10.1 billion for International Finance Corporation (IFC) by 2020. As part of the 2018 capital increase package, the Bank Group also committed to increasing the mobilization ratios of IBRD and IFC to 25 percent and 80 percent, respectively, on average over the 2020–30 period (World Bank Group 2018). For IBRD, this reflects PCM, but for IFC, it is based on core mobilization, which also includes a significant component of public sector funding on commercial terms (including from other MDBs). IBRD measures PCM at the Board of Executive Directors approval stage, and IFC measures core mobilization and PCM achievements at the time of commitment from project sponsors and investors. A "bigger and better" Bank Group will also support growth of mobilization products from the Multilateral Investment Guarantee Agency (MIGA) because MIGA relies on IBRD and IFC for support of upstream reforms that encourage private sector investments. Furthermore, the Bank Group will adopt a systematic organization-wide approach to creating markets by linking policy reform, advisory, investment, and mobilization to deliver solutions packages using the Cascade approach as the operating system for MFD.[2] The aim is to maximize the finance available for development through convening, risk reduction, and capital market development.

The Bank Group mobilizes short-term and long-term private capital through two approaches. One is by working with clients, investors, and partners. The other is by deploying mobilization instruments and platforms. Bank Group instruments typically enable a monetary contract between two parties (that is, the lender and the borrower). Bank Group platforms attract advanced commitments from lenders and investors first and subsequently channel them to development projects as the projects are prepared.

The Bank Group works with clients, investors, and partners in various ways. For example, the World Bank advises client countries and crowds in private capital from commercial banks, strategic investors, and bond investors. IFC manages syndicates of domestic and foreign commercial banks, nonfinancial development institutions, DFIs, MDBs, sovereign wealth funds, and institutional investors through each of its syndicated loan products and platforms. MIGA, in addition to providing guarantees, collaborates with a network of industry partners who reinsure portions of MIGA's exposure to projects meeting established criteria. This helps rebalance its portfolio. The Bank Group adds value during client and investor engagements through, for example, requiring that clients put in place environmental and social frameworks and corporate governance frameworks that could positively influence project outcomes. The Bank Group also cofinances projects with other development partners like the regional development banks and European DFIs. Bank Group staff skills and incentives are important to working effectively with clients, investors, and partners.

Bank Group PCM instruments and platforms fall into five broad categories. They are (i) debt mobilization, (ii) equity mobilization, (iii) bond mobilization, (iv) guarantee-linked mobilization, and (v) advisory mobilization (primarily via public-private partnership [PPP]). In addition, IFC directly mobilizes short-term private capital via several facilities and collective investment vehicles to provide liquidity support in areas like trade finance, distressed asset recovery, microfinance institutions, and critical commodity financing. Both instrument approaches and platform approaches require a pipeline of development projects. A given project will involve some or all of these mechanisms (table 1.1).

Table 1.1. Examples of Private Capital Mobilization Instruments and Platforms

Debt		Bonds		
Debt syndications	MCPP	Green Bond Fund	Local currency-linked bonds	Thematic bonds
Madagascar airport: IFC mobilizes private debt capital from commercial banks (through the B Loan Program) and DFIs (through the Parallel Loan Program) in addition to its own direct lending for an airport project in Madagascar.	Various co-lending initiatives: IFC (i) mobilizes private capital from institutional investors to invest passively through a dedicated trust fund (MCPP-SAFE), (ii) provides credit enhancement through first-loss coverage on a portfolio of infrastructure sector projects (MCPP-Infra), and (iii) uses unfunded structures to provide IFC with credit insurance or risk guarantees (MCPP-financial institutions).	Turkey, India, and China Green Bonds: IFC-Amundi Green Bond Fund mobilizes $2 billion of private capital from institutional investors to invest in emerging market sovereign or subsovereign green bond issuances in Turkey, India, and China.	Rwanda Umuganda bond: IFC Treasury issues Rwanda Umuganda bond in 2014 and it is listed on the Rwanda Stock Exchange, attracting institutional investors, regional banks, domestic commercial banks, and Rwandan investors.	SSA Pandemic Emergency Facility: World Bank Treasury launches Pandemic Emergency Facility to mobilize $325 million of private capital from bond investors, asset managers, and pension funds to channel to projects in SSA.

continued

Table 1.1. Examples of Private Capital Mobilization Instruments and Platforms *(continued)*

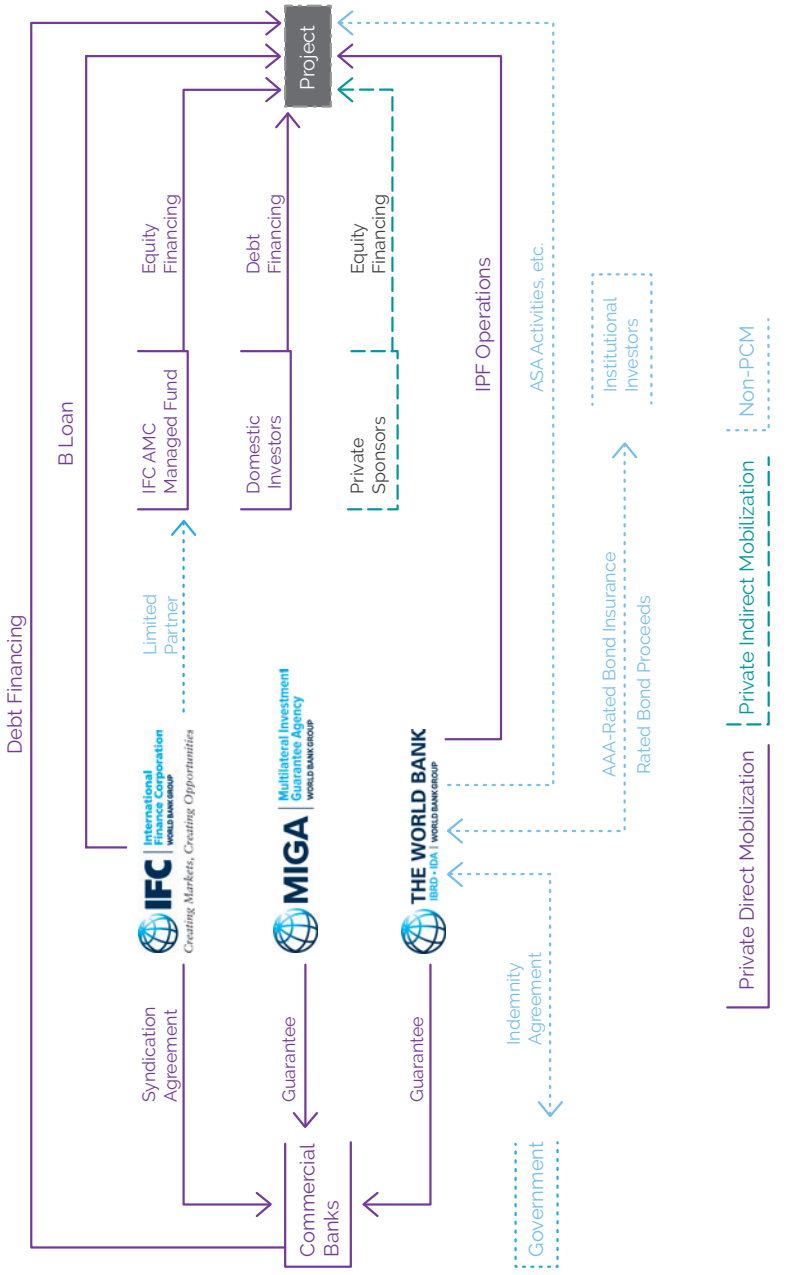
Equity	Guarantees and Insurance			Advisory	Short-Term Facilities	
Equity syndications	AMC	PRI	Nonhonoring	PPP, upstream	Trade and structured	DARP, MEF, ICF, and CCFP
Bangladesh power: IFC mobilizes equity capital from investors and MDBs to invest in Bangladesh's electric power generation company.	**Financial Institutions Group Fund:** IFC AMC mobilizes institutional investors to emerging market investments through a private equity fund structure to invest in financial institutions (Financial Institutions Growth fund) or in emerging Asian countries across various sectors. (Emerging Asia Fund).	**West Africa energy:** MIGA provides PRI cover, and the World Bank provides partial risk guarantee to help clients attract investors to the West Africa energy sector.	**Panama mass transit:** MIGA provides credit enhancement cover to construct a modern and integrated mass transit system in Panama.	**Latin America transport PPPs:** World Bank Group advises clients in Latin America on reforms and to identify operators and investors in PPP initiatives in transport.	**Onlending:** IFC provides trade finance liquidity and structures risk-sharing facilities to allow client institutions to onlend to beneficiaries.	**Access to finance for distressed assets:** IFC provides liquidity through short-term facilities targeting microfinance, pre-export Bank facilities in Latin America and Africa.

Note: Certain AMC funds can also invest in senior debt and subdebt instruments in addition to equity and quasi-equity instruments. Syndications include parallel loans. AMC = Asset Management Company; CCFP = Critical Commodities Finance program; DARP = Distressed Assets Recovery Program; DFI = development finance institution; ICF = Infrastructure Crisis Facility; IFC = International Finance Corporation; MCPP = Managed Co-lending Portfolio Program; MDB = multilateral development bank; MEF = Microfinance Enhancement Facility; MIGA = Multilateral Investment Guarantee Agency; PPP = public-private partnership; PRI = political risk insurance; SAFE = State Administration for Foreign Exchange; SSA = Sub-Saharan Africa.

The Bank Group differentiates between private direct mobilization and private indirect mobilization. Private direct mobilization (solid lines in figure 1.1) refers to financing from private entities on commercial terms because of the active and direct involvement of an MDB leading to commitment, not including sponsor financing. For example, the World Bank's efforts to directly mobilize private capital through IBRD and International Development Association (IDA) guarantees (table 1.1) play important roles in eliciting political will to support development interventions. IFC directly mobilizes short-term private capital via several facilities and collective investment vehicles to provide liquidity support in areas like trade finance, distressed asset recovery, microfinance institutions, and commodity financing. All MIGA activities through its political risk insurance and nonhonoring of financial obligations guarantee instruments directly mobilize private capital. Private indirect mobilization (dashed lines in figure 1.1) refers to financing from private entities made available in connection with a specific activity for which an MDB is providing financing but where no MDB is playing an active or direct role that leads to the commitment of the private entity's finance. Private indirect mobilization includes IFC project sponsor financing, World Bank investment lending, and other interventions. A PCM operation may mix direct and indirect mobilization.

A PCM operation may mix on–balance sheet and off–balance sheet funding. Traditional World Bank lending projects use financing from selling AAA-rated bonds to institutional investors (dotted box in figure 1.1). These non-PCM funds flow through the World Bank's balance sheet. PCM funding (dashed and solid boxes in figure 1.1), by contrast, does not flow onto the Bank Group balance sheet and is channeled directly to project financing. Balance sheet–only mobilization activity through issuances of IBRD or IFC bonds is not treated as PCM.

Figure 1.1. Stylized Hypothetical Private Capital Mobilization Project



Source: Independent Evaluation Group.

Note: The figure shows a stylized depiction of non-PCM flows (dotted lines), private direct mobilization flows (solid lines), and private indirect mobilization flows (dashed lines) for a hypothetical project. Many other structures are possible. AMC = Asset Management Company; ASA = advisory services and analytics; IFC = International Finance Corporation; IPF = investment project financing; MIGA = Multilateral Investment Guarantee Agency; PCM = private capital mobilization.

What Is Catalyzation of Private Capital?

Catalyzation is different from mobilization. Some initiatives that increase the availability of private capital for development are not treated as private capital mobilized because they do not involve a mandate letter from a specific client or fees paid or involve financing from any part of the Bank Group. (That is, the client has no active or direct role leveraging its loan or equity investment.) The Bank Group, for example, may catalyze private investment through advisory work or development policy loans that support policy reforms—including capital market and other enabling environment reforms to open up markets (for example, changes to investment codes or changes to competition policy and state aid legislation)—to improve countries' governance frameworks and practices and public sector investments that are complementary to private capital flows. The Bank Group also develops custom financial instruments, allowing investors to invest in EMDEs and integrate environmental, social, and governance criteria into their investment decisions. These entry points for investors can include advanced commitments in a platform approach and deal-by-deal commitments in an instrument approach. Some examples include IDA-issued bonds and the Global Infrastructure Facility. Such catalytic activities (also known as *private investment catalyzed*) make important contributions to the Financing for Development agenda and are the principal way by which the World Bank contributes to flows of private capital to client countries.

The Bank Group's convening role contributes to private investment catalyzation. The Bank Group has multifaceted partnerships with MDBs, international financial institutions, the Global Infrastructure Forum, knowledge platforms (Massive Open Online Courses on Financing for Development), and interagency task forces. The Bank Group shapes the policy agenda on private investment catalyzation through its leadership role, active contributions to these global partnerships, and client engagements. This evaluation acknowledges the contributions of the Bank Group's policy reform efforts but focuses primarily on the World Bank's PCM efforts. An Independent Evaluation Group (IEG) review of Bank Group catalyzation efforts is planned in fiscal year (FY)22.

Evaluation Scope and Methodology

This evaluation assesses how relevant and effective the Bank Group has been at channeling private capital for development, the factors that have driven results, and opportunities for scalability. It starts by reviewing Bank Group progress in meeting its PCM targets. It then reviews the relevance and effectiveness of PCM projects and instruments and assesses their links to country outcomes. Next, it identifies drivers of results and constraints on PCM. Finally, it gauges the potential for PCM growth and provides recommendations for the future. The evaluation is based on the Bank Group's PCM activities between 2007 and 2018.

The evaluation applied three methodological techniques to assess how relevant and effective the Bank Group has been at channeling private capital for development and how scalable the PCM approaches are. The techniques were (i) portfolio review and analysis, (ii) econometric analysis, and (iii) country cases. This evaluation focuses on mobilization activities that require the Bank Group to play a direct role, with a contractual mandate from the client to attract private capital into projects. In certain country cases, this evaluation analyzed the links between catalytic activities and mobilization. This evaluation used a multilevel framework and benchmarking techniques for review and analysis of PCM approaches. The evaluation covered three main levels of data collection and analysis: (i) the global level (including the total portfolio of selected mobilization approaches: 129 World Bank projects, 939 IFC projects, and 314 MIGA projects), (ii) the level of selected countries (12) using country cases and efficient frontier analysis, and (iii) selected mobilization approaches in client countries. The evaluation analyzed the PCM instrument level or platform level using industry benchmarking methods.

The Bank Group conducted 1,391 PCM operations during the evaluation period. Of these, the evaluation reviewed 345 projects in depth (table 1.2). The sample was selected with the aim of building the evidence base across the five types of PCM approaches. The World Bank PCM portfolio included investment project financing, guarantees, Program-for-Results, and Treasury operations (currently not accounted for by the World Bank in its PCM calculations; table 1.3). Appendix A provides detailed methodological information.

Table 1.2. Portfolio Review and Analysis Details, Evaluated and Validated by the Independent Evaluation Group (number of projects)

Institution	PCM Portfolio[a]	PCM Projects	Non-PCM Projects[b]	Coded and Validated for PRA[c]
IBRD/IDA	129	12	1,713	36
IFC AS	134	97	0	12
IFC IS	805	95	509	241
MIGA	314	92	0	54
Total	1,391	296	2,222	345

Source: Independent Evaluation Group Datamart (for IBRD/IDA projects), Project Completion Report Self and Independent Evaluation Group Rating (for IFC AS projects), and Expanded Project Supervision Report database (for IFC IS projects).

Note: AS = advisory services; IBRD = International Bank for Reconstruction and Development; IDA = International Development Association; IFC = International Finance Corporation; IS = investment services; MIGA = Multilateral Investment Guarantee Agency; PCM = private capital mobilization; PRA = portfolio review and analysis.

a. All IFC AS public-private partnership projects and MIGA projects are included in the PCM portfolio. No direct financial commitment is expected from IFC AS.

b. Projects reviewed through the Independent Evaluation Group's microevaluation program.

c. Projects reviewed in depth for the purposes of this evaluation.

This evaluation is part of a thematic IEG evaluation series that examines MFD, focusing on PCM approaches and Bank Group contributions to the SDG financing agenda. Accountability for learning from PCM approaches is critical for the Bank Group in achieving its MFD goals and capital increase targets. This evaluation complements and builds on previous IEG reviews, most notably reviews on Bank Group policy-based guarantee (PBG) instruments, the IFC Asset Management Company (AMC), joint Bank Group projects, capital markets, PPPs, and MIGA nonhonoring guarantees.

Table 1.3. World Bank Private Capital Mobilization Projects, Distribution by Type, FY07–18

Instrument	Projects	
	(no.)	(%)
Investment project financing	61	47.29
Guarantees	41	31.78
IFFI bond	15	11.63
Natural catastrophe bond	5	3.88
Natural catastrophe risk pool	1	0.78
Pandemic global risk pool	1	0.78
Program-for-Results	3	2.33
Weather derivative product	2	1.55
Total	129	100

Source: Independent Evaluation Group portfolio review and analysis of World Bank approved projects, 2007–18.

Note: FY = fiscal year; IFFI = International Finance Facility for Immunisation Company.

[1] The term "clients" in this report refers in most cases to governments or client countries. However, in some cases, it refers to private entities that are clients of International Finance Corporation (IFC) or the Multilateral Investment Guarantee Agency (MIGA). If a particular section or paragraph is specific to the World Bank, "clients" refers only to country clients; the capital providers are referred to as "investors." For IFC, the clients are private sector borrowers and sponsors. For MIGA, the clients are the guarantee holders.

[2] Cascade framework: The Cascade recommends that reforms be tried first, followed by subsidies and then public investments in the following sequence: "When a project is presented, ask: 'Is there a sustainable private sector solution that limits public debt and contingent liabilities?' If the answer is 'Yes'—promote such private solutions. If the answer is 'No'—ask whether it is because of: (i) policy or regulatory gaps or weakness? If so, provide Bank Group support for policy and regulatory reforms; (ii) risks? If so, assess the risks and see whether Bank Group instruments can address them. If you conclude that the project requires public funding, pursue that option" (World Bank 2017, 2).

2 Did PCM Approaches Deliver?

This chapter describes the extent to which PCM approaches deliver results and analyzes factors that drive success. It assesses whether the Bank Group has met its PCM targets per commitments made to the G-20 and its shareholders. It then describes the extent to which PCM approaches delivered results for its clients. The assessment of results has two aspects:

- *Relevance* to clients, investors, and financing partners. Relevance is assessed in terms of the extent to which PCM approaches were aligned with client priorities (for example, in the country strategies or corporate clients' financing objectives) and the extent to which instruments and platforms were deployed in accordance with investors and partner considerations.
- *Effectiveness* of PCM approaches reflected in projects. Effectiveness is assessed in terms of the extent to which PCM approaches led to increased service delivery to clients, repeat transactions with clients, expanded projects, repeat engagements with investors and partners, demonstration effects in other clients and institutions, and meeting of industry benchmarks in terms of investment returns.

PCM Targets

To increase PCM, the Bank Group adopted both G-20 commitments and corporate targets. Table 2.1 summarizes the Bank Group targets committed to the G-20 and to corporate shareholders as part of the 2018 capital increase package (World Bank Group 2017, 2018).[1] The G-20 target for IBRD is to increase PCM volume to $6.3 billion by 2020. The G-20 target for IFC is to increase PCM volume to $10.1 billion by 2020 (table 2.1). The corporate target for IBRD is a PCM mobilization ratio of 25 percent by 2020, sustained until 2030. The corporate target for IFC is a core mobilization ratio of 80 percent by 2020, sustained until 2030.

Table 2.1. Private Capital Mobilization Levels and Targets by Bank Group Institution

Institution	Volume ($, billions)		Mobilization Ratio[a] (%)	
	2017 level	2020 G-20 target	2017 ratio	2020–30 corporate target ratio
IFC	7.5	10.1	63	80
World Bank	5.9	6.3	15	25 (for IBRD)

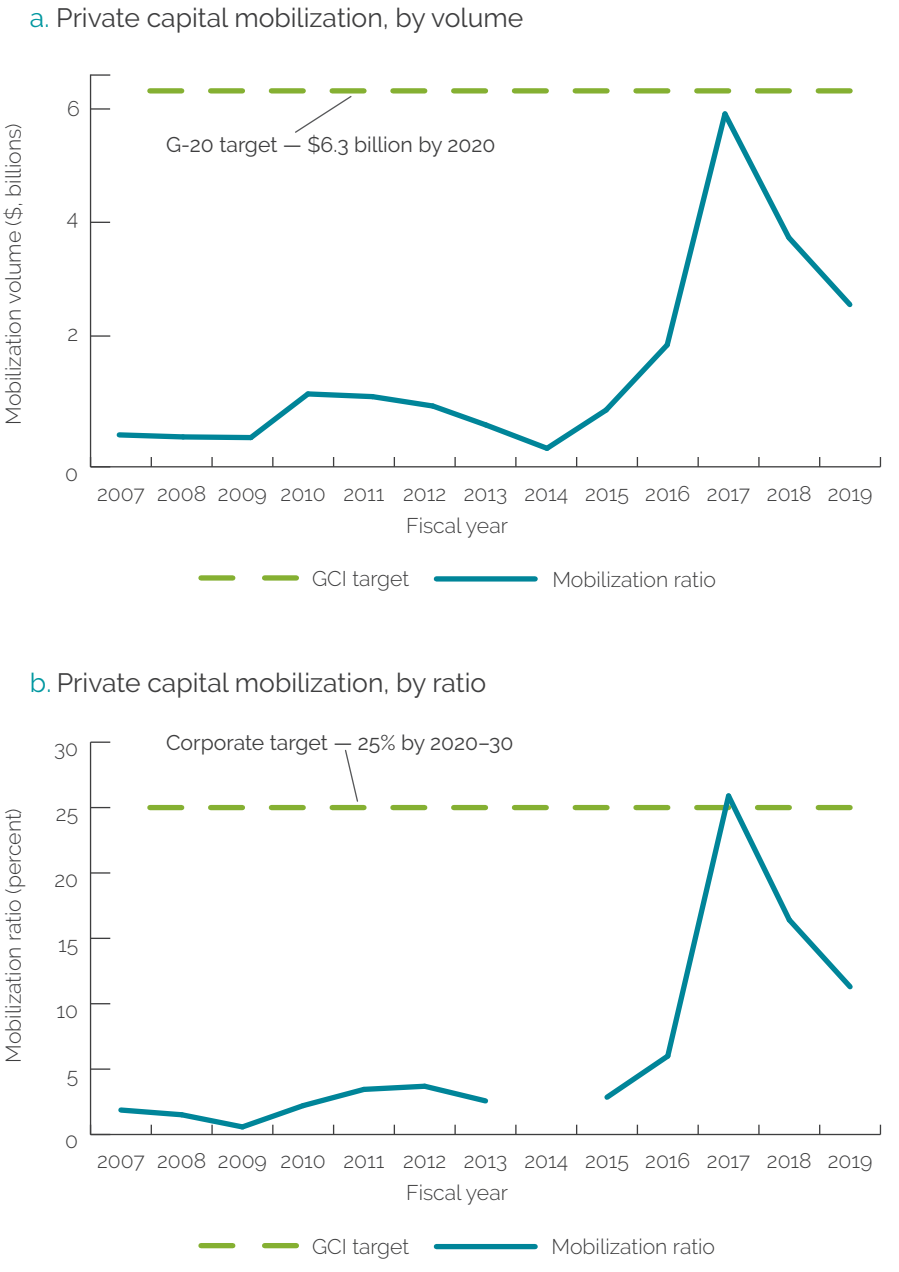
Source: Multilateral development bank report to the G-20, Bank Group Capital Increase Package Proposal.

Note: G-20 = Group of Twenty; IBRD = International Bank for Reconstruction and Development; IFC = International Finance Corporation. G-20 private capital mobilization targets are at the Bank Group level.

a. Measured as private capital mobilization for IBRD and core mobilization (private and public capital mobilization) for IFC. (See Key Concepts, page x).

IBRD progress on PCM targets has slowed since 2017 but scaling up is feasible. Figure 2.1 shows IBRD's PCM volume and mobilization ratio over time. IBRD met its $5.9 billion G-20 target in FY17 through partial risk guarantee issuances to critical energy and infrastructure projects. Since FY17, IBRD's PCM volumes have dropped to $3.7 billion in FY18 and to $2.6 billion in FY19. As noted previously, IBRD counts PCM at the time of Board approval. The Bank Group Board approval is not necessarily close to the point at which the private sources of funding are committed. If a project is canceled later, which has happened with projects mobilizing private capital, this PCM will not actually be realized, but the reported IBRD figures are not corrected. This may lead to an overestimation of actual PCM delivered by IBRD. However, the World Bank Treasury PCM activities are not tracked or recorded in the system, which understates actual mobilization volumes. IFC records both its own account and mobilization at the time of financial close and signing of the agreements with a client, making its actual PCM figures consistent with amounts mobilized. MIGA records mobilization at the time contracts are signed, thus not overestimating its PCM activities. Although it may be difficult for IBRD to meet its G-20 2020 commitment of $6.3 billion, it can realistically meet its corporate target of a 25 percent mobilization ratio on average over the next 10 years.

Figure 2.1. Private Capital Mobilization Volume and Ratio for the International Bank for Reconstruction and Development



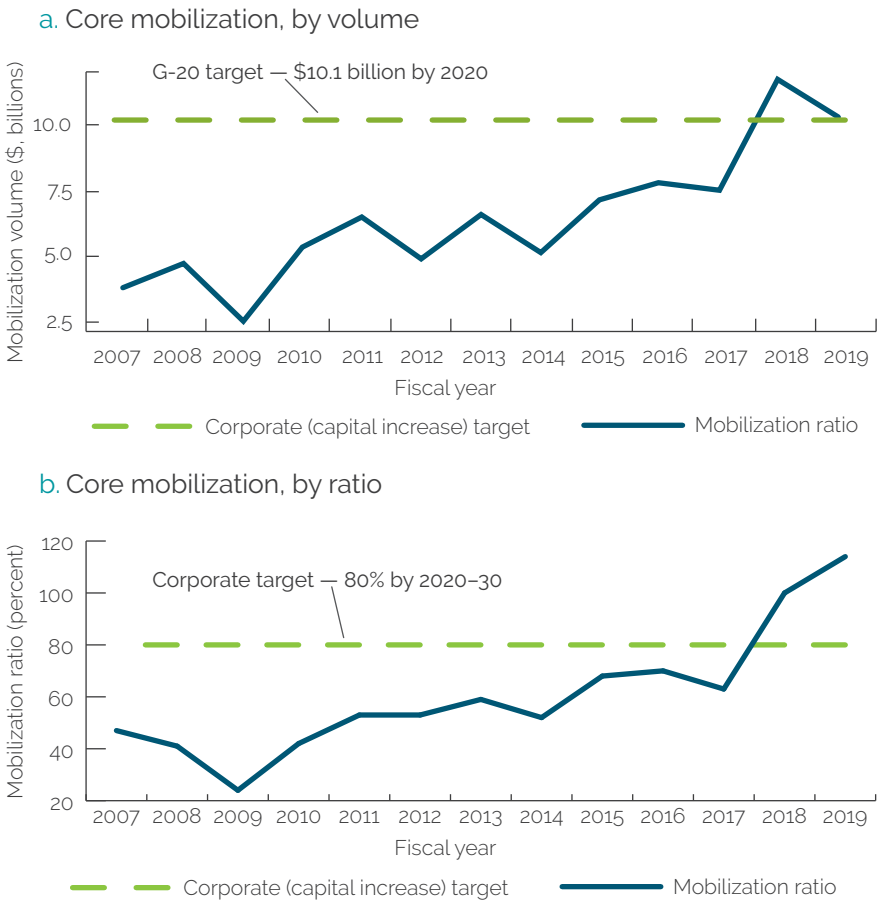
Source: Independent Evaluation Group calculations.

Note: G-20 = Group of Twenty; GCI = general capital increase.

IFC has increased its mobilization ratio since 2017 and exceeded its targets in 2018 and 2019. IFC's core mobilization volume grew from $7.5 billion

(63 percent mobilization ratio) in FY17 to $11.6 billion (100 percent mobilization ratio) in FY18 (figure 2.2). In FY19, IFC mobilized $10.2 billion (114 percent mobilization ratio). As noted previously, core mobilization includes capital mobilized from both private and public sources on commercial terms (the latter including other MDBs, DFIs, and sovereign wealth funds) that is raised with the direct and active participation of IFC. In some years, public sources have been almost half of core mobilization totals. This gives IFC greater flexibility in tapping financing sources for PCM.

Figure 2.2. Core Mobilization Volume (Private and Public Capital Mobilized) and Ratio for the International Finance Corporation



Source: Independent Evaluation Group calculations.

MIGA has no explicit PCM targets because all of its interventions count as PCM. MIGA's interventions through political risk insurance and credit enhancement

products count toward PCM commitments. MIGA's reinsurance activities, through treaty and facultative reinsurance, further increase its capacity for PCM. Thus, MIGA has been growing its PCM portfolio in line with its overall business targets and priorities. In 2019, MIGA issued $5.5 billion in new guarantees in support of 37 projects, which count toward PCM, and almost double the guarantees issued in FY15 of $2.8 billion. Of the projects supported in FY19, 81 percent addressed at least one of the agency's strategic priority areas: IDA-eligible countries, fragile and conflict-affected situations, and climate change.

MIGA has been consistently growing its (mobilization) activities in line with its strategy. The volume of MIGA's guarantee business grew by 12 percent annual average (between FY11 and FY19) compared with a 2 percent annual average growth rate before the nonhonoring guarantee introduction (between FY02 and FY10). MIGA also insured some innovative and pioneering projects. Development outcomes from the evaluated projects were positive and confirmed MIGA's positive role and contribution in improving environmental and social effects at the project level. The nonhonoring products crowded in an estimated $6.4 billion in private sector financing and insurance capacity to support priority public sector undertakings and optimized the financing strategy of the public borrowers and the private lenders. Support to equity investments through political risk insurance remains prominent in the MIGA portfolio, especially in countries with challenging operating environments and weak regulatory quality (Appendix M).

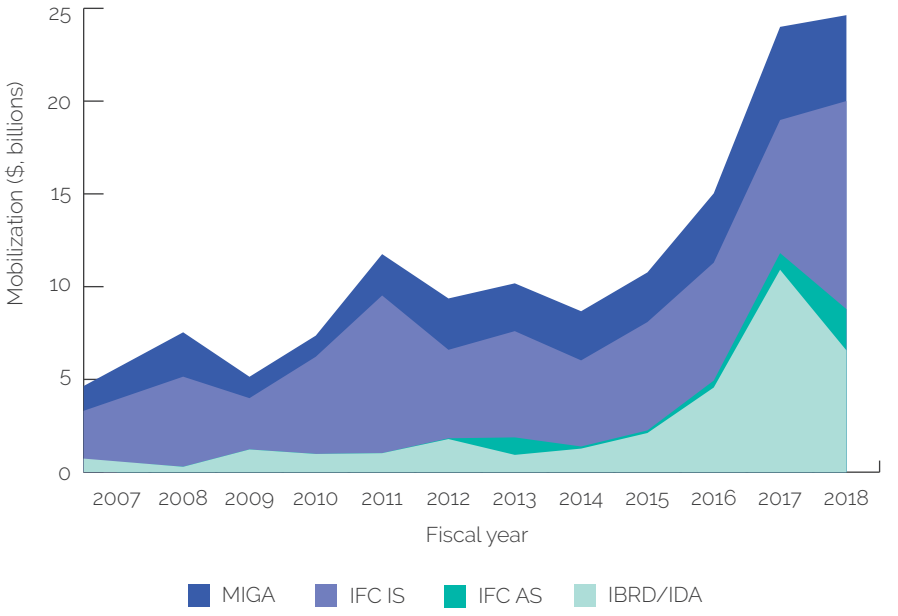
Climate-linked mobilization commitments are growing in the Bank Group portfolio. In the *Climate Change Action Plan 2016–2020*, the Bank Group made a commitment to increase the climate-related share of its lending from 21 percent to 28 percent by 2020 (World Bank, IFC, and MIGA 2016). The portion of financing that delivers on climate-focused issues is measured as *climate cobenefits*.[2] Overall, the Bank Group climate cobenefits volume was 45 percent of the total PCM in 2018 compared with 28 percent in 2016. This ratio is similar to the overall ratio achieved by MDBs, which average 46 percent of their project portfolios. For the World Bank alone, the share of climate financing within PCM projects is growing (for example, 28 percent in climate cobenefits within PCM in 2016 versus 48 percent in climate cobenefits within PCM in 2018).

How Much and Where Has the Bank Group Mobilized Private Capital?

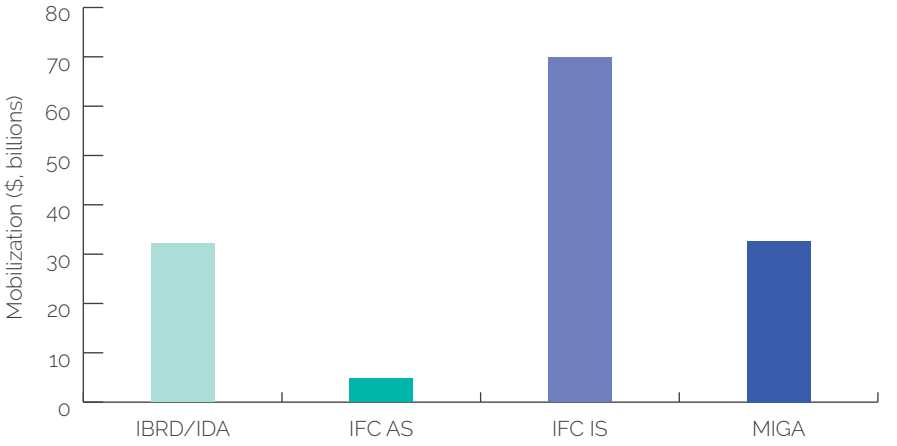
During the period FY07–18, the Bank Group approaches led to growth in both the number of engagements and the total volume of private capital mobilized. The total volume of private capital mobilized (both direct and indirect) by the Bank Group in the period FY07–18 stands at $140 billion, approximately 14 percent of total Bank Group commitments to clients during the evaluation period. Consistent with its core mandate as the private sector arm of the Bank Group, IFC mobilized the largest volume at $70 billion (50 percent of the total) across 805 projects through debt financing, equity financing, and guarantee support (figure 2.3 and table 2.2). IFC also generated a mobilization volume of close to $4.7 billion through 134 advisory projects on PPPs (4 percent of the total). During the same period, 129 World Bank projects mobilized nearly $32 billion (23 percent of the total). MIGA mobilized $33 billion (also 23 percent of the total) across 314 projects.

Figure 2.3. Private Capital Mobilization Volumes by Institution, FY07–18

a. Commitment by year, FY07–18



b. Commitment, cumulative total, FY07–18



Source: Independent Evaluation Group analysis based on data provided by Operations Policy and Country Services, the International Finance Corporation, and MIGA.

Note: AS = advisory services; FY = fiscal year; IBRD = International Bank for Reconstruction and Development; IDA = International Development Association; IFC = International Finance Corporation; IS = investment services; MIGA = Multilateral Investment Guarantee Agency.

Table 2.2. World Bank Group Commitments, Mobilization and Overall, FY07–18

Institution	PCM Portfolio[a] (no.)	PCM ($, millions)	Overall Bank Group Commitment and Gross Issuance ($, millions)
IBRD/IDA	129	32,218	646,000
IFC AS	134	4,729	n.a.
IFC IS	805	69,910	336,000
MIGA	314	32,666	34,178[b]
Total	1,391	139,523	1,016,178

Source: Independent Evaluation Group Datamart (for IBRD/IDA projects), Project Completion Report Self and Independent Evaluation Group Rating (for IFC AS projects), and Expanded Project Supervision Report database (for IFC IS projects).

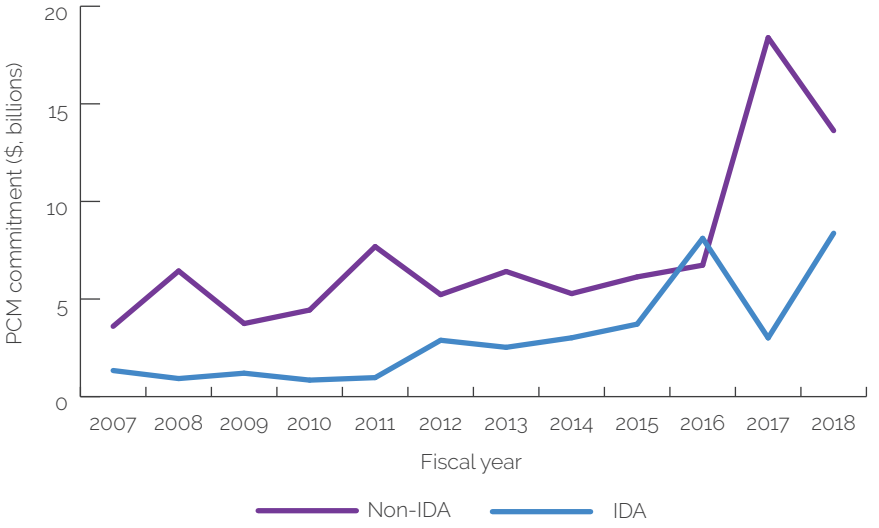
Note: AS = advisory services; FY = fiscal year; IBRD = International Bank for Reconstruction and Development; IDA = International Development Association; IFC = International Finance Corporation; IS = investment services; MIGA = Multilateral Investment Guarantee Agency; n.a. = not applicable; PCM = private capital mobilization.

a. All IFC AS public-private partnership projects and MIGA projects are included in the PCM portfolio. No direct financial commitment is expected from IFC AS, which is therefore denoted as not applicable. IFC data refer to core mobilization.

b. Refers to MIGA gross issuance aggregate for 2007–18; data as of October 2019.

Mobilization volumes in IDA countries grew in recent years, reaching 7 percent of the total Bank Group portfolio. Most mobilization occurs in non-IDA countries.[3] Between FY07 and FY18, the Bank Group mobilized nearly $88 billion in non-IDA countries and nearly $37 billion in IDA countries. However, in recent years, mobilization projects in IDA have been growing as the Bank Group prioritized IDA clients for project pipeline generation, per corporate strategy and commitments to the IDA governors. Mobilization volumes in IDA countries reached 7 percent of the total portfolio ($8 billion) in 2018 (figure 2.4). The 2018 uptick in IDA commitments was backed by a mix of IDA guarantees and IFC debt mobilization instruments for renewable energy generation in Côte d'Ivoire, Kenya, and Zambia. PCM in the IDA fragile and conflict-affected situation (FCS) portfolio has grown from $410 million in FY07 to $4.6 billion in FY18. Over the same period, PCM in non-FCS IDA countries grew from $926 million to $3.8 billion. Projects in FCS countries tend to be larger. Thus, for example, in FY18, IDA FCS projects were only 34.2 percent of the IDA portfolio of 38 projects but accounted for 54.7 percent of IDA PCM.

Figure 2.4. Mobilization Volumes in IDA and Non-IDA Countries, FY07–18

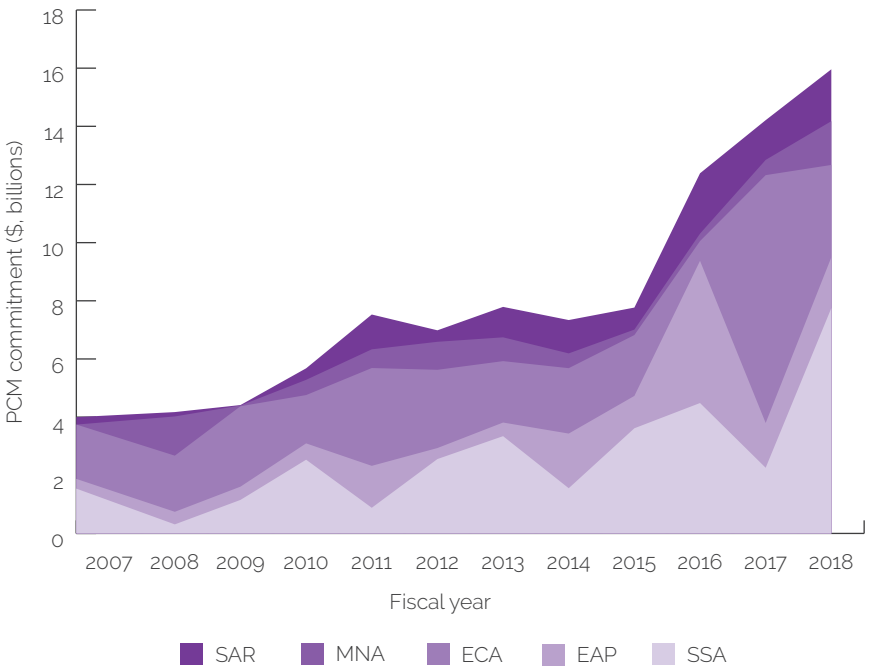


Source: Independent Evaluation Group portfolio review and analysis.

Note: IDA = International Development Association; PCM = private capital mobilization.

The Europe and Central Asia and Sub-Saharan Africa Regions garnered much of the Bank Group's PCM activities and volume mobilized. The Europe and Central Asia Region attracted nearly $33 billion in private capital mobilized by the Bank Group. The Sub-Saharan Africa Region was second, attracting nearly $32 billion between 2007 and 2018, whereas the Middle East and North Africa and South Asia Regions lagged in volumes. Of these five Regions, all except Middle East and North Africa increased the ratio of mobilization-linked projects compared with the rest of the portfolio (figure 2.5). In the most recent six-year period, Europe and Central Asia mobilized nearly 11 percent of the overall Bank Group commitment in projects that mobilized. Within the Europe and Central Asia Region, Turkey received the bulk of the Bank Group support at 5 percent of all mobilization activities, by volume and number of projects.

Figure 2.5. Private Capital Mobilization by Region, FY07–18



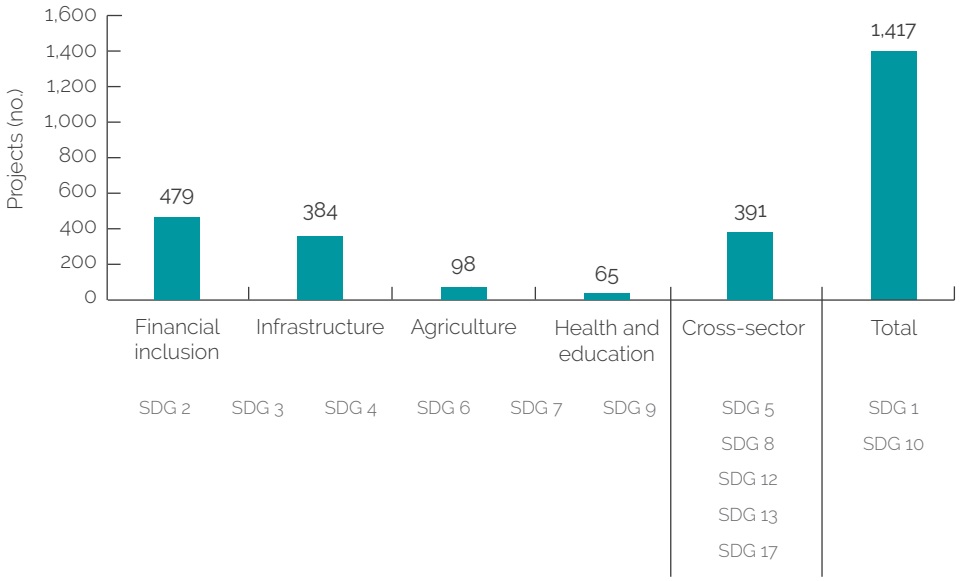
Source: Independent Evaluation Group analysis based on data provided by Operations Policy and Country Services, the International Finance Corporation, and Multilateral Investment Guarantee Agency.

Note: EAP = East Asia and Pacific; ECA = Europe and Central Asia; FY = fiscal year; MNA = Middle East and North Africa; PCM = private capital mobilization; SAR = South Asia; SSA = Sub-Saharan Africa.

PCM Project Performance

More than half of the Bank Group PCM portfolio is in the financial and infrastructure sectors. The financial sector accounted for 29 percent of the PCM portfolio, at $39 billion, and the infrastructure sector accounted for 26 percent, at $36 billion, during the evaluation period. Within infrastructure, the energy sector garnered the most interventions at $30 billion, or 83 percent of PCM.

Figure 2.6. Private Capital Mobilization Projects by Sector and Sustainable Development Goal



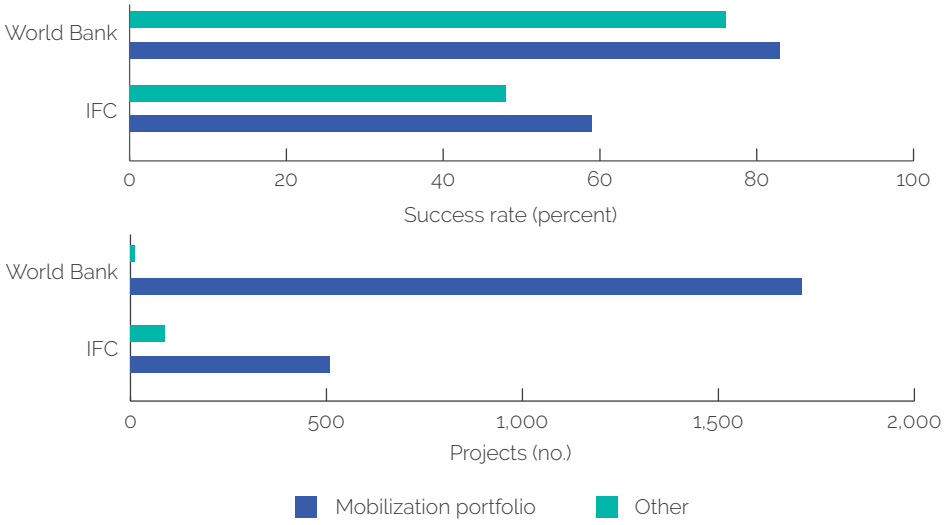
Source: Independent Evaluation Group analysis.

Note: The figure is not an exhaustive mapping but represents an overview of the Bank Group's approach to support the achievement of the Sustainable Development Goals (SDGs). Given that cross-sectoral impact is delivered through investments and advisory operations in the strategic sectors, some overlaps exist in this mapping. Infrastructure includes energy and transport. SDG 1: No Poverty; SDG 2: zero hunger; SDG 3: good health and well-being; SDG 4: quality education; SDG 5: gender equality; SDG 6: clean water and sanitation; SDG 7: affordable and clean energy; SDG 8: decent work and economic Growth; SDG 9: industry, innovation and infrastructure; SDG 10: reduced Inequalities; SDG 11: sustainable cities and communities; SDG 12: Responsible consumption and Production; SDG 13: climate action; SDG 14: life below water; SDG 15: life on land; SDG 16: peace, justice,and strong institutions; SDG 17: Partnerships for the Goals.

PCM projects played a critical role in several SDGs. PCM projects played a role in contributions to several SDGs, such as greater financial inclusion, greater access to infrastructure, and affordable and clean energy for firms and households (figure 2.6). PCM contributions to the SDGs benefited from the right financial incentives, regulatory structures, and standardization of contracts. PCM projects played a lesser role in social sectors (for example, health and education). Action on cross-sectoral SDGs, such as climate change (SDG 13), required PCM to heighten efficiency and reduce externalities.

Bank Group projects with PCM achieved their development outcomes more often than projects without PCM. For the World Bank, projects with PCM achieved an 83 percent development outcome success rate compared with a 76 percent overall success rate for projects without PCM, according to an analysis of 1,725 validated projects (12 PCM, 1,713 non-PCM) during the same evaluation period (figure 2.7). For IFC, PCM projects delivered a 59 percent development outcome success rate compared with projects without PCM, which had a 48 percent development outcome success rate, according to an analysis of 597 validated projects (88 PCM, 509 non-PCM). The results can be partly explained by the higher intensity and quality of the Bank Group engagements with clients, partners, and investors for PCM projects. They also reflect greater Bank Group efforts, including involvement of staff with finance backgrounds in addition to sector specialists and economists, greater scrutiny at the project preparation stage, and longer preparation times. Despite the smaller volume commitments, Bank Group projects in the East Asia and Pacific Region had the highest success rate at 87.5 percent compared with the regional average of 70 percent. Debt and guarantee-linked projects did well compared with projects relying on other types of instrument.

Figure 2.7. Private Capital Mobilization Project Success Rate, FY07–18



Source: Independent Evaluation Group portfolio review and analysis.

Note: FY = fiscal year; IFC = International Finance Corporation. Success rate is based on the ratio of the number of projects with positive development outcome rating to the number of projects evaluated in the portfolio.

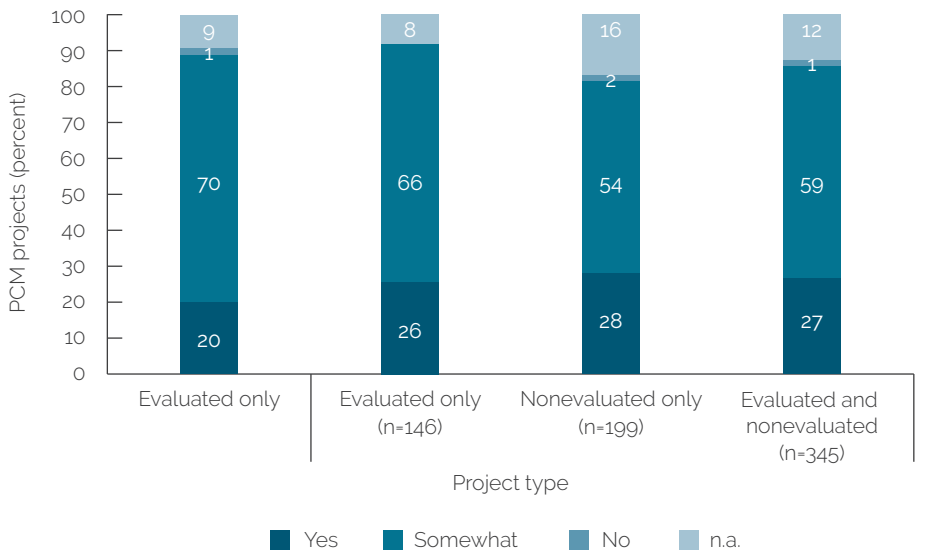
Most Bank Group PCM projects are relevant and effective. A further in-depth review of a purposefully sampled portfolio of Bank Group PCM projects suggests that 88 percent of the projects were either relevant or mostly relevant to the clients. Moreover, 90 percent of the Bank Group projects were effective or mostly effective in meeting project-level development outcome objectives (figure 2.8). For example:

» A World Bank guarantee operation to support the development of the Southern Africa Regional Gas Pipeline contributed to gas-fired power generation, which has helped broaden access to electricity, increase government revenues, create a body of expertise in the gas sector, and improve the business environment for large-scale foreign investment. Substantial further investment has flowed into Mozambique since the discovery of additional coal and offshore gas reserves. In South Africa, investment in the sector was limited by lack of competition. Although initially limited, local content purchases by the project sponsor (Sasol) gradually increased to more than 50 percent of its annual expenditure. Sasol's local community development projects evolved over time toward more participatory and sustainable initiatives.

» An IFC PPP transaction advisory supporting the government of Punjab (India) grain silos led to financial savings of 2.7 percent of the Agency's annual budget compared with public procurement methods used before the PPP. In Morocco, an IFC equity mobilization approach supported a financial institution that onlends to frontier regions of the country with a focus on small and medium enterprises. Between 2008 and 2011, the client disbursed more than 10.6 billion dirhams (approximately $1.2 billion) in microloans. The project reached about 300,000 low-income borrowers by 2017. In addition to facilitating the client's outreach, the project also strengthened the client's financial sustainability (for example, improved income) and corporate governance.

» In Pakistan and Armenia, the Systematic Country Diagnostics and Country Partnership Frameworks have provided important entry points to discuss the World Bank's catalytic activities that may contribute to the strategic relevance of PCM activities, notwithstanding the rotation of focus sectors in the Country Partnership Framework cycle.

Figure 2.8. Relevance and Effectiveness of a Sample of 345 Private Capital Mobilization Projects

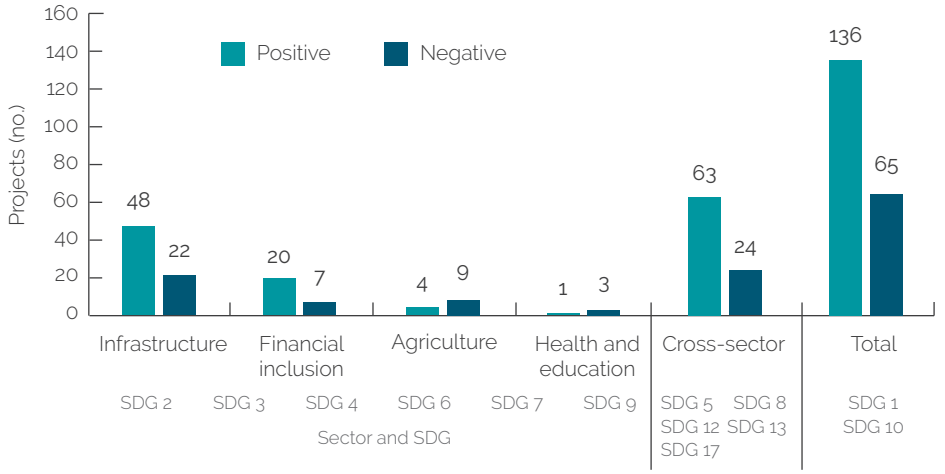


Source: Independent Evaluation Group analysis.

Note: Success rate assessment based on portfolio review and analysis coding method only. n.a. = not applicable; PCM = private capital mobilization.

PCM infrastructure and financial sector projects performed better than agriculture and social sector projects. The difference (figure 2.9) suggests that infrastructure as an asset class is a particularly attractive business line for PCM projects. As an example, in 2010, IFC provided $50 million in long-term financing to Cálidda, the Peruvian company responsible for natural gas distribution in Lima and Callao. In addition to the direct financing, IFC mobilized an additional $35 million in private capital. Moreover, IFC's financing was part of a $135 million package that also involved the Andean Development Corporation, a regional development bank. The private capital mobilized through IFC helped Cálidda provide gas connections to more than 45,000 Peruvian households between 2010 and 2012, expanding the capacity of its distribution network from 255 million cubic feet to 420 million cubic feet a day (SDG 7). The expansion generated more than $900 million in savings in fossil fuel use every year.

Figure 2.9. Private Capital Mobilization Project Performance, by Sector and Sustainable Development Goal



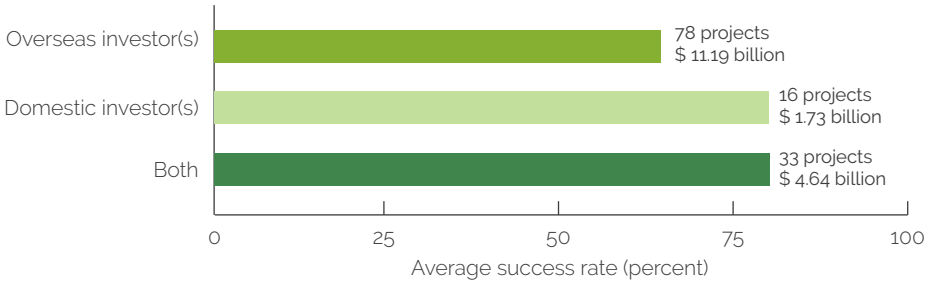
Source: Independent Evaluation Group analysis.

Note: Positive refers to projects with development outcomes rated mostly satisfactory or better. SDG 1: no poverty; SDG 2: zero hunger; SDG 3: good health and well-being; SDG 4: quality education; SDG 5: gender equality; SDG 6: clean water and sanitation; SDG 7: affordable and clean energy; SDG 8: decent work and economic growth; SDG 9: industry, innovation and infrastructure; SDG 10: reduced inequalities; SDG 11: sustainable cities and communities; SDG 12: responsible consumption and production; SDG 13: climate action; SDG 14: life below water; SDG 15: life on land; SDG 16: peace, justice, and strong institutions; SDG 17: partnerships for the goals. SDG = Sustainable Development Goal.

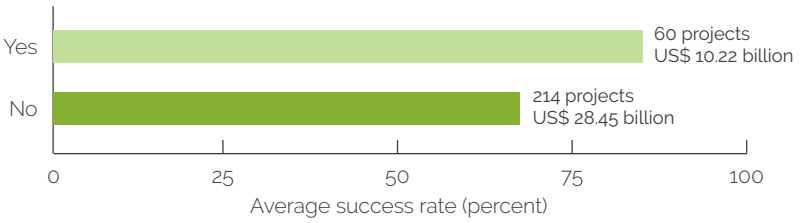
Projects with domestic investors and MDB finance achieved higher development outcome ratings than projects with foreign or South-South investors. Overseas investors were more involved in PCM projects than domestic investors were, investing $17 billion compared with domestic investors at $4 billion, according to the evaluated PCM portfolio. Yet from an outcome perspective, PCM projects with domestic investors (16) were relatively more successful at an 80 percent success rate, compared with a 64 percent success rate in PCM projects with only foreign investors (78). This can be explained by the greater amount of time and effort spent on project preparation and inputs from investors with greater knowledge of the host country. PCM projects with involvement from other MDBs had a higher success rate (60 projects, 85 percent success rate) than projects without the involvement of other MDBs (214 projects, 67 percent success rate; figure 2.10) as a result of heightened due diligence at commitment; better environmental, social, and governance alignment; and greater compliance during implementation.

Figure 2.10. Private Capital Mobilization Success Rates, by Investor and Partner Types

a. Domestic versus overseas investors



b. Multilateral development bank involvement

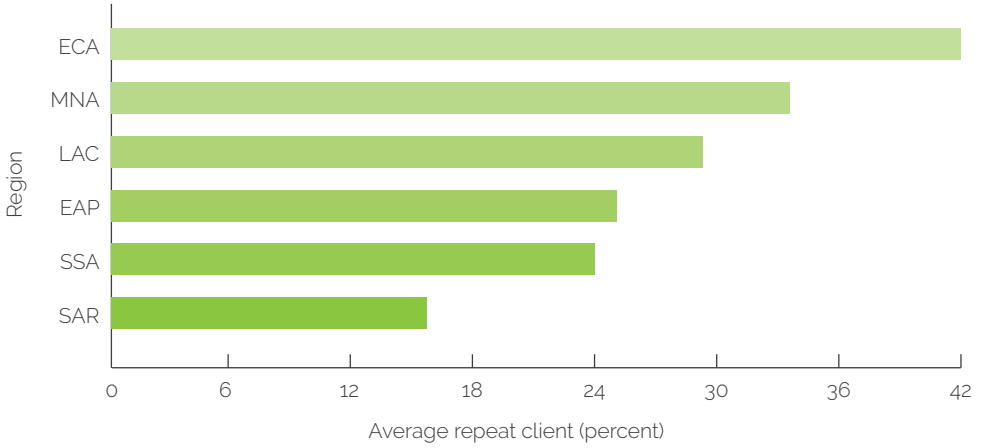


Source: Independent Evaluation Group portfolio review and analysis.

IFC PCM projects were mostly effective in terms of additionality and demonstration effects. The effectiveness of PCM projects can be measured by additionality and demonstration effects (new or increased commitments or replications of aspects of the project in terms of demonstrated success).[4] IFC financial additionality was observed in 32 percent of IFC PCM projects,[5] but only 18.8 percent of IFC PCM projects had both financial and nonfinancial additionality. Demonstration effects were observed through IFC project-level evaluations in 25 percent of IFC PCM projects. More than 30 percent of IFC investment projects in the Europe and Central Asia Region led to demonstration effects or repeat clients or investors (figure 2.11). IFC client engagements with 78 client groups led to repeat transactions, in some cases more than three transactions. World Bank guarantees led to demonstration effects mostly in the energy sector (for example, guarantees support to the Scaling Solar Program). Demonstration effects from World Bank PCM projects overall were not significant for the small sample of projects analyzed. Examples of demonstration effects include the following:

- For phase 1 of the Colombia Fourth Generation Roads Concession Program (4G) program, which was part of a broad Bank Group engagement on infrastructure and capital market development in Colombia, IFC helped launch one of the first infrastructure debt funds in the country. The fund opened a path for institutional investors to invest in road projects that were crucial for the country. The success of phase 1 demonstrated that Colombia roads projects could be profitable investments for institutional investors, and the fund subsequently raised $400 million from pension funds.
- IFC marketed the Albania Hydros PPP engagement to a broad community of investors outside the traditional circle of Western European energy utilities. Because of this marketing campaign, the project attracted foreign investors, first from Turkey, then from Bosnia and Herzegovina and from Georgia. The success of the Albania Hydros PPP project demonstrated that energy projects in Albania could be attractive to foreign investors.

Figure 2.11. International Finance Corporation Repeat Engagements, by Regions and Clients, 2007–18



Source: Independent Evaluation Group portfolio review and analysis.

Note: Percentages represent the ratio of repeat clients to private capital mobilization engagements. EAP = East Asia and Pacific; ECA = Europe and Central Asia; LAC = Latin America and the Caribbean; MNA = Middle East and North Africa; SAR = South Asia; SSA = Sub-Saharan Africa.

Relevance and Effectiveness of PCM Instruments

This section describes the relevance and effectiveness of Bank Group PCM instruments. It focuses on both the project design stage (when PCM instruments are introduced and investors are engaged) and the project implementation and completion stages. It covers (i) World Bank guarantees, (ii) IFC PCM debt instruments and platforms, (iii) IFC equity mobilization, (iv) IFC PPP advisory activities, and (v) MIGA guarantees. (Table 1.1 provides an overview and some examples of these instruments.)

World Bank Guarantees

World Bank guarantees were mostly relevant and effective. During the evaluation period, the World Bank used partial risk guarantees and partial credit guarantees to help clients overcome financial challenges and PBGs to help clients overcome reform challenges. The impact of the partial risk

guarantees and partial credit guarantees differed depending on the issuer and the rating provided by external rating agencies (namely Standard & Poor's, Moody's, and Fitch Ratings). B-rated countries benefited from pricing impact, improved maturity, and facilitated market access. With lower uncovered yields, BB-rated countries benefited from marketing the guarantee's issuance with messages about World Bank support and gained credit enhancements, potentially reaching investment grade. The PBGs were aligned with clients' needs for improved market access, potential diversification of the creditor base, longer maturity, and lower interest rates. For example, the four PBGs issued in the Balkans allowed governments to raise new private finance of $1 billion at terms that were acceptable to the ministries of finance. The guarantees secured total commercial bank credit of €780 million, with maturities of five to seven years at the commitment stage. Similarly, in Benin, a PBG providing 40 percent coverage allowed the government to access commercial loans for $450 million at favorable terms. Through the PBG, the government of Benin made key changes in the power utility to ensure more reliable electricity, a significant investment barrier for the agricultural processing sector. Commercial and institutional investors perceived the guarantee as a signal of the World Bank's faith in the credit and economic fundamentals of the country, for example, in Ghana (box 2.1).

Box 2.1. Relevance and Effectiveness of Policy-Based Guarantees in Ghana

The World Bank and the government of Ghana initiated a macroeconomic reform policy-based guarantee (PBG) operation, First Macroeconomic Stability for Competitiveness and Growth (2015), which included a $400 million guarantee to enable raising up to $1 billion in the international bond market. The transaction achievements included (i) the first PBG-supported bond issuance in the market in 14 years; (ii) the longest Eurobond tenor of 15 years first achieved by a Sub-Saharan Africa sovereign, except for South Africa; (iii) reduction of yields by 150–200 basis points compared with a theoretical uncovered 15-year Eurobond (theoretical because Ghana did not have stand-alone access); and (iv) a 100 percent oversubscribed order book with a diversified investor base compared with stand-alone bonds. Furthermore, about 15 percent of the final order book went to new investors, which helped expand the investor base.

(continued)

Box 2.1. Relevance and Effectiveness of Policy-Based Guarantees in Ghana *(continued)*

Ghana used the proceeds of the issue to refinance short-term domestic debt (90 days to 2 years), coming up for refinancing at a nominal interest rate of 25 percent at a time when there was no market access. Ghana's currency, the cedi, has also been relatively stable since the Ghana 2020 issuance.

Investors choosing to invest in the Eurobond emphasized the importance of World Bank support as a necessary credit enhancement to make them comfortable with the offering. Investors first assessed Ghana's stand-alone creditworthiness, which they considered the key investment driver. Being convinced by the creditworthiness assessment was a necessary but not sufficient condition for investment, and the PBG was instrumental in the institutional investors' decision to invest. Investors benefited from the World Bank's independent opinion on the country and were able to rely on a set of prior actions as part of the World Bank and International Monetary Fund reform program, helping lay a foundation for positive medium- and long-term prospects.

Source: Independent Evaluation Group Ghana case study, interviews with institutional investors.

Demand for World Bank guarantees could increase in the short term because of the coronavirus pandemic (COVID-19). In light of potentially greater demand for PBGs because of the financial implications of COVID-19 in Bank Group client countries, there is a need for more comprehensive World Bank–wide corporate guidance on borrowing modalities and on the roles and responsibilities of relevant units in the World Bank through a memorandum of understanding between the Global Practices (GPs); Infrastructure, Public-Private Partnerships, and Guarantees; and the Regions.

IFC PCM Debt Instruments and Platforms

Clients and investors perceive IFC's PCM debt instruments and platforms—especially B loan syndications and the Managed Co-lending Portfolio Program (MCPP)—as highly relevant. B loans and the MCPP, both syndicated loans, together drive nearly 80 percent of IFC's total PCM volume. B loan syndications and the MCPP improved the bankability and financing structure of

projects compared with those that the clients would have obtained from local markets. For example, in Bangladesh, Jordan, and Zambia, commercial bank lending terms are at less than five years and are insufficient for infrastructure asset development. Investors and syndicates of commercial banks perceived IFC as a valued partner for entering difficult countries. Investors benefited from IFC's independent opinion on the country and were able to rely on a set of prior actions (either as part of World Bank and International Monetary Fund ongoing reform programs or as part of upstream engagements), helping lay a foundation for positive medium- and long-term reform prospects.

IFC's pioneer debt mobilization platform, MCPP-SAFE (State Administration for Foreign Exchange), has been effective. The MCPP, established in 2013, is a "wholesale" way or platform approach of mobilizing debt capital from private entities and development partners. It leverages IFC's project pipeline and due diligence skills to source opportunities for third-party investors to co-lend to projects or groups of projects alongside IFC on commercial terms. The MCPP gives IFC the ability to provide larger financing packages than it could provide from its own account and increases the pool of financing available for achieving development goals. The MCPP leverages a loan portfolio for an investor that mirrors the portfolio IFC is creating for its own account, similar to an index fund, for example, with the Chinese institutional investor SAFE (box 2.2). MCPP has increased clients' access to finance, especially in IDA countries, and facilitated portfolio diversification for the institutional investors.

Box 2.2. Achievements of the International Finance Corporation MCPP-SAFE Platform

The trust fund approach under the Managed Co-lending Portfolio Program (MCPP) with China's sovereign agency State Administration of Foreign Exchange (SAFE) is an important pilot that was successfully replicated with the Hong Kong Monetary Authority to mobilize private capital. The program allowed strategic deployment of China's foreign exchange reserves through the International Finance Corporation (IFC), generating returns, knowledge, and credit assessment insights for the Chinese sovereign-linked investor, primarily into East Asia and Pacific, Sub-Saharan Africa, and Latin

(continued)

Box 2.2. Achievements of the International Finance Corporation MCPP-SAFE Platform *(continued)*

America and the Caribbean. The MCPP-SAFE approach benefited from IFC's presence across all emerging market and developing economy countries. It also benefited from access to a global pipeline of emerging market and developing economy projects. The MCPP provided SAFE with unique opportunities and access to emerging markets, a footprint SAFE does not have. SAFE considers the MCPP one of the more innovative investments in its portfolio because it allows SAFE to review and analyze similar commercial projects on a deal-by-deal basis. Private capital mobilized from SAFE was disbursed widely by region and by country groups, and was concentrated on non–International Development Association, nonfragile countries, partly driven by the characteristics of the development projects in IFC's pipeline. Most of these borrowers have the capacity to meet their financial commitments and are less vulnerable to nonpayment than other speculative projects.

Source: Independent Evaluation Group review of the MCPP platform.

IFC's bond mobilization platform, the Green Cornerstone Bond Fund (GCBF), has been effective. Through its pioneering GCBF, IFC achieved positive PCM outcomes in its bond mobilization efforts by increasing client firms' access to green loans through intermediary financial institutions (for example, green loans to firms in India). In addition to supporting solar and wind generation projects, the loans were used for energy efficiency and urban transport solutions (Axis Bank 2019). This platform, developed in partnership with Amundi Fund Manager, has shown both demonstration effects in other client countries (for example, the Philippines) and replication effects in other MDBs.

IFC B loans are effective at the firm level, whereas their demonstration effects were less pronounced at the country level. B loans led to repeat transactions with clients and commercial bank partners. They had a positive effect on client firms' access to finance. First, firms that borrowed from an IFC syndicated loan experienced a larger growth in access to funding than firms that did not borrow from an IFC syndicated loan. Second, firms that did not access the syndicated loan market before borrowing from an IFC syndicated loan were able to

add an additional 70 percent in funding from private lenders after accessing an IFC syndicated loan. In this approach, both participants and borrowers benefit from IFC's presence and activities at the project level, its risk mitigation capabilities, and its preferred creditor status. Borrowers benefit from a potentially longer tenor of the loan, diversified yet simpler documentation with IFC as the single lender of record, and new banking relationships. In many projects, client firms achieved longer tenors than were available in the local market. This yields an empirical hypothesis that involvement of IFC in the loan syndication market should lead to faster growth in this market (appendix C). However, on a country-by-country basis, IEG finds that although syndicated loan growth remains positive in the post-IFC involvement period, it is lower than growth in the pre-IFC period, suggesting less of a demonstration effect than expected from IFC's entry into the country. Domestic lenders could not participate in the B loan program, and local currency solutions were limited. The overlap between IFC and non-IFC lending suggests that the effectiveness and additionality of the B loan program beyond firm needs is limited.

IFC Equity Mobilization

Expectations that IFC AMC will result in improvement of IFC's development outcomes have not been realized thus far. Two of the five AMC funds evaluated (*Meso-evaluation of IFC Asset Management Company*, IEG, 2018) made investments which resulted in IFC mostly meeting its development objectives concerning low-income country (LIC exposure) – but IDA exposure for these funds is below levels that IFC would hope for. Although AMC has enabled IFC to finance large transactions in which it would not have otherwise been able to participate in and IFC's investments in the funds have generated income on the IFC account, the quantity or quality of IFC's investments or IFC's outcomes have not changed. The number of new transactions and the investment volume of IFC have remained largely flat from equity financing approaches. AMC's value proposition to IFC was predicated on the assumption that there is more demand for IFC's financing than IFC has the capacity to meet from its own balance sheet. The stagnant business, however, suggests that the reverse is true and that more project pipeline generation work is required to translate latent demand into investable opportunities, in proportion to the private capital raised and pooled in the form of AMC-managed funds.

IFC PPP Advisory Activities

IFC PPP advisory services are relevant and made a significant contribution to IFC's core mobilization, totaling more than $1 billion in recent years. Clients highly value IFC PPP advisory work, recognizing IFC's ability to convene private sector operators for PPP bids, offer neutral review of private sector proposals, and structure PPP transaction solutions that involve expertise from various parts of the Bank Group and from other partners. They also value its ability to act as a neutral party and its contacts with emerging market investors. PPP advisory has succeeded in bringing domestic and South-South bidders from other emerging markets: more than half of projects awarded over FY07–18 had a winning bidder in one of these two categories. Mobilization volumes are concentrated in a small number of countries—Brazil accounts for almost 40 percent of mobilization volumes over the period under review, and the three largest countries (which include Colombia and the Philippines) account for 61 percent.

IFC PPP advisory services have been effective. Effectiveness was demonstrated, for example, in the Colombia 4G roads program, where joint World Bank and IFC teams undertook upstream institutional capacity building and strengthening, in addition to work on capital market policies and regulations. This, together with the IFC PPP advisory project, helped the success of the engagement, which also saw investment in projects by IFC and support by investors to MIGA. By March 2017, 32 projects in the 4G program were successfully awarded, for a total expected investment of $14.8 billion. On completion, the new highway network (293 kilometers of new roads) will significantly increase connectivity between the northern departments, the country's coffee-growing regions, and the Port of Buenaventura. Although PPP advisory makes a sizable contribution to IFC's core mobilization, it is small when compared with the global market for PPPs. Brazil and India, two very large PPP markets with correspondingly large advisory businesses, account for 44 percent of PPP mobilization projects. The catalytic effects stemming from IBRD's efforts—for example, replication of transactions that do not involve IFC—are also important.

There is a positive relationship between MDB (including Bank Group) participation in PPPs and private capital mobilized subsequently as demonstra-

tion effects. IEG undertook empirical work using the Private Participation in Infrastructure Database to assess the impact of MDB financing on private infrastructure investments over 2007–18.[6] Through this work, IEG found a positive relationship between MDB participation and the number of projects and the volume of investments supported through IFC PPP advisory services (appendix H). More research and analysis would be needed to ascertain causal relationships.

IFC PCM approaches can help respond to COVID-19. The most relevant instruments in the short-term response phase are IFC trade finance and distressed asset management approaches through the Global Trade Finance Program, the Global Trade Liquidity Program, and the Distressed Asset Recovery Program. In the mitigation and recovery phase, equity mobilization approaches through the AMC are highly relevant to support firms that are cash strapped and have limited capacity to take on additional debt.

MIGA Guarantees

MIGA guarantees are relevant, and MIGA has broadened the market for its PCM instruments beyond political risk insurance. Stakeholder interviews suggest that MIGA has demonstrated relevance to clients and partners' needs in the following ways: (i) covering additional risk types (for example, through credit enhancement), (ii) broadening coverage to encompass different underlying financial instruments (for example, swaps and bond issuances), (iii) expanding coverage to new investor groups, and (iv) designing new types of project structures that increase the relevance of political risk insurance.

MIGA instruments have been relevant in crisis situations. MIGA projects in finance and capital markets evaluated by IEG in FY12–17 were created in response to the global financial crisis. Of 18 MIGA finance and capital markets projects evaluated by IEG, 14 were in the Europe and Central Asia Region. These projects focused on strengthening local financial sectors by enabling banks to improve their assets and liability management and to provide long-term funding in the markets. The projects that succeeded did so by, for example, securing financing from other financial institutions or supporting targeted rather than general-purpose interventions. Some successful projects focused on development impacts rather than merely refinancing of

banks. However, most projects did not succeed. Weak outcomes stemmed from deteriorating macroeconomic conditions affecting bank performance and asset quality, high leverage, and weak environmental and social aspects in some projects.

MIGA instruments have been effective in the energy and extractive industries and infrastructure sectors, which together reveal a step change in outcome rating from 52 percent in FY06–11 to 77 percent in FY12–17. Projects in these sectors were successful because of strategic relevance to countries, a stable regulatory environment, sponsors with strong track records, stable demand, and competitive products (that is, lower production costs of power generation projects supported by MIGA). MIGA nonhonoring guarantees have been relevant but could increase effectiveness further. MIGA's nonhonoring of financial obligations guarantee instruments demonstrated relevance to private sector clients by, for example, facilitating an investor to obtain an award to file a claim for compensation with MIGA. MIGA has enhanced its additionality through the nonhonoring guarantees instrument focused on public sector clients. Yet MIGA's influence with its public sector clients is limited to environmental and social compliance and practices (based on IEG's microevaluation program findings). The IEG evaluation on MIGA's nonhonoring guarantee finds that, other than the support for better environmental and social sustainability practices, there is no evidence that MIGA's nonhonoring insurance has encouraged public sector clients to adopt increased transparency and disclosure; good corporate governance practices; or anti-money-laundering, anticorruption, or antifraud practices (MIGA 2013).

MIGA's reinsurance program is both relevant and effective. MIGA and its partners share risk by purchasing reinsurance policies from each other, reducing the exposure they would face individually on certain projects, sectors, or countries. This, in turn, allows MIGA to support projects that are better aligned with MIGA's capital position and risk appetite. In recent years, MIGA has used the reinsurance program to manage exposure by working with both public and private sector reinsurers, crowding in new insurance partners and managing their portfolios, capital, and risk exposure, leading to increased potential for PCM.

MIGA's collaborative efforts with IFC and the World Bank were backed by innovative efforts to increase its PCM volume and reinsurance capacity. Nine

joint (cofinancing and sequential) projects with IFC and IBRD together, three cofinanced projects with IFC, and two with IBRD have increased MIGA's PCM volume achievements. Through an innovative IBRD-MIGA exposure exchange agreement, MIGA further expanded its headroom for additional guarantee capacity.

MIGA has the potential to help with the COVID-19 emergency response. MIGA's nonhonoring guarantees can help subnational governments respond to COVID-19, and MIGA could address COVID-19 implications on FDIs by innovating its product suite. MIGA's plan to use its nonhonoring product to guarantee subnational governments' acquisition of protective equipment and ventilators—which are critical to addressing the crisis—is timely. According to its latest Strategic Business Outlook FY21–23, MIGA has identified six initial areas for new product applications in the following areas: capital markets solutions, select local currency solutions, capital relief (especially for project finance), trade finance, systematic IFC-MIGA product collaboration, and support for domestic investors.

PCM-Led Country Reforms

Three factors are associated with PCM at the country level: (i) World Bank policy work through development policy operations (DPOs) or technical assistance that supports reforms to improve sector policy frameworks and financial viability of the sector; (ii) a deliberate, joint World Bank–IFC–MIGA approach to the enabling environment for development of a sector; and (iii) opportunistic efforts in unregulated or lightly regulated jurisdictions. Evidence is mostly based on PCM approaches in the energy sector. Evidence from projects in the financial sector or in other infrastructure sectors is limited.

Bank Group policy work supporting sector reforms based on countries' needs enabled PCM. In cases like Ghana and Jordan, the catalytic efforts were focused on strengthening sector enabling frameworks that led to PCM. For example, in Jordan, the World Bank's upstream interventions shaped the creation of markets and strengthened the financial situation of the utility. The interventions included technical assistance to develop the wind power market, as well as prior actions on power tariffs in development policy loans.

They facilitated sustained mobilization by the World Bank in the energy sector, including in renewables. DPOs also supported macro and public sector management reforms that helped facilitate PCM in the renewable energy sector. In Ghana, sector enabling reforms were covered by prior actions for DPOs. They focused on financial sustainability of the state offtaker in the power sector. DPOs also helped introduce the Extractive Industries Transparency Initiative standards, which led to PCM activities. The World Bank supported these initiatives without an explicit joint plan or deliberate joint interventions with IFC and MIGA.

A joint, and in some cases deliberate, World Bank–IFC–MIGA effort to develop the enabling environment, including by applying the Cascade framework, is associated with PCM.

» In the Arab Republic of Egypt, the World Bank, IFC, and MIGA developed a joint approach to reforms for the broader economy—but also specifically for the energy sector—with the objective of mobilizing private capital. The World Bank and IFC developed a joint implementation plan for the energy sector, with the objective of pursuing private sector solutions first and in line with the Cascade framework. Among other things, this plan identified renewables and upstream gas as priority areas for private investment. Three World Bank development policy financing loans between 2014 and 2018 supported the enactment of relevant laws. One reformed the energy sector (including establishing an independent regulator). The second set up a strategic policy unit in the minister's office. The third implemented a progressive increase of electricity tariffs. In 2017 and 2018, IFC provided a $200 million loan to a solar feed-in tariff program, mobilizing $450 million in B loans and parallel loans. At the same time, MIGA provided a political risk insurance guarantee of up to $197 million for solar projects (figure 2.12).

Figure 2.12. Link between World Bank Country Reforms and Private Capital Mobilization in the Egyptian Electricity Sector

Note: DPF = development policy financing; EBRD = European Bank for Reconstruction and Development; EETC = Egyptian Electricity Transmission Company; FiT = feed-in tariff; GoE = government of Egypt; IFC = International Finance Corporation; MIGA = Multilateral Investment Guarantee Agency; MW = megawatts; TA = technical assistance.

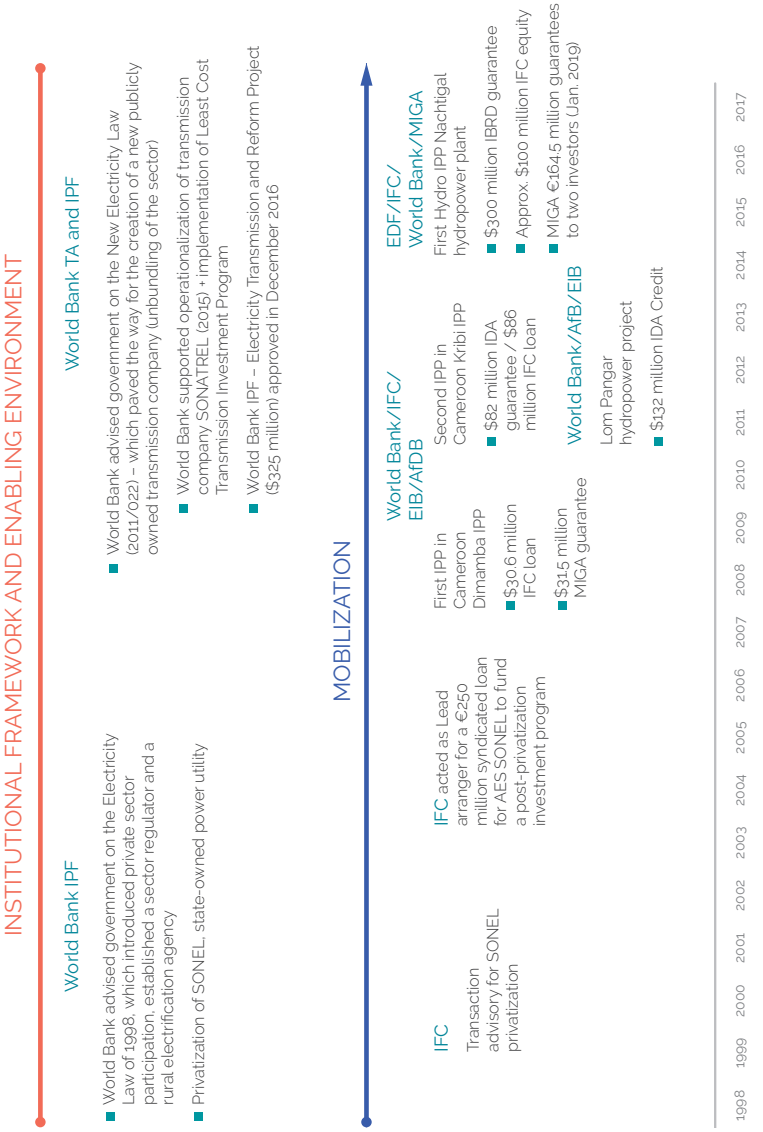
» In Cameroon, parallel public investments and a DPO created an enabling environment for the establishment of the first hydro plant in the country (Nachtigal). IFC financed the plant ($100 million equity investment) with a $300 million guarantee from IBRD and a $188 million guarantee from MIGA. The World Bank, through investment project financing and technical assistance, contributed to enhance the financial viability of the sector through early reforms, including the passage of a revised electricity law introducing private sector participation and supporting privatization of the state-owned power utility. Although in this case the World Bank, IFC, and MIGA did not have a joint plan focused on the energy sector and worked in parallel without a deliberate joint program from inception, their interventions were highly complementary and ultimately converged to unlock PCM opportunities (figure 2.13).

Although effective in terms of outcome achieved, implementing joint Bank Group interventions can be challenging because of procedural gaps and institutional differences. A review of joint projects found that such efforts entailed higher transaction costs caused by more coordination, overlapping processes, and differing requirements.[7] These often led to delays in project completion, requiring extra project preparation, appraisal, and intra–Bank Group coordination. Clients had to comply with two sets of World Bank and IFC environmental and social requirements. Clients in joint projects (both public sector clients of the World Bank and private sector clients of IFC) also did not always understand the overlaps and complementarities between, and value added of, different Bank Group products. Furthermore, evaluative data gaps on joint Bank Group approaches at the sector level in a given country constrain PCM outcome achievements. Many project-level evaluations (more than 75 percent sampled) do not comment substantively on upstream efforts or Bank Group collaboration that preceded PCM projects.

PCM can also be achieved in countries with weak enabling environments if project designs are robust. In Argentina, the World Bank provided technical inputs to shape the approach to renewable energy, and a change in administration and approach presented an opportunity for Bank Group mobilization before a full sector reform initiative. IFC advisory services were able to assist the government in implementing its plans for renewable energy auctions, and the World Bank was able to provide a guarantee to backstop government commitments under the renewable energy fund. The Argentina example sug-

gests that countries can succeed at PCM despite nonconducive investment climates and overall unregulated or lightly regulated environments. This indicates that the Bank Group can look for PCM opportunities even if the enabling environment is not conducive to private investment.

Figure 2.13. Link between World Bank Country Reforms and Private Capital Mobilization in Cameroon Electricity Sector



Note: AfDB = African Development Bank; EDF = Electricite de France; EIB = European Investment Bank; IBRD = International Bank for Reconstruction and Development; IDA = International Development Association; IFC = International Finance Corporation; IPF = investment project financing; IPP = Independent Power Producer; MIGA = Multilateral Investment Guarantee Agency; TA = technical assistance.

[1] The two institutions maintain different sets of definitions internally per their business model and operational needs. The World Bank counts private capital mobilization (PCM) activities at Board of Executive Directors approval rather than financing commitments from third-party capital providers. This tends to overcount World Bank PCM volumes in the case of project cancellations after approval. IFC counts public sources of capital in its core mobilization ratio but at the project commitment stage.

[2] Climate cobenefits are counted as the portion of project financing that delivers either mitigation or adaptation benefits to project beneficiaries.

[3] International Development Association status was defined as the client country's International Development Association status at the time of project approval.

[4] Demonstration effects are observed in four ways:

- A project sponsor or investor commits to new PCM projects based on the success of a prior PCM project in which they participated, suggesting risk mitigated in the same sector or country as a result of Bank Group intervention;
- An investor or commercial bank lends to the same PCM project as it expands its operations or moves to the next phase of development;
- A new project sponsor or new investor commits to new PCM projects based on the success achieved by other sponsors or investors; and
- Multilateral development banks or development finance institutions replicate the financing structure of the instrument or platforms in their own portfolio.

[5] Financial additionality means contributions beyond what is already available in the market and not crowding out the private sector.

[6] Private Participation in Infrastructure Database, World Bank, Washington, DC, https://ppi.worldbank.org/en/ppi.

[7] Independent Evaluation Group reviews and reports have addressed some of the constraints to more effective collaboration, including the learning review of *World Bank Group Joint Projects: A Review of Two Decades of Experience* and the joint Independent Evaluation Group–International Finance Corporation report on joint implementation plans (World Bank 2017).

3 Constraints on PCM and Opportunities to Scale Up

This chapter identifies constraints on PCM, opportunities for scale-up, and areas for further research. The external constraints are (i) regulatory framework, (ii) client capacity, and (iii) capacity to work with MDBs and meet government-to-government (G2G) competition. Internal constraints are (i) Bank Group target setting and implementation, and (ii) instruments and platform approaches. The chapter also includes an efficient frontier analysis that identifies opportunities for PCM scale-up. Finally, it identifies areas for further research.

External Constraints

External constraints are those that governments or all MDBs jointly are best placed to address. They include regulatory and client capacity constraints, lack of coordination among MDBs, and competition from government agencies. The Bank Group supports governments in tackling external constraints through catalyzation activities aimed at improving countries' policies and regulations, including lending (mostly DPOs to support policy changes and investment project financing for clients' capacity building) and technical assistance or upstream advisory. External constraints also exist based on the level of market openness, trade openness, political and economic stability, natural resource management, and human capital development. Addressing external constraints is important for PCM. However, these constraints are not at the core of this report's analysis and are reviewed only briefly in this section.

Banking and Regulatory Frameworks

The banking and investment regulatory frameworks affect PCM at the country level. EMDEs rely much more on bank loans and cross-border loans for infrastructure finance than other economies do. Institutional investors in different constituencies are subject to legal regimes of varying rigidity, especially regulations on Organisation for Economic Co-operation and Development (OECD) country capital stocks to limit funding to EMDEs. Three sets of regulations can be relevant for investment (particularly for infrastructure investment): accounting, solvency, and investment rules. Fair value International Financial Reporting Standards accounting rules for financial institutions can lead to de-risking and shorter-term investing. Risk-based solvency rules for insurance companies and pension funds potentially also lead to procyclical investment behavior.[1] Pension funds in most countries, for example, face some quantitative or qualitative investment restrictions.[2] Regulation of asset owners and asset managers also has side effects in this context.[3] More research is needed on the impact of financial regulations on PCM, including on possible trade-offs between financial stability and creation of an environment that is conducive to private investment opportunities.

Mobilizing domestic institutional investors can be a major constraint to PCM. Domestic institutional investors, a key source of PCM, tend to be highly risk averse and tightly regulated. Nevertheless, mobilizing domestic institutional investors like pension and insurance funds has extraordinary potential for financing key priority areas for Bank Group client countries. It is estimated that $1 trillion of resources in developing countries are parked in safe assets originating in OECD countries rather than being invested to develop infrastructure and financial sectors domestically. Some creative approaches to expand the appetite of local institutional investors have been successful (box 3.1).

Box 3.1. InfraCredit Nigeria: Mobilizing Domestic Institutional Investors

GuarantCo—a small, multilateral development finance institution that provides guarantees and technical assistance in support of local currency capital market development—has sought creative ways to expand the appetite of local institutional investors and has had some success in countries like Nigeria. One of GuarantCo's innovations was to support the creation of InfraCredit Nigeria, a local institution with equity stakes by the Nigerian government and development finance institutions like Germany's KfW. InfraCredit helps credit-enhance local bond issuances related to infrastructure to a level that allows local pension funds to invest in them. GuarantCo itself contributed only $50 million in contingent capital but was intensively involved in providing technical assistance to set up the new institution and engaging in dialogue with Nigerian capital market participants and regulators. Thus far, InfraCredit has successfully enhanced two major bond issues: a Nigerian naira (N)10 billion, 10-year bond in January 2018, and an N8.5 billion, 15-year bond in February 2019. The latter, for a hydroelectric facility, was the first certified corporate green bond issued in Nigeria. Thus, using only a relatively small, unfunded contingent contribution, coupled with intensive technical assistance, GuarantCo gave a major boost to the engagement of local institutional investors in Nigeria's capital market. Based on this successful example, GuarantCo is launching a similar project in Pakistan.

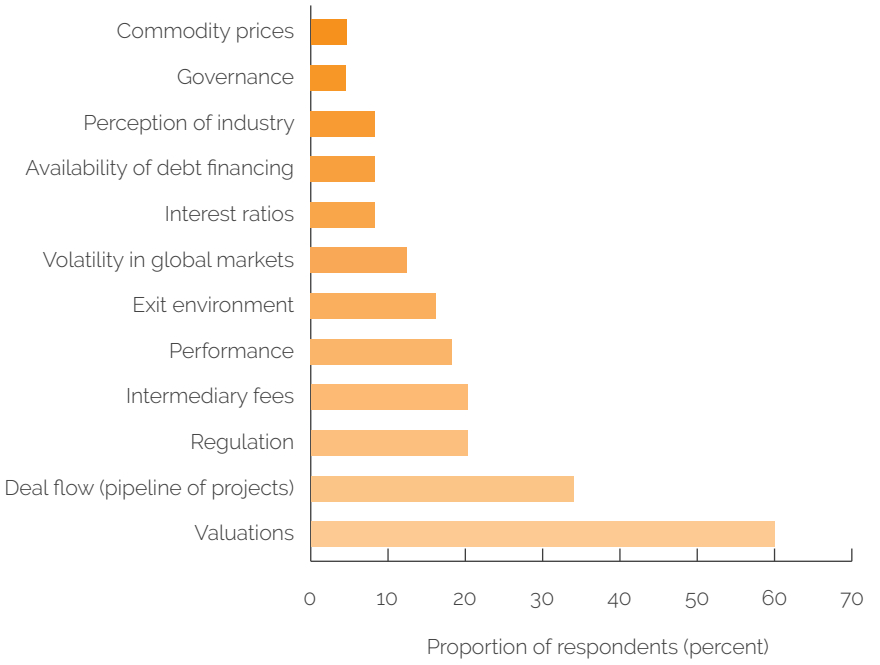
Source: Independent Evaluation Group industry interviews.

Client Capacity

Client capacity and knowledge of PCM instruments and platforms can be a constraint on expanding PCM. With increasing debt, clients are willing to explore alternatives through private financing, but their understanding of PCM instruments and platforms is often limited. Government counterparts are critical to developing PCM, including by proposing relevant deals. Despite their overall interest in PCM approaches, however, clients often perceive the involvement of private actors and Bank Group PCM instruments as riskier than traditional World Bank instruments such as investment project financing and DPOs. In many cases, government clients that are used to concessional loans do not understand the opportunities and consequences of

PCM instruments. Bank Group staff play a key role in engaging with government counterparts to identify relevant deals and in building their capacity to pursue them. Helping clients identify a pipeline of bankable projects and valuate them correctly is particularly critical (figure 3.1), as is helping clients understand the costs and benefits of various Bank Group PCM products. A prerequisite for technical staff to engage with clients on PCM approaches is getting expression of interest on PCM from clients and having PCM approaches in the Bank Group country strategies, which technical staff say is often difficult. Clients also have a limited understanding of alternatives to World Bank guarantees. For example, some clients (such as Bangladesh) do not take into account the contingent liability, counterparty risk, or implications of the counterguarantee mechanism in other forms. Other clients (for example, Ghana and Mongolia) pursue G2G guarantee mechanisms without indemnity agreements. Still others (for example, Zambia) issue sovereign debt on international capital markets as alternatives to PCM solutions and take on market risks directly.

Figure 3.1. Key Issues for Infrastructure Investors



Source: Independent Evaluation Group Global Investor Survey; Preqin 2018.

Working across MDBs and G2G Competition

DFIs and MDBs need skills to engage with private sector actors, both project sponsors and investors, including on financial structuring. Apart from IFC and the European Bank for Reconstruction and Development, most MDBs have long histories of public sector lending, and their staff and processes are geared toward that end. Reorienting to the kind of staff capacity and processes needed to mobilize private investment will require the DFIs to make concerted efforts to build the skills to structure more complex financial arrangements.

Several factors constrain MDB collaboration on PCM (for example, exposure exchanges). Most private sector mobilization—especially syndication—takes place with financing provided to private sector, nonsovereign clients. Indeed, all framework arrangements for collaboration thus far have included only nonsovereign projects.[4] Both the quantity and the quality of the project pipeline are critical for MDBs in pursuing collaboration to increase PCM. Exposure exchanges have the potential to increase the PCM capacity of the development partners.[5] However, they are limited by several constraints: the project pipeline, the legal and statutory constraints of each development partner, and the tendency of MDBs not to consider exposure exchanges as a potential avenue to increase PCM. Despite these constraints, some institutions have found innovative ways to optimize their balance sheets and pursue exposure exchanges, increasing both PCM and their headroom for future lending, including for sectors that do not easily attract private capital (box 3.2).

Box 3.2. African Development Bank Portfolio Risk Transfer: An Example of Exposure Exchange

In September and October 2018, the African Development Bank (AfDB) undertook two groundbreaking operations that involved transferring a portion of the risk in its portfolio of development loans to private sector investors. The transfers freed up resources for additional lending, including lending for development of social sectors for which it is difficult to mobilize private capital. In the first operation, AfDB undertook a synthetic securitization, wherein it sold off a portion of the risk embedded in a set of 40 private sector loans worth about $1 billion on its books to a group of investors led by Mariner, a United States–based impact investment fund, with support from the European Commission. Investors receive annual payments of 10.65 percent for the duration of the arrangement in exchange for assuming one of the junior (riskier) tranches of the loans. In return, AfDB received total capital headroom relief of $650 million for future lending. Unlike true securitization, where loans are removed from the books of the originating institution, these loans stayed legally on AfDB's books, and AfDB will continue to administer them for their life. These techniques could be scaled up to involve investors in development finance at the same time as addressing the headroom constraints of development finance institutions to channel greater financial resources to clients and sectors that do not typically attract private capital.

Source: Independent Evaluation Group industry interviews.

G2G sovereign lending can limit the Bank Group's potential to scale up PCM. G2G direct lending undercuts MDBs in terms of financing structure, loan pricing, loan tenor, and processing time. It can also distort private actors' expectations of the addressable project pipeline in a country and reduce the addressable market for MDBs in general, especially on infrastructure financing.

- OECD countries typically pursue G2G lending in EMDEs directly through special investment vehicles to boost returns on their national savings and as an alternative to traditional, fixed income investments. The sovereign investor base that pursues G2G has expanded from OECD countries to South investors, increasing competition among sovereigns. This is particularly evident in the Sub-Saharan Africa, South Asia, and East Asia and Pacific Regions.[6]

» Middle East sovereigns (for example, Qatar, Saudi Arabia, and the United Arab Emirates) were once active only in the Middle East and North Africa Region but have increased commitments to large infrastructure projects across East Asia and Pacific and Southeast Asia (for example, in Indonesia and the Philippines) and in the road and air transport sectors. In Bangladesh, Middle East and North Africa sovereigns fund social sectors with potential for private sector participation through bilateral agreements.

Internal Constraints

The Bank Group can scale up PCM and improve country outcomes by addressing internal constraints on mobilization in two areas: (i) definition and enforcement of Bank Group targets, incentives, and skills; and (ii) design of instruments and platforms.

Target Setting and Implementation

Unclear PCM targets at the operational level and inconsistent measurement methods are a constraint. Although progress has been made to systematize reporting across MDBs, PCM is understood, defined, and discussed differently across the Bank Group institutions. The IFC PCM definitions and targets are clear. However, IFC's notion of core mobilization includes both private capital sources and public capital sources (such as DFIs and sovereign wealth funds) that take on commercial risk from IFC projects. This allows IFC to tap diverse sources of capital for commercial transactions compared with other MDBs and DFIs. The World Bank's accounting of PCM projects at the project approval stage is not aligned with practices at IFC and MIGA, where PCM projects are accounted at the commitment stage. The World Bank may be overestimating PCM because of measuring it at the approval stage rather than at the commitment stage. However, the World Bank may be underestimating PCM because it does not account for certain Treasury advisory activities that mobilize private capital and are aligned with the PCM definitions. Definition shortcomings make measuring PCM results difficult and reduce the meaningfulness of aggregate results in the Bank Group Corporate Scorecard.

World Bank staff do not have incentives to engage and mobilize private actors in World Bank projects and scale up PCM. Although IFC has PCM targets

that cascade down to various units, World Bank memorandums of understanding between Regional vice presidencies and GPs—and related scorecards—do not include PCM targets. World Bank staff report that the motivation to structure PCM deals primarily comes from (i) client demand, (ii) a significant gap in financing, (iii) the limited World Bank lending envelope dedicated to a country, and (iv) rising levels of sovereign debt. These factors are often interrelated. This was especially relevant in discussions with the Transport and Digital Development GP, during which staff mentioned that in some cases, when there is no headroom constraint for the client country, the incentive for PCM is overridden by the incentive to pursue direct lending support from the GP teams. Staff indicated that PCM is used as a mechanism to sustain progress when country strategies and priority sectors shift, reducing the amount of World Bank funding allotted to practice areas that were funded in previous years. Interviewees representing World Bank management and task teams specifically highlighted the need to better align incentives to reward good performance (measured through achievement of PCM targets and pricing) instead of setting targets tied to IBRD or IDA lending operations only. Some task team leaders emphasized the need to put proper systems in place to track progress and efforts made toward structuring PCM deals, and others emphasized the need to track the existing PCM data against the committed targets accurately.

Financial structuring skills are scarce at the World Bank. Few World Bank staff have the technical skills to design PCM interventions. Staff across sectors and ranges of experience, both in the GPs and in Regional teams, repeatedly mentioned this as a constraint. To address this and scale up PCM, suggestions included ramping up relevant training and learning engagements for staff, with an initial focus on providing them with a better understanding of existing instruments. World Bank staff could also bring financial structuring knowledge to operational work by collaborating more systematically with Infrastructure, Public-Private Partnerships, and Guarantees and the Treasury. Involving Treasury and Infrastructure, Public-Private Partnerships, and Guarantees colleagues in operational work would help in scaling up PCM.

The need for supporting implementation of and sustaining regulatory reforms can constrain PCM. Addressing regulatory constraints requires sustained actions, including after private capital is mobilized. Investors seek repeat en-

gagements in client countries and see the participation of the Bank Group as a risk mitigant. Specifically, investors receive comfort from the World Bank's continuous sectorwide engagements. The Cameroon and Egypt cases illustrate the point that concomitant Bank Group support can lead to PCM and generate greater access to infrastructure service delivery. One interviewee highlighted that simple Bank Group technical assistance interventions can have a large multiplier effect, citing the example of Brazil's reform of currency convertibility via its national treasury to achieve investment creditor status. The country cases also highlighted some of the challenges of sustaining reforms. For example, in Argentina, power network transmission capacity is a substantial constraint on the implementation of renewable energy generation and therefore on mobilizing private investment for this sector. In Mongolia, the World Bank undertook upstream work to enhance transparency related to revenues and rents from mining, but the limited success of governance reforms in the sector affected post-PCM activities. In Zambia, continued government capacity weaknesses and a slower pace of sectoral reform have limited the scale-up of initial successes with Bank Group–supported solar projects.

Mobilization Instruments and Platforms

The knowledge of World Bank clients and staff about guarantees is suboptimal. Clients and staff ask whether a guarantee can cover an exposure fully or only partially. Most major MDBs avoid providing full guarantees as a matter of policy for several reasons.[7] Bilateral DFIs tend to have more flexibility and provide 100 percent guarantees. Staff have different opinions as to whether the World Bank policy of not providing 100 percent guarantees is a constraint on PCM.

Domestic lenders cannot benefit fully from IFC B loans. Local financing institutions cannot invest domestically under IFC's umbrella (for example, syndications) per IFC's current policies and as a result cannot impart local knowledge to PCM projects. To partly address this, IFC is trying to innovate by developing derivative products that would extend local currency financing. This, however, will not be a game changer for all countries because of limitations in finding local or overseas swaps with market counterparts.[8] If IFC aims to expand its B loan program and scale up debt mobilization, it has to find new ways to crowd in domestic lenders (for example, local currency syndication products and hedged A-loan participation to free up PCM capacity).

It is not clear whether IFC is achieving adequate returns through debt mobilization platforms, and the return on MCPP needs to be assessed. It is not clear whether IFC is receiving an adequate return after providing first-loss credit enhancement to the initial three third-party fund managers through the MCPP platform. Ideally, an external auditor also needs to assess this platform through an independent risk return analysis. If the return is inadequate given the risk, a timeline should be established for modifying the platform design appropriately, allowing the desire to establish a demonstration effect on debt mobilization platforms.

IFC platforms are not fully aligned with the customs and practices of large institutional investors. Although IFC targets investments in private companies below a certain valuation (low-medium size by industry standards), most target investors for platforms like the MCPP and GCBF have investment portfolios that are vastly larger than IFC's. They are also more sophisticated in their benchmarking approaches to understand their risk return profiles. IFC could either participate in or replicate existing market innovations such as a loan securitization product introduced in Southeast Asia covering a global portfolio of infrastructure projects (box 3.3). Such approaches are not without challenges and need to be carefully studied and potentially piloted (as IFC had attempted to do in Argentina in 1997) to mimic large institutional investors' existing portfolio and risk appetite.

Box 3.3. Bayfront Capital Infrastructure Securitization

In July 2018, a Singapore-based financial institution successfully launched the first large-scale securitization of infrastructure assets in Asia to fill infrastructure financing gaps in the region and increase access to service delivery. Clifford Capital, owned by the Singapore government's sovereign wealth fund, structured a portfolio of 37 project finance and infrastructure loans—totaling $458 million, from 16 countries in the Asia-Pacific and Middle East regions—that faced a financing gap in their construction or expansion stages. The issuance was structured into three notes listed on the Singapore Exchange. Clifford Capital retained an unrated subordinate tranche for 10 percent of the transaction to maturity. The notes were purchased by a mix of major institutional investors in Asia (65 percent), Europe (25 percent), and elsewhere, including insur-

(continued)

Box 3.3. Bayfront Capital Infrastructure Securitization *(continued)*

ance companies, asset managers, pension funds, and bank treasuries. The landmark transaction—projected by Clifford Capital to be the first in a series of infrastructure securitizations—demonstrates the viability of marketing long-dated infrastructure in developing countries to institutional investors. Development institutions like multilateral development banks (MDBs) can help accelerate this process. MDB involvement in helping design, fund, or provide risk mitigation products to the underlying infrastructure strengthens their quality and makes them better candidates for institutional investment via individual project bonds or through packaged instruments like the Bayfront deal. In addition, MDBs and other development finance institutions can lend their financial strength to issuing new securitization packages by helping structure the deals themselves from their own portfolios or in a mix with commercial banks. They can also purchase subordinated or senior tranches of the security, depending on the risk appetite of other investors. MDBs can contribute to building data on the performance of infrastructure debt, along the lines of recent evaluations by Moody's, to help institutional investors adequately analyze track records and risk probabilities.

Source: Independent Evaluation Group industry interviews.

The common challenges to MIGA guarantees revolve around MIGA's comparative position and considerations about external debt and fiscal sustainability. MIGA's historical comparative advantage rests in crowding in FDI and underwriting private sector project risks. Its new product offerings, however, are in public finance, creating dependencies on country performance, fiscal capacity, and governance quality issues not under MIGA's control. These considerations raise issues about the complementarity, overlap, and substitutability of MIGA's new products in relation to the World Bank and IFC guarantee products and sovereign, subnational, and state-owned enterprise loans.

Constraints Affecting All Instruments: Resources and Design Complexity

Expansion of IFC's PCM platforms (for example, AMC, MCPP, and GCBF) and World Bank Treasury advisory is limited by internal capacity. There is a cadre of investors with a long-term approach and a desire to reap yields not avail-

able in industrial countries. Among them, appetite for long-dated, developing market assets is very strong, as evidenced in IEG's Global Investor Survey (Narayanan 2018). Regardless of the instrument or platform, scaling up PCM can have implications for the Bank Group institutions' balance sheets and investors' concerns in terms of resource intensity and complexity.

Scaling up PCM requires additional resources partly fulfilled by the recent approval of World Bank and IFC's capital increase. Pursuing PCM opportunities requires technical knowledge. Staff must understand the underlying mobilization instruments and know the techniques required to prepare projects that align with both client and investor expectations. Projects using four mobilization approaches (namely, equity, debt, bonds, and guarantees) tend to be highly specific to client context and require significantly higher staffing levels, both in number and in technical skills, than projects without mobilization approaches.

Economic capital use by PCM instrument is a constraint from the corporate risk perspective. Economic capital usage is a good proxy for the financial resource intensity of PCM. The Bank Group sets aside economic capital for all PCM instruments and platforms.[9] The higher the risk of the PCM approach, the greater the use of economic capital, with implications for the balance sheet. Investment or lending projects with direct mobilization require leverage of the institution's balance sheet, per the skin-in-the-game principle. Although the mobilized amount does not use up any economic capital, the cofinanced amount or support directly provided to the same project requires economic capital allocation. In these terms, advisory mobilization is the least resource-intensive approach, followed by the debt mobilization approach (short-term financing aside). The equity mobilization approach uses the most economic capital.

Guarantee mobilization requires loan loss provisioning on IBRD, IDA, and MIGA balance sheets, which is a limiting factor in the use of guarantees. Every World Bank guarantee issued needs to have capital allocation provisioned either on the IBRD balance sheet or on the IDA balance sheet. Scaling up guarantees thus potentially affects the level of loan provisioning available for traditional loan products, like investment project financing, development policy financing, and Program-for-Results, and implies that World

Bank management needs to make trade-off decisions in certain client countries between lending on its own account versus issuing guarantees. Reinsuring World Bank guarantee exposure through third-party reinsurers, similar to MIGA's reinsurance approach, is one option to increase the capacity to scale up World Bank guarantees. Such trade-off decisions have implications for IBRD's fee income and the World Bank's risk management.[10] Reinsurance of World Bank guarantees is a complex issue that requires other financial considerations that go beyond the need to increase capacity to issue more World Bank guarantees.

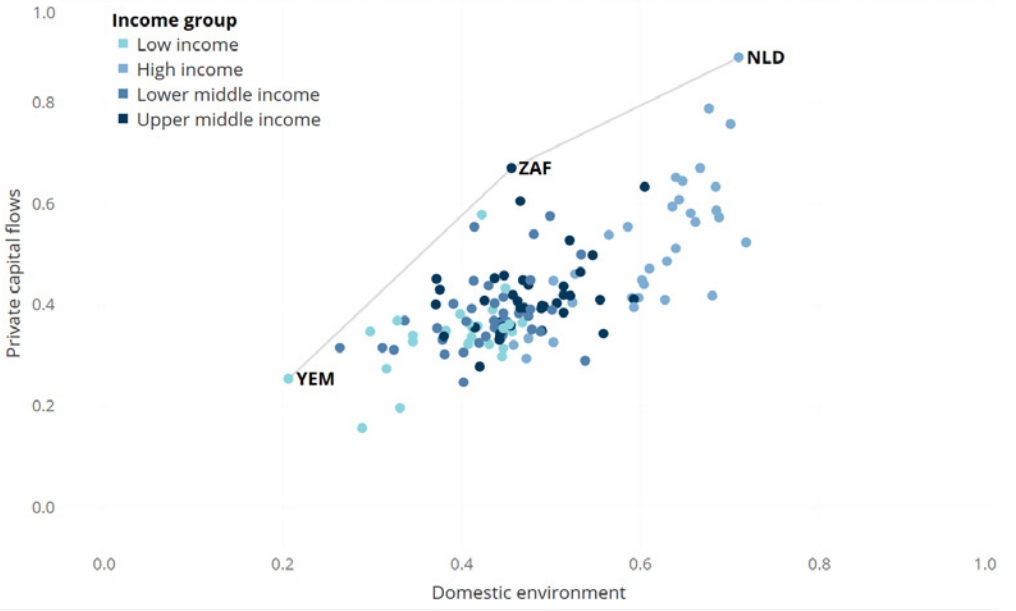
There are opportunities to scale up PCM, despite these constraints. The next section discusses them.

Opportunities to Scale Up PCM

Almost all Bank Group client countries have untapped potential to crowd in private capital. According to IEG modeled estimates, most Bank Group client countries are attracting only 50–80 percent as much private capital as they could in normal circumstances (including FDI, portfolio equity, and private sector borrowing). To test the effects of country capacity for PCM further, IEG performed a data envelopment analysis of the efficient frontier for 115 client countries (appendix J).[11] The analysis generated an efficiency score for each country.[12] On average, private capital flows are at 61 percent of the estimated potential among these countries for the period 2015–18. The analysis further suggests the following:

» Most regions show positive trends in attracting private capital flows (relative to GDP) and in their domestic investment environment. For the countries analyzed, figure 3.2 provides an overview of the estimated efficient frontier based on current income levels and the quality of the domestic environment, in turn based on country indicators like market openness, institutional quality, and political stability. The Netherlands, the Republic of Yemen, and South Africa are at the frontier. All other countries can move toward the frontier by increasing their private capital flows.

Figure 3.2. Estimated Efficient Frontier



Source: Independent Evaluation Group.

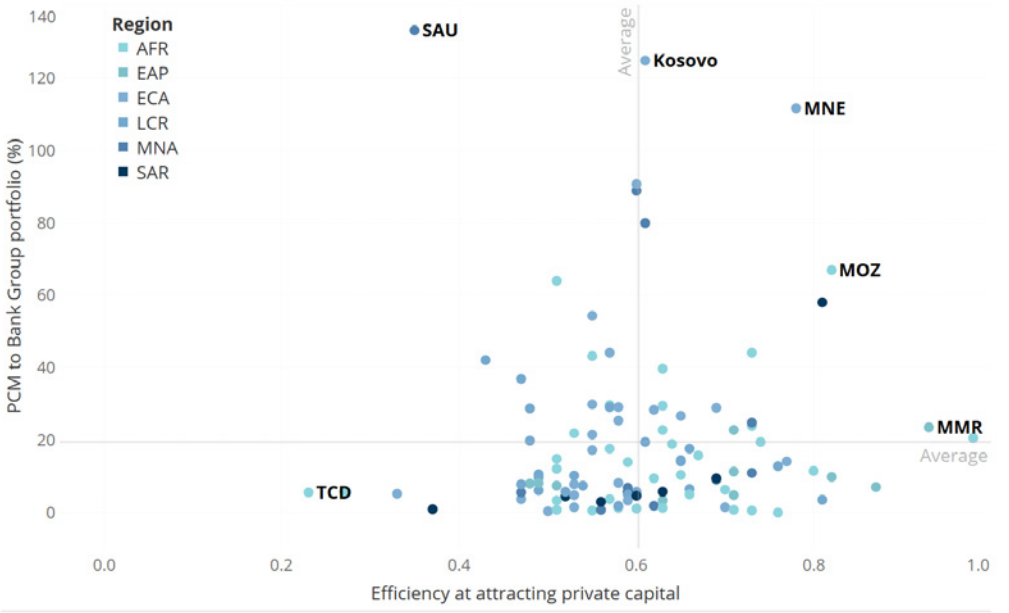
Note: The dashed line represents the production possibility frontier for attracting private capital flows, quantified as an aggregate measure—the data envelopment analysis (DEA) output variable—of foreign direct investment inflows, portfolio equity inflows, and private sector borrowing, ranging from 0 to 1. The DEA output variable is represented on the vertical axis. DEA inputs are measured in terms of market size and openness, institutional quality, political stability, financial sector depth, logistics performance, natural resource rents, and skilled workforce level. The DEA input variable is represented on the horizontal axis. Exact values of the underlying DEA input and output variables for each country are reported in appendix J. MOZ = Mozambique; NLD = Netherlands; NPL = Nepal; URY = Uruguay; UZB = Uzbekistan; VNM = Vietnam; YEM = Republic of Yemen; ZAF = South Africa.

» All regions and all income groups have countries with large untapped mobilization potential. Private capital flows tend to be positively correlated with income, but there are exceptions. For example, some of the LICs and lower-middle-income countries (LMICs; for example, Mozambique and Vietnam) are as efficient at attracting private capital as the average high-income country, and some high-income countries (for example, Uruguay) are only as efficient as the average LMIC.

- Some countries (within income groups) have untapped potential to reach their peers at the efficient frontier. For example, within the LICs, Mozambique and Nepal have comparable domestic enabling environments (as measured by the data envelopment analysis efficiency score of 0.4). Yet Mozambique attracted more private capital than Nepal did during the evaluation period. The discrepancy suggests that there may be opportunities to attract private capital to Nepal (among other LICs).
- There is a lot of variation in the roles that different types of private capital play in different income groups. Private sector borrowing plays an important role among high-income countries and some upper-middle-income countries but seems almost nonexistent in many LICs. Nevertheless, LICs and LMICs often attract portfolio equity flows (as a percentage of GDP) similar to those of countries in other income groups.

The World Bank and IFC do not target specific countries to mobilize private capital. The targeting of the World Bank and IFC PCM approaches was not driven by considerations about countries' records in attracting private capital relative to their domestic environments (figure 3.3). The Bank Group's PCM portfolio was concentrated on the mean efficiency scores, suggesting that the Bank Group PCM portfolio focused mainly on countries with well-developed investment climates, regulatory capacity, and capital markets. However, there is untapped potential to increase Bank Group PCM projects in countries that are below the median line. For example, in figure 3.3, Nepal (abbreviated NPL) and Uzbekistan (abbreviated UZB), together with Chad (abbreviated TCD) and the Democratic Republic of Congo (abbreviated COD), feature in the low-low quadrant (lower than median efficiency score and lower than median PCM ratio). This confirms that opportunities exist to target LICs and LMICs and prioritize PCM activities.

Figure 3.3. Mapping Private Capital Mobilization to Efficiency at Attracting Private Capital to Identify Countries and Economies with Scale-Up Potential

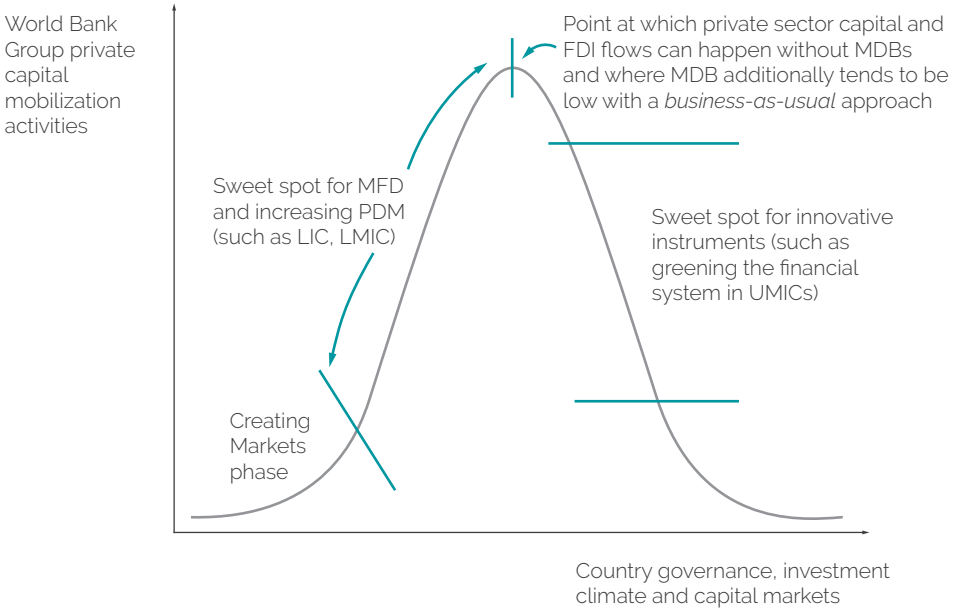


Source: Independent Evaluation Group analysis.

Note: The horizontal axis corresponds to the data envelopment analysis efficiency score. CHL = Chile; CHN = China; CIV = Côte d'Ivoire; COD = Democratic Republic of Congo; GHA = Ghana; HND = Honduras; HRV = Croatia; HTI = Haiti; HUN = Hungary; JOR = Jordan; KEN = Kenya; LBR = Liberia; MDV = Maldives; MMR = Myanmar; MNE = Montenegro; MOZ = Mozambique; MRT = Mauritania; NGA = Nigeria; NPL = Nepal; OMN = Oman; PCM = private capital mobilization; SAU = Saudi Arabia; SLE = Sierra Leone; SRB = Serbia; TCD = Chad; TGO = Togo; TTO = Trinidad and Tobago; UKR = Ukraine; UZB = Uzbekistan; VNM = Vietnam; ZAF = South Africa.

Current PCM approaches can likely be scaled up until a client country reaches a tipping point. Investors' perception of risks declines as a country improves its governance, investment climate, and capital markets. The tipping point can be expected to occur when a country achieves a certain level of performance in these areas. After the tipping point, the additionality of the Bank Group's PCM approaches may decline. At that point, some PCM may continue with innovative instruments, but private capital is likely to directly flow to the country without Bank Group involvement (figure 3.4).

Figure 3.4. Bank Group Private Capital Mobilization Expected Growth versus Country Reform Progress



Note: FDI = foreign direct investment; LIC = low-income country; LMIC = lower-middle-income country; MDB = multilateral development bank; MFD = Maximizing Finance for Development; PDM = private direct mobilization; UMIC = upper-middle-income country.

Instruments That Can Help the Bank Group Scale Up PCM

Opportunities exist to increase coverage of project- and country-level risks by innovating and introducing new PCM instruments. Interviews with investors and clients indicate that Bank Group instruments have the potential to cover public policy changes, address lack of pipeline, and increase collaboration (for example, with the insurance industry). This requires a thorough analysis of any internal risks involved in adding to complexity and involves trade-offs. In IEG surveys, institutional investors highlighted several detailed requirements that need to be filled before such complex investment opportunities (for example, unfunded risk participation with the MCPP or scaling up GCBF with regulated entities) can be considered because of the

investors' own capacity, internal risk, and investment strategies, and to meet regulatory requirements. Regulatory requirements include investments in their own reporting currencies, publicly listed securities with a high degree of liquidity, fixed income interest with an investment grade rating and sufficient yield, and large transactions to allow for advanced commitments and placements of capital resources.

World Bank disaster risk products are in high demand and could be scaled up with support from World Bank Treasury and advisory teams. When Treasury receives a fee for crowding in investors in the context of disaster risk management solutions to clients, the initiative should be counted toward PCM. Investors consistently oversubscribe IBRD-intermediated catastrophe bonds at spreads that are often less than originally forecast and at or below prevailing market levels (appendix E), generating efficiency gains and access to long-term capital for client countries to address priorities after disaster. But long-term client demand for disaster risk preparation and resilience building has yet to crystallize. For this reason, the World Bank risk transfer program addressing disaster risk solutions in both preparation and post-disaster phases will need time to establish itself. Both World Bank Treasury and IFC Treasury can monitor developments in Part I countries to identify new risk transfer products that could be applicable to partner countries and are consistent with the SDGs. Blue bonds are one example of an innovation from the World Bank Treasury (box 3.4). They deserve further attention in the context of PCM because they contribute to SDG 14 (life below water). Furthermore, tweaking such World Bank Treasury and advisory initiatives and recasting them in the PCM context can be considered.

Box 3.4. Blue Bonds: A Treasury-Supported Instrument for Sustainable Investors

Sustainable and green bonds have grown tremendously in the past decade, fueled by an increasing desire among investors to see their investments not just earn a financial return but also make the world a better place. Blue bonds use investment proceeds to help protect the ocean environment, which covers more than 70 percent of the planet's surface and is critical to the livelihoods of billions of people across the globe.

(continued)

Box 3.4. Blue Bonds: A Treasury-Supported Instrument for Sustainable Investors *(continued)*

Blue bonds were first used by a sovereign nation in October 2018, when the Seychelles issued a 10-year, $15 million bond partially guaranteed by the World Bank. The proceeds of the bond are to be used to help fund a variety of projects to protect and better use the Seychelles' ocean environment, including expanding marine reserves, building a more sustainable fishing industry, and reducing water contamination. The bond was sold directly to three United States–based impact investment funds: Calvert Impact Capital, Nuveen, and Prudential. The Nordic Investment Bank, a multilateral bank owned by Scandinavian countries, issued a second landmark blue bond deal on January 24, 2019. In April 2019, the Nature Conservancy announced plans to scale up the use of blue bonds, targeting $1.6 billion in bond issues across 20 countries by 2025, following on from the Seychelles pilot. Also, in April 2019, the World Bank partnered with Morgan Stanley to issue and market a $10 million sustainable bond geared to addressing plastic waste pollution in the world's oceans.

Source: Bank Group Treasury, Independent Evaluation Group interview notes.

Avenues for Future Research and Analysis

Several questions related to PCM go beyond the scope of this evaluation but deserve further research, analysis, and strategic consideration. Academics (for example, Banerjee and Duflo 2011) have argued that governments in developing countries can domestically raise most of the money spent on the world's poor (that is, domestic resource mobilization) rather than through mobilization of international capital inflows. IEG's empirical analysis on country potential included a domestic indicator of private sector borrowing as one of three types of private capital flows into client countries. However, a more detailed analysis on the (potentially distinct) patterns of domestic resource mobilization and underlying factors is left for future research.

There are more MFD and PCM opportunities. Some are known, and some are not known. Several have major implications for Bank Group approaches to PCM in the future. Chapter 2 discusses all empirical and normative evidence

currently available on MFD and upstream reform engagements. A lot more reforms work that influences PCM is ongoing, but the links are not recorded well in the Bank Group systems. IEG stakeholder interviews revealed several new approaches for the Bank Group to innovate and collaborate with other MDBs and the broader development community. For example, stakeholders suggest that the Bank Group, other MDBs, and DFIs work closely with the Basel Committee on Banking Supervision and the three rating agencies on the following areas:

- *Debt and equity investments:* Recognize treatment of syndicated loans provided to EMDEs to free up commercial bank capital exposure and risk exposure; develop third-party ratings of Bank Group–supported projects into EMDE environmental, social, and governance investments for market recognition; securitize the World Bank loan portfolio and pursue loan syndications; and explore debt-for-climate swaps, which entail concessional funders buying back outstanding debt, freeing up resources to address climate change, and helping clients mitigate disasters.
- *Guarantees:* Recognize guarantee products in the Basel framework; recognize reinsurance and A-loan sales but mark to market on all guarantee exposure; and pursue comprehensive guarantees, portfolio guarantees, and expansion of MIGA's support beyond OECD currencies and beyond green project bonds.

The potential of these techniques and approaches—and the implications for resources (human and capital)—could not be ascertained at this stage. Further analysis is required with reliable data sets from internal or external sources, and all MDBs and DFIs should be engaged, for example, in climate finance and attribution of climate cobenefits. Such approaches and techniques have major implications for the SDGs and for the Bank Group's balance sheet, resourcing, risk management framework, and governance.

[1] For example, in the European Solvency II regime for insurers, capital charges are higher for less liquid assets and bonds with longer maturities and lower credit ratings. However, the European Union has introduced "discounts" on capital requirements for lower-risk infrastructure investments (project and corporate debt).

[2] The Organisation for Economic Co-operation and Development gives an annual overview of constraints on unlisted and private equity and debt, credit ratings, direct investments, infrastructure funds, foreign currency, and other instruments (OECD 2018). These constraints may affect different routes to infrastructure and financial sector investments. In practice, the constraints may be more binding in some countries (especially emerging markets) than in others.

[3] Examples are the European Union Markets in Financial Instruments II on the operation of asset managers and the European Union action plan for sustainable finance, including new disclosure rules and a green taxonomy. Such regulations affect the International Finance Corporation's PCM platform approaches directly.

[4] Including only nonsovereign projects is because of pricing: nonsovereign financing by MDBs and most development finance institutions is close to market rates. Thus, it is easier to find private investors willing to join such a deal because they earn a market return commensurate with their risk. Sovereign financing by MDBs, however, is at rates well below the market. The low rates mean that investors would earn low returns relative to the risk they take compared with alternative investments in developing countries.

[5] The sovereign exposure exchange agreement is a risk management tool that the major MDBs developed collaboratively. This initiative was launched in October 2013 by the International Bank for Reconstruction and Development and endorsed by the MDB heads after a meeting of the Group of Eight ministers of finance. Unlike commercial financial institutions, which diversify their loan portfolios across thousands and sometimes millions of borrowers, the MDBs lend to their sovereign shareholders. The resulting asset concentration reflects the strength of the relationship between MDBs and their borrowers, but it also requires MDBs to hold additional capital.

[6] Asian sovereigns (for example, China and Japan) are the most active in infrastructure financing and crowd out opportunities for low- and lower-middle-income countries to pursue private capital in East Asia and Pacific and in South Asia. Several projects initiated by the World Bank or the International Finance Corporation in Bangladesh, India, and Mongolia in the energy

or extractive sectors were financed by Asian sovereigns directly under their bilateral treaty agreements.

[7] These reasons include reducing moral hazard, exposing the borrower at least partially to the market to build toward future borrowings without MDB support, and not contaminating the market for MDB bonds, among others.

[8] A currency swap is an agreement in which two parties exchange the principal amount of a loan and the interest in one currency for the principal and interest in another currency. At the inception of the swap, the equivalent principal amounts are exchanged at the spot rate.

[9] Economic capital is the capital required for the Bank Group institutions to maintain their AAA rating.

[10] One way to look at the trade-off decision is to explore the causal relationship between a loss on a project and inability to pay by the sovereign—in other words, to assess whether the project risk can cause a sovereign loss or vice versa. Seen in this light, there are different potential lines of causality. The first line is from the project in difficulty to the sovereign in difficulty: Should a project not perform well, it may not be able to service its debt. But typically, it seems unlikely that a project default would lead to a sovereign default, except for an exceptionally large project in a significant sector, particularly for most middle-income countries. As such, project risk will necessarily be higher than sovereign payment risk because the latter is unaffected by a project default, thus justifying the need to hold more capital for project loans than for sovereign loans, which is reflected in differential spreads between project and sovereign lending. The second line is from the sovereign in difficulty to the project in difficulty: If a sovereign is facing difficulties with payments to its creditors, it is likely that it may not be in a position to meet its contractual obligations to projects. (It will also be likely that the economic situation in the country is deteriorating and projects are facing increased risk.) In such a situation, it is most likely (but not inevitable) that a project with, for example, a partial risk guarantee will face serious difficulties that could lead to a default on the commercial loans, which would trigger a call on the partial risk guarantee (assuming that it covers payment risk). Such a situation would indicate that the sovereign payment risk is highly correlated with project default risk, which means that a lender would need to hold the same or more capital for a project loan than for a sovereign loan. The third line, in the case of MIGA, is that the Council of Governors and Board of Directors set the maximum amount of contingent liability that may be assumed by MIGA as 350 percent of the sum of its unimpaired subscribed capital and reserves and retained earnings, 90 percent of reinsurance obtained by MIGA with private insurers, and 100 percent of reinsurance from public insurers. MIGA's maximum net exposure is therefore determined by

the amount of available capital after setting aside contingencies. The Council of Governors and Board of Directors approved an increase to 500 percent in 2016, in accordance with the procedures set forth in Article 22(a) of the MIGA Convention. In addition, the Board approved an increase in MIGA's portfolio reinsurance limit from 50 percent to 70 percent of gross exposure.

[11] The obtained efficiency scores are normalized to range between 0 and 1, where units located on the frontier are assigned the maximum value of 1. In the presented study, the data envelopment analysis first calculates an empirical production possibility frontier for private capital flows, which is then used to rate the performance of each country relative to the frontier. This provides an estimate of the capital flows each country should be able to achieve based on what other countries with similar characteristics and domestic investment environments are achieving.

[12] The distance between an observed input-output combination and the estimated frontier is used to quantify each unit's relative efficiency. The obtained efficiency scores are normalized to range between 0 and 1, where units located on the frontier are assigned the maximum value of 1.

4 Conclusions and Recommendations

PCM approaches increase access to new financing sources for development projects and are highly relevant to achieving the SDGs. PCM approaches channel investors' capital to developing countries and investee firms for the financing of large infrastructure and finance projects, in turn increasing access to energy, finance, and other services for households and firms. Many important operations relevant to the SDGs (for example, building dams to generate renewable energy) require investment that governments of developing countries cannot meet with public funding only. An important secondary benefit of PCM is that it saves Bank Group financial resources to channel to operations in sectors, such as social protection or health, that are not conducive to private sector investment. It thereby increases the efficiency with which Bank Group financial resources create development impact.

Bank Group approaches to PCM have been relevant and mostly effective for client countries. They partially meet investors' expectations. Bank Group instruments were largely effective. World Bank guarantees had positive outcomes. IFC syndicated loans had positive effects on client firms' access to finance. IFC debt and bond mobilization platforms, namely the MCPP and the GCBF, were effective in meeting client and investor expectations. Equity platforms such as AMC showed mixed results in meeting IFC's development objectives (based on IEG's 2018 meso evaluation of the IFC Asset Management Company). PPP advisory projects have resulted in a substantial role for domestic and South-South bidders from other emerging markets. MIGA has positioned itself well among the MDBs in addressing PCM thanks to its products (political risk insurance, nonhonoring guarantees) and the use of reinsurance.

Both external and internal constraints limit PCM. Several business environment constraints limit PCM, including poor governance and regulatory barriers to investors. Internally, IBRD PCM targets have not cascaded down to the Regional teams and Practice Groups: World Bank memorandums of

understanding between Regional vice presidencies and GPs—and related scorecards—do not include PCM targets. Use of PCM instruments is limited by the amount of economic capital available and the risk appetite of the Bank Group institutions, by the complexity of design, and by the skills and knowledge of the staff.

Enabling environment reforms are often success factors for PCM and should be sustained. Bank Group–supported reforms that address both sector and macroeconomic constraints are more successful than other, less comprehensive reforms. However, PCM opportunities also arise in lightly regulated environments and in the absence of extensive upstream reform efforts by the Bank Group.

There are opportunities to scale up PCM, especially among LICs and LMICs. IEG's efficient frontier analysis suggests that, given investment climate and income levels, private capital flows (including FDI, portfolio, and private sector borrowing) are at only 50–80 percent of their potential. This suggests that there are opportunities to increase PCM across all client countries.

COVID-19 may dim the prospects for certain traditional PCM instruments, like the B loan program, but increase the potential for other PCM instruments and platform approaches. In view of COVID-19, World Bank guarantees will likely be in greater demand to support new project financing or refinancing efforts. Treasury advisory efforts in support of client governments' pandemic responses will become a priority. A pandemic crisis response that includes issuances of World Bank and MIGA guarantees, expansion of short-term liquidity facilities, IFC's Distressed Assets Recovery Program, and innovative forms of local currency facilities and rescue financing efforts through PCM approaches would be highly relevant to the COVID-19 response. Similarly, as equity valuations drop, investor and client interest for long-term commitments to private equity could increase (BlackRock Investor Pulse Survey, March 2020), leading to greater demand for PCM platform approaches.[1] At the same time, traditional PCM instruments such as the B loan program would face reduced demand as commercial banks and investor partners reduce their EMDE exposure.

For the Bank Group to increase the relevance and effectiveness of PCM approaches, IEG recommends the following:

Recommendation 1. **To meet the 2030 PCM targets, prioritize client countries for PCM approaches, with corresponding targets cascading to the Regional units and GPs (for IBRD).** Country strategies can be used to discuss PCM opportunities and priorities, including in LMICs and LICs. Given the variation in the roles that different types of private capital play in different income groups, it is important to tailor programs to countries' individual characteristics and target mobilization efforts at specific types of private capital flows. In many countries, upstream sector and policy work to support legal and regulatory reforms for financial sector deepening remain critical to PCM and investors' interest. Ensuring that reforms are supported over time—including after private capital is mobilized—is essential to ensuring sustainability of the PCM approaches, replication, and demonstration effects. The Bank Group needs to respond flexibly and quickly as development opportunities arise. Furthermore, ensuring that the World Bank includes PCM targets in its Regional and GP scorecards is important for the institution to reach its 2030 targets. IBRD needs to cascade PCM objectives to the Regions and Practice Groups, with clear incentives for operational units to meet them.

Recommendation 2. **Expand PCM platforms, guarantees, and disaster risk management products commensurate with project pipeline development (for the World Bank Group).**

- **Expand existing PCM platform approaches (in IFC).** Much of the internal narrative on PCM has been about bankability of projects, which favors a debt approach. However, the heterogeneity of clients and investor constituencies suggests that a strong pipeline of investable and insurable projects is required to expand the scope and scale of current PCM approaches,[2, 3] including IFC platforms such as the AMC, the MCPP, and the GCBF. For example, the insurance industry has the capacity to fund long-term infrastructure projects (given the asset-liability match) and support green initiatives. Private capital raised through the AMC or the MCPP platforms meets the necessary condition to mobilize private capital. However, the necessary condition is met only when a healthy pipeline of projects is developed in proportion to the private capital raised in the form of funds and those projects achieve their development outcomes.

- **Expand PCM approaches to support policy reforms and disaster risk financing, leveraging Treasury and advisory capabilities (in IBRD).** For IBRD, guarantees have been the primary instrument for PCM. There is room for them to grow, especially instruments tied to client reforms. World Bank disaster risk management products and programmatic PPP solutions are experiencing a renewed demand and could be scaled up with support from the World Bank Treasury and Infrastructure, Public-Private Partnerships, and Guarantees units.

Recommendation 3. **Develop new products and improve product alignment with the needs of new investor groups and partners (for IFC and MIGA).**

- **Simplify products for most institutional investors.** Although IFC has developed complex instruments and platforms to mobilize private capital, it has not fully developed its approach to institutional investors. To engage with institutional investors, IFC needs to accept their investment objectives, project parameters, decision-making processes, and industry best practices. These may stand in contrast to those on which IFC has achieved the current platform deals with the MCPP and the GCBF. Most institutional investors lack the capacity to work with complex Bank Group instruments and platforms and develop custom portfolios. Simpler products with solutions comparable to their existing portfolios but with exposure to EMDEs are relevant to these investors.

- **Maintain leadership in products for sophisticated investors.** A small group of sophisticated investors prefers complex products, such as securitization of EMDE projects. Hence, scaling up Bank Group PCM operations requires making trade-off decisions within and across the various instruments and platforms. IFC can continue to maintain its leadership in this space if it staffs and resources these platforms appropriately, for example, by adding IFC advisory services offerings to increase capacity and knowledge in new EMDE issuers.

- **Continue to innovate instruments.** Global and regional clients also seek innovative instruments, for example, to better support local currency financing through pooled currency facilities. Certain innovative approaches require projects to engage with credit rating agencies. Green financing and new instruments addressing climate change require working with international consortia, research and rating agencies, and data providers. There is market

demand for political risk guarantee solutions that offer comprehensive coverage or support collective investment vehicles targeting LMICs and LICs. Such opportunities can be translated into innovative new MIGA products. MIGA's latest strategic business outlook provides an outline for six new applications. Pilot approaches using innovative instruments and better investor alignment can help scale up PCM and improve outcomes.

» **Conduct regular reviews.** Risk assessments of each instrument and platform, analyzing implications for the three institutions' balance sheets and determining the corresponding financial needs, are required before scaling up. PCM instruments and platforms' alignment with investors' risk appetite, internal capacity, and engagements over time need to be reviewed, as they are for client countries and client corporates.

Implementing these recommendations will increase the likelihood that the Bank Group will meet its PCM corporate targets and make significant contributions to meeting the SDGs and development more broadly.

[1] https://www.blackrock.com/corporate/insights/investor-pulse

[2] Investable projects are those seeking equity investments.

[3] Insurable projects are those with insurable risk.

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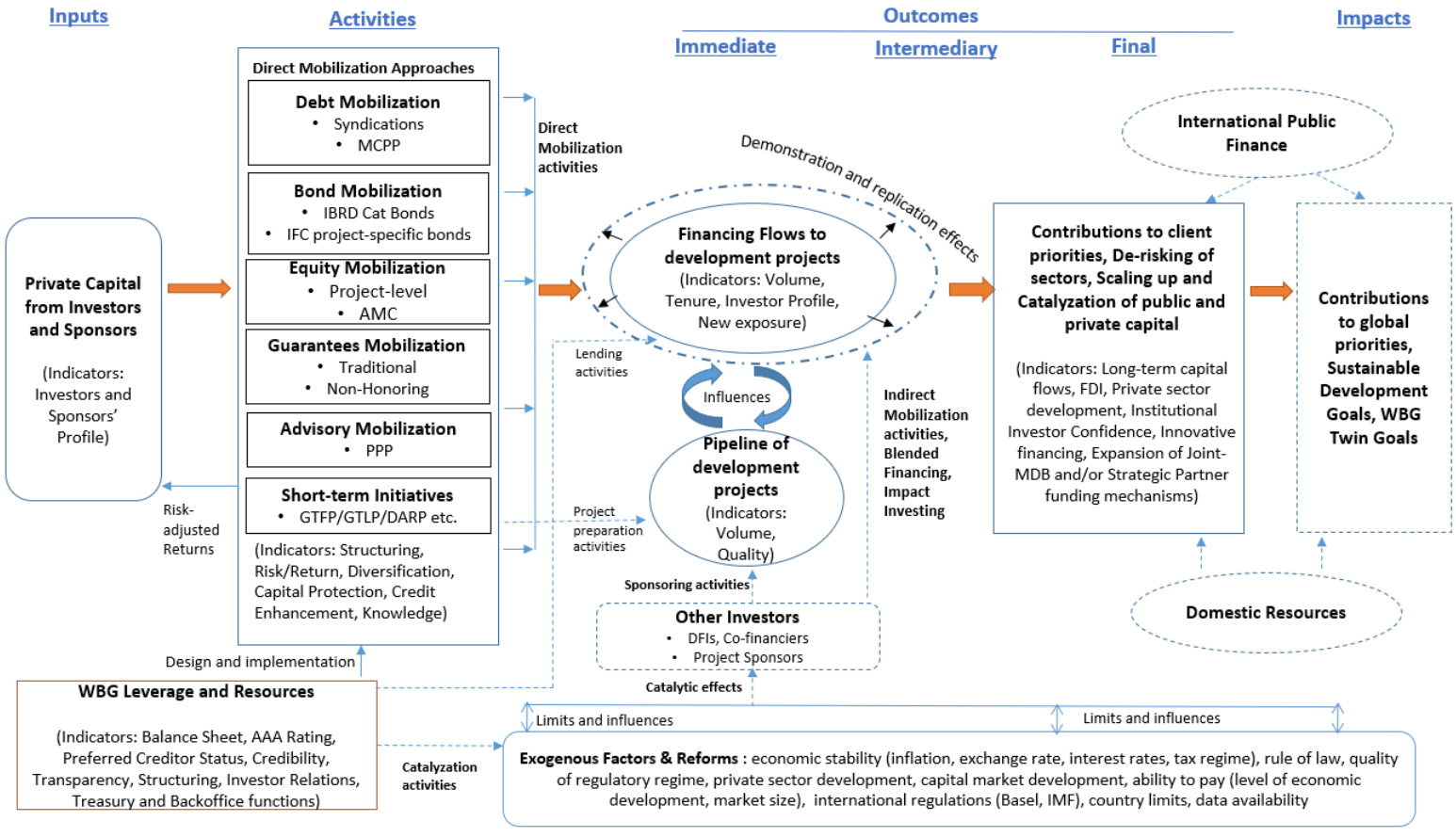
Appendix A. Evaluation Methodology

Evaluation Questions

In the context of the World Bank Group's ambitious targets for mobilizing private capital, this evaluation has two key objectives: (i) to gain a better understanding of the Bank Group's approach to private capital mobilization (such as instruments and engagements with investors and clients), its relevance for client countries, and its contribution to development outcomes; and (ii) to identify the factors and enabling conditions that contribute to successful outcomes in mobilizing private capital for development. The evaluation will synthesize lessons of good practice to help the Bank Group enhance its future capital mobilization role. This evaluation will not assess outcomes from all activities of the Bank Group that may have a bearing on the level and quality of private investments, because this include would nearly all Bank Group activities; it will highlight the relationship between the Bank Group's upstream activities and the various private capital mobilization activities when and as appropriate (figure A.1).

Figure A.1. Mobilization of Private Capital: Conceptual Framework



Source: Independent Evaluation Group.

Overarching Principles

The overarching issues this evaluation addresses relate to the relevance of the Bank Group's approaches to private capital mobilization for its clients and achieving the twin goals; and its effectiveness in meeting client and investor expectations and in maximizing the potential contribution of private capital mobilization to global development priorities. The report seeks to address these issues by providing analysis and presenting evidence that will answer several questions and subquestions (table A.1).

Table A.1. Evaluation Criteria, Questions, and Subquestions

Criteria and Evaluation Questions	Evaluation Subquestions
1. Relevance: To what extent are the Bank Group's approaches to mobilization consistent with its capabilities, client needs, and global priorities?	(a) What approaches has the Bank Group used to mobilize private capital over time? (b) How aligned are the Bank Group's approaches to mobilization with development priorities as reflected in its strategy and the SDGs?
2. Effectiveness: How effective has the Bank Group been in meeting clients' expectations? What factors drive results, and what opportunities exist to channel private capital for development?	(a) How successful is the Bank Group in advancing its strategic priorities through mobilizing private capital and meeting clients' expectations? (b) Do the Bank Group's approaches meet investors' expectations? (c) What are the internal and external drivers of results? (d) What are the internal opportunities (for example, structure, selectivity, new products, and platforms) and external opportunities (for example, innovations outside the Bank Group)?

Source: Independent Evaluation Group construction.

Overview of Methodological Design

This evaluation used a multilevel framework for data collection. The evaluation covered three main levels of data collection and analysis: the global level (including the total portfolio level of relevant selected mobilization approaches), the level of selected countries, and finally, selected mobilization approaches in selected countries. The evaluation was conducted with a mixed-methods approach, through a combination of portfolio analysis, industry benchmarking, statistical analysis, case-based analysis, semistructured interviews, and review of surveys and strategies. The methods are further discussed in table A.2 and figure A.2.

Table A.2. Evaluation Methods and Description

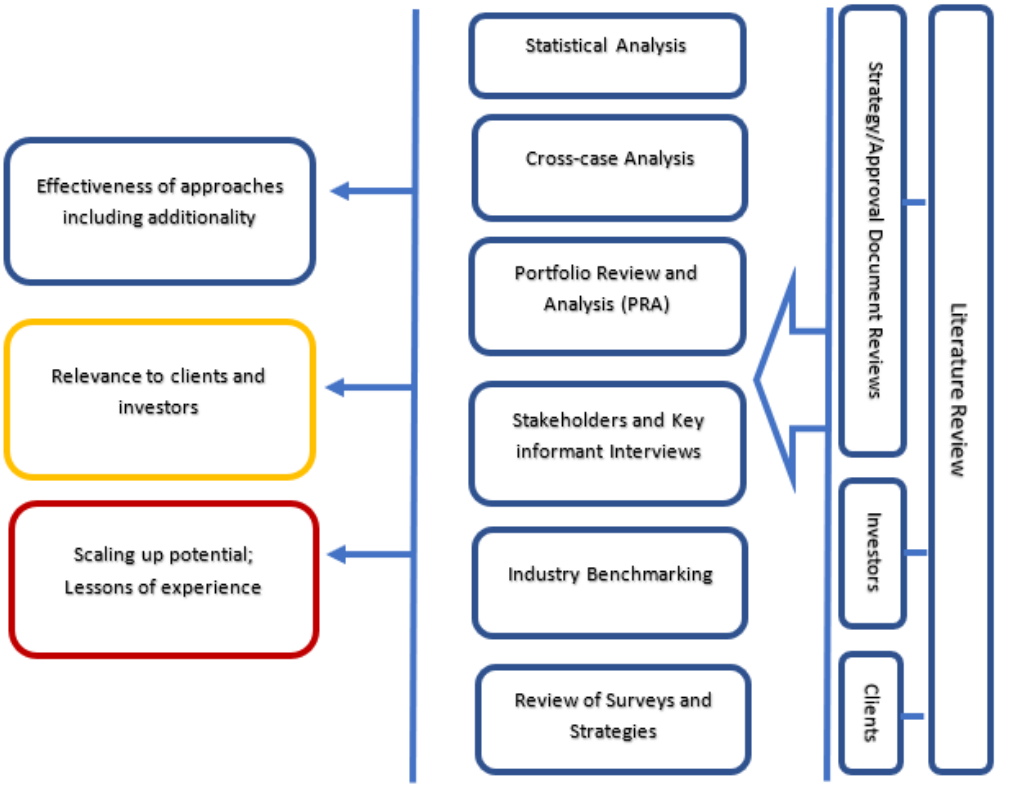
Evaluation Component	Description
Academic literature review	Specifically, the structured literature reviews, undertaken in different sections of this evaluation, covered the roles that the selected mobilization instruments play in emerging markets, and at the same time researched the relevance of these instruments to the clients' needs and challenges. Moreover, literature about how private capital flows are related to domestic factors in the host economies was reviewed for analyses of the impacts of the Bank Group's mobilization efforts on countries' performance in attracting private capital.
Review of surveys and strategies	The evaluation team reviewed and analyzed market data and surveys, available self-evaluations, Bank Group strategy documents, and other literature on (i) identifying appropriate benchmarks to assess the effectiveness of Bank Group approaches, and (ii) leveraging the private sector for sustainable development and innovative approaches adopted by other actors.

Evaluation Component	Description
Global Level	
Portfolio review and analysis (PRA)	The portfolio data analysis was conducted to identify the trends and allow the categorization of activities, outputs, and outcomes of the Bank Group's mobilization activities. Additional project and country-level data that were generated from this analysis include (i) the instruments employed; (ii) the desired results and their achievements; (iii) lessons from experience; and (iv) relevant contextual factors. Data on each instrument were analyzed and, to the extent feasible, classified and assessed using simplified coding and text analytics tools. Sources of data include internal Bank Group documents, Bank Group Approval Databases to analyze the drivers of mobilization initiatives, and changes between Approval and Commitment related to pricing, tenor, and structure of the activity. Independent Evaluation Group (IEG) referred to Bank Group Country Program Ratings and International Monetary Fund Country Analysis Papers to assess the private sector development aspects.
Frontier analysis	The data envelopment analysis assessed the frontier regions for long-term financial flows and compared the presence of priority countries (for example, International Development Association countries or countries affected by fragility, conflict, and violence relative to the efficient frontiers, and the concentration level of the Bank Group's portfolio.)
Semi-structured interviews	The evaluation team conducted face-to-face interviews with select Bank Group staff, global stakeholders, syndication partners, and clients. This information supplements and complements the documentary information collected and hence increases the validity of findings through triangulation. The evaluation team plans to combine semi-structured interviews (with a protocol to guide interviewers) with desk reviews to gather views on relevant benchmarking.
Country Level	
Case-based analysis	The evaluation team conducted case-based analysis along two dimensions: (i) the country case studies through field visits and desk-based research, and (ii) the cross-case-level analysis.

Evaluation Component	Description
	In seven countries, IEG carried out country case studies and covered more than one mobilization approach through field visits. The country case study method brought together several data collection and analysis approaches, such as interviews with key informants (clients, investors, partners, and staff), document reviews, and an overall survey of investors. Desk-based reviews were also conducted for six additional countries. These can be described as shortened versions of the country cases, with the critical difference that stakeholders were not interviewed. Further, the cases reflected on the investors' preferences for emerging markets and developing economies, asset allocation rules, and risk appetite as factors driving private capital mobilization. Case studies are specific examples of the three selected mobilization approaches. Moreover, these cases covered the private indirect mobilization aspect of the relevant mobilization approaches with a focus on the International Bank for Reconstruction and Development and the International Development Association. With the rich data collected from the consistent templates in case studies, the cross-case comparisons and synthesis were conducted. In the cross-case analysis, the instrument mapping was undertaken that identified the potential for risk mitigation and an increase in volume. The analysis contributed to answering the main evaluation questions, in addition to providing clients' perspectives and capturing investor perspectives.
Instrument and platforms	
Econometric analysis	The evaluation used data envelopment analysis and econometrics to assess the relevance and effectiveness of Bank Group interventions, respectively. The econometric analysis assessed whether the investors and borrower clients benefited from the role and additionality of Bank Group approaches.
Industry benchmarking	The benchmarking exercise was conducted to identify public and private benchmarks for Bank Group programs and projects and assess the risk-adjusted returns to investors compared with benchmarks.

Source: Independent Evaluation Group.

Figure A.2. Mapping Evaluation Question with Components



Source: Independent Evaluation Group.

Ensuring the Validity of Findings

The evaluation team applied the components of evaluation methods with a consistent approach under systematic frameworks. Multiple levels of triangulation were applied during the evaluation. Common templates were used by the team members conducting portfolio reviews, case-based analysis, and interviews. The Independent Evaluation Group (IEG) team members also routinely crosschecked the portfolio review results to form consensus on the alignment of review templates and evaluation questions. A workshop was held to

discuss the results after the coding was completed. Coders were given an opportunity to revise their work before the validation process.

Robust Validation of Portfolio

- All coded operations were subjected to consistency checks. The team leader coded three operations given to each coder and compared the results with those received. At the same time, coders were given 20 operations across the different approaches they had not coded to recode. The selection of these operations was by random sampling, and coders were not allowed to share their original codes with other colleagues.
- The second stage of coding helped validate the results and to check whether specific questions had been answered based on the protocol. Where there were discrepancies, the team discussed and harmonized the answers. Consistency checks were also performed for all questions for which coders had put "N/A," indicating information was unavailable. The results of the validation indicated that the coders had followed the protocol or that the protocol was easy to apply. At this stage, World Bank information technology colleagues ran keyword searches through the Bank Group Portal on specific project IDs and provided keyword extractions in a separate file for validation.
- As a third stage, the team leader conducted consistency checks through random sampling of each of the six approaches. For unknown entries, the team leader sat with the individual coders to validate against the project documents and interpret private capital mobilization (PCM) data.
- The complete portfolio, and internal institutional project information and external indicators,[1] was loaded into Stata for in-depth analysis. Descriptive

[1] The internal institutional data included project geographic information, direct and indirect mobilization amount, and project commitment amount. The external data included country-level macro- and microeconomic indicators from the World Bank and International Monetary Fund, and

statistics were produced to identify the pattern of the PCM. Crosstabs were produced for the key variables of interest, where *t*-tests and ordinary least squares regression analyses were conducted to test the hypotheses. The team determined the variables, which had enough variation and could be used for analysis. Where a variable did not have enough variation, the team explored the use of other external variables.

Further, internal and external validation mechanisms were applied during the evaluation. The team consulted and cross-validated with external data management teams in the World Bank, the International Finance Corporation (IFC), and the Multilateral Investment Guarantee Agency (MIGA) to compare the evaluation team's scoped portfolio to ensure the accuracy of the project identification and the records of the mobilized capital. In addition, several rounds of peer reviewers provided feedback during the evaluation process to guarantee the evaluation's relevance and effectiveness.

- Feedback from IEG selected peer reviewers: 2 rounds
- Feedback from Country Management Units: 2 rounds (during mission and ex post)
- Feedback from Project task team leads: 1 round (per specific intervention)
- Consultations with Bank Group Management: 1 workshop
- Consultations with Bank Group staff: several bilateral meetings (>30)
- Consultations with investor data providers: 3 agencies
- Consultations with clients: several (>20)
- Consultations with institutional investors: multiple (>15)

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the data envelopment analysis scores that were estimated from the frontier analysis conducted by the evaluation team.

- Global survey of institutional investors: 3,200 reached, response rate, 8 percent

Description of Methods

Portfolio Reviews

The portfolio review identified the Bank Group's private capital mobilization portfolio. The review provided a rich data set that enabled the evaluation team to categorize and understand the intervention activities conducted by Bank Group and their achievement at the output and outcome level. Moreover, it provided detailed data at the project level on the experience and lessons learned with relevant contextual factors. This practice allowed further text analysis to extract the pattern of Bank Group engagement. The data points generated from the PCM portfolio review were used in analyzing the relevance and effectiveness of the mobilization approaches.[2]

Criteria for Evaluation Portfolio Selection

This evaluation covered all Bank Group approaches to mobilization (table A.3), namely debt, equity, bonds, guarantees (including MIGA reinsurance), public-private partnership (PPP) advisory, and special and short-term initiatives. The scope of this evaluation is linked directly to the Bank Group ambitions to increase its mobilization ratio, as outlined in the capital increase commitments, the "Forward Look," and IFC's 3.0 Strategy. The period of the evaluation is the most recent 12-year period, fiscal years (FY)07–18). The primary screening of all Bank Group projects resulted in a set of 1,382 operations, of which 1,248 are

[2] The descriptive statistics of the private capital mobilization portfolio in terms of project number and volume were based on the complete portfolio instead of the sampled portfolio review results. The t-tests, which examine the impacts of development finance institution, domestic investors, and multilateral development bank participation in project outcome were conducted using the data generated from the sampled portfolio review; these data are statistically representative at the portfolio level.

lending or guarantee operations and 134 are Advisory Services and Analytics (ASA) operations.

What is not in scope is the array of World Bank activities, such as policy dialogue, investment reforms, privatization reforms, and development policy financing that play an important catalytic role, but are not, according to the multilateral development bank–level definition, components of total private capital mobilization. This definition leaves the following Bank Group activities outside the scope of this evaluation: World Bank Group Global Programs and Partnerships, blended finance operations and concessional finance activities, Bank Group trust fund operations, the World Bank's Reimbursable Advisory Services and Analytical and Advisory Services (ASA) business lines in the absence of a client mandate letter with fees linked to financial commitment or auditable evidence of the multilateral development bank's active role leading to private capital flows. These Bank Group activities can be the subject of ex post evaluations in future IEG work programs.

Broad consultations within the team and IEG methods advisory on the most appropriate approach to use. The team developed a protocol based on the theory of change, theoretical review, and Operations Policy and Country Services Guidelines for Private Capital Mobilization—direct and indirect.

Table A.3. Criteria for Evaluation Portfolio Selection

Support Type	Product
Debt	Debt Syndications
	Managed Co-lending Portfolio Program
Bonds	Green Bond Fund
	Local Currency–Linked Bonds
	Thematic Bonds
Equity	Equity Syndications
	Asset Management Company
Guarantees / Insurance	Traditional
	Non-Honoring
Advisory	PPP, Upstream
Short-term / Special initiatives	Trade and Structured
	DARP, MEF, ICF, CFP

Note: Asset Management Company funds can invest through senior debt and sub-debt instruments. Syndications include Parallel loans, in which projects get financed as a result of a Master Cooperation Agreement. In some cases, DFIs and other MDBs can participate in the same project without a Master Cooperation Agreement. DARP, MEF, and ICF are special initiatives that are not short-term facilities. DARP = Distressed Asset Recovery Program; MEF = multilateral environmental funds; International Climate Finance; Climate Finance Partnership; PPP = public-private partnership.

Portfolio Review Sampling Strategy

To ensure the inclusion of the evaluated projects and the projects from selected case study countries in the portfolio review, purposive sampling was conducted. The portfolio review was conducted based on purposive sampling composed of 171 IEG-evaluated projects, 242 projects from selected case study countries (mobilization portfolio population for the seven countries selected for case study). To ensure that the sample projects were representative at the region, institution, IDA status, portfolio status, and country income levels according to the formula for sample size determination, the initial purposive sampled projects were supplemented by the projects stratified sampled from the rest of

the portfolio. Random stratified sampling is used to ascertain and maintain an unbiased representation of the remaining 869 projects. The portfolio is subdivided into the following categories: institutions, regions, income level, and status.

Minimum Sample Size

The sample size of each category in which a statistically representative sample needs to be drawn can be determined using the following formula:

$$n = \frac{N}{e^2(N-1) + Z_\alpha^2 pq}$$

where

- N is the size of the population of reference;
- $Z\alpha$ is the value of α% (significance level) probability of a type-I error in a
- normal standard distribution;
- e represents the margin of error (affecting the confidence interval of estimations); and
- p is the expected proportion of success. q is $1 - p$.

The estimator of a proportion is $p = X/N$, where X is the number of "positive" observations. When the observations are independent, this estimator has a (scaled) binomial distribution (and is also the sample mean of data from a Bernoulli distribution). The maximum variance of this distribution is $0.25/n$, which occurs when the true parameter is $p = 0.5$. In practice, since p is unknown, the maximum variance is often used for sample size assessments.

Reference Populations and Sample Size

Table A.4. Sample Breakout (number)

Breakout	Total (*N*)	Sample Size (*n*)
Region		
AFR	329	60
EAP	169	48
ECA	270	52
LAC	293	63
MENA	132	50
SAR	140	67
Other	49	5
Total	1,382	345
IDA status		
IDA	818	246
Non-IDA	439	86
Other	125	13
Total	1,382	345
Institution		
IBRD/IDA	129	36
IFC-AS	134	14
IFC-IS	805	241
MIGA	314	54
Total	1,382	345
Country income level		
High	48	9
Upper Middle	479	136
Lower Middle	526	144

Breakout	Total (*N*)	Sample Size (*n*)
Low	198	43
Other	131	13
Total	1,382	345
Portfolio status		
Active	786	205
Closed	564	139
Other	32	1
Total	1,382	345

Note: AFR = Sub-Saharan Africa; AS = Advisory Services; EAP = East Asia and Pacific; ECA = Europe and Central Asia; IBRD = International Bank for Reconstruction and Development; IDA = International Development Association; IFC = International Finance Corporation; IS = Investment Services; LAC = Latin America and Caribbean; MENA = Middle East and North Africa; MIGA = Multilateral Investment Guarantee Agency; SAR = South Asia.

Frontier Analysis

To evaluate how the Bank Group's mobilization efforts are distributed across countries with certain needs and characteristics, the evaluation team also conducted the frontier analysis. The analysis evaluated countries' performance in attracting private capital in relation to the World Bank Group's mobilization efforts. Specifically, the analysis was conducted to estimate the empirical production possibility frontier for private capital flows and to rate countries' performance relative to other countries facing a similar domestic investment environment. The analysis constructed composite measures as a proxy of the domestic investment and the private capital flows for each country; the Bank Group efforts on private capital mobilization were measured by both the Bank Group's own commitment allocated to projects with the objective of private capital mobilization and the amount of private finance mobilized by the relevant Bank Group projects. The results of the frontier analysis are presented separately in appendix J.

Survey with Development Finance Institutions and Investors

As part of IEG's evaluation of the Bank Group's efforts to mobilize private capital for development, two surveys were taken with development finance institutions (DFIs) and Investors. These two surveys were conducted to understand the needs and views of private investors and, at the same time the activities of other DFIs in private capital mobilization.

Survey with DFIs

The survey established a useful benchmark to compare the Bank Group's activities to those of other development institutions and to generate ideas and experiences that can inform changes to Bank Group policies or strategies related to private capital mobilization.

Eighteen staff members from 12 development institutions participated in detail, covering MDBs, bilateral DFIs, and specialized DFIs. All interviewees work directly on mobilizing private capital for development purposes. The interview questions covered four broad topics: (i) investor type and interests; (ii) target country, currency, and sector; (iii) mobilization instruments; and (iv) obstacles to greater mobilization. The focus of the interviews was on direct and indirect mobilization techniques, as defined by the multilateral development bank *Reference Guide*.

Survey with Investors

The survey was conducted via the approach of interviewing a subset of investors—representing different investor classes—in substantial detail, rather than a broad "*N*" approach of sending out more simplified surveys to a larger set of investors. The results generated are not intended to achieve statistical significance; rather, they provide a rich, nuanced set of responses from a group of major investors.

Fourteen investors were interviewed. The interviewees group comprised large institutional investors, strategic investors, and impact investors. All the interviewees are based in Organisation for Economic Co-Operation and

Development countries, and all have at least some investments (in some cases substantial) in countries eligible for Bank Group financing. The interview questions included: (i) target country and currency; (ii) obstacles to greater mobilization; (iii) investment interest; and (iv) engagement with multilateral development banks and development finance institutions.

Key Stakeholder Interviews

Interviews with IFC Syndication Partners

The data generated from the DFI and Investor surveys were also triangulated through in-depth interviews of IFC syndication partners. The specific purpose of these consultations was to better understand motivations and expectations related to IFC's Managed Co-Lending Portfolio Program (MCPP) (reflecting the "wholesale" approach) and B-Loan (reflecting the "retail" approach) program, respectively, while also assessing IFC's value added (or "additionality") to these institutions. The list of indicative questions is in table A.9.

Interviews with World Bank Group Staff

To compare investors' views to internal perspectives, the evaluation team also conducted several interviews with Bank Group staff—with a focus on task team leaders in PCM priority sectors—and relevant management. The objective of these interviews was to assess the enabling environment for private capital mobilization within and outside the Bank Group and to better understand the internal and external drivers and factors for successful mobilization across Bank Group interventions. Again, this information is meant to supplement and complement the documentary information collected, to increase the validity of other findings through triangulation.

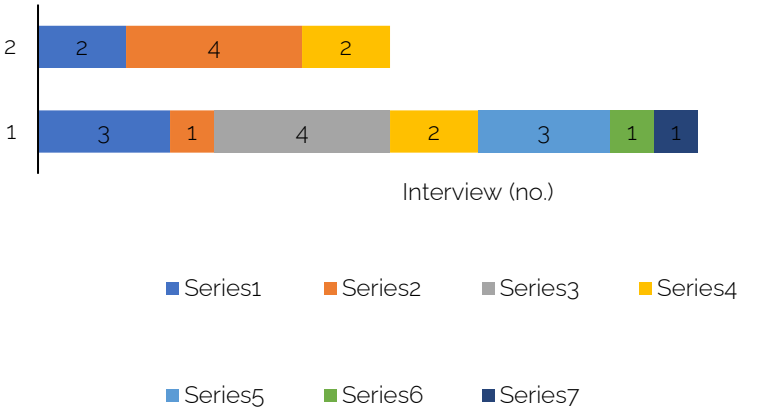
Because these interviews were to be semi-structured, a list of guiding questions was shared with interviewees prior to the scheduled conversations. The questions were divided into three broad categories: (i) Design of PCM Interventions, (ii) Investor Interest and Expectations, and (iii) Achievement of Objectives. This list of specific questions shared with interviewees is in Note:

MCPP = Managed Co-Lending Platform Program; PCM = private capital mobilization.

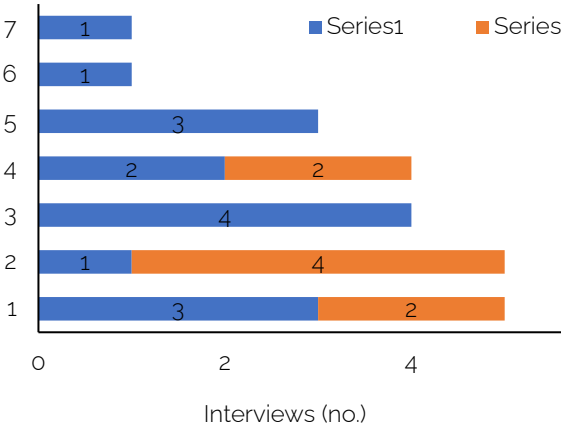
Overall, IEG conducted interviews with 23 Bank Group managers and task team leads. Their responses have been anonymized for this evaluation. Figure A.3 reflects the breakdown of coverage between task team leads and management staff and across sectors where mobilizing private capital is a priority.

Figure A.3. Breakdown of World Bank Group Staff Interviews

a. Interviews by personnel type



b. Interviews by industry group



Note: MNGT = management; TTL = task team lead.

Case-Based Analysis

A total of 13 countries were selected to be reviewed in depth through (i) country cases, which involve field missions and desk-based case studies, with selective focus on mobilization approaches for each country; and (ii) cross-case analysis,

where instrument mapping was conducted based on collective data from case studies. The regional breakdown of the countries selected is reflected in table A.5.

Country Case Studies

The initial list of seven country case studies (table A.5) was selected according to the following criteria: (i) the availability of country-level data, (ii) the representativeness of the Bank Group private capital mobilization portfolio, and (iii) coverage of more than one mobilization approach. These country case studies bring together several data collection and analysis approaches, such as key informant interviews (with clients, investors, partners, and staff), document reviews, and an overall survey of investors—capturing both client and investor perspectives. The country case template to be completed with background information and findings from the field mission is in table A.11.

Table A.5. Country Case Studies

	Projects *(no.)*		
Country	IFC	MIGA	IBRD/IDA
India (n = 65)	55	—	10
China (n = 53)	36	10	7
Argentina (n = 34)	30	1	3
Jordan (n = 31)	20	6	5
Bangladesh (n = 20)	13	5	2
Zambia (n = 17)	5	9	3
Mongolia (n= 7)	—	6	1

Source: Independent Evaluation Group.

Note: — = not available; IBRD = International Bank for Reconstruction and Development; IDA = International Development Assciation; IFC = International Finance Corporation; MIGA = Multilateral Investement Guarantee Agency.

Desk-Based Case Studies

In addition to the country cases, six countries were originally identified for desk-based reviews. The identification of countries was based on (i) requests from the Board or management, (ii) additional representation of IDA, Latin America and the Caribbean, and Europe and Central Asia countries, and (iii) results of the Data Envelopment Analysis. The final list of countries selected is reflected in table A.9, which also provides the breakdown of countries originally identified for desk-based reviews as well as the source and reasoning behind their selection. As demonstrated in table A.11, the template to be completed for desk-based cases is a shortened version of the country case template, with the critical difference that stakeholders were not interviewed for desk-based case studies.

Table A.6. Desk-Based Case Studies

y	Region	Debt	Bonds	Equity	Guarantees	Advisory	Direct Mobilization
	AFR	✓	✓		✓		✓
	AFR	✓			✓		✓
	AFR	✓		✓	✓		✓
	EAP	✓					✓
	EAP	✓				✓	✓
	ECA	✓					✓
	LAC	✓		✓			✓
	LAC			✓		✓	✓
	LAC	✓					✓
	MNA	✓	✓	✓		✓	✓

Note: AFR = Sub-Saharan Africa; EAP = East Asia and Pacific; ECA = Europe and Central Asia; LAC = Latin America and Caribbean; MENA = Middle East and North Africa; SAR = South Asia.

Table A.7. World Bank Private Capital Mobilization, Interview Questions for IFC Syndication Partners

Questions to Retail Investors (IFC B-Loan Program)

1. What market failures and gaps does IFC Syndications Program address, in your opinion?
2. How has IFC Syndications program and IFC engagement with your firm evolved over time? in terms of deal characteristics and coverage (risk/reward, countries, sectors, and so on)
3. What are the unique attributes, value proposition and comparative advantage of IFC Syndications program in relation to other options that you may have considered?
4. What has been IFC's work quality in administering and processing the syndicated deals? and
5. What are the potential areas of improvement and lessons of experience from this engagement?

Additional Questions to Wholesale Investors (MCPP Program)

6. What are the motivating factors to participate in IFC MCPP?
7. What other comparable strategies have you considered in private debt / fixed income? Do you have a specific/separate investment strategy for the Sustainable Development Goals?
8. Based on your experiences so far, what are the unique attributes, value proposition and comparative advantage of IFC MCPP in relation to other options that you may have considered?
9. Based on your experiences so far, what are the limitations of IFC MCPP and potential areas of improvement?
10. How would you assess and describe IFC's work quality in investor relations, due diligence, administering, documenting, processing and supervision and reporting of MCPP-linked transactions?
11. What are the emerging lessons of experience from your engagement with IFC so far?
12. How do you perceive your relationship with IFC evolving in the future after the MCPP experiences?
13. What other opportunities (debt, equity, capital markets) are you considering in the medium-long-term, either with IFC or other multi-lateral or development finance institutions?

Note: MCPP = Managed Co-Lending Platform Program; PCM = private capital mobilization.

Table A.8. World Bank Private Capital Mobilization—Interview Questions for Bank Group Task Team Leads and Management

Design of PCM Interventions

1. What are some of the reasons why you have (or have not) targeted to mobilize private lending in the design and interventions of projects that you have led?
2. Are any incentives put in place internally for you to include PCM in your interventions as opposed to regular IDA/IBRD lending?
3. Are the resources available within the World Bank Group sufficient for the successful mobilization of private investment in Bank Group interventions? If not, what resources are lacking?
4. Which mobilization instruments have you used in your projects (Debt, Bonds, Equity, Guarantees, PPP, and so on)?
5. What are some unique attributes/characteristics of PCM-related projects and coverage (that is, related to risk, sector, region, and so on)?
6. What attributes / characteristics of the context and environment do you believe are necessary to implementing such projects (that is, should "catalytic work" precede mobilization)?
7. Have you brought in any guarantees into the design of your interventions? If so, please specify from which institution (IFC, MIGA, World Bank) and what specific need motivated you to bring them into your project design?
8. Have you leveraged synergies across World Bank Group institutions in such projects? Have you leveraged synergies with other MDBs? If so, how have these counterparts been involved in PCM projects?

Investor Interest and Expectations

1. What instruments do you believe are most effective in drawing in private investors into World Bank projects? Do these reflect modern financial characteristics, and are these considered within the context of a country's financing needs to ensure a smooth and sustainable flow of capital for project financing?
2. What are some of the most significant risks and factors that constrain the involvement of private investors in Bank Group projects?
3. What sectors/industries/regions do you think are most attractive to private investors' involvement in development projects? Do these align with the needs for private financing?

Design of PCM Interventions

4. Have you worked with repeat investors through your projects and interventions? If so, what has drawn investors to support multiple phases/projects, and how has this relationship evolved over time?

Achievement of Objectives

1. In projects involving PCM, what was the value-added (or reason for lack of value-added) from private investment in the implementation of the project and achievement of its results?
2. What are some examples of positive demonstration effects that you have observed through the implementation of PCM projects (that is, catalyzation of other investments from the private sector / local financial institutions, replication of World Bank approaches, and so on)?
3. If you have collaborated with other Bank Group institutions and/or MDBs in PCM interventions, has this been a positive or negative factor to the achievement of project results?
4. What areas of improvement—internal to Bank Group—do you believe are critical to mobilizing more private capital toward development objectives?
5. What do you see as most common / most successful in drawing in the private sector in World Bank operations—catalyzation (including policy dialogue, investment reforms, privatization reforms, relevant development policy financing) or mobilization? And why?
6. What are specific challenges and/or opportunities to working with repeat investors?
7. How does the World Bank build/enhance local capacity for clients and counterparts to draw in financing from private sources independently? Do you consider Bank Group-instruments to be relevant and appropriate toward this goal?
8. In mobilizing private finance, what are some challenges faced in scaling-up projects (that is, weak regulatory environment, lack of financial sector understanding and/or infrastructure, local capacity, and so on)?

Note: IBRD = International Bank for Reconstruction and Development; IDA = International Development Association; MDB = multilateral development bank; PCM = private capital mobilization.

Table A.9. Country- and Desk-Based Case Study Template

1.1. Country Context *

Capture the country environment through investment climate, law and order situation, and other governance factors, as stipulated by the DEA variables below:

Domestic Environment Indicators

Dimension	Indicator		Description
I. Market-related factors	I.a	Market size and capital return	Inverse of real gross domestic product (GDP) per capita (constant 2010 $)
	I.b	Growth potential	GDP per capita growth (annual %)
II. Institutional and regulatory quality	II.b	Business regulation environment	Ease of doing business score, scale from 0 (worst) to 100 (best) regulatory performance.
III. Openness	III.a	Trade openness	Sum of exports and imports of goods and services (% of GDP)
	III.b	Market openness	Index of economic freedom, average score for trade, investment, and financial freedom, scale from 0 (lowest) to 100 (highest) degree of freedom
IV. Economic and political stability	IV.a	Inflation	Inflation rate (annual %)
	IV.b	Risk of conflict	Political Stability and Absence of Violence – Governance indicators
V. Infrastructure development	V.a	Logistics	Logistics Performance Index, overall score
	V.b	ICT	Fixed broadband subscriptions (per 100 people)
VI. Financial development	VI.a	Financial depth	Liquid liabilities (% of GDP)
	VI.b	Banking competition	5-bank asset concentration

VII. Natural and human resources	VII.a	Natural resources	Total natural resources rents (% of GDP)
	VII.b	Skilled workforce	Secondary school enrollment (% net)

1.2. Private Capital Mobilization *

Highlight the FDI and domestic mobilization highlights and potential (Private capital flows) through graphs and illustrations as well, using the indicators from the table below:

Private Capital Flows

Dimension	Description
Foreign direct investment	Foreign direct investment, net inflows (% of GDP)
Portfolio equity	Portfolio equity, net inflows (% of GDP)
Private sector borrowing	Domestic credit to private sector (% of GDP)

1.3. Capital Mobilization Strategies Review *

This section highlights any capital mobilization strategies developed by various stakeholders in the country

	Institution			
	World Bank Group	Jordan	MDBs	
			MDB1	MDB2
Framework	CPF	(National investment strategy or national action plan)	Country engagement / cooperation strategy / investment plan / capital market dev strategy	Country engagement / cooperation strategy / investment plan / capital market dev strategy
	SCD			
	FSAP			

1.4. World Bank Group Portfolio *

Capture each World Bank Group institution's capital mobilization portfolio (limit each institution's portfolio to 1 paragraph, using graphs and illustrations)

IBRD/IDA

IFC

MIGA

1.5 Stakeholders*

Tabulate the country- and project-level stakeholders in this section

World Bank Group/MDB Partners	Notes	Public Sector	Notes	Private Sector	Notes
Example: CMU USAID capital mkt team Project TTLs		Example: Ministry of finance Investment Board		Example: Leading commercial bank Project investor Private client / borrower	

1.6. Semistructured Stakeholder Interview Questions

Questions to be asked from country- and project-level stakeholders, responses will make up the main body of the case study around "relevance, effectiveness, and scale-up."

Relevance (Overarching evaluation question: To what extent are Bank Group mobilization approaches consistent with its capabilities, client needs and global priorities?)

World Bank Group-facing questions:

- Is private capital mobilization a part of the country strategy and/or Bank Group sector strategy focusing on the country?
- What are IFC's, MIGA's, and World Bank's diagnostic and support instruments for private capital mobilization, and how do they relate to each institution's corporate strategy? How do they differ from each other, and are they consistent and complementary?

- Are the three institutions leveraging synergies through adequate coordination and sequencing of activities? Has the presence/absence of such synergies influenced the outcomes of activities?
- Are Bank Group approaches to private capital mobilization in line with recommendations of MDBs to crowd-in investments for SDGs, e.g., the 17 Jordan forum by UNDP to identify means to achieve all 17 SDGs in Jordan?

Investor-facing questions:

- What is your principal target market? E.g., the domestic market, export to the regional or global market?
- Is the investment climate ideal for investing in the country? What kind of changes would you like to see, and has Bank Group supported the country in making those changes?
- What are the drivers of risk-tolerance for you, e.g., length of investments in the country, macroeconomic environment, regulatory frameworks? To what extent has Bank Group's support influenced your risk-tolerance through risk mitigation measures.
- What asset-allocation rules do you follow when making investment decisions? Based on your risk tolerance, how would you rank different asset classes used in the country by preference?
- Were resources deployed from Bank Group institutions to assist you in the transactions adequate? Did you see complementarity in Bank Group from multiple institutions, when additional support from these institutions was needed to provide different risk-mitigation measures?

Do you view the country's development challenges as an opportunity for investment? E.g., surge in refugee influx burdens public infrastructure, calling for enhanced investments for infra. support. Has Bank Group supported investments to address these challenges?

Sponsor-facing (government, investee, borrower, etc.) questions:

- What has driven the country ratings for various approaches to private capital mobilization? What are the top approaches used for PCM? (Sovereign debt rating, govt bond yield, national and private savings rate)
- Is Bank Group support to PCM aligned with top approaches used in the country? Which approach is a priority for borrowers, and how Bank Group's support has complemented that approach?
- Were resources deployed from Bank Group institutions to assist you in the transactions adequate? Did you see complementarity in Bank Group from multiple institutions, when additional support from other institutions was needed?

Are Bank Group approaches to private capital mobilization in line with recommendations of MDBs to crowd-in investments for SDGs, e.g., the 17 Jordan forum by UNDP to identify means to achieve all 17 SDGs in Jordan?

Effectiveness (Overarching evaluation question: How effective has Bank Group been in meeting investors' and clients' expectations?)

World Bank Group-facing questions:

- Has Bank Group played any role in supporting the establishment, operations, and/or policy development of the special economic and development zones?
- Is there an asset-liability mismatch in the financial sector, making long-term financing difficult? Has Bank Group strategized to support the development of the corporate securities market in the country to meet long-term needs?
- Has Bank Group been supportive of creating new investor classes domestically for PCM? These new classes can include non-bank financial institutions (NBFIs), like insurance funds that have long-term liabilities but might not have access to long-term assets to match and diversify their corporate risk?
- Overall, how important has the financial sector deepening objective been for Bank Group, and where does Bank Group currently stand in achieving that objective?

- Did Bank Group focus on creating local currency debt/bond markets in the country to reduce currency mismatches? If yes, how effective has it been?
- How effective has Bank Group portfolio been in enhancing quality infrastructure in the country?

Investor-facing questions:

- How important are incentives for investment in the country for you? To your knowledge, has Bank Group supported the flow of incentives for investors? These incentives can include tax incentives, customs incentives, special zones, financial incentives (subsidies, loan guarantees, matching grants, etc.) or others.
- Does the financial sector have the ability/capacity to cater to the financial needs of the real sector? To what extent has Bank Group supported the sector's functionality to cater to long-term infrastructure financing?
- For domestic investor: In the absence of Bank Group, would you still have opted for fixed capital formation in this sector? What would have you done with the financing capital instead?
- For foreign investors: In the absence of Bank Group, would you still have opted for fixed capital formation in this sector? What would have you done with the financing capital instead (like investing in another sector or another country)?
- What is Bank Group's additionality to you when making an investment decision? Do you see Bank Group's role and your decision rationalized by the following:
- New Market seeking support
- Efficiency seeking support
- Return seeking support
- Impact seeking support
- Risk mitigation support
- Did Bank Group focus on creating local currency debt/bond markets in the country to reduce currency mismatches? If yes, how effective has this support been?

- How effective has Bank Group been to influence your decision to invest in the infrastructure sector?

`Sponsor-facing (government, investee, borrower, etc.) questions:

- How important are incentives for investment in the country for investors? To your knowledge, has Bank Group supported the flow of incentives for investors and domestic companies? These incentives can include tax incentives, customs incentives, special zones, financial incentives (subsidies, loan guarantees, matching grants, etc.) or others that you may have seen.
- Are the country's investment needs focused on big investments in the real sector? Does the financial sector have the ability/capacity to cater to the financial needs of the real sector?
- How effective has Bank Group been in creating a demonstration effect for mobilizing domestic capital from local institutions like non-bank financial institutions (NBFIs)?
- In the case of Bank Group using PCM approaches successfully, did you witness the replication of Bank Group's approaches from this project to other Bank Group projects? In your opinion, what sector benefitted the most from this demonstration effect?
- Did you witness the demonstration effect of Bank Group's approaches, e.g., guarantees, bonds, equity, and debt to catalyze private capital from both existing and non-traditional sources, e.g., MDBs, fund managers, asset mgmt., companies, pension funds, insurance companies, etc.?
- Are your financing needs better catered to by local or international securities markets? Which one has Bank Group supported, and how effectively?

Has Bank Group support been adequate to maintain/enhance quality infrastructure that offers attractiveness to investors interested in the real sector?

- How important are incentives for investment in the country for investors? To your knowledge, has Bank Group supported the flow of incentives for investors and domestic companies? These incentives can include tax incentives, customs incentives, special zones, financial incentives (subsidies, loan guarantees, matching grants, etc.) or others that you may have seen.
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- Are your financing needs better catered to by local or international securities markets? Which one has Bank Group supported, and how effectively?
- Has Bank Group support been adequate to maintain/enhance quality infrastructure that offers attractiveness to investors interested in the real sector?

Scale-up (Overarching evaluation question: What are the opportunities and challenges associated with Bank Group mobilization approaches, and to what extent can successful approaches be scaled up?)

Bank Group-facing questions:

- Given the net savings rate in the country, do you think the available domestic capital is adequate? If yes, where is the capital used (deposits, short term investments, long-term investments, etc.), and what are the challenges/opportunities of mobilizing this capital for the private sector?
- How important are macroeconomic challenges in the selection of Bank Group's PCM approaches? E.g., is a high debt-GDP ratio a deterrent or incentive or irrelevant for debt-mobilization? Do sovereign credit ratings come into play when Bank Group supports PCM in the country?
- What are the drivers of types of investment Bank Group helps mobilize in Jordan? Does Bank Group specifically target investor groups like natural resource-seeking, domestic market-seeking, efficiency-seeking, or does it work across the spectrum without necessarily targeting strategically?
- Is investor perception influenced by any lingering effects of the global financial crisis? Is regional landscape/instability considered a significant challenge by investors when making investment decisions? What has Bank Group done to address that?
- What role has Bank Group played in improving corporate governance and enhancing institutional capacities?
- Are the existing Bank Group approaches (equity, bond, debt, etc.) reflective of modern financial characteristics? Are these approaches integrated with the financing needs of the country and ensure the smooth flow of capital for project finance?

Investor-facing questions:

- What are the available options for asset-allocation in the country? What challenges/opportunities arise when structuring deals using Bank Group approaches to PCM through asset classes like bonds, equity, and debt? What role has Bank Group played in addressing these challenges or capitalizing on these opportunities?
- Is Bank Group's choice of PCM approaches in the international capital market (e.g., Eurobonds, green bonds) considered a viable option for long-term investments and subsequent scale-up for development needs, including climate financing? Do you see these approaches as challenges or opportunities in making financing decisions?
- How effective has Bank Group been in capital mobilization for scale-up and sustainability of long-term projects through its role as a risk-mitigator? This question can be answered in the context of:
- Bank Group as an underwriter of guarantees for development projects
- Bank Group with its preferred creditor status, protecting investing participants from convertibility and foreign exchange risks
- Bank Group's upstream role as a risk manager through correcting market failures, reducing regulatory risk, institutional capacity building, and improving the overall investment climate.
- Has successful scale-up support by Bank Group to capital mobilization resulted in catalyzation of investments for public goods outside of Bank Group platforms? Examples can include:
- Bank Group catalyzing other MDB(s) to work on macroeconomic stability in the country
- IFC green bonds influencing other issuers to mobilize investments for climate change projects
- Bank Group's result-based financing creating a demonstration effect for other lenders to fund public infrastructure projects conditionally
- Given the financial landscape, regulatory & legal frameworks, are there adequate provisions made for arbitration and conflict resolution? Do you see the

current frameworks as a challenge or facilitation to scale-up? What's Bank Group's role?

- Did Bank Group play an additional role in garnering investor comfort or "sweetened the deal" by providing additional incentives, rebates, or commitment-based rewards?
- What specific challenges/opportunities have been characteristic of repeat engagements with Bank Group, for example, when implementing:
- Repeat transactions in the same sector
- Scale-up of infrastructure financing, like energy and transport
- Developing regional capital markets through demonstration effect for investors and other MDBs, e.g., developing regional bond funds that can provide greater operating scale to lower costs and diversify risks
- Did partnering with Bank Group also open avenues of non-traditional or innovative financing mechanisms, like sovereign wealth funds, climate financing, insurance and pension funds, specialized investment vehicles (SIVs) for you?
- Are the existing Bank Group approaches (equity, bond, debt, etc.) reflective of modern financial characteristics? Are these approaches integrated with the financing needs of the country and ensure a smooth flow of capital for project finance?

Sponsor-facing (government, investee, borrower, etc.) questions:

- Given the net savings rate in the country, do you think the available domestic capital is adequate? If yes, where is the capital used (deposits, short term investments, long-term investments, etc.), and what are the challenges/opportunities of mobilizing this capital for the private sector?
- To mobilize private finance for development, what are the challenges faced by borrowers in scaling-up development projects? These can include long-standing macro challenges like:
- Weak regulatory regime
- Lack of depth in the financial sector (little diversity in lending instruments)
- Inadequate financial infrastructure

- Lack of support to local currency options to avoid risks associated with foreign currency borrowings
- Or more immediate challenges like:
- Inadequate project mgmt. support
- Lack of co-investment platforms that can enhance investor comfort
- Lack of institutional capacity to support credit enhancement, structured finance, and hedging solutions that can potentially increase the attractiveness of securities offering by capital market.
- Is Bank Group's choice of PCM approaches in the international capital market (e.g., Eurobonds, green bonds) considered a viable option for long-term investments and subsequent scale-up for development needs, including climate financing?
- Are the existing Bank Group approaches (equity, bond, debt, etc.) reflective of modern financial characteristics? Are these approaches integrated with the financing needs of the country and ensure a smooth flow of capital for project finance?
- Is investor perception influenced by any lingering effects of the global financial crisis (like overcautious regulatory regime)? Is regional landscape/instability considered a significant challenge by investors when making investment decisions? What has Bank Group done to address that?
- What specific challenges/opportunities have been characteristic of repeat engagements with Bank Group, for example, when implementing:
- Repeat transactions in the same sector
- Scale-up of infrastructure financing, like energy and transport
- Developing regional capital markets through demonstration effect for investors and other MDBs, e.g., developing regional bond funds that can provide greater operating scale to lower costs and diversify risks
- Did partnering with Bank Group also open avenues of non-traditional or innovative financing mechanisms, like sovereign wealth funds, climate financing, insurance and pension funds, specialized investment vehicles (SIVs) for you?

- Are the existing Bank Group approaches (equity, bond, debt, etc.) reflective of modern financial characteristics? Are these approaches integrated with the financing needs of the country and ensure a smooth flow of capital for project finance?

Note: IBRD = International Bank for Reconstruction and Development; IDA = International Development Association; MDB = multilateral development bank; PCM = private capital mobilization; Bank Group = World Bank Group.

1.7. Consensus Analysis

Based on responses collected, record the overall experience of each of the three groups of respondents.

Stakeholder	Positive	Negative	Neutral
Bank Group/CMU/TTL			
Investor			
Sponsor			
Government, Investees, etc.			

1.8. Challenges & Opportunities *

Identify key messages of challenges and opportunities pertaining to private capital mobilization in the country, using your overall research, including, literature review, portfolio review, interviews, and other sources.

1.9. Way Forward *

Recommendations.

Cross-Case Analysis: Instrument Mapping

Based on the products identified under each of the Bank Group's direct approaches to mobilization, the team conducted instrument mapping to evaluate how the risks were addressed by the current products.

This analysis mapped the Bank Group's mobilization products to the risks identified via interviews. The mapping identified potential for improvement in financial product innovation, scaling up, and upstream catalytic work. Based on data collected from informant interviews with staff, syndication partners, and investors, the analysis mapped the products to the identified risks, the products' complexity to risk mitigation potential, and the products' complexity to volume potential (tables A.13, A.14, and A.15).

The volume potential in the analysis was defined as the advanced commitment from investors that has limited impacts on the balance sheet and financial regulations and playing a cyclical or countercyclical role that is complementary to other products that are playing a cyclical role. The complexity was measured using the definition of Basel and the International Organization of Securities Commissioners, where the Bank Group's Resource Intensity measured the cost dimension. In addition, both the investor perspective and the Bank Group perspective were considered on complexity and costs with three different scenarios: the investor perspective, Bank Group perspective with Bank Group intensity equally weighted, and Bank Group perspective with Bank Group resource intensity weighted more.

Econometric Analysis

The econometric analysis evaluated the impacts of three Bank Group products that mobilized private capital via different approaches. The products are IFC's syndicated loan and green bonds and the World Bank's PPP projects by, respectively mapped under the categorized activities Debt Mobilization, Bond Mobilization, and Advisory Mobilization.

Debt Mobilization

To examine how IFC's participation in the syndicated loan market facilitates mobilizing private capital in emerging economies, the evaluation team used various statistical measures to see whether IFC's involvement triggered faster growth in loan syndication at the country, sector, and firm levels. At the country level, the econometric analysis was conducted to estimate the market influence of IFC, measured by the average growth rate of syndicated lending. At the sector level, IFC's involvement was disaggregated to industry sectors to examine whether it addressed market failure in specific industries. At the firm level, the analysis constructed indicators to measure the firms' capacity to mobilize additional sources of funding and estimated the influence of IFC participation on the constructed indicators. The results of the analysis are presented separately in appendix C.

Bond Mobilization

The evaluation team conducted an econometric analysis with the intent to quantify IFC’s impact on the green bond market. The analysis attempted to answer the question of whether IFC participation in the green bond market increased activity in the market, as measured by issue size. The analysis used the green bond data from Bloomberg, controlling for factors like issue year, maturity year, yield, and credit rating, to estimate IFC’s influence on market activity. The results of the analysis are presented separately in appendix F.

Advisory Mobilization

The evaluation team conducted an econometric analysis to measure the effects of Bank Group intervention on PPP investment measured by the number and amount of PPP investments. Bank Group interventions are measured by the ratio of the total value of World Bank and IFC intervention to the total investment in each year, with a dummy variable for the Bank Group's participation. The analysis controlled for the other factors influencing PPP investments. These

factors are the governments' PPP experience, economic, and institutional features. The results of the analysis are presented separately in appendix H.

Industry Benchmarking

As part of the component that evaluates the effectiveness of debt mobilization, the evaluation team conducted industry benchmarking. The benchmarking exercise identified public and private benchmarks to IFC's MCPP. The MCPP platform is used to attract a new class of investors to the development priorities in a sector or region. This platform gives IFC the ability to provide larger financing packages than could be provided from its own account. The comparable selected included the JPMorgan Emerging Bond Index, the largest exchange traded fund of the index by Blackrock iShares (EMB), and a few funds comprising a mixture of holdings (table A.6 and table A.7). From an investment grade perspective, MCPP outperforms in risk-adjusted returns on capital. (For detailed analysis and results, see appendix D).

Table A.10. World Bank Private Capital Mobilization, Interview Questions for IFC Syndication Partners

Questions to Retail Investors (IFC B-Loan Program)
1. What market failures and gaps does the IFC Syndications Program address, in your opinion?
2. How has the IFC Syndications program and IFC engagement with your firm evolved over time in terms of deal characteristics and coverage (risk/reward, countries, sectors, etc.)
3. What are the unique attributes value proposition and comparative advantage of the IFC Syndications program vis-à-vis other options that you may have considered?
4. What has been IFC's work quality in administering and processing the syndicated deals? And
5. What are the potential areas of improvement and lessons of experience from this engagement?

Questions to Retail Investors (IFC B-Loan Program)

1. What are the motivating factors to participate in IFC MCPP?
2. What other comparable strategies have you considered in private debt / fixed income? Do you have a specific/separate investment strategy for the Sustainable Development Goals?
3. Based on your experiences so far, what are the unique attributes, value proposition, and comparative advantage of the IFC MCPP vis-à-vis other options that you may have considered?
4. Based on your experience so far, what are the limitations of IFC MCPP and potential areas of improvement?
5. How would you assess and describe IFC's work quality in investor relations, due diligence, administering, documenting, processing and supervision, and reporting of MCPP-linked transactions?
6. What are the emerging lessons of experience from your engagement with IFC so far?
7. How do you perceive your relationship with IFC evolving in the future following the MCPP experiences?
8. What other opportunities (debt, equity, capital markets) are you considering in the medium-long term, either with IFC or other multilateral or development finance institutions?

Table A.11. Managed Co-Lending Platform Program Benchmarking—Indexes and Exchange Traded Funds

	Indexes / ETFs		5-Year (14–18)			
	Benchmark Type	Index	Investment Vehicle	Returns Multiple	Annual Return *(%)*	Top Holdings
	IFC		MCPP	x.x	Y. Y	
1)	Bond Index (Emerging Markets)	JPMorgan Emerging Bond Index	Blackrock iShares J. P. Morgan USD Emerging Markets Bond ETF (EMB) [AUM: $17Bn]	1.19	3.54	Sovereign debt in the Russian Federation 3.55%, Colombia, 3.5%, Philippines 3.48%, Brazil 3.16%
2)	Bond Index (Emerging Markets)	BofAML Emerging Markets Corporate Index	Various ETFs	1.21	3.88	Broad, capitalization-weighted composite index of US dollar- and euro-denominated debt of corporate issuers in emerging market
3)	Bond Index (Emerging Markets)	BofAML High Yield Master II	Various ETFs	1.20	3.80	Index of US dollar–denominated below investment grade corporate debt publicly issued

	Indexes / ETFs		5-Year (14–18)			
	Benchmark Type	Index	Investment Vehicle	Returns Multiple	Annual Return *(%)*	Top Holdings
						in the United States
4)	Bond Index (US)	Bloomberg Barclays US Aggregate Bond Index	Blackrock iShares Core US Aggregate Bond Index (AGG) [AUM: $57Bn]	1.13	2.38	US Treasury 39.52%, Federal National Mortgage Association 12.47%, Government National Mortgage Association 7.39%, Federal Home Loan Mortgage Corporation—Gold 4.66%, Federal Home Loan Mortgage Corporation 3.17%
5)	Equity Index (Emerging Markets)	FTSE Emerging Markets Index	Vanguard FTSE Emerging Markets Index Fund ETF Shares (VWO) [AUM: $62Bn]	1.09	1.78	Tencent 4.70%, Alibaba 3.80%, Taiwan Semiconductor Manufacturing Co 3.5%, Naspers 1.8%, China Construction Bank 1.4%

	Indexes / ETFs			5-Year (14–18)		
	Benchmark Type	Index	Investment Vehicle	Returns Multiple	Annual Return (%)	Top Holdings
6)	Bond Index (Global)	FTSE World Broad Investment-Grade Bond Index	Index (USD unhedged)	1.06	1.16	Combination of other indexes (multi-asset, multi-currency benchmark, a broad-based measure of the global fixed income markets)
7)	Bond Index (Global)	Barclays Multiverse Total Return Index Value Unhedged USD	Index (USD unhedged)	1.06	1.21	Combination of other indexes (multi-asset, multi-currency benchmark, a broad-based measure of the global fixed income markets)
8)	Equity Index (US)	Russell 3,000	Various ETFs	1.35	6.11	Market-capitalization-weighted equity index tracking 3,000 largest US-traded stocks

Note: AUM = assets under management; ETF = exchange-traded fund.

Table A.12. Managed Co-Lending Platform Program Benchmarking—Funds

	Funds		5-Year (14–18)		
	Benchmark Type	Investment Vehicle	Returns Multiple	Annual Return (%)	Top Holdings
	IFC	MCPP	x.x	Y.Y	
9)	Fund	Blackrock Emerging Markets Flexible Dynamic Bond Fund [AUM: $100M]	1.11	2.11	Sovereign debt in Hungary 10.97%, Nigeria 9.25%, Ukraine 6.52%, Angola 5.67%, the Arab Republic of Egypt 5.64%, Saudi Arabia 4.32%, Gabon 3.87%; Corporate debt in Petróleos de Venezuela S. A. 4.32%, Petrobras Global Finance B. V. 3.45%, KazMunayGas 3.22%
10)	Fund	Blackrock iShares Emerging Markets High Yield Bond ETF (EMHY) [AUM: $324M]	1.23	4.27	Sovereign debt in Turkey 9.11%, Argentina 6.16%, Brazil 6.16%, Ecuador 3.13%, Lebanon 2.95%, Ukraine 2.88%, South Africa 2.84%, Dominican Republic 2.73%, the Arab Republic of Egypt 2.49%; Corporate debt in Petrobras Global Finance B. V. 6.65%

	Funds		5-Year (14–18)		
11)	Fund	Templeton Emerging Markets Bond Fund [AUM: $30M]	1.11	2.10	Secretaria Tesouro Nacional (9.76%) 8.18%, Argentina (16%) 2.91%, Secretaria Tesouro Nacional (0%) 2.91%, Argentina (15.5%) 2.88%, Bank of Thailand 2.63%, Brazil 1.97%, Argentina (0%) 1.73%, Reventazon Finance Trust 1.55%, Indonesia 1.53%
12)	Fund	Franklin Emerging Market Debt Opportunities Fund [AUM: $300M]	1.24	4.37	Uruguay 3.69%, Société Des Hydrocarbures Du T 3.43%, PBR KYIV Finance Plc 3.34%, South Africa 2.97%, El Salvador 2.66%, Mexico (United Mexican States) 2.41%, Oilflow Spv 1 DAC 2.18%, European Bank for Reconstruction and Development 2.17%, Alternative Strategies (Ft) Li 2.10%, International Bank of Azerbaijan 2.10%

	Funds		5-Year (14–18)		
13)	Fund	Invesco Emerging Markets Flexible Bond Fund [AUM: $37M]	0.84	−3.53	Czech Republic Government Bond 3.50%, Mexican Bonos 2.78%, Indonesia Treasury Bond 2.77%, Indonesia Treasury Bond 2.26%, Brazil Notas do Tesouro Nacional Serie F 1.78%, Colombian TES 1.62%, African Export-Import Bank/The 1.61%, Corp Financiera de Desarrollo SA 1.61%, Russian Foreign Bond—Eurobond 1.60%, Mexico Government International Bond 1.59%
14)	Fund	Pimco Emerging Markets Bond Fund [AUM: $2.2B]	1.20	3.63	Cdx Em30 Ice 5.82%, US 10-Year Note (CBT) 5.52%, Irs Usd 4.32%, Zcs Brl 2.40%, Zcs Brl 2.10%, Brazil Minas SPE 1.70%, United States Treasury Note: 1.67%, Zcs Brl 1.61%
15)	Funds	Pitchbook Data: Private Debt Benchmark	1.16	3.01	Median performance of 41 funds in Direct lending, Bridge financing, Distressed debt, Credit special situations,

	Funds	5-Year (14–18)	
			Infrastructure debt, Venture debt, Real estate debt

Note: AUM = assets under management; ETF = exchange traded fund.

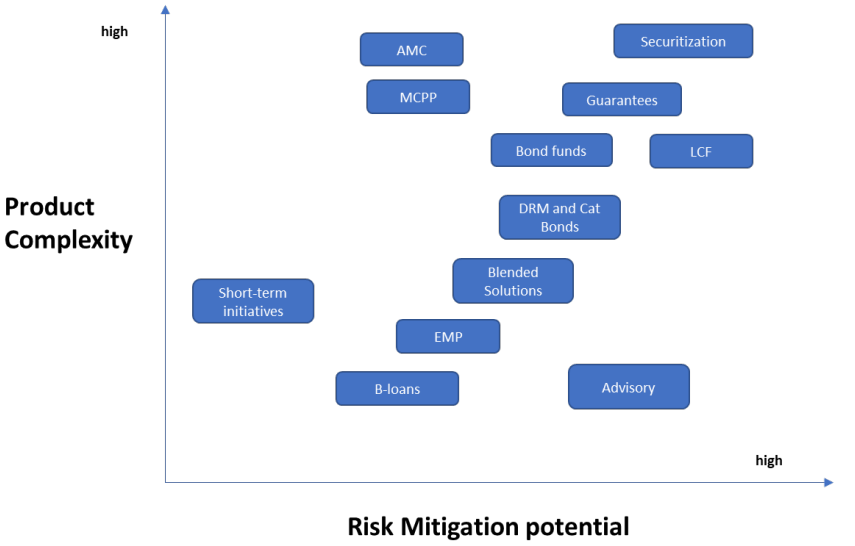
Methodological Limitations

There are limitations on scope and coverage with respect to the World Bank's efforts in private capital mobilization. The World Bank's efforts are distinct from those of IFC and often involve upstream catalytic support to enabling environment and policies. In addition, for most of the review period (FY07–18), the World Bank was not explicitly mandated to mobilize private capital; this mandate was explicitly adopted only recently, with the introduction of the Maximizing Finance for Development initiative. The coverage of the World Bank activities is limited because the report excluded activities such as policy dialogue, upstream analytical work, nonlending technical assistance or support to investment policy reforms through ASA, and development policy financing.

Table A.1. Mapping Products to Risk Mitigation

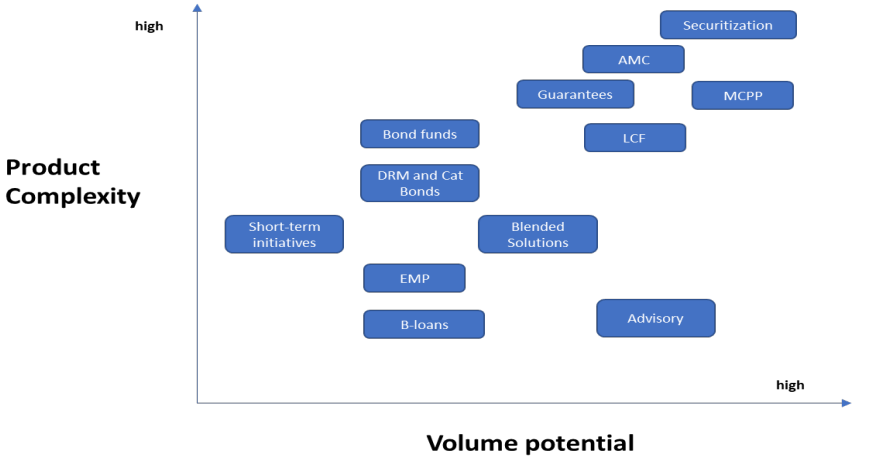
			Types of Risks													
			Macro		Credit and Commercial		Technical				Thematic				WBG Toolbox	WBG use - degree and intensity
			Political and Country	Currency / FX	Credit	Liquidity	Construction and Venture stage	Public Policy Changes	Operation stage	Env & Decomm	Financial sector		Infrastructure sector			
											Lack of pipeline	Access to Finance	Lack of pipeline	Off-take and Demand Risks		
Commercial Instruments	Guarantees, Insurance and ReInsurance	PRI	■		■				■			■			✓	High
		PCG and PRG			■				■					■	✓	Low
		PBG			■				■			■			✓	Low
		NH	■		■				■					■	✓	High
		Portfolio Insurance (wholesale)							■			■		■		
		Co-Insurance and Guarantee Syndications	■		■				■			■		■		
	Currency and Hedging	Local Currency (retail)		■											✓	Low
		Pooled LCF (wholesale)		■		■										
	Short-term initiatives	Trade finance			■	■									✓	Low
	Mezzanine	Sub Debt, Junior tranches			■				■			■			✓	Low
	Debt	B-loan Syndications (retail)							■						✓	High
		MCPP, RSF (wholesale)							■						✓	Low
	Equity	AMC (wholesale)							■			■			✓	High
		EMP (retail)							■			■			✓	Low
	Bonds	Green Bonds (retail)				■	■		■			■			✓	Low
		GB Funds (wholesale)				■	■		■			■			✓	Low
	Advisory	Securitization / Warehousing			■	■	■				■	■	■			
	Advisory	PPP / Contractual Mechanisms										■		■	✓	Low
	Advisory	Results based (DIB, SIB)					■		■	■						
Public Capital	Blending	Grants and Concessional				■					■	■	■			
	Blending	Unfunded Risk Participation				■										
	Blending	Infraventures			■						■	■	■			
	Paris Club - lending	Multilateral										■				
	Non-Paris Club lending	Sovereign and Others										■				

Figure A.4. Mapping Complexity with Risk Mitigation Potential



Note: AMC = Asset management Company; DRM = disaster risk management; EMP = Equity Mobilization Program; LCF = local currency facility; MCPP = Managed Co-Lending Platform Program;

Figure A.5. Mapping Complexity with Volume Potential



Sources: IEG analysis based on International Organization of Securities Commissioners; and Bank Group definitions.

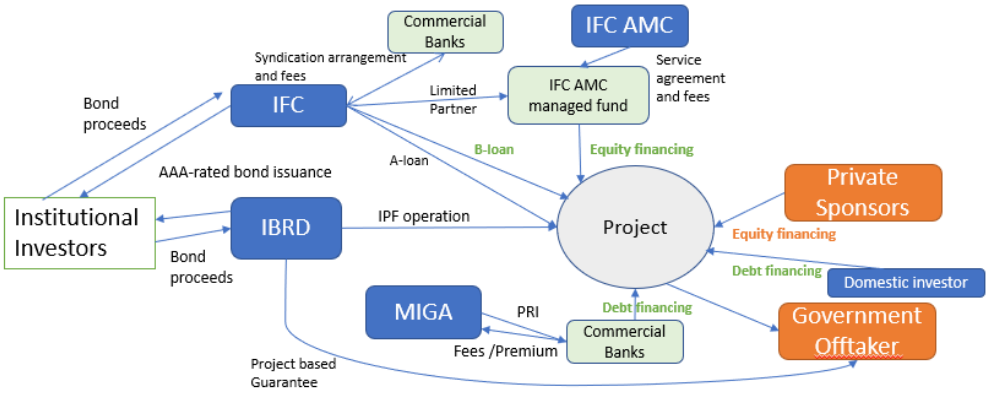
Note: AMC = Asset Management Company; DRM = disaster risk management; EMP = Equity Mobilization Program; LCF = local currency facility; MCPP = Managed Co-Lending Platform Program.

Appendix B. Mobilization Approaches

The World Bank Group's approaches to mobilizing long-term private capital fit into five broad categories: debt mobilization, equity mobilization, bond mobilization, guarantees-linked mobilization and advisory mobilization (primarily via public-private partnerships [PPPs]). In addition, the International Finance Corporation (IFC) directly mobilizes short-term private capital via several facilities and collective investment vehicles to provide liquidity support in areas such as trade finance, distressed asset recovery, micro-finance institutions, and critical commodity financing.

Private direct and indirect mobilization–linked financing flows don't "pass through" the Bank Group's balance sheet (assets), but they do leverage the balance sheet. Typically, Bank Group lending and advisory activities use the assets of its balance sheet to support client countries or corporates. Any proceeds from AAA-rated bonds issued by the Bank Group, including the International Development Association (IDA), are used for its own funding (not for client funding), flow into the balance sheet, and are then channeled toward lending activities. IFC Advisory Services and World Bank Advisory Services and Analytics (ASA) activities are similarly funded using the Bank Group balance sheet or supported by public sector–linked trust funds. Capital raised through mobilization activities does not pass through the Bank Group balance sheet, is typically considered to be off balance sheet, and is channeled directly to support the client.

Figure B.1. Own-Account Lending versus Mobilization-Linked Lending



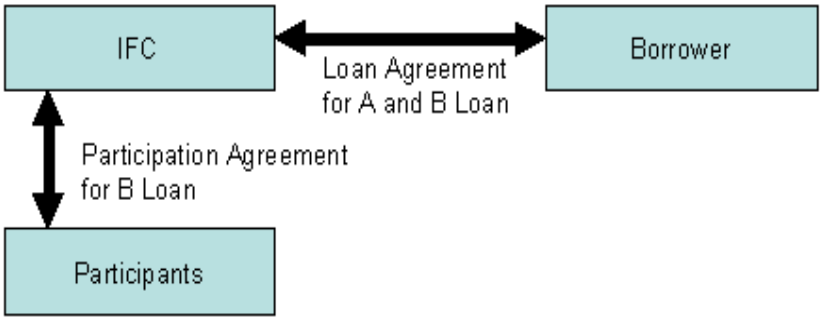
Source: Independent Evaluation Group.

Note: Capital flows in green are accounted for as Private Direct Mobilization and flows in orange are Private Indirect Mobilization. IFC = AMC = asset management company; IBRD = International Bank for Reconstruction and Development; IFC = International Finance Corporation; MIGA = Multilateral Investment Guarantee Agency.

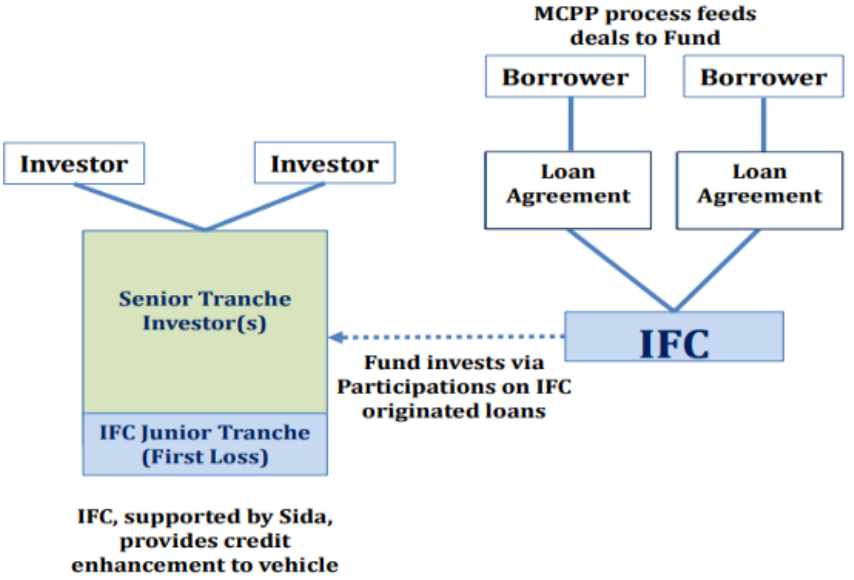
IFC mobilizes private capital directly and delivers large volume commitments to projects primarily via debt and equity mobilization. The two approaches support a development project's financial close following IFC's direct involvement in due diligence, structuring, and risk assessment of environmental and social safeguards (figure B.2). Another subapproach is through the deployment of debt and equity platforms in which private capital is committed in advance by investor-participants (on a portfolio approach basis) and then channeled to development projects at the time of financial close. This subapproach is done via the Managed Co-Lending Portfolio Program (MCPP) and Asset Management Company (IFCAMC) platforms. In the case of debt and equity platforms, the investor-participants are typically passive and delegate all aspects of the project development to IFC.

Figure B.2. Stylized Structures for Debt Mobilization (Illustrative only)

a. Debt mobilization, deal-by-deal basis



b. Debt mobilization through MCPP

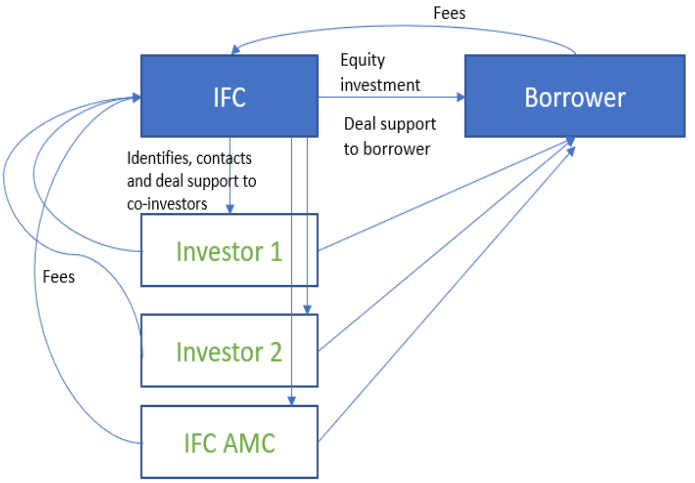


Sources: International Finance Corporation; Independent Evaluation Group.

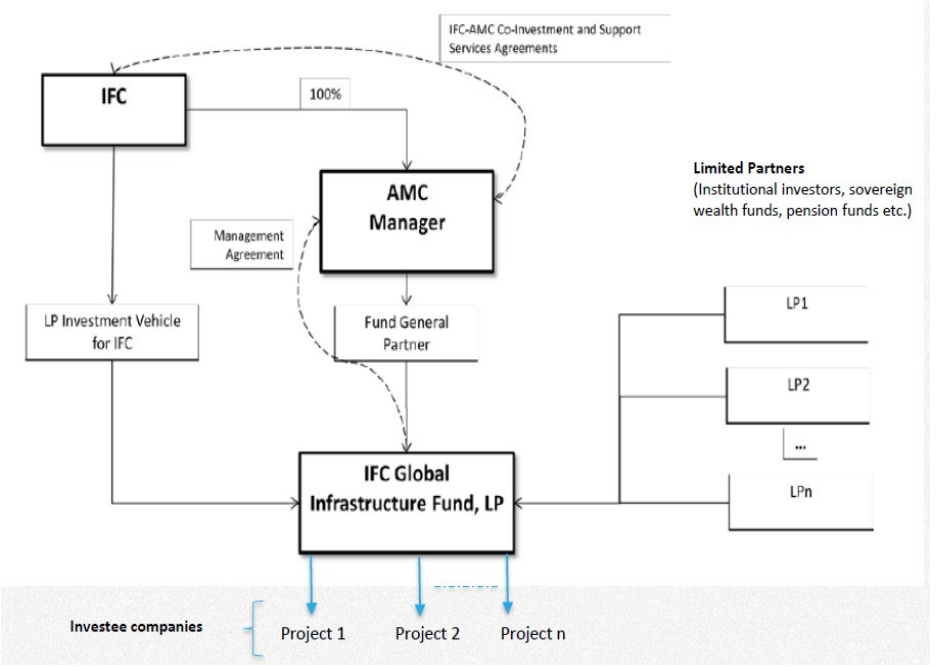
Note: MCPP = Managed Co-Lending Portfolio Program.

Figure B.3. Stylized Structures for Equity Mobilization

a. Equity mobilization, deal-by-deal basis



b. Equity mobilization, advanced commitment basis, through IFC AMC



Source: Independent Evaluation Group.

Note: AMC = Asset Management Company; IFC = International Finance Corporation; LP = Limited Partnership.

Through its guarantees instrument for project support and policy support, the World Bank mobilizes private capital (equity and debt) and offers de-risking solutions to both investors and client countries. World Bank guarantees provide "AAA" risk mitigation with respect to obligations due from government, political subdivisions, or government-owned entities to private investors (such as equity, debt, contractors, and so on) and to foreign public entities on cross-border projects. Risk mitigation is of a partial nature and aims to promote balanced risk allocation between government and private investors, or between public entities in cross-border projects. For countries, the World Bank guarantees facilitate PPPs and reduce government's direct exposure to project-level risk.

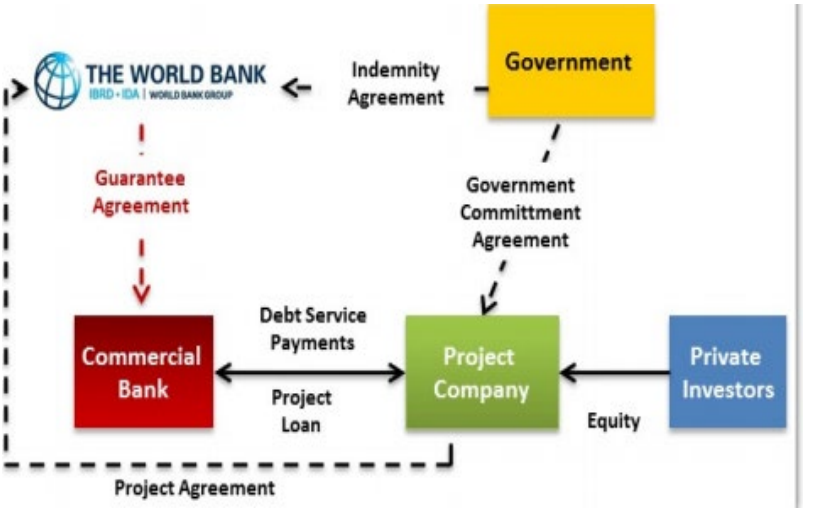
Project-based guarantees may be structured so that they combine different types of coverage for the same project. For example, they may guarantee a certain amount of scheduled monthly payments due from a government-owned utility to a private project under a contract combined with a guarantee for liquidated damages payable by a government in the event of an unfavorable change in tariffs. Similarly, two or more gas production projects procured under a single gas expansion tender program, which will be owned by the same or various investors and will sell gas to a single government-owned gas off-taker, may benefit from a separate payment guarantee for each project under the same tender program and a single guarantee series approach.

In addition to project-level guarantees, the World Bank offers policy-based guarantees to client governments. In the context of development policy operations where the World Bank supports a member country with their program of policy and institutional actions that promote growth and sustainable poverty reduction. This type of guarantee is intended to provide risk mitigation to commercial lenders with respect to debt service payment defaults by the government, when the proceeds of the financing are applied to budgetary support in the context of development policy operations. It can only be used by governments to access budgetary support within a specific program of policy and institutional actions. The main benefits of the policy-based guarantees are that they enhance the credit quality of the government, potentially improving the

financing terms for a government (lower interest rates and longer tenors) and provide long-term macroeconomic support while attracting private investment.

Figure B.4. Stylized Structure of World Bank Guarantee–Linked Private Capital Mobilization

a. Project Guarantee–linked mobilization



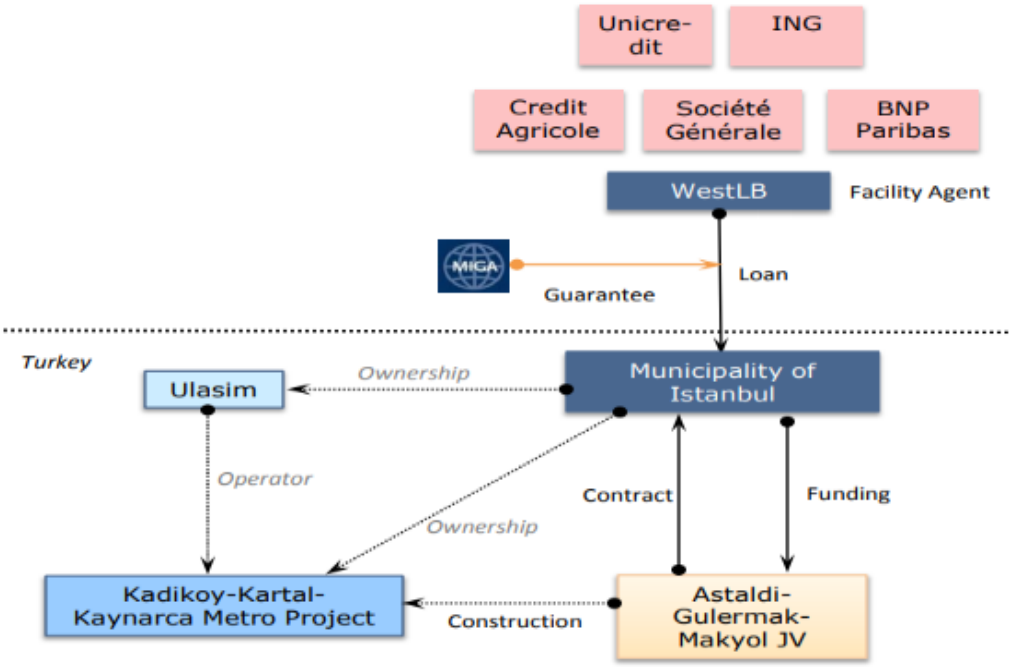
b. Policy Guarantee–linked mobilization

Sources: International Bank for Reconstruction and Development; International Development Association.

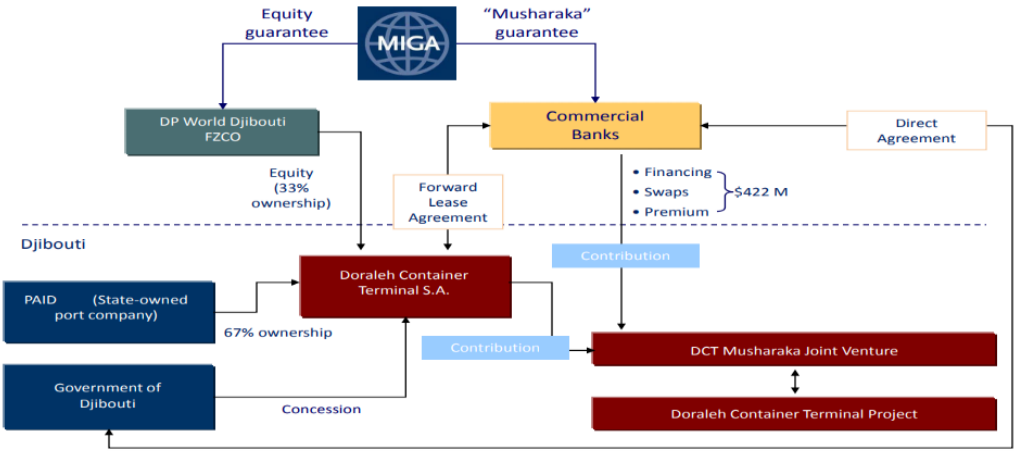
The Multilateral Investment Guarantee Agency (MIGA) promotes foreign direct investment by offering political risk insurance and credit enhancement to clients via its non-honoring guarantees. The political risk insurance product covers four types of key risks: currency transfer restriction and convertibility, expropriation, war or civil disturbance, and breach of contract. MIGA's non-honoring guarantee product provides risk cover for unconditional financial obligations to sovereigns and state-owned enterprises, where no arbitration is required. MIGA guarantees cover equity, debt, shareholder loans, and non-equity direct investments to its client corporates, countries, subnationals or state-owned enterprises (figure B.5).

Figure B.5. Stylized Structure of MIGA Guarantee in Private Capital Mobilization

a. MIGA Non-Honoring Guarantee (for example, Commercial Bank loan to Municipality of Istanbul)



b. MIGA Political Risk Insurance (for example, Dubai Ports World equity investment in container terminal)



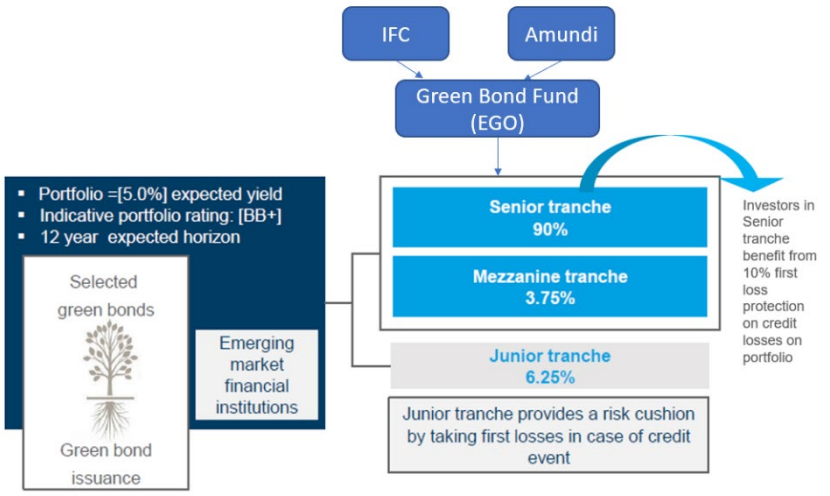
Source: Multilateral Investment Guarantee Agency.

Note: MIGA = Multilateral Investment Guarantee Agency.

Bond mobilization, a relatively new approach for the World Bank Group, has primarily been focused in the green financing space and primarily linked to green bond issuances by private entities (for IFC clients) and sovereign or subnational entities (for World Bank clients). In a first of its kind, IFC and Amundi devised a bond fund structure (figure B.6) to support green bond issuances as a way to contribute to the climate change mitigation agenda. The green bond fund, which closed at $1.4 billion, was expected to deploy nearly $2 billion into emerging markets Green Bonds over its lifetime, as proceeds are reinvested for seven years. This strategy is designed to stimulate demand and supply of green financing in emerging markets. The value proposition offered by IFC in this example is its ability to share expertise in climate finance, emerging markets, and the green bond market in one package, and to facilitate higher returns for investors and attract new investors to the green financing business. In conjunction with the Swiss State Secretariat for Economic Affairs (SECO), IFC offered a technical assistance fund to support green bond issuers (primarily

corporate clients) on transactional structures, certifications, and qualified second opinions on pricing.

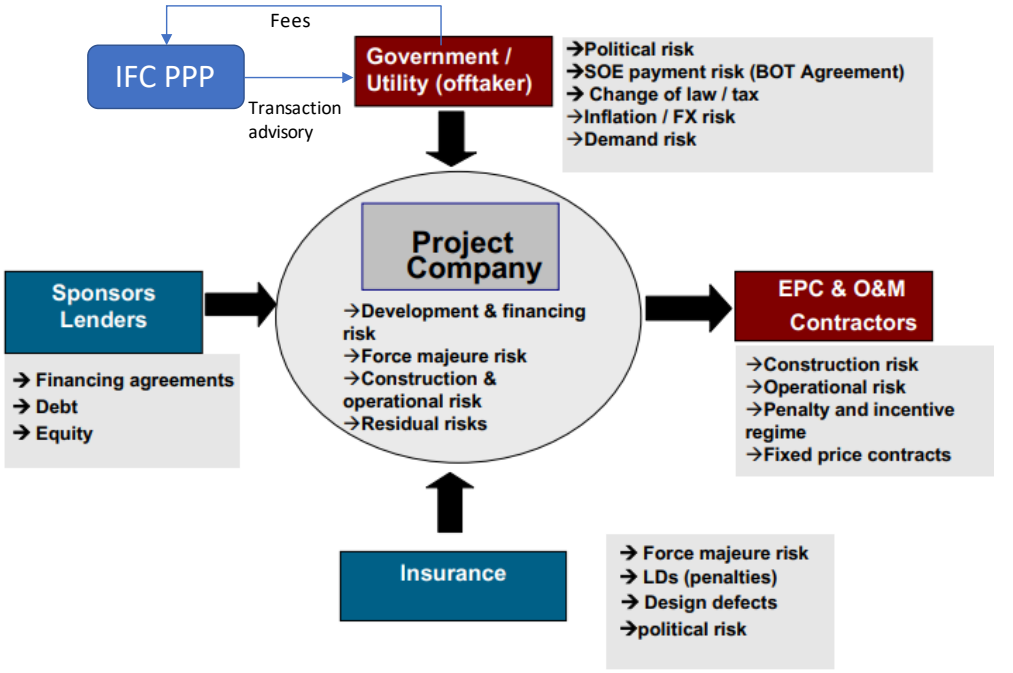
Figure B.6. Structure of Bond Mobilization Approach



Sources: International Finance Corporation; Independent Evaluation Group.

The advisory mobilization approach primarily refers to IFC's transaction advisory work in PPP projects. PPPs are long-term contracts between a private company and a government agency for providing a public asset or service. IFC advises national and municipal governments in emerging market and developing economies, on a remunerated basis, partnering with the private sector to improve access to education, energy, transport, health care, and sanitation. IFC takes full responsibility for technical due diligence, preparation of financial structuring options, assisting clients in carrying out competitive tender process/negotiated deal (figure B.7).

Figure B.7. Structure of Typical Public-Private Partnership Mobilization Approach



Sources: International Finance Corporation; Independent Evaluation Group.

Note: BOT = build–operate–transfer; EPC = engineering, procurement, and construction; FX = foreign exchange; LD = liquidated damages; O&M = operations and maintenance; SOE = state-owned enterprise.

World Bank Treasury is active, although selectively, in the bond mobilization space through its client advisory services. Client governments and subnationals have benefited from World Bank Treasury's advisory services in issuances of catastrophe bonds and insurance-linked securities.

Comparative Analysis of the Approaches

Bank Group mobilization approaches can be compared in three dimensions: (i) resource intensity, (ii) complexity, and (iii) volume potential. Although the first two dimensions are easily relatable, the latter two are harder to envision and tend to be qualitative judgments made by stakeholders.

Staffing levels and related budget allocation are a good proxy for assessing the Bank Group resource intensity required for a particular approach. With knowledge of underlying mobilization instruments or approaches to preparing the project (that is, making them bankable), to achieve financial close of a Bank Group project, and staffing levels required to maintain and monitor the project or portfolio's outcomes, and ability to generate new leads or project expansion. Based on assessment of staffing levels and experiences from prior IEG evaluations, the other approaches (except advisory mobilization) tend to be highly context specific and require significantly larger staffing levels than projects without any mobilization approaches. For example, analysis of IBRD/IDA guarantee projects suggest that at least 20–30 percent of additional resources need to be allocated task team leads to get the project to financial close. In the case of IFC, the equity mobilization approach requires higher staffing levels than the debt mobilization approach.

Further, economic capital usage can be treated as a good proxy for resource intensity of the mobilization approaches. Investment or lending projects with direct mobilization require leverage of the institution's balance sheet as per the "skin in the game" principle. All mobilization approaches use up economic capital from the balance sheet; for example, debt approaches require IFC own-account lending, equity approaches require IFC investing in the same project concurrently, and guarantee approaches require capital allocation for potential losses. Though the mobilized amount does not in itself use up any economic capital, the co-financed amount or support directly provided to the same project requires economic capital allocation. The examples in figure B.8 illustrate that mobilization approaches cannot lead to perpetual volume growth and will be limited by the amount of economic capital that can be allocated and used up internally based on existing corporate risk frameworks.

Figure B.8. Lending Type and Related Use of Economic Capital from the World Bank Group Balance Sheet

Examples:

Option A	EAR = Investment Amount	Economic Capital (EC) Ratio	EC= EAR x EC Ratio
Senior Loan	$50 m	20%	$10 m
Equity	$20 m	70%	$14 m
Total	**$70 m**		**$24 m**

Option B	EAR = Investment Amount	Economic Capital (EC) Ratio	EC= EAR x EC Ratio
Senior Loan	$20 m	20%	$4 m
Equity	$50 m	70%	$35 m
Total	**$70 m**		**$39 m**

Source: World Bank.

Note: EAR = effective annual rate.

Based on economic capital framework advisory mobilization is least resource intensive, followed by debt mobilization (short-term financing aside). Equity mobilization uses up the most economic capital from the balance sheet.

Guarantee mobilization requires loan loss provisioning in the Bank Group balance sheet and can be a limiting factor in scaling up guarantee-linked project support. For example, IBRD and IDA guarantees of $6,342 million were outstanding as of September 30, 2018 ($6,357 million—June 30, 2018). This amount represents the maximum potential amount of undiscounted future payments that IBRD could be required to make under these guarantees and is not included in the Condensed Balance Sheet. These guarantees have original maturities ranging between 5 and 20 years and expire in decreasing amounts through 2037. As of September 30, 2018, liabilities related to IBRD's obligations under guarantees of $429 million ($427 million—June 30, 2018), have been included in other liabilities on the Condensed Balance Sheet. These include the accumulated provision for guarantee losses of $86 million ($86 million—June 30, 2018). During the three months ended September 30, 2018 and the three months ended September 30, 2017, no guarantees provided by IBRD were called. IBRD executed Exposure Exchange Agreements with MIGA for $120 million, with the African Development Bank for $1,588 million, and with the Inter-American Development Bank for $2,021 million. Although these agreements are not legally

considered guarantees, they meet the accounting criteria for financial guarantees and are therefore recognized as financial guarantees in IBRD's financial statements.

Appendix C. Effectiveness of B Loan Syndications

Introduction and Summary of Main Results

Syndicated loans are a significant source of capital for private sector firms in the United States (Sufi 2007) and Europe (Carey and Nini 2007). In recent years, this market has become increasingly important for emerging market firms as well. In this paper we examine the role played by the International Finance Corporation (IFC) in assisting the development of the syndicated loan market for World Bank regions: South Asia, Middle East and North Africa, Latin America and the Caribbean, Europe and Central Asia, East Asia and Pacific, and Sub-Saharan Africa.

A syndicated loan is made by a group (a syndicate) of lenders. Typically, one lender acts as the "lead" lender (sometimes referred to as the "Arranger"), while the remaining members of the syndicate are referred to as "participants." The lead bank is responsible for the traditional roles of screening and monitoring performed by the banks in traditional loans. The participants are largely passive creditors. This arrangement is possible only if the participants believe that the lead lender will conduct due diligence before making the loan and will monitor the loan after it is made. The lead lender retains only a fraction of the total loan, and a moral hazard problem can arise between the lead bank and the potential participants, because the lead bank is the one that knows most about the borrower. If this information is private or hard to verify, the participants will be concerned that they may be taken advantage of. For example, the lead bank may keep the loans it makes to good borrowers on its own books, but syndicate the loans of lower-quality borrowers with the participants. Because the borrower quality is only known to the lead, this concern can be difficult to overcome. Sufi (2007) shows that the reputation of the lead lender can help relieve this concern:

lead banks with strong reputations are more likely to form larger syndicates and are also likely to retain a lower share of the loan.[1]

The role played by the lead bank's reputation provides a strong motivation for IFC to mobilize and catalyze syndicated loans in countries with limited private capital. IFC has a long history of operating in such countries and brings to a syndicate a strong reputation that potential participants may find reassuring in the lead lender. This yields an empirical hypothesis: involvement of IFC in the loan syndication market should lead to faster growth in loan syndication. In this paper we conduct an empirical examination to test this hypothesis. Specifically, we examine the average growth rate of syndicated lending in country for the period before IFC gets involved and for the period after IFC's involvement. We find that on a country basis the syndicated loan growth is lower (both in terms of the value and the number of loans) in the period after IFC's entry as a syndicate lender in that country. Thus, on a country-by-country basis we find that while the syndicated loan growth remains positive in the post-IFC involvement period, it is lower compared with the growth levels in the pre-IFC period. We also find that IFC tends to lend to sectors that are broadly similar to the sectors favored by non-IFC lenders. The four sectors that account for over 80 percent of lending by non-IFC lenders also account for 71 percent of IFC lending. These fours sectors are (i) Transportation, Communications, Electric, Gas, and Sanitary services; (ii) Mining; (ii) Manufacturing; and (iv) Finance, Insurance, and Real Estate. Thus, there is little evidence that IFC targets sectors neglected by non-IFC lenders. Our final set of results explores the impact on individual borrowers. Here we find that IFC has, on average, a positive effect on firms. First, firms that borrowed from an IFC syndicated loan experienced larger growth in access to funding than firms that did not borrow from an IFC syndicated loan. Second, firms that did not access the syndicated loan market prior to borrowing from an

[1] The fraction of loan retained by the lead bank, and the size of the syndicate, are the key measures of syndicate structure. See for example, Dennis and Millineux (2000), Sufi (2007), Bharath, Dahiya, and Hallak (2018).

IFC syndicated loan were able to add an additional 70 percent in funding from private lenders after accessing an IFC syndicated loan.

Motivation for the Study

A primary goal of this study is to examine how IFC's participation in the syndicated loan market helps mobilize private capital in emerging economies. Many countries lack deep capital markets, and their domestic banking sectors are either ill-equipped or too small to provide capital to private sector firms. If IFC arranges syndicated loans in such markets as either sole lender or as lead arranger, its reputation can help jumpstart capital raising in these countries. In such a case we should expect to see significantly higher growth of loans in the period after IFC entry into the market. This study is an attempt to shed light on this question.

Table C.1 provides a preliminary analysis, comparing loans in which IFC was either a sole lender or loan syndicate member to the loans made by syndicates that did not have IFC as a member. The table reports results from a regression analysis focusing on how IFC's role affects the size of the loan syndicate and the amount of the loan. The omitted category is the loans made by IFC as a sole lender. The specification follows the standard approach of the literature (for example, Bharath, Dahiya, Srinivasan, and Saunders 2009) of including loan characteristics. In addition, country-level controls are also added to account for differences in the financial market development of the borrower's country. Unsurprisingly, the coefficients on IFC in Syndicate and IFC not in Syndicate are both positive, implying that the syndicate size is larger compared with when IFC is the sole lender. Interestingly, the coefficients are also similar in size (1.87 and 1.88, respectively). This suggests that compared with IFC sole-lending loans, the increase in syndicate size is about two additional lenders regardless of whether IFC is or is not in the syndicate. However, the results for loan amounts are strikingly different. Again, the coefficients for both IFC in Syndicate and IFC not in Syndicate are positive, implying the syndicated loan are larger compared with loans made by IFC as a sole lender. However, the coefficient for IFC not in

Syndicate is four times larger than for IFC in Syndicate (158.9 versus 39.3). Thus, the loans made by non-IFC syndicates are, on average, larger by $160 million compared with loans made by IFC as a sole lender. The IFC syndicated loans on the other hand are larger by only $40 million compared with IFC's sole-lender loans. This suggests that IFC loans tend to be significantly smaller compared with the sample averages, after controlling for loan-specific and country-specific factors.

Table C.1 shows the results of Poisson (column 1) and ordinary least squares (OLS) (column 2) regressions. In column 1 the dependent variable is the size of the syndicate (number of lenders) while the second column reports the regression estimates of a model with loan amount (in $ millions) as the dependent variable.

Table C.1. Results of Poisson and Ordinary Least Squares Regressions

	By Number of Lenders	By Loan Size
Maturity	−0.0036***	0.5793***
	(0.0004)	(0.1343)
Senior debt	0.4971*	37.3655
	(0.0969)	(29.1570)
Borrower presence	0.0068***	2.0643***
	(0.0016)	(0.5534)
Term loan	0.1440***	−53.9003***
	(0.0294)	(17.1076)
Revolver	0.2124***	−14.1482
	(0.0411)	(27.0956)
Syndicated loans issues	−0.0000***	−0.0267***
	(0.0000)	(0.0052)
Overheads	−0.0018	4.7038***
	(0.0016)	(1.2138)

	By Number of Lenders	By Loan Size
Bank concentration	−0.0002	−2.2594***
	(0.0008)	(0.5280)
Stock market capitalization	0.0010***	0.8337***
	(0.0003)	(0.1820)
Domestic private debt	−0.0099***	1.0777**
	(0.0013)	(0.4283)
Domestic public debt	0.0015	0.8023
	(0.0012)	(0.8166)
IFC in syndicate	1.8682***	39.2901*
	(0.1030)	(23.4424)
IFC not in syndicate	1.8798***	158.6660***
	(0.0362)	(12.9513)
Constant	−0.1982	93.4191
Observations *(no.)*	13,590	13,590
Pseudo *R*–squared	0.0839	0.0289

Note: *p < .05 **p < .01 ***p < .001.

Impact of IFC at the Country Level

In our sample period there were 47 countries where IFC entered the loan syndication market, that is, countries where IFC has made at least one loan. The country is attributed based on the borrower company's nationality. To test whether IFC entry had a significant effect on the development of syndicated loan markets of these countries, we first employed a straightforward test of growth rates for pre-IFC and post-IFC periods for each of these countries. Table C.2 reports the average annual growth in syndicated loans for the period before IFC entry and the same average for after IFC entry. We first estimate year-on-year growth rate in syndicated loans for each country. We identify the pre-IFC and

the post-IFC periods using the year when IFC made its first loan in that country. This allows us to estimate average pre-IFC and post-IFC growth rates for that country. Note that the number of years in the pre- and post- will differ across countries, but for each country we are able to a create point estimate of the average annual growth rate in the pre- and post- IFC periods. In the final step, we calculate the average pre- and post-IFC growth rates across the 47 countries. Table C.2 shows that the average growth rate in dollar amounts is about 200 percent in the pre-IFC period and about 79 percent in the post-IFC period. The difference is weakly significant at the 10 percent level. The bottom two rows repeat the same analysis using the growth rate in number of loans rather than amount borrowed for each country. The growth rate in loan count is over 100 percent in the pre-IFC entry period and drops to 26 percent in the post-IFC entry period. The difference in growth rates is significant at the 1 percent level. We also report average growth rate for countries where IFC has never been part of a syndicated loan. For these countries, the average growth rate is about 227 percent in dollar amounts and 63 percent in number of loans. Taken together, these results suggest that IFC tends to enter markets at a more advanced stage of development, that is, when growth, while still positive, have converged to lower rates as the economy develops, in line with macroeconomic indicators such as Gross Domestic Product and credit growth.

Table C.2 reports the average annual growth rate in syndicated loan markets (in US dollar amounts and number of loan facilities) for the 47 countries in which IFC entered the loan syndication market for the first time during the sample period.

Table C.2. Annual Growth in Loan Syndication Markets

Country Characteristic	Observations *(no.)*	Mean	*t*-test
Annual growth by loan amount			
Borrowing before IFC	47	203.1	*
Borrowing after IFC	47	79.1	
Where IFC has not entered	40	227.4	
Annual growth by number of loans			
Borrowing before IFC	47	114.3	***
Country Borrowing after IFC	47	26.0	
Where IFC has not entered	40	62.9	

Note: *p < 0.10 ***p < 0.01.

Table C.3 reports the results of multivariate analysis. Again, the negative coefficient on the Post IFC coefficient implies that the annual growth is about 30 percent lower in the post-IFC-entry period. As expected, late growth in dollar amounts is positively associated with real GDP growth, because an increase in economic activity is likely associated to an increase in supply and demand of credit. Interestingly, the coefficient for the interaction term is insignificant, implying that while GDP growth is a strong determinant of syndicated loan market growth, IFC's presence does not have a significant impact.

Table C.3 reports the OLS regression with dependent variable as the annual growth rate in country-syndicated loan. Post IFC (Syndicate) is a dummy variable if the growth rate is for a year after IFC had syndicated its first loan in that country and zero otherwise.

Table C.3. Ordinary Least Squares Regression Results

Column Head	Column Head	Column Head
Post IFC (Syndicate)	−0.3226***	−0.3704***
	(0.1178)	(0.1264)
Real GDP Growth	4.1529***	3.5582***
	(0.8590)	(1.0304)
Post IFC (Syndicate) x Real GDP Growth		1.8187
		(1.7405)
Constant	0.1685**	0.1841**
	(0.0752)	(0.0766)
Observations	1,263	1,263
R-squared	0.0264	0.0273
Countries *(no.)*	106	106

Note: Country-level controls included in the regression.

*p < 0.10 **p < 0.05 ***p < 0.01.

The results from tables C.2 and C.3 fail to provide strong empirical evidence that IFC involvement makes a significant impact on the growth of syndicated loan markets. There is a weak effect (positive interaction term) that suggests that IFC may help loan growth in a growing economy. This suggests an opportunity for IFC to target countries, which are expected to show significant future GDP growth. These economies will experience a significantly higher demand for credit, and IFC can position itself to be the lender of choice.

Impact of IFC at the Sector Level

After examining the role of IFC syndicated lending on a country-by-country basis, we also disaggregated IFC's involvement in industry sectors. The guiding motivation for this analysis was to test whether IFC focuses on "neglected" sectors. In other words, IFC may be addressing a market failure where private sector lenders simply are unwilling or unable to fund projects or borrowers in

specific industries. Table C.4 reports our analysis. It is clear that IFC, both as a syndicate lender and as a sole lender largely focuses on the same four sectors that receive the majority of loans from non-IFC lenders. The four sectors (Transportation, Communications, Electric, Gas and Sanitary service; Mining; Manufacturing; and Finance, Insurance and Real Estate) account for more than 80 percent of the loan amounts across all three groups. Thus, there is little evidence that IFC syndicate loans are addressing any market failure.

Table C.4 reports the distribution of loans across different industry sectors both in terms of loan amounts and fraction of total loan amounts. The table reports this information for three groups of loans: loans made by syndicates that did not have IFC as lender, loans made by syndicates with IFC as lender, and loans made by IFC as sole lender.

Table C.4. Distribution of Loans, by Sector

Sector	IFC Not in Syndicate		IFC in Syndicate		IFC as Sole Lender	
	Amount ($)	Share (%)	Amount ($)	Share (%)	Amount ($)	Share (%)
Transportation, communications, electric, gas, and sanitary service	1,432,865	24	11,190	31	4,168	23
Mining	1,189,282	20	7,961	22	4,037	22
Manufacturing	1,175,902	19	6,057	17	3,761	21
Finance, insurance, and real estate	1,145,084	19	4,395	12	2,897	16
Public administration	355,795	6	3,950	11	2,181	12
Not reported	256,551	4	1,730	5	360	2
Services	138,627	2	225	1	316	2
Wholesale trade	127,203	2	173	0	295	2
Construction	120,988	2	170	0	210	1
Agriculture, forestry, and fishing	63,731	1	25	0	40	0

Sector	IFC Not in Syndicate		IFC in Syndicate		IFC as Sole Lender	
	Amount ($)	Share (%)	Amount ($)	Share (%)	Amount ($)	Share (%)
Retail trade	54,555	1	0	0	0	0
Nonclassifiable	1,552	0	0	0	0	0

Note: Bolded sector indicate focus areas for IFC, which receive the majority of loans from non-IFC lenders.

While the bulk of lending by IFC mirrors the lending done by non-IFC lenders, there is an interesting fact – IFC lends almost twice as much to borrowers classified as Public Administration, compared with non-IFC lenders. It may be worth examining more closely the drivers of IFC's relative preference for this class of borrowers.

Impact of IFC at the Firm Level

After examining the role of IFC syndicated lending on country-by-country basis, we also disaggregated IFC's involvement at the firm level. To do so, we first computed the average increase in borrowing by firms after IFC's first syndicated loan. To measure whether IFC's participation in a syndicated loan had a beneficial effect on the firm's capacity to borrow, we compared the increase in the firm's borrowing with the average increase for firms that did not borrow from IFC syndicated loans (table C.5). The average increase in borrowing is about 10 percent for firms that borrowed from IFC, and about 6 percent for firms that borrowed from alternative lenders.

Since growth rates in borrowing are typically higher for smaller, faster-growing firms, these results are consistent with the fact that IFC syndicated loan volumes are shown on average to be smaller than non-IFC syndicated ones; that is, IFC might specifically target firms that are at an early stage of development, thus enabling them to grow by scaling up their funding and by connecting them to a larger pool of lenders. To further validate this hypothesis, we computed a measure of a firm's capacity to mobilize additional sources of funding once it has access to IFC syndicated loans, that is, the net increase in non-IFC funding after

accessing an IFC syndicated loan, divided by the amount of IFC syndicated loan. For firms that did not borrow or did not have access to any funding prior to IFC, a leverage larger than zero can be interpreted as a direct causal mobilization effect of IFC entry on their access to commercial lenders.

$$Leverage\ Ratio = \frac{Non\_IFC^{Post} - Non\_IFC^{Pre}}{IFC}$$

The average leverage ratio for firms that borrowed at least once from an IFC syndicated loan is 3.4; that is, firms mobilized on average additional $3.4, relative to the pre-IFC period, for each dollar borrowed in an IFC syndicated loan. We disaggregated further between firms that did not borrow at all before borrowing from IFC, and firms that had access to alternative syndicated loans prior to borrowing from IFC. For the first subsample, which accounts for 77 percent of firms that accessed IFC syndicated loans, the leverage ratio is 1.7, while for the remaining 23 percent of the sample the ratio is 9.1. These results stand to indicate that most firms targeted by IFC had never borrowed in the syndicated loan markets prior to borrowing from IFC. In this context, IFC's primary role can be thought of as "creating" access to the market. The leverage ratio of 1.7 for this subsample shows that, once these firms borrow in an IFC syndicated loan, they are then able to add an additional 70 percent in funding from private lenders. For the remaining subsample, that is, firms that already had alternative sources of funding prior to IFC, the average leverage ratio is 9.1; IFC syndicated loans represent a small share of these firms' total borrowing. For this second subsample, IFC's primary role appears to be that of a lead bank responsible for the traditional functions of project screening and monitoring or of implicit guarantor, as the presence of multilateral development banks in several public–private partnerships in developing countries can attest.

Table C.5 reports the increase in the average annual value of a firm's borrowing in the syndicated loans market after it borrows from an IFC syndicated loan. For firms that never borrow from an IFC syndicated loan, the increase is computed using a pseudotime threshold equal to the median threshold for firms that borrowed from IFC. The leverage ratio is computed by dividing the difference in non-IFC borrowing post- and pre-IFC, divided by IFC borrowing.

Table C.5. Increase in Firm Borrowing in Syndications Market

Increase in Firm Borrowing	Firms *(no.)*	Mean Increase *(%)*	Standard Deviation *(%)*
Increase in firm borrowing after IFC	83	10.1	21.1
Increase in firm borrowing (non-IFC firms)	786	6.0	16.0
Leverage Ratio			
All firms	360	3.4	13.9
Firms that did not borrow before IFC	277	1.7	4.7
Firms that borrowed before IFC	83	9.1	27.0

Conclusions

In this paper we conduct an empirical examination to test whether IFC's involvement in the loan syndication market leads to faster growth in loan syndication at country, sector, and firm levels. Specifically, we examine the average growth rate of syndicated lending for the period before IFC gets involved and for the period after IFC's involvement. While on a country-by-country basis we find that the syndicated loan growth remains positive in the post-IFC involvement period, this growth is lower compared with the growth levels in the pre-IFC period, suggesting that IFC tends to enter markets in countries, which are at a more advanced stage of development.

We also find that IFC tends to lend to sectors that are broadly similar to the sectors favored by non-IFC lenders. The four sectors that account for over 80 percent of lending by non-IFC lenders also account for 71 percent of IFC lending.

Our final set of results explores the impact on individual borrowers. Here we find that IFC has a positive effect on firms. First, firms that borrowed from an IFC syndicated loan showed on average a larger growth in access to funding over time than firms that did not borrow from an IFC syndicated loan. Second, firms that had no access to the syndicated loan market prior to borrowing from an IFC

syndicated loan, were able to add an additional 70 percent in funding from private lenders after accessing an IFC syndicated loan.

References and Caveats in Interpreting the Results

This section describes the data sets used and the econometric tests. The starting point for our analysis is the DealScan data from Loan Pricing Corporation. DealScan provides extensive data on terms of syndicated loans made to private sector borrowers at the time of origination. These data have been used extensively to study bank loan markets in the Unites States (Sufi 2007; Bharath, Dahiya, Srinivasan, and Saunders 2009) and in the international setting (Qian and Strahan 2007). The databases consist of individual loan facilities (or tranches) as single observations. Our starting universe consists of 349,267 unique loan facilities as reported in the DealScan database. We focus on loan facilities made to borrowers based in the following World Bank regions: i) South Asia, ii) Middle East and North Africa, iii) Latin America and the Caribbean, iv) Europe and Central Asia, v) East Asia and Pacific, and vi) Sub-Saharan Africa. We also chose to focus on loans denominated in US dollars. These restrictions reduce the sample of loan facilities to 27,228 observations, wherein IFC was the sole lender in 330 loans or part of syndicate in 325 loans. We then merge the loan facility data with the World Bank's Global Financial Development Dataset, which allows us to include country-level controls such as banking concentration, stock and bond market capitalization, GDP growth, and so on.

The results reported in table C.1 are obtained by estimating an OLS regression where the dependent variable in the first column is the number of lenders in the syndicate while the dependent variable in the second column is the dollar amount of the loan facility (in millions of US dollars). DealScan is the source for these data. It should be noted that the OLS regression did not consider problems of endogeneity. One possible extension of the analysis is to incorporate an identification strategy (such as an instrumental variables approach) to ensure that reverse causality is not an issue when interpreting the results. On the robustness of results, the regressions could be extended to (i) log transformation of the dependent variable (that is, the size of loans), and (ii) inclusion of time and region fixed effects. Finally, another

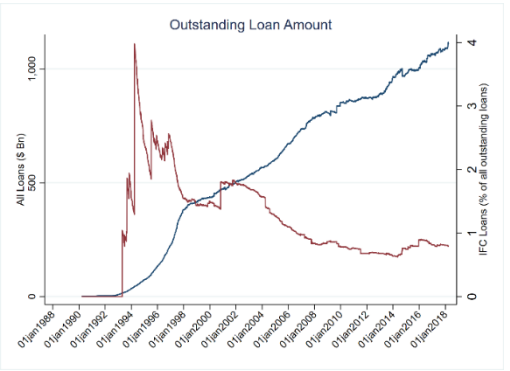
possible extension is to check for robustness of the specification regarding potential correlation between IFC syndication activities and other country-level control variables.

For table C.2 we focused on 47 countries in which IFC was involved in the syndicated loan markets. For each of these countries we divided the sample period in pre-IFC and post-IFC subperiods. Within each subperiod for a specific country we estimated the year-on-year growth in syndicated loan originations (both in terms of numbers and the amount). We first estimated the average annual growth rate in these two subperiods for each country. We finally calculated the average pre-IFC growth rate by averaging the 47 estimates of pre-IFC growth rates for each country. We repeated this to estimation for calculating the post-IFC growth rate. The final column of table C.2 reports the *t*-test of the null hypothesis that the difference in average growth rate in the loan syndication market in the pre-IFC entry period is the same as in the post-IFC entry period. The null hypothesis is rejected at the 1 percent level. Given that table C.2 is a simple differences-in-means test, further research is needed to provide stronger evidence of IFC's effect on loan growth rates.

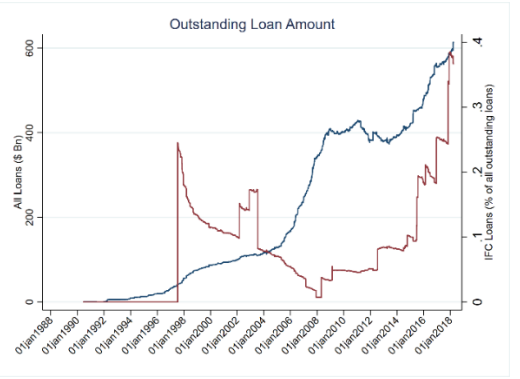
The unit of analysis in table C.3 is the country-year. For each country we estimate the year-on-year growth rate of the total syndicated loan amount for that country. This growth rate is the dependent variable for the OLS regression. The regression specification also includes individual country fixed effects. Table C.4 results report the loan volumes across different industrial sectors in millions of US dollars. The identification of the sector is based on the primary Standard Industrial Classification code of the borrower as reported in the DealScan database.

Figure C.1. The Market for Syndicated Loans and IFC Market Share (Left Scale)

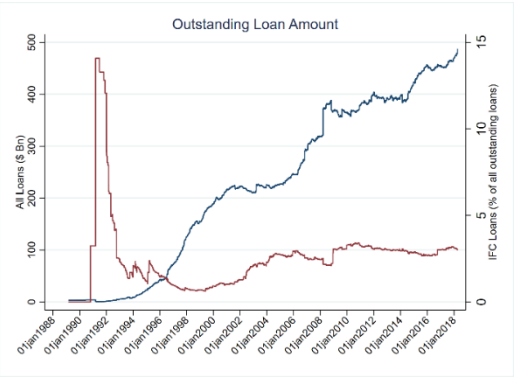
a. East Asia and Pacific



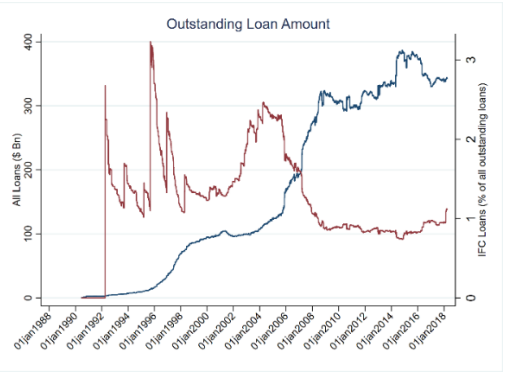
b. Middle East and North Africa



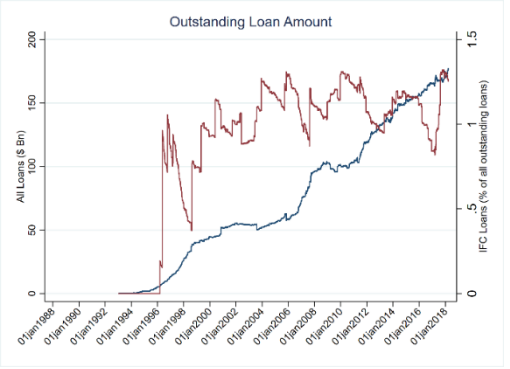
c. Latin America and the Caribbean



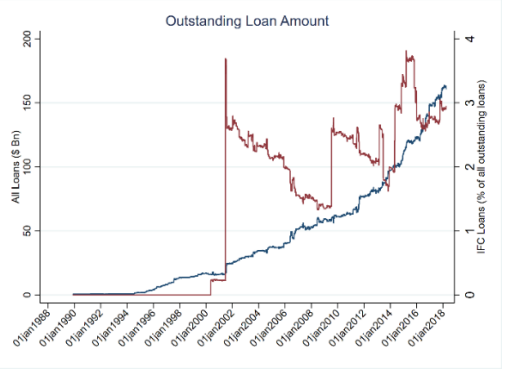
d. Europe and Central Asia



d. South Asia



e. Sub-Saharan Africa



Source: Independent Evaluation Group.

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Appendix D. Relevance and Effectiveness of the MCPP-SAFE Program

Relevance

A good example of an International Finance Corporation (IFC) approach to mobilization of private capital is its use of the Managed Co-Lending Portfolio Program (MCPP) as a "wholesale" platform to generate advance private capital commitments from an institutional investor, the People's Bank of China's State Administration for Foreign Exchange (SAFE). MCPP is a highly relevant debt mobilization platform from a safety, liquidity, and profitability perspective for investors like SAFE. The program allowed strategic deployment of China's foreign exchange reserves through a trusted entity (IFC), generating returns, knowledge, and credit assessment insights for the Chinese Sovereign–linked investor into primarily Sub-Saharan Africa and Latin America regions.

The MCPP-SAFE approach benefited from IFC's global-local footprint and access to a global pipeline of emerging market and developing economy projects. MCPP provided SAFE with unique opportunities and access to emerging markets. IEG considers that MCPP is one of SAFE's more innovative investments in their portfolio, because it relieves them of the need to conduct review and analysis on a deal-by-deal basis for similar commercial projects.

The MCPP platform is as relevant to the Bank Group's approach for potential replication as it is to the investor. In this case, the Bank Group's deal teams had access to expanded pools of funding without sacrificing returns for the Bank Group; at the same time they met the required investment parameters of the investor.

MCPP capital was disbursed widely by region and country groups and was concentrated on non-IDA, nonfragile countries.

Effectiveness

MCPP has generated financial returns consistent with public or private market–equivalent investments (because of confidentiality the details are left out of this summary). Although its primary asset allocation has always been in fixed-income investments such as US Treasury bills, SAFE has pilot-tested private equity investments as a limited partner to private equity funds prior to MCPP. Although it has invested in emerging markets because of its liquidity requirements, most of its portfolio investments are in developed markets. MCPP allowed SAFE to add more emerging markets risk to its portfolio; this is further aligned with Bank Group client countries seeking a diversified investor base for portfolio flows.

MCPP-SAFE delivered results to objectives set out by the agreement, which was further supported by good quality administration, monitoring, and supervision by IFC's Syndications and Portfolio teams. SAFE commended IFC's high quality in reporting performance for being timely and accurate. When they asked IFC to provide supplementary info, IFC responded promptly.

IEG believes that, as an institutional investor, the SAFE team benefited from intensive knowledge transfer efforts between IFC and the People's Bank of China, and that SAFE considered knowledge transfer to be a part of the MCPP program: sought to learn how to select investments, analyze risk, apply credit analysis, structure loans, and negotiate terms.

MCPP-SAFE is not directly comparable to traditional investment platforms. However, it may be instructive to compare it to bond funds. The most relevant and largest comparable emerging market bond index may be the JPMorgan Emerging Bond Index, and the largest exchange traded fund of the index by Blackrock iShares (EMB) with $17 billion under management.

As against public or private market equivalents, MCPP-SAFE would place in the top quartile of all emerging market bond funds in terms of size. Deploying $3 billion of capital is considered a sizable investment. There exist only a few

funds with more than $1 billion of assets under management. Also, there are few comparable funds that have an underlying investment portfolio like MCPP's. All other funds comprise a mixture of holdings in sovereign debt, many of which are of speculative grade.

MCPP-SAFE overall has demonstrated success in attracting investors to participate in the program's replication. MCPP's eight investors now include six private insurers: Allianz, AZA, Liberty Mutual, Munich Re, Prudential, and Swiss Reinsurance. They together have committed $3.1 billion. The new MCPP FIG and MCPP Infrastructure facilities are allowing third-party investors to gain exposure to IFC debt portfolio. Although IFC has highlighted to investors that through MCPP partners join IFC to invest for impact, IEG believes this was not one of the primary motivation factors for SAFE.

Bank Group staff have welcomed MCPP into their basket of offerings. When IFC presents MCPP as an additional pool of funding to borrowers, borrowers typically are generally pleased that their projects' funding size can be increased or can be met beyond initial expectations. IFC on the other hand, also values this extension because it can conduct transactions in amounts that it otherwise would not have been able to without such a program in its tool kit. Overall, MCPP gives IFC the ability to provide larger financing packages than IFC can provide from its own account and increases the pool of financing available for achieving development goals.

Table D.1. Reference benchmarks: Indices or Exchange Traded Funds

	Indexes / ETFs			5-Year (14–18)		
	Benchmark Type	Index	Investment Vehicle	Returns Multiple	Annual Return (%)	Top Holdings
1)	Bond Index (Emerging Markets)	JPMorgan Emerging Bond Index	Blackrock iShares J. P. Morgan USD Emerging Markets Bond ETF (EMB) [AUM: $17Bn]	1.19	3.54	Sovereign debt in the Russian Federation 3.55%, Colombia, 3.5%, Philippines 3.48%, Brazil 3.16%
2)	Bond Index (Emerging Markets)	BofAML Emerging Markets Corporate Index	Various ETFs	1.21	3.88	Broad, capitalization-weighted composite index of US dollar- and euro-denominated debt of corporate issuers in emerging market
3)	Bond Index (Emerging Markets)	BofAML High Yield Master II	Various ETFs	1.20	3.80	Index of US dollar–denominated below investment grade corporate debt publicly issued in the United States
4)	Bond Index (US)	Bloomberg Barclays US Aggregate Bond Index	Blackrock iShares Core US Aggregate Bond Index	1.13	2.38	US Treasury 39.52%, Federal National Mortgage Association

	Indexes / ETFs			5-Year (14–18)		
	Benchmark Type	Index	Investment Vehicle	Returns Multiple	Annual Return *(%)*	Top Holdings
			(AGG) [AUM: $57Bn]			12.47%, Government National Mortgage Association 7.39%, Federal Home Loan Mortgage Corporation—Gold 4.66%, Federal Home Loan Mortgage Corporation 3.17%
5)	Equity Index (Emerging Markets)	FTSE Emerging Markets Index	Vanguard FTSE Emerging Markets Index Fund ETF Shares (VWO) [AUM: $62Bn]	1.09	1.78	Tencent 4.70%, Alibaba 3.80%, Taiwan Semiconductor Manufacturing Co 3.5%, Naspers 1.8%, China Construction Bank 1.4%
6)	Bond Index (Global)	FTSE World Broad Investment-Grade Bond Index	Index (USD unhedged)	1.06	1.16	Combination of other indexes (multi-asset, multi-currency benchmark, a broad-based measure of the global fixed-income markets)

	Indexes / ETFs			5-Year (14–18)		
	Benchmark Type	Index	Investment Vehicle	Returns Multiple	Annual Return *(%)*	Top Holdings
7)	Bond Index (Global)	Barclays Multiverse Total Return Index Value Unhedged USD	Index (USD unhedged)	1.06	1.21	Combination of other indexes (multi-asset, multi-currency benchmark, a broad-based measure of the global fixed-income markets)
8)	Equity Index (US)	Russell 3000	Various ETFs	1.35	6.11	Market capitalization-weighted equity index tracking 3,000 largest US-traded stocks

Table D.2. Reference Benchmarks: Funds

	Funds		5 Year (14–18)		
	Benchmark Type	Investment Vehicle	Returns Multiple	Annual Return *(%)*	Top Holdings
9)	Fund	Blackrock Emerging Markets Flexible Dynamic Bond Fund [AUM: $100M]	1.11	2.11	Sovereign debt in Hungary 10.97%, Nigeria 9.25%, Ukraine 6.52%, Angola 5.67%, the Arab Republic of Egypt 5.64%, Saudi Arabia 4.32%, Gabon 3.87%; Corporate debt in Petróleos de Venezuela

	Funds		5 Year (14–18)		
	Benchmark Type	Investment Vehicle	Returns Multiple	Annual Return *(%)*	Top Holdings
					S. A. 4.32%, Petrobras Global Finance B. V. 3.45%, KazMunayGas 3.22%
10)	Fund	Blackrock iShares Emerging Markets High Yield Bond ETF (EMHY) [AUM: $324M]	1.23	4.27	Sovereign debt in Turkey 9.11%, Argentina 6.16%, Brazil 6.16%, Ecuador 3.13%, Lebanon 2.95%, Ukraine 2.88%, South Africa 2.84%, Dominican Republic 2.73%, the Arab Republic of Egypt 2.49%; Corporate debt in Petrobras Global Finance B. V. 6.65%
11)	Fund	Templeton Emerging Markets Bond Fund [AUM: $30M]	1.11	2.10%	Secretaria Tesouro Nacional (9.76%) 8.18%, Argentina (16%) 2.91%, Secretaria Tesouro Nacional (0%) 2.91%, Argentina (15.5%) 2.88%, Bank of Thailand 2.63%, Brazil 1.97%, Argentina (0%) 1.73%, Reventazon Finance Trust 1.55%, Indonesia 1.53%

	Funds		5 Year (14–18)		
	Benchmark Type	Investment Vehicle	Returns Multiple	Annual Return *(%)*	Top Holdings
12)	Fund	Franklin Emerging Market Debt Opportunities Fund [AUM: $300M]	1.24	4.37	Uruguay 3.69%, Societe Des Hydrocarbures Du T 3.43%, PBR KYIV Finance Plc 3.34%, South Africa 2.97%, El Salvador 2.66%, Mexico (United Mexican States) 2.41%, Oilflow Spv 1 DAC 2.18%, European Bank for Reconstruction & Development 2.17%, Alternative Strategies (Ft) Li 2.10%, International Bank of Azerbaijan 2.10%
13)	Fund	Invesco Emerging Markets Flexible Bond Fund [AUM: $37M]	0.84	−3.53	Czech Republic Government Bond 3.50%, Mexican Bonos 2.78%, Indonesia Treasury Bond 2.77%, Indonesia Treasury Bond 2.26%, Brazil Notas do Tesouro Nacional Serie F 1.78%, Colombian TES 1.62%, African Export-Import Bank/The 1.61%, Corp Financiera de Desarrollo SA 1.61%, Russian Foreign Bond—Eurobond 1.60%, Mexico Government International Bond 1.59%

	Funds		5 Year (14–18)		
	Benchmark Type	Investment Vehicle	Returns Multiple	Annual Return *(%)*	Top Holdings
14)	Fund	Pimco Emerging Markets Bond Fund [AUM: $2.2B]	1.20	3.63	Cdx Em30 Ice 5.82%, US 10 Year Note (CBT) 5.52%, Irs Usd 4.32%, Zcs Brl 2.40%, Zcs Brl 2.10%, Brazil Minas SPE 1.70%, United States Treasury Notes 1.67%, Zcs Brl 1.61%
15)	Funds	Pitchbook Data: Private Debt Benchmark	1.16	3.01	Median performance of 41 funds in Direct lending, Bridge financing, Distressed debt, Credit special situations, Infrastructure debt, Venture debt, Real estate debt

Scaling Up

A sequel fund, as a sign of demonstration effects, is of interest to SAFE, but is currently on hold. IFC has continued to expand the MCPP program into the financial sector and the insurance industry (Allianz, Liberty and AXA) which is of interest to the equivalent Chinese institutions. However, IEG believes that SAFE may be concerned about the number of MCPP "funds" added to the program for several reasons (pipeline, returns, size).

In terms of pioneering approaches, the Inter-American Development Bank came up with a private debt partnership structure with SAFE before IFC did, and is still working with SAFE (committed capital not fully disbursed).

SAFE is pursuing similar EMDE exposure through private equity and local currency investment platforms with the EBRD and the Government of Brazil respectively. Although development results are readily available on a per deal basis, MCPP currently does not offer results as a whole on a program basis, and the underlying legal agreements don't have a clear results framework linking the project outcomes to an overarching program or platform-level framework

There is, however, evidence of impressive demonstration effects in an adjacent jurisdiction with the Hong Kong Monetary Authority (HKMA). HKMA committed $1 billion to MCPP in 2017. As part of their due diligence, HKMA sought references from SAFE, and with SAFE providing positive feedback, HKMA was able to proceed with an increased level of comfort.

MCPP-HKMA was the first commitment HKMA has ever placed into or with IFC. HKMA was extremely impressed with the portfolio construction, as it gave them access to emerging markets at scale and exposure to environmental, social, and governance investing on commercial terms. During this time, HKMA was eager to expand its impact investing initiatives, and IFC became their perfect partner to achieve this. As a testimony of this success, HKMA expanded its commitments into a sequel fund of an additional $1 billion in 2019.

Appendix E. Opportunities to Scale up Private Capital Mobilization through Treasury Advisory and Disaster Risk Management Support

This appendix analyzes the World Bank's support to sovereign clients on disaster risk management and insurance-linked securities (ILS). Some advisory activities of Treasury have been conducted on a fee-basis and some free. The ones that have a mandate letter from the client should be treated as private capital mobilization activity, as they have been treated in the Independent Evaluation Group (IEG) analysis.

Outline

Glossary

AAL	Average annual loss
ARC	African Risk Capacity – an extreme weather capacity building and insurance plan – an agency of the African Union.
Artemis	Database of insurance-linked securities.
AUM	Assets under management.
Catastrophe (cat) bond	Three to five-year bond backed by high-quality collateral or a highly rated balance sheet where the ultimate return depends on whether a hazard event occurs.
Catastrophe (cat) DDO	Catastrophe draw-down option.
Catastrophe (cat) swap	Intermediated transfer of hazard risk to reinsurers or capital markets.
CFE	Contingency Fund for Emergencies managed by the World Health Organization, established to enable immediate response to health crises.
Collateralized reinsurance	Technically, reinsurance secured by collateral held in trust by the reinsurer with the cedant having a direct contractual link to the trustee. Term is also used where a fronting reinsurer is backed by a fund available to professional investors. The latter is similar in concept to a cat bond.
CCRIF	Caribbean Catastrophe Risk Insurance Facility, a virtual organization managing several segregated risk pools

	covering disasters in the Caribbean and Central America through a network of service providers.
DRFI	Disaster Risk Financing and Insurance Program. A joint venture of the World Bank and the Global Facility for Disaster Reduction and Recovery; established to advise governments on their disaster funding planning and strategies.
EML	Estimated maximum loss or the largest loss allowed for in determining reinsurance coverage. It typically does not allow for extremely improbable, but still possible events. The frequency of event assumed (often called the return period, which is the inverse of frequency) and loss probability density curve determines the EML.
Exposure	Physical and economic assets exposed to hazards.
FONDEN	Mexico's fund for natural disasters. Funds from FONDEN can be used for rehabilitation and reconstruction and disaster risk reduction activities.
Hazard	Original event leading to direct losses and derivative economic losses.
ICR	Implementation Completion and Results Report.
Modeled loss	Loss determined after applying actual hazard characteristics to a catastrophe model allowing for assumed exposures and vulnerabilities.
MCII	Munich Climate Insurance Initiative.
Parametric trigger	Loss determined only on the characteristics of a hazard (such as wind speed). Also called "cat in a box" trigger.

PCRAFI	Pacific Catastrophe Risk Assessment and Financing Initiative, which manages a specialist catastrophe insurer.
PEF	Pandemic Emergency Financing Facility
Return period	The inverse of the probability that an event generating a payment will occur in a 12-month period. A probability of attachment of 1 percent corresponds to a return period of 100 years.
SDGs:	Sustainable Development Goals
Twin goals:	The World Bank's twin poverty reduction and inequality reduction targets ("reducing extreme poverty and promoting shared prosperity."
Vulnerability	Measures of the impact of hazards on different types of exposure according to severity of the hazard.

Executive Summary

The World Bank has a long history of providing funds through loans and grants for post-disaster recovery and reconstruction. However, its role as an arranger and provider of ex ante risk transfer instruments that provide immediate post-disaster liquidity has been a relatively recent development. To date the World Bank has mobilized approximately $3 billion of private sector risk capital for purposes of transferring a range of economic and humanitarian shocks on behalf of sovereign entities (as of February 2020):

Catastrophe bonds: $2.7 billion

Catastrophe swaps: $100 million

Reinsurance of multicountry pools: $180 million

This review is organized around the headings of relevance, effectiveness, and opportunities.

Relevance to Sustainable Development Goals and World Bank Twin Goals

There is now a large body of evidence demonstrating that a range of exogenous shocks, including natural disasters, have negative impacts on medium-term economic growth. In addition, a growing body of empirical econometric and case studies shows long-term negative impacts on certain classes of developing country and on vulnerable and poor populations. However, the key question for this review is whether the World Bank has a role in helping to fund humanitarian and recovery efforts in the immediate aftermath of major shocks.

The core arguments for World Bank provision of disaster insurance are the following:

- Most other sources of funds take considerably longer to be mobilized. By employing parametric triggers International Bank for Reconstruction and Development (IBRD) instruments can release funds within weeks, if not days, of an event for initial recovery efforts.
- The World Bank, by acting as arranger and more recently as intermediary, reduces counterparty risk and arrangement costs, and may make risk transfer a feasible component of disaster planning.
- Numerous partner countries are unable to engage in adequate fiscal planning, given the frequency and severity (in terms of impact on gross national income [GNI]) of the disasters to which they are exposed. Larger emerging countries that could establish fiscal measures may still prefer to use insurance instruments because of bureaucratic or process frictions.
- This initiative is consistent with those Sustainable Development Goals (SDGs) that are supportive of the World Bank's twin goals and with disaster planning best practice.
- Normal donor sources of immediate post-disaster recovery funding are under increasing stress in terms of quantum and targeting, and vulnerable populations are frequently not being reached.
- Insurance funds are released directly to governments and thus involve immediate and centralized engagement at the local level, in contrast to many funds that are sourced from nongovernmental organizations (NGOs) and donors.
- The World Bank as a provider of both immediate and long-term funding is well placed to bridge the divide between humanitarian aid and development.
- Insurance instruments fit naturally, in a temporal sense, into a range of potentially integrated disaster funding instruments and approaches provided by the World Bank Group.

These justifications notwithstanding, NGOs have published a number of caveats and possible counterfactuals. These can be summarized as follows:

- Parametric triggers introduce an element of gambling: payouts may not occur, they may be delayed, or they may be limited, even if significant losses have been incurred.
- The funds released by World Bank instruments are small compared with total damages and economic losses.
- Funds used to purchase risk transfer could in some circumstances be better used for disaster risk management.
- Parametric style triggers do not provide enough incentive for countries to engage in risk reduction.
- Some countries may need long-term subsidies to purchase risk transfer; this introduces moral hazard.

The first two of these represent a misunderstanding of the current role of the World Bank instruments in immediate recovery and undervalue the progress being made in modeling natural disaster risks. However, there is potential for reputational damage if payout triggers are either difficult to measure or to verify. The other three are legitimate and should be addressed through the World Bank's policies, safeguards, and operational approach.

Key Recommendations

- On balance, the disaster risk transfer initiative warrants ongoing support.
- World Bank risk transfer instruments should be subject to relevant safeguards, and particularly to preconditions regarding the ability of a partner country to effectively employ quick-release liquidity after a disaster occurs. If such preconditions cannot be satisfied, then relevant technical assistance should be provided, working with qualified NGOs.

- Clear guidelines should exist for when the World Bank should intermediate risks, as opposed to providing advisory services, where active and deep markets already exist such as the hedging of commodity price volatility.
- Formal coordination and integration of disaster-related activities at operational and policy levels within the World Bank Group would provide a useful link between country disaster relief and developmental programs. In this regard the World Bank could play a key role in the current UN-based discussions linking humanitarian aid and the broader development agenda.

Effectiveness

Given their relatively recent introduction, the World Bank Group's intermediated risk transfer products and supporting structures still need some time to establish and prove themselves, although initial outcomes are encouraging.

The World Bank (mainly Treasury and the Disaster Risk Financing and Insurance Program [DRFI]) has accurately identified and supported a subset of partner countries subject to the most extreme risk levels. The parametric and modeled loss triggers employed for rapid-onset events have in most cases performed well in terms of time to payout after a disaster, with cheques often being delivered within 10 days of an event occurring. However, triggers related to slower onset disasters (including drought and pandemics) have been more problematic.

Rapid-onset event triggers are also increasingly reflecting the financial impacts of shocks, although ongoing research is required to further improve loss models and coverage definitions. In addition, funds released by World Bank–mobilized instruments have, in most cases where evidence is available, been effectively applied by governments, although more focus on those SDGs core to the World Bank's objectives is desirable.

Capital market and reinsurer demand for IBRD-intermediated risk transfer products appears to be strong, with pricing usually at or below general market

levels and final sums at risk underwritten always being the same as or larger than originally sought. However, the potential demand for sovereign protection has yet to be crystallized, though renewal rates are encouraging. Of concern is that some countries appear to require ongoing subsidies to pay premiums. This raises the possibility of moral hazard and the "Samaritan's dilemma" for donors.

Key Considerations

Treasury should support the development of the cat bond market by working with modelers, actuaries, and broker-dealers to improve market transparency and liquidity.

Where experimental triggers are involved, the World Bank should limit exposures until the underlying models and trigger determination procedures have satisfied proof of concept.

If the World Bank is to participate as an intermediary in reinsurance placements, it should encourage reinsurance brokers to seek terms that are competitive, but that will maintain ongoing interest from the global reinsurance sector. In particular, placements should be of at least a minimum economic size.

The development plans of the countries requiring premium subsidies should incorporate strategies to reduce risk and develop alternative disaster funding sources, in addition to credible post-disaster recovery capacities.

Treasury should help countries to optimize the application of different risk transfer instruments.

Opportunities and Scaling Up

The main avenues for scaling up entail new products, new risks, and extension of the existing instruments to the private sectors in partner countries, in the latter case through the International Finance Corporation (IFC).

Key Consideration

The World Bank Group should monitor developments in Part I countries with a view to identifying new risk transfer products that could be applicable to partner countries and that are consistent with the SDGs.

Background

The Multilateral Development Bank/Development Finance Institution (MDB/DFI) Reference Guide on calculating and reporting private investment mobilization does not explicitly mention insurance, except in terms of the "unfunded" transfer of credit risk. However, the insurance instruments and operations covered in this review involve a direct relationship between fund sourcing and application and are covered under the "Direct Transaction Support" heading. Moreover, insurance is referenced in the MDBs' "From Billions to Trillions" document (AfDB et al. 2015) under the heading "Financial Risk Management Solutions," which links explicitly to "sovereign risk and/or macroeconomic and climate driven vulnerabilities."[1]

Catastrophe risk transfer instruments for sovereigns were introduced by the World Bank in 2006, when the first cat bond being issued for Mexican earthquake risk.[2] Total cat bonds issued to date by the World Bank either as

[1] This lacuna could be addressed next time the Reference Guide is updated.

[2] Despite its long history of providing recovery and reconstruction loans the World Bank's involvement in ex ante funding mechanisms only began in the late 1990s and early 2000s (for example the Turkish Earthquake Pool and various index-based agricultural initiatives). These projects initially involved advisory and knowledge development work (advisory and analytic services) carried out by relevant Anchor and Regional sector teams with the early structures based on models developed in advanced economies. These projects, though they sometimes resulted in the engagement of private capital, do not provide enough documentary evidence to meet the multilateral development bank capital mobilization criteria. An ex ante accelerated release loan product, the catastrophe draw-down option (Cat-DDO) was introduced in 2008, but is not directly relevant to this review.

arranger or intermediary amount to $3 billion in eight countries. Cat bonds typically incorporate a potential loss of total capital on the part of investors and have been counted in full toward mobilization.

Reinsurance swaps intermediated to date by IBRD amount to total sums at risk of covering natural hazards in countries and covering global pandemic risk. Non-intermediated classical reinsurance arranged through World Bank–initiated multicountry pools has been counted based on project period sums insured (World Bank 2012): in practice this means reinsurance not involving Treasury instruments arranged for the Caribbean Catastrophic Risk Insurance Facility (CCRIF). To date, uncollateralized reinsurance or swap capital mobilized has been $3 billion, based on an assumption of a marginal solvency requirement of 20 percent of sum at risk (see annex E.4 for the source of this ratio).

The theoretical basis for sovereign use of insurance instruments was outlined in a World Bank paper (Ghesquiere and Mahul 2007) demonstrating that the Arrow and Lind assumption of risk neutrality at country level does not apply where catastrophe losses are potentially large relative to national income, where there is little or no fiscal space (especially in a post-disaster scenario), or where the cost of maintaining reserve funds is excessive, given low tax ratios and large domestic social and economic needs. In these circumstances the payment of a premium to hedge risk (that is, more than expected losses) could be justified from a social welfare viewpoint.

However, catastrophe risk transfer is not cheap. Catastrophe reinsurance pricing and the average risk spread for catastrophe bonds tends to vary between 2 and 3 times modeled average annualized losses[3] (Lane and Mahul 2008). [4] The Q1 2019

[3] Average annual loss (AAL) is the industry term for expected annual loss based on either statistical experience or physical modeling.

[4] Catastrophe (cat) bonds were developed to add capacity to reinsurance markets in the mid-1990s largely to deal with increased peak US risks.

cat bond average multiple rose to 3.65 and for some risks has been up to 11.5 times after an average of 1.82 in Q4, 2018 (Artemis Market Report). The reinsurance multiple partly reflects the capital needed to support the assumption of large, infrequent losses but also varies according to available capacity and market sentiment.[5]

Ideally, a sovereign state when developing its risk management strategy would consider the range of both ex ante and ex post funding options available (table E.1). In this regard early theoretical and empirical work on sovereign risk financial strategies was focused on the simulation of temporal post-disaster liquidity gaps arising from delays in accessing funds from the various transfers and budget strategies available. More recent work has focused on the opportunity costs of the full suite of options available calibrated according to event severity (Clarke et al. 2016).

[5] Retail insurance (loss frequency typically approximately 15 percent per year.) sells at a comparatively small premium over expected loss and its opportunity cost is less than that of savings or credit for most individuals, particularly in developed markets. For relatively infrequent events, expense loadings tend to be lower, but capital requirements and the cost of capital are greater, leading to premium levels that are significantly higher than expected loss.

Table E.1. Disaster Funding Options

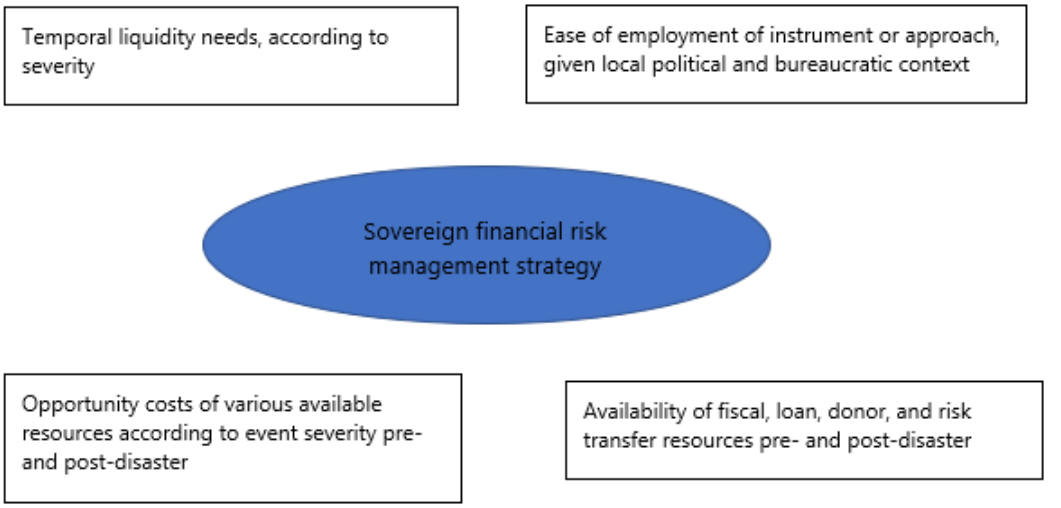
COSTS OF DIFFERENT POST DISASTER FUNDING INSTRUMENTS			
Instruments	**Indicative cost multiplier**	**Disbursement (months)**	**Amount of funds potentially available**
Ex post financing			
Donor support (humanitarian relief)	0–1	1–6	Uncertain
Donor support (recovery and reconstruction)	0–2	4–9	Uncertain
Budget reallocations	1–2	0–9	Small
Domestic credit (bond issue)	1–2	3–9	Medium
External credit (e.g., emergency loans, bond issue)	1–2	3–6	Large
Ex ante financing			
Budget contingencies	1–2	0–2	Small
Reserves	1–2	0–1	Small
Contingent credit	1–2	0–1	Medium
Parametric insurance	1.3 and up	0–2	Large
Alternative Risk Transfer (for example CAT bonds, weather derivatives)	1.5 and up	1–6	Large
Traditional (indemnity-based) insurance	1.5 and up	2–12	Large

Source: Based on Ghesquiere and Mahul 2010.

This strategic approach to catastrophe funding suggests that risk transfer instruments (direct insurance, cat bonds, swaps, and derivatives) are most effectively used for the generation of liquidity by partner countries immediately after major shocks (World Bank 2012), where inefficiencies and delays in aid delivery point to insurance instruments offering better and timelier alternative for the funding of immediate relief and recovery efforts (Talbot and Barder 2016; Walker et al. 2005). Lower-cost options that release funds more slowly, such as loans, budget reallocation, other fiscal measures, and longer-term grants are more appropriate for the later recovery and reconstruction stages. For example, World Bank estimates place the opportunity cost of catastrophe draw-down options (cat DDOs) at approximately 40 percent less than that of comparable risk transfer instruments.

The World Bank Treasury advises that another factor has also become relevant in recent years, reflected in a noticeable increase in interest in risk transfer instruments shown by financial and spending ministries in partner countries (including International Development Association [IDA] countries). The reasons for this are pragmatic and bureaucratic: for many large emerging partner countries the cost of hedging risk is still small compared with their national budgets and does not need to clear the bureaucratic and approval processes that normal borrowing[6] and ex post budget adjustments do. In consequence an idealized optimization approach will possibly be modified to accommodate political and process frictions (figure E.1).

Figure E.1. Designing a Sovereign Risk Funding Approach in Practice



Source: Independent Evaluation Group.

[6] Because catastrophe (cat) bonds are fully collateralized, they do not affect a country's fiscal space or World Bank lending caps. They also have the advantage of being familiar instruments to operational staff in many finance ministries.

Other factors can also preempt an idealized funding approach. For some developing countries, such as small island states, and for catastrophes (low-probability extreme disaster events) fiscal measures may not be available, or may be inadequate, and large injections of international aid have been the usual default.

Relevance

What Instruments and Approaches Has the Bank Group Used, and Are They Appropriate?

Risk Transfer Instruments

The World Bank risk transfer instruments currently providing scope for capital market participation are risk swaps (including various derivatives) and cat bonds. These Treasury products originated in the mid-2000s in response to demand generated out of Latin America and the Caribbean, which was supporting two sovereign risk aggregators. These were Mexico's National Disaster Fund (FONDEN) and the CCRIF, the first multicountry catastrophe insurance pool. The FONDEN cat bond issued in 2006 was the first of its kind employed at sovereign or subsovereign level.

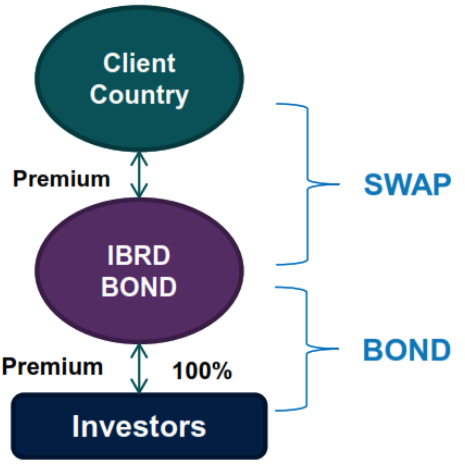
Cat Bonds

The concept underlying cat bonds is not complicated. A special purpose vehicle investing in high-quality assets (sometimes backed by a total return swap) stands between institutions investing in catastrophe risk and insurers or reinsurers wishing to lay off risk. Larger underwritten bond issues can gain liquidity by being subjected to Securities and Exchange Commission rule 144A, which facilitates trading among qualified institutions. Initially the World Bank acted as an organizing intermediary between sovereigns and reinsurers or capital markets with external entities, often based on offshore centers, taking on the special purpose vehicle role. More recently, the World Bank has been prepared to issue cat bonds (technically nonguaranteed capital notes) off its own balance

sheet, using its extensive contact list of institutions that invest through its Global Debt Issuance Facility (figure E.2). Bonds issued from the Treasury issuance facility are unrated, but cat bonds typically are rated at the BB or B level. Recently, cat bond spreads have been somewhat higher than spreads for similarly rated corporate debt (Schyberg 2018).

To apply for coverage a country signs a service agreement with the World Bank and these instruments therefore satisfy the MDB private capital mobilization criteria. The main benefit offered by the World Bank's intermediary role, aside from expertise, is the reduction of counterparty risk (both actual and perceived), thus providing a degree of comfort for the sovereigns seeking ex ante catastrophe cover and investors concerned about reliable contractual execution. Arrangement costs are covered by a fee paid to the World Bank Treasury.

Figure E.1. IBRD Catastrophe Bond Mechanism



Source: Independent Evaluation Group.

Cat bonds are multiyear instruments with annual trigger resets to adjust for changing exposures. Investors receive the return on the collateral assets (notional in the case of the World Bank) and a share of the premium (usually quarterly in arrears). Assuming conservative liquidity management by Treasury, the main risk to the World Bank is reputational: the instruments provided

employ parametric or modeled-loss triggers to allow for quick release of liquidity, and thus basis risk is always present, while for investors information asymmetries can lead to illiquidity and mispricing in secondary markets. This latter risk may be exacerbated if a triggering event is imminent or has occurred.

Cat bonds are issued on a platform that provides for a common documentation, legal, and operational framework, with the World Bank acting as both arranger and special purpose vehicle proxy. The marketing of these products falls to the Financial Advisory and Banking Department of Treasury, with implementation handled by the Capital Markets Department. The listing of Treasury deals in annex E.1 demonstrates that hazards and shocks covered are becoming more diverse as the nature and intensities of shocks expand and grow. The Financial Advisory and Banking Department of Treasury expects partner countries to initiate and renew more than the total coverage arranged to date in the next two financial years.[7]

Catastrophe Swaps

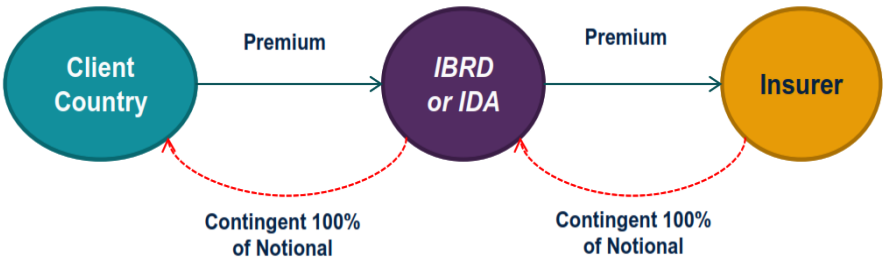
Catastrophe (cat) swaps are a form of reinsurance or hedge that is normally renewed annually. The World Bank stands between the country (possibly via a sovereign insurer fronting for subsovereign entities as in a recent transaction for the Philippines), or a multicountry pool, and the ultimate risk bearers, which are typically reinsurance group entities (figure E.3) or capital/ securities markets operating through specialist intermediaries. Pricing is based on similar concepts as those applying to catastrophe bonds (expected loss plus risk weights plus expense loadings), although a different approach to risk pricing is involved[8].

[7] At present International Development Association countries are not eligible to issue cat bonds through the World Bank, but this is under review.

[8] Contribution to an efficient investment frontier versus the cost of marginal capital employed – see Annex E5.

Again, the World Bank is remunerated through fees, and similar benefits are provided for both sides of the transaction as under a catastrophe bond approach.

Figure E.2. IBRD Catastrophe Swap Mechanism



Source: Independent Evaluation Group.

Note: IBRD = International Bank for Reconstruction and Development.

Catastrophe Risk Pools

Insurance pools have a long history and are widely used in developed markets to create risk portfolios that are more attractive to reinsurers and to attract greater capital support in direct markets. They are also sometimes used in developed and the more advanced emerging markets to provide primary disaster insurance that the private sector will not or cannot, and to transfer this risk to international markets or to government. Examples include flood insurance in the United States and earthquake insurance in Turkey and New Zealand.

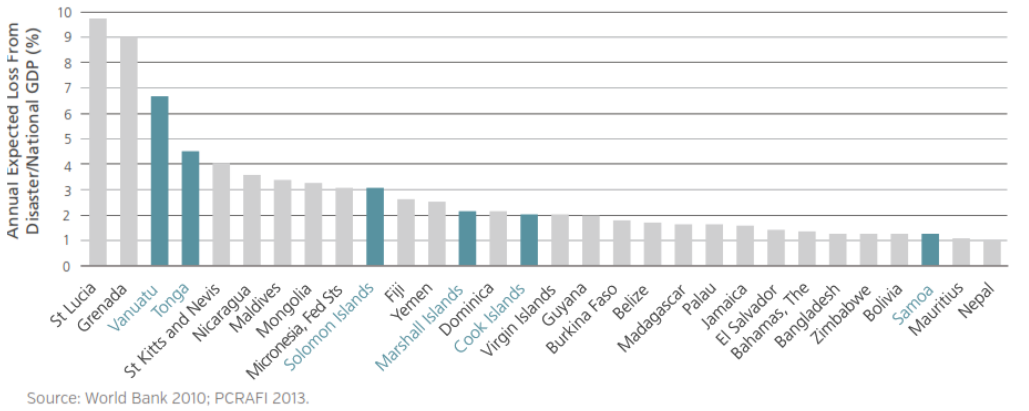
The mobilization role of the World Bank in initiating multicountry catastrophe pools is well documented. For purposes of this report, criteria that have been applied to include pools in the mobilization count include a formal request having been received by the World Bank from the countries concerned (or from a regional body representing these countries). Other requirements are that the World Bank acted as country convener, provided the major inputs into the design of the pool, actively engaged other donors and private risk transfer

markets, and supplied and managed grants, including trust funds, to support the initial establishment of the pool.

In the case of the CCRIF the World Bank qualifies on all counts. The genesis was work done in Latin America and the Caribbean in the 1990s and ultimately resulting in a policy paper that included both World Bank and private market input (Pollner 2001). Subsequently, after heavy weather-related losses in 2004, the Caribbean Community heads of government formally requested World Bank assistance to improve access to catastrophe insurance coverage, leading to the launch of the CCRIF in 2007. By pooling risks the CCRIF has cut the cost of risk transfer by approximately 50 percent on average. The World Bank's main roles (aside from providing insurance expertise), involved engaging the private sector, convening a critical number of regional countries, and encouraging donors to support establishment costs, including the early buildup of reserves. The World Bank contributed as a donor at both the level of the Multi Donor Trust Fund set up to support establishment costs and to individual countries (World Bank 2012).

The design and documentation platform underlying the CCRIF has now been applied elsewhere, including small Pacific island states, some of which have modeled average annual losses comparable to those of the Caribbean islands (figure E.4).The advisory work for these structures is largely carried out by the World Bank's Disaster Risk Financing and Insurance Program.

Figure E.3. Modeled Average Annual Losses for Countries Most Affected by Natural Disasters



Source: World Bank 2010; PCRAFI 2013.

How Aligned are These Instruments with World Bank Group Development Priorities (Partner Needs)?

Natural Disasters

Evidence: Notwithstanding the major role of natural disasters in the development agenda (10 out of 17 SDG objectives mention them) economic growth theory has little to say about their effects. Endogenous models based on Schumpeterian creative destruction concepts see them as being positive for economic growth, while classical growth and Solow models see no long-term effects. However, the growing Emergency Events Database (EM-DAT) database produced by the Center for Research on the Epidemiology of Disasters (CRED) (CRED and UNISDR 2018) clearly demonstrates a growing toll in terms of human and immediate economic losses, with less developed countries disproportionately affected in relative terms. Impacts vary by the nature and intensity of the hazard involved, level of development and other characteristics such geographical size, economic diversification and a range of resilience measures. A recent comprehensive literature review (Botzen, Deschenes, and

Sanders 2019) found that "…indirect economic impacts are generally more severe for low-income countries and smaller, less diversified economies." This study also found a worrying trend: the global number of severe disasters has trebled since the 1980s, largely because of increased exposures and vulnerabilities.

The latest empirical panel-based studies also indicate that the short- to medium-term impacts of natural disasters are negative and have the potential to lead to less productive equilibria.[9] Panwar and Sen (2019) examined a panel of 102 countries over the period 1981 to 2015, including 23 Organisation for Economic Co-Operation and Development (OECD) and 73 non-OECD countries. Dependent variables were log differences of real Gross Domestic Product (GDP) growth rates, gross agricultural value-added and gross non-agricultural value-added over nonoverlapping five-year periods. Their conclusions were categorized by the severity of the hazard and the development status of the country: the deleterious effects of catastrophes on growth were stronger for developing and emerging markets and generally highly negative for very severe events under all hazard headings. Average economic impacts in non-OECD countries were approximately twice those of OECD countries.[10] These results largely replicate the findings of an earlier, similar World Bank study (Fomby, Ikeda, and Loayza 2009) that examined a panel of 87 countries (25 developed, 62 emerging) over the period 1960 to 2007.

[9] In some circumstances a one-time boost to growth arises from items affecting national accounts when recovery and reconstruction funds begin to flow.

[10] The developed versus emerging market dichotomy accords with data published by Moody's Investor Services (November 2016) showing average annual direct losses from natural disasters over the 1980 to 2015 period as being 1.5 percent of GDP in emerging markets versus 0.3 percent in developed economies. Both Moody's and S&P (Williams and Wilkins 2015) have indicated that they now take disaster risk into account when determining a country's credit ratings.

Studies of the longer-term economic effects of natural disasters are less available, do not lead to generalized conclusions, and have produced contradictory findings. Reasons include indirect economic losses (including secondary fiscal impacts) being context sensitive and counterfactuals being subject to the models chosen and subjective. However, there is evidence that small island states, countries subject to repeated negative shocks, low-income countries, and countries with poor governance and subject to conflict are slow to recover, if ever, particularly where hydrometeorological hazards are involved. Other studies have pointed to the difficulty some middle- and low-income countries have had in financing reconstruction because of their limited capacities to engage in countercyclical fiscal policy and their shallow insurance markets (Karim and Noy 2013).

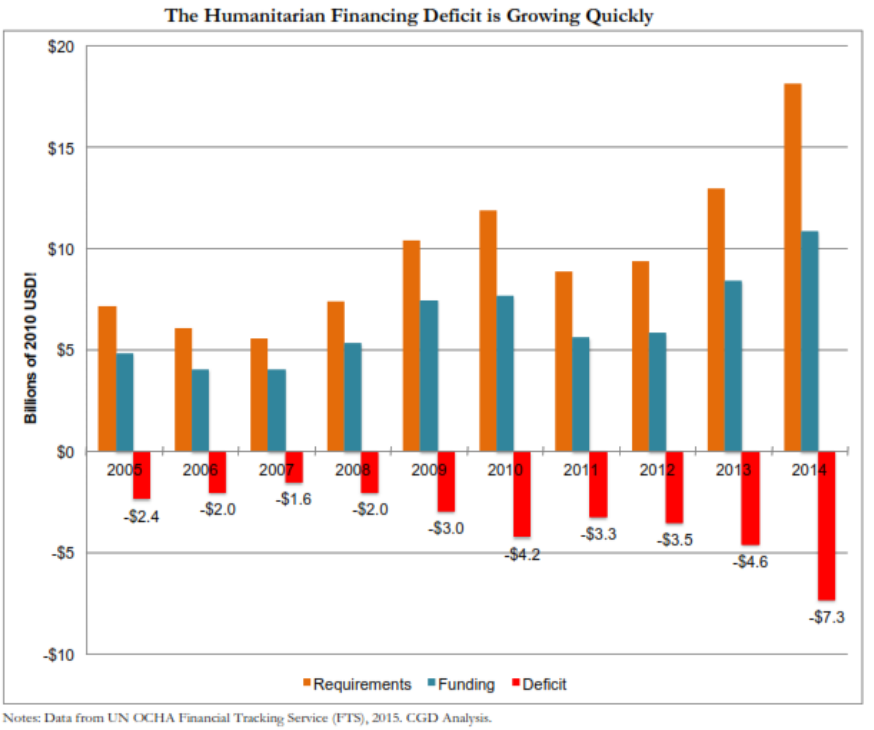
The poverty impacts of natural disasters are also underresearched; however, there is growing evidence that even if country data do not show negative long-term effects from natural disasters, vulnerable populations can fall into poverty traps (Noy and duPont 2016). Available research points to poor households as being more vulnerable due to location, lower resilience in terms of income streams, savings, and housing, and reduced access to early warning systems, post disaster relief services, and credit (Karim and Noy 2016; Hellegate 2017; SAMHSA 2017).

That donor support of developing and emerging countries after natural disasters is under pressure exacerbates the situation. The Red Cross's 2018 *World Disaster Report* highlights the extremely variable results of United Nations and Red Cross post-disaster appeals with success ranging from 6 percent of target to more than 100 percent; in 2017 only 60 percent of UN-coordinated appeals targets were

met (IFRC 2018).[11] At a global level, humanitarian needs have been outpacing resources for more than a decade (figure E.5).

One consequence is that significant proportions of people in need of humanitarian aid are not being reached or helped. Responses to three types of crisis in particular are chronically underfunded: small localized disasters, slow-onset disasters, and long-term complex crises.

Figure E.4. Increasing Relief Funding Shortfalls



Source: Talbot and Barder 2016.

[11] The Red Cross/Red Crescent are looking to issue a volcano cat bond covering 10 volcanos in four regions. This would be supported by the governments of Germany and the United Kingdom. Other aid organizations are showing interest in rapid-release capital market instruments.

Unfortunately, there is no empirical research on the impacts of immediate post-disaster relief and recovery funding on the World Bank's twin goals. However, the SDGs provide clear support for the role of quick-release liquidity, especially numbers 1 (poverty reduction), 3 (good health and well-being), 8 (decent work and economic growth), and 11 (sustainable cities and communities). Annex E.3 lists the relevant detailed SDG subobjectives.

In addition, leading expert organizations point out that disaster response plans should incorporate financing arrangements. In *Integrative Risk Management: Advanced Disaster Recovery*, the Swiss Re. Centre for Global Dialogue introduces the concept of Advance Recovery (Swiss Re. 2010). The purpose of this approach is to speed up and increase the effectiveness of the recovery stage; it incorporates five elements: high-quality community-based leadership; demonstrated government capabilities and resources; preexisting relationships with outside organizations; ready availability of discretionary funds; and, availability of credit. Sovereign risk transfer instruments also increase country-level ownership, usually seen as a desirable objective in the relevant literature, but not always achieved.[12]

Hence, there is ample evidence that the answer to the primary question—is there an emerging justification for the World Bank to provide quick-liquidity-release mechanisms to fund post-disaster humanitarian relief and early recovery (including restoring core government functions and repriming economic activity)?—is in the affirmative.

However, a second question arises from the fact that risk transfer funds are literally handed over to sovereign governments within days or weeks of an event

[12] Haiti provides a worst-case example of what can go wrong when local capacity is limited and nongovernmental organizations dominate relief and recovery efforts (World Bank 2005). After the 2010 earthquake funding arrived slowly, with little local ownership and poor coordination of efforts. Of the $6 billion spent until mid-2016 the government was estimated to have received only 1 percent of humanitarian aid and 15 percent of short-term recovery funding (Talbot 2016).

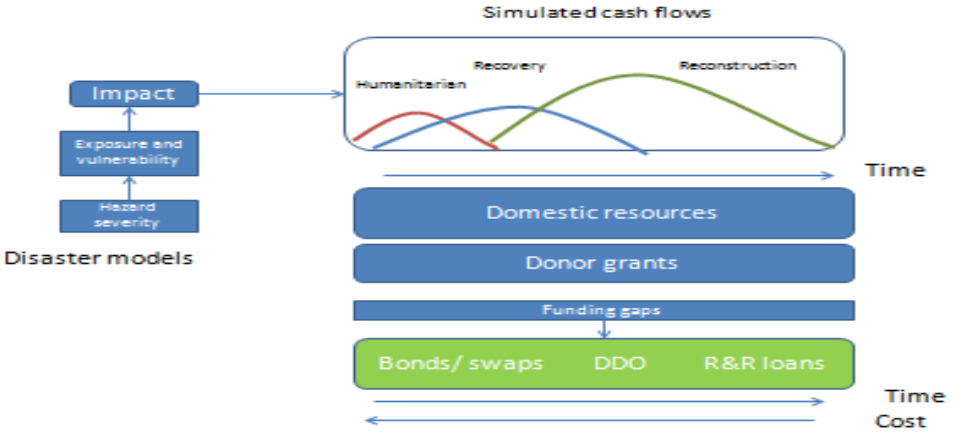
and normal lending processes do not apply. Any financial instruments provided by the World Bank Group should satisfy a common set of development priorities and relevant safeguards. In addition, they would also ideally be part of an integrated and coordinated approach (figure E.6).[13, 14]

Operationally this would mean incorporating all World Bank disaster funding options, including Treasury's risk transfer instruments, into relevant Country Partnership Frameworks. Country Partnership Frameworks should already be making explicit allowance for exposures and vulnerabilities to natural hazards, and this requirement would ensure that Financial Advisory and Banking are able to coordinate with country teams and relevant sectoral specialists. A further step would be to establish an integrating mechanism involving a common database of disaster-related country strategies and operations and fostering communications among relevant teams within the World Bank.

[13] The range of disaster funding options and how they interact was described in a recent World Bank submission to the G20 (World Bank 2015).

[14] Issues also arise with post-disaster lending. Some studies question the World Bank's emphasis on housing reconstruction and a lack of consultation with affected populations (Freeman 2004; Tafti and Tomlinson 2015) and overly optimistic assumptions regarding recovery periods (World Bank 2005; Lloyd-Jones 2006). In a broader context Lewis (1999) argues that development programs that do not allow for vulnerability impacts can ultimately do more harm than good.

Figure E.5. World Bank Integrated Disaster Funding Model



Source: Independent Evaluation Group.

The integration of sovereign risk transfer products into a broader World Bank approach to disaster management would be consistent with the recently revived UN policy discussion on the relief to development continuum catalyzed by the publication of the SDGs. In particular, the World Bank's engagement of local partners at both the early recovery stage and later recovery and reconstruction stages could help "encourage a greater development orientation of humanitarian relief programs, and a greater focus on disaster risk reduction in development programs" (Hinds 2015). However, as a recent United Nations Evaluation Group working paper (UNEG 2018) has pointed out, "From an evaluation-specific perspective, the main conclusion put forward in the paper is that a nexus lens may prove more useful if it is used as a scoping tool to identify and analyze areas for improved synergy and better ways of working across humanitarian and development interface, rather than as a new paradigm or framework."

Caveats and Counterfactuals

The World Bank has been criticized on several grounds for its promotion of risk transfer instruments to partner countries (Hillier 2018; Richards 2018; Ramachandran and Masood 2019). The main grounds for criticism involve both technical and policy issues. The technical issues largely focus on the "gamble" involved in pure parametric and modeled loss–based coverages; this is discussed in detail in a later section of this review. Policy issues include the following:

- A reaction to the G-7 and G-20's InsuResilience initiative, particularly to the allocation of a substantial proportion of the funds generated to insurance solutions, as opposed to disaster risk reduction.
- The likelihood of long-term premium subsidies being required in some cases.
- The lack of a nexus between parametric instruments and incentives for risk reduction.
- The small amounts released by World Bank instruments compared with total damages and losses.

The first item is a valid issue, given the very high potential returns to investment generated by ex ante risk reduction investments and the relatively low attention being given to this area by the international community and national governments (Price 2018).[15] However, the imposition of suitable safeguards would partly insulate the World Bank from criticism in this regard.

The second objection is also valid. Subsidies can be useful in the establishment stages of disaster risk transfer systems (and pools in particular), but their long-term value is problematic. One obvious problem is that subsidies are reliant on a permanent pool of donor transfers being available and are thus not guaranteed.

[15] There has been a proposal to link resilience with cat bonds, but it is not clear how this would work in practice.

Another common objection to subsidies (exacerbated by the assumption of recurring donor aid) is that they lead to moral hazard, with countries having reduced incentives to build financial reserves and alternative funding mechanisms and to engage in basic disaster risk management. However, a more fundamental concern lies at the core of development policy: ongoing aid, including subsidies (particularly where countries are already aid dependent), could inhibit a fundamental rethinking of country development strategies, possibly including population relocation and changing the composition of economic activity (Raschky and Schwindt 2009).[16]

The third objection is in part explicitly addressed by the World Bank and other donor-supported multicountry pools in that post-disaster response capacities have needed to be established (see CCRIF annual reports). This is also a requirement where cat DDOs are involved. Recent research indicates that "there appears to be little relation between speed of recovery and the exogenous factors of size of impact, population demographics and economic factors," but that disaster response capacity has a significant impact on the speed and quality of both the recovery and reconstruction stages (Platt 2017). However, it is not clear that such safeguards are currently required where Treasury risk transfer instruments are generated through direct negotiation.

The fourth objection is based on a misconception. Immediate post-natural disaster humanitarian funding rarely exceeds 5 percent of total damages and losses and is typically closer to 1 percent thereof. In addition, there are grounds for exercising caution in the early pilot stages of parametric and modeled loss approaches when data are being gathered and calibration is uncertain.

[16] Remittances back 'home' by partially relocated populations already constitute a significant proportion of post-disaster relief funding.

Pandemics

The case for pandemic ex ante quick-release funding instruments is easiest to establish, given the urgent need to intervene before a virus or bacterium has an opportunity to spread and a current lack of alternatives. [17] Increasing population concentrations and ease of movement mean that early containment is vital. Pandemic loss distributions have very fat tails and economic losses and mortality rates are potentially huge compared with natural disaster events. Sidorenko and McKibbon (2006) found that even a mild influenza outbreak would result in approximately $330 billion in economic losses. A recent paper (Fan, Jamison, and Summers 2016) modeled the long-term economic impacts of labor withdrawal and mortality for pandemics of various intensities. Average annual income loss amounted to $80 billion, and mortality-related losses to $490 billion, amounting in total to 0.7 percent of global income. Average mortality costs ranged from 1.6 percent of GNI in lower-middle income countries to 0.3 percent in high-income countries.

The World Health Organization (WHO) and World Bank provide the major institutionalized sources of quick-release funding (aside from a country's domestic resources and limited bilateral arrangements). These are the Contingency Fund for Emergencies (CFE) and the recently established Pandemic Emergency Financing Facility (PEF) respectively.[18.] The CFE is a liquid fund designed to facilitate immediate release of resources by the WHO prior to the

[17] The 2014 Ebola infection spread tenfold during the period it took to raise only $100 million. The ultimate cost of response and recovery was $7 billion, compared with a requirement of only $5 million if the World Health Organization had declared an emergency immediately the risk was identified.

[18] The World Bank also provides direct grants from other funds (the 18th Replenishment of the International Development Association, CRW IRM, Regional Disease Survey Systems Enhancement (REDISSE), various trust funds) and has reallocated loan funds in certain situations; however, these tend to vary in terms of time to release and not all are available to all 77 IDA countries.

issuance of a donor appeal. Its biennial funding target is $100 million but has only received total funding since 2015 of $80.7 million, with 18 national donors: Germany and the United Kingdom have accounted for 61 percent of this total. More than 60 withdrawals totaling more than $75 million have been made over the funding period, ranging from $57 million (DNC) down to $40,000 (CFE Annual Report 2018). Its effectiveness as a global resource ultimately depends on donor country support, as is the case with natural disasters, and has in practice been challenged by one country's well-publicized extreme needs. Reimbursement rates have been low or nonexistent for many smaller outbreaks and it clearly cannot carry the rapid response funding load alone.

The World Bank PEF facility was established for IDA countries in 2016 after the earlier 2014 West Africa Ebola breakout. It consists of an emergency funding facility and three different insurance instruments, including swaps and a cat (Pandemic) bond that responds to cross-border infection breakouts (finalized in July 2017). The cash window is designed as a more flexible and responsive facility to backstop the larger insurance window. The two major donors for the cash window have been Germany and Australia ($61 million and $7.2 million respectively) and a disbursement of $31.4 million has already been made for the Ebola breakout alongside $60 million of grants and credits from IDA. PEF cash disbursements are approved by a steering body.

The insurance window covers influenza (up to $275 million), coronavirus (up to $95.8 million), Ebola (up to $150 million), and a range of fevers endemic to Africa (up to $75 million). Class A of the bond ($225 million) covers the first two infection types and Class B ($95 million) the second two. Payouts are dependent on mortality and morbidity rates and, in the case of the bond, whether the infection crosses a national boundary and leads to at least 20 deaths. The World Bank, Germany, and Japan are effectively the insureds under the bond (with the World Bank acting as custodian for the underlying assets and Germany and Japan funding the risk premium component of debt servicing) and payments may be made to both vulnerable countries and qualified international agencies.

European-based specialist investors and pension funds have been the main investors in PEF (table E.2).

Contrary to the national disasters space, the employment of subsidized insurance instruments appears to be a worthwhile means of engaging private capital, given the potential global consequences of pandemics both economically and in terms of lives lost. However, the modeling of pandemics is still at an early stage, and pricing is likely to reflect this. In addition, it is not clear that the recognition of whether a payment has been triggered can always take all local conditions into account. At the time of writing, for example, the major safety and informational challenges inherent in responding to the Ebola crisis in the eastern Congo are raising questions about the appropriate balance between direct aid and trigger-based insurance, with attendant reputational risks for the World Bank. In the circumstances PEF needs to be seen as a learning experience that is providing some clear lessons, with the major challenge being the development of triggers, possibly including multiple time-sensitive triggers (learning from the crop insurance experience).

Table E.1. Investors in Pandemic Bonds

Distribution by Investor Type	**Class A**	**Class B**
Dedicated Catastrophe Bond Investor	61.7%	35.3%
Endowment	3.3%	6.3%
Asset Manager	20.6%	16.3%
Pension Fund	14.4%	42.1%
Distribution by Investor Location	**Class A**	**Class B**
US	27.9%	15.0%
Europe	71.8%	82.9%
Bermuda	0.1%	2.1%
Japan	0.2%	0.0%

Source: Clarke 2019.

Commodity Price Hedging

The World Bank has been offering commodity price hedging to borrowers since 1999, but only introduced its first stand-alone intermediated oil price hedging product for Uruguay in 2013, structured as a call option. This was connected to weather risk transfer (poor rainfall cutting hydro power output), but World Bank Treasury has made it clear that it sees commodity price risk as an opportunity to offer a new product to partner countries. To quote: "Potential candidates for replication would include member countries whose economies are highly exposed (as an exporter/importer) to a specific commodity or groups of commodities, which make a country's fiscal position and economic activity vulnerable to international commodity price fluctuations'" (World Bank 2016).

Evidence shows that commodity price volatility is a legitimate development issue, however the justification for a World Bank role is less clear than for pandemics and natural disasters. Cavalcante, Mohaddes, and Raissi (2012), using data over the period 1970 to 2007 question the resource curse hypothesis and show that the commodity terms-of-trade growth tends to be positive for output growth. However, this effect is more than offset by terms-of-trade volatility. The main transmission mechanism for this effect is a lowering of the accumulation of physical capital, with generalized method of moments methods also showing a loss of potential human capital. In this regard Dehn (2000) found that large negative shocks can have a negative impact on economic growth. Other publications have pointed to the increasing volatility of commodity prices and the consequent impact on poor agricultural producers (IISD 2008).

Page and Hewitt (2000) point out that price fluctuations that are predictable or within normal bounds should be treated as normal business, while unexpected shocks combined with credit constraints can disrupt fiscal planning. They highlight the potentially dire situation of small poor countries with government incomes highly dependent on commodity trade, but needing to intervene to support primary producers' consumption when prices are depressed. The International Monetary Fund also noted this combination, pointing out that

most countries hit hardest by falling commodity prices are "also among the world's poorest." In extreme circumstances a government in a country vulnerable to commodity price swings is likely to be faced with short-term financial support for the poor, maintaining fiscal resilience, and possibly supporting the financial sector (Kinda, Mlachila, and Ouedraogo 2016).

Lopez Martin et al (2017), using a stylized economy, examined the impact of financial derivatives and commodity indexed bonds on the volatility of various macroeconomic variables and their correlation with commodity revenues, and found that they had a positive impact on both counts. They also consider the trade-offs between bonds and derivatives, including the availability of longer-term contracts with bonds versus their higher set-up costs and potentially lower liquidity. However, in some contexts, bonds may be easier to issue bureaucratically and politically. They discuss a potential role for international financial institutions, but point out that existing derivative and futures markets are well developed, and that financial innovation can face potential barriers. The literature also contains numerous papers on alternative approaches including income diversification and the establishment of international reserves and sovereign wealth funds, and there appears to have been little attempt to develop guidance for optimal combinations of instruments and approaches, as has been done in the case of natural disasters.

The main roles the World Bank could play in hedging commodity price fluctuations at sovereign levels (both on the supply and demand sides) are the provision of expertise in identifying and arranging secure hedges, but perhaps more importantly ensuring that competitive terms are achieved for partner countries while they develop relevant human and institutional capacity. Such a formalized role would provide an opportunity for Treasury to offer remunerated advisory services, including mobilizing well-established and deep risk transfer markets on behalf of partner countries.

Catastrophe Insurance Pools

Developing and some emerging market insurance sectors are too small to act as effective intermediaries to transfer catastrophe risk to global risk markets, either as primary insurers or agents. Lloyds (2018) estimates that 99 percent of all underinsurance,[19] amounting to $160 billion, is in developing and emerging markets, with large emerging markets having the largest coverage gaps—often because physical capital is growing faster than domestic insurance capacity. However, developing countries have dominated in the experience of recent average annual loss relative to national incomes (1980 to 2015 data):

1. Mongolia: 20.1 percent
2. Maldives: 18.5 percent
3. Belize: 9.3 percent
4. El Salvador: 8.5 percent
5. Solomon Islands: 8.05 percent

In these cases, government becomes the de facto catastrophe insurer of first resort, and as shown in table E.2, can conceptually rely on a range of fiscal, credit, and market instruments. In practice such countries typically have very limited fiscal space, with only nascent tax bases and insurance industries and inevitably become dependent on uncertain donor funds, grants from international financial institutions, and possibly reallocated borrowing. The last source has costs, because according to IEG Evaluation Brief 16 "Reallocating resources from existing projects, another approach to emergencies, has been found to affect the ability to attain long-term development goals and to be less effective than specific reconstruction lending" (World Bank 2011).

[19] Underinsurance is defined for this purpose as the optimally insured value of physical capital (after risk retention) not insured.

To enhance access to risk transfer instruments, catastrophe pools can be employed if they result in significantly more diversified and relatively homogenous risk portfolios of reasonable size that can be modeled, although supportive donor funding will still likely be required in the establishment stages. This approach is especially applicable where the countries concerned are individually not able to attract interest from the reinsurance markets because of their small size, because of their concentrated risk, or because the local insurance market is not developed or is undercapitalized. The small island states of the Caribbean and Pacific, with a history of direct catastrophe-related losses that are a multiple of their GNIs, offer the best example of this scenario (World Bank 2012).

Turning to larger emerging markets, the benefits of sovereign pooling can be often be obtained through aggregating disaster risk across distinct geographical and administrative regions that are unlikely to be affected by the same hazard event. In these cases, the World Bank involvement is likely to be at the advisory and analytic services level and not covered by the MDB mobilization criteria, unless World Bank risk transfer instruments are involved as part of a larger capital mobilization, or if verifiable direct transaction advice is sought. Holzheu and Turner (2018) have modeled expected disaster losses using Monte Carlo simulation and find that six out of the ten large countries with the greatest expected losses relative to GDP are IBRD partners:

6. Philippines: 1.13 percent
7. Chile: 0.48 percent
8. Mexico: 0.4 percent
9. Turkey: 0.36 percent
10. Indonesia: 0.28 percent
11. China: 0.22 percent

To date, the World Bank has assisted four of these partner countries with risk transfer to reinsurers and capital markets.[20]

Can the Use of Risk Transfer Instruments Be Expanded by the World Bank and Other International Financial Institutions?

The scope for scaling up risk transfer portfolios for international financial institutions is ultimately limited by a range of factors:

- The subset of World Bank partner countries that satisfy criteria necessary to justify the use of intermediated risk transfer instruments;
- Their currently limited role as funding for immediate post-disaster humanitarian and recovery efforts;
- The priorities of partner countries;
- Differing capacities to fund risk transfer instruments and to effectively employ funds released immediately after a disaster; and
- The ongoing availability of permanent subsidies for the poorest and most fiscally constrained countries, and whether in fact such permanent aid is desirable, given other disaster risk management alternatives.

Based on these considerations, the current upper limit on intermediated natural disaster risk transfer from partner countries at any one time, assuming full coverage, is probably less than $5 billion, limiting the scope for some smaller international financial institutions to make the investment required to enter this

[20] For a more comprehensive list incorporating 28 risk measures see the World Risk Index. https://en.wikipedia.org/wiki/List_of_countries_by_natural_disaster_risk.

space,[21] though the World Bank's Treasury could look at parallel arrangements. Mobilization counts are potentially higher over time, given that these sums are renewable, at least until a sovereign entity is able to arrange its own protections. Pandemics possibly offer another $1 billion, based on initiatives announced to date, although the Democratic Republic of Congo experience shows that particular care needs to be taken in the specification of triggers for this risk.[22]

There are four clear avenues for scaling up from current modest levels. These are (i) increasing relief and recovery sums at risk based on modeling and experience during pilot periods, (ii) the expansion of risk transfer to the full list of countries where their use can be justified for post-catastrophe relief and recovery; (iii) supplementing reinsurance coverage available through pools or with bonds where reinsurance costs have become uncompetitive; and (iv) the expansion of the application to support domestic credit creation after a disaster. A final more problematic avenue would be the employment of risk transfer instruments at sovereign and subsovereign levels to support later recovery efforts, and "build better"-infrastructure.

Category B includes all World Bank partner countries where expected maximum losses arising from infrequent catastrophes are large relative to the countries' financial and institutional capacities, or in situations where donor support for relief and recovery has proved to be problematic in its timeliness and effectiveness. Expected outcomes are also a potential guide. Hellegatte (2017, table 6.1) lists 14 partner countries with very high benefit-cost ratios arising from post-disaster support for the disadvantaged, most of which have not employed sovereign risk transfer instruments, but which satisfy the first two criteria.

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[21] Based on a starting figure of Lloyds underinsurance estimate ($160 billion for damages only) and assuming sums at risk of approximately 1 percent of expected maximum losses.

[22] The Africa Risk Capacity is working on a pandemic product.

Category C, a variant of Category A, has already seen Jamaica seeking to arrange an IBRD supplementary coverage over and above reinsurance available through the CCRIF (Artemis, May 2019). In addition, there is an expectation that some large partner countries could eventually become peak reinsurance risks and that capital market instruments will become attractive at that time as standard insurance capacity becomes constrained.

Category D would involve the provision of liquidity, and possibly capital, to some or all of a local banking sector after a catastrophe.

The fifth avenue would likely entail a considerable scaling-up of catastrophe risk transfer purchased at current severity layers, and add significantly to the cost, especially if higher layers involving very infrequent events were also added to current programs.[23] In addition, there would be a danger of crowding out other less costly ex ante funding alternatives and depressing the development of domestic markets. In practice such expenditures would need significant donor subsidies in some cases, and these would be difficult to justify if major efforts at improving the resilience of the relevant countries did not accompany such support. Notwithstanding these caveats, there may be opportunities to extend recovery funding in some circumstances. Recurring themes in the literature are a need to bridge the gap between the initial relief and later recovery/ reconstruction stages (Steets 2011) and the frictions created by the frequent need to fund longer-term programs with series of short-term funding requests. In this regard, if risk transfer were to be extended to cover later recovery efforts a combination of modeled-loss and partial indemnity triggers could be considered to better match payouts with losses, and to support appropriate planning processes.

[23] Catastrophe losses follow a power law against frequency.

Conclusions and Lessons

- The World Bank appears to have been successful to date in targeting those countries most in need of support in transferring natural disaster risk.
- The current suite of risk transfer products potentially supports those SDGs relevant to the growth and poverty reduction agendas and hence the World Bank's twin objectives.
- The World Bank should actively assist countries during pilot stages to model post-crisis relief and recovery external financing needs, calibrated according to the severity of an event, to optimize ILS purchase.
- The ongoing deployment of IBRD or IFC balance sheets, expertise, and grant capacity for disaster risk transfer should be dependent in part on the capacity of the country to respond effectively after a catastrophe large enough to trigger a parametric or modeled loss contract. Where this capacity is limited, appropriate technical assistance should be considered, working with development partners. This aspect places a particular responsibility on the World Bank to apply safeguards and, ideally to monitor outputs and, if possible, outcomes, because private sector capital providers are unlikely to be overly concerned with how payouts are used (Vyas et al. 2019).
- Clear guidelines should exist for the World Bank's role where active and deep markets already exist. In particular, opportunities may exist for Treasury to offer remunerated advisory services to IBRD partners regarding certain categories of risk hedging.
- Formal coordination and integration of disaster-related activities at operational and policy levels within the World Bank Group would provide a useful link between country disaster relief and developmental programs.

Effectiveness

How successful are the disaster risk management initiatives in advancing priorities through mobilizing private capital and meeting partners' expectations?

This question can be addressed under four headings: demand, timeliness of delivery and application after an event, basis risk, and pricing.

Country Demand

Although there are clear examples of an explicit demand for ex ante catastrophe risk transfer facilities (such as the case of Caribbean countries after the hurricane Ivan catastrophe in 2004), the role of the World Bank to date has of necessity been somewhat focused on supply. This reflects the relatively recent introduction of IBRD cat bond and swap and hedging instruments, and their unique and stand-alone nature compared with other World Bank Group financial offerings. However, where countries or pools have taken advantage of these instruments, they have usually renewed coverage until they are confident that they do not need the comfort of IBRD balance sheet.[24] To some extent, demand will be a function of the demonstration effect of those deals that have been done to date, and the next two years will be instructive.

Timeliness and Application

Payouts after a trigger event are usually subject to a clearance from a modeling firm, which in turn is dependent on the release of official data on the event. In practice the timing experience with parametric and modeled loss triggers for rapid-onset natural disasters has been good, although there have been some exceptions (see basis risk discussion). At the time of writing, the Ebola outbreak

[24] The Caribbean Catastrophe Risk Insurance Facility (CCRIF) now appears to be self-sustaining at the subregional level.

in the eastern Congo is highlighting the challenges that can arise if triggers are difficult to establish and verify (particularly if moral hazard is involved).

Funds released by IBRD-intermediated parametric insurance to date have been used to support relief, maintenance of government functions, and readiness development in the wake of triggering events. Annex E.2 lists payouts where World Bank instruments have been involved, with their application and time to release.

Basis Risk

Basis risk is the primary trade-off inherent in ensuring the quick release of funds after a major disaster. It is the possibility that there will be no clear relationship between physical damage or economic losses incurred (or other measure such as mortality) and the performance of the insurance instrument. This is particularly the case for parametric measures, where the payout is purely a function of the metrics of the hazard that has occurred. For this reason, good policy is to restrict funds spent on parametric insurance during the pilot stage. A further disadvantage of purely parametric instruments is that they offer no incentive for active disaster risk management because they do not directly consider either exposure or vulnerability.[25]

To date there have been several cases where losses were significant, but no payout or a much-reduced payout, has been triggered. These typically occur in the early days of a program when data are being gathered and triggers are still relatively crude; however, some also reflect limited or misspecification of coverage. For example, the Solomon Islands did not renew with the Pacific Catastrophe Risk Assessment and Financing Initiative after flash flooding in

[25] In practice the sum insured purchased is typically some proportion of the modeled losses (which may be a subset of total damages and losses), and possibly indirect fiscal impacts. Early sums purchased in the CCRIF were up to 20 percent of estimated maximum loss, with a maximum of $50 million.

2014 did not lead to any payout despite significant losses. Similarly, a low payment relative to losses after the May 2017 floods in Jamaica reflected the fact that the CCRIF contract wording did not cover agricultural losses. In possibly the most quoted case, the drought in Malawi in 2016, an African Risk Capacity policy was designed for a type of maize different to that actually being planted by poor farmers.

A refinement of pure parametric triggers that incorporates exposures and vulnerabilities is modeled loss. If the modeled loss is greater than the trigger point, a partial or full payment is made. The advantage of modeled loss is that no loss assessment is required, as would be the case under indemnity coverage, while some incentive to engage in resilience building is still effected. Though payment can take an additional week or two compared with pure parametric insurance, it is still relatively rapid compared with other financial instruments and most donor aid. The CCRIF switched from parametric coverage to modeled loss in the 2010 policy year, and performance relative to actual losses has generally been acceptable.

Pricing

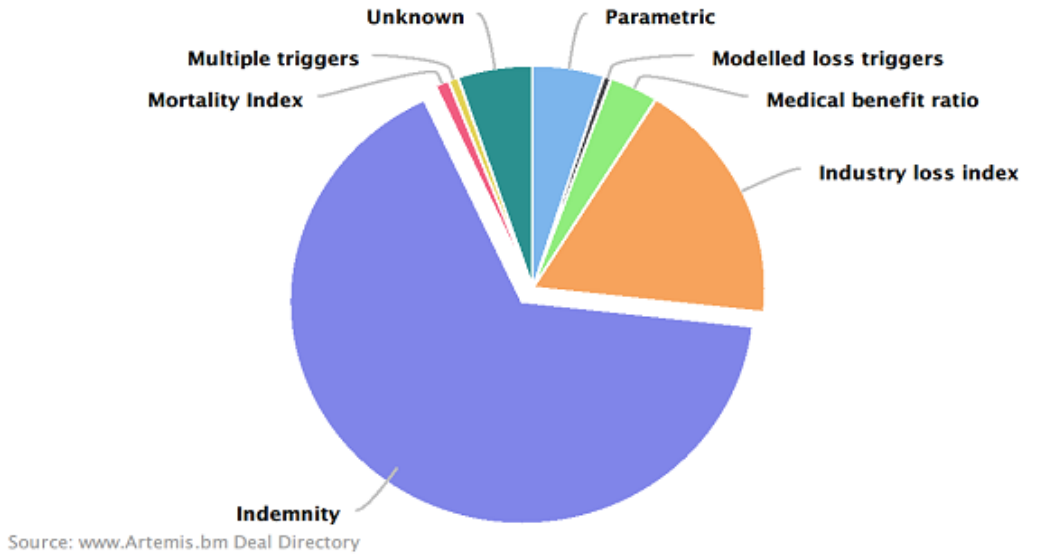
The theoretical basis (ignoring expense loadings) for cat bond spreads and reinsurance pricing is the funding rate (L) on capital deployed plus expected loss plus a risk load. The approach to the risk load required by capital providers differs between separately collateralized (funded) and insured (so called unfunded) risk transfer (see annex E.5). Assuming the bond funds are well secured, the only component of cat bond pricing correlated with normal bond spreads should be the return on secure assets. A recent study based on the full universe of cat bonds issued to the publication date surprisingly found that trigger type was at best of secondary importance, as was the peril (Braun 2015). Aside from expected loss the key drivers are found to be the covered territory, the sponsor, and the BB corporate bond spread. Covered territory reflects portfolio diversification and quality of data, whereas the corporate bond spread correlation possibly reflects opportunity cost. Other studies indicate that some

investors also consider the probability of attachment (that is that a triggering event will occur) and the probability of total loss.

A (re)insurer relies on the law of large numbers and the central limit theorem and can accumulate concentration risk in peak risk zones leading to an unacceptable probability of ruin. Very high-risk layers (with low attachment probabilities, but very large coefficients of variation) can also become problematic for reinsurers in terms of marginal capital cost. One consequence is that cat bonds and reinsurance solutions should have risk layers and regions respectively where they dominate: optimization of cat bond and reinsurance blends is currently a topic of interest at both theoretical and application levels. A fuller exposition appears in annex E.4.

Event triggers for cat bonds range from traditional indemnity (based on an actual loss determination) through various indexes to pure parametric determinants. Because parametric measures are objective, spreads on these cat bonds should be less than for bonds based on other triggers. In practice only a small minority of cat bonds issued to date have had parametric triggers with IBRD bonds dominating this subsector. The majority of cat bonds, mostly covering US peak risks, have been issued with indemnity triggers (figure E.7).

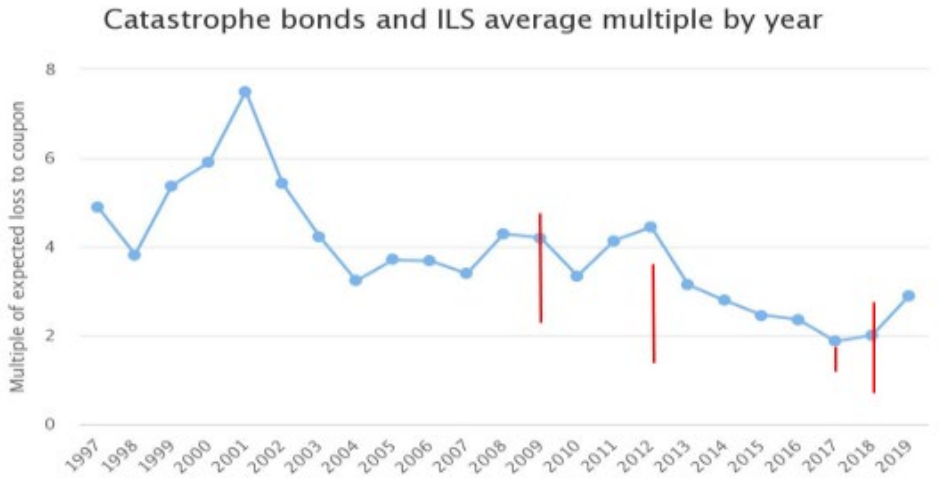
Figure E.6. Distribution of Catastrophe Bonds Outstanding, by Trigger Type



Source: Artemis.

The pricing of World Bank–arranged and World Bank–intermediated cat bonds has been generally below the market index of the ratio of coupons to expected loss over the decade that Treasury has been active in this space (figure E.8).

Figure E.7. Pricing of IBRD Catastrophe Bonds



Source: Artemis.

Note: ILS = insurance-linked securities.

Catastrophe risk swaps typically have reinsurers as counterparties or are placed through an exchange or specialist broker; they are effectively fronted reinsurance, with the World Bank taking a fee for intermediating. Catastrophe reinsurance pricing is subject to a competitive market, but until recently was also driven by a capital availability cycle. However, pricing after the heavy 2017 and 2018 losses indicates that the traditional capacity-based pricing cycle has been dampened, largely because of the emergence of capital market instruments—"We also expected one year ago, that capital investors in ILS would be extremely shy and not reload the instruments, … On the contrary, there is more ILS today than there was one year ago, and they did reinvest massively in those ILS funds" (Kessler 2018). Partner country governments have been able to take advantage of this new pricing environment by employing the World Bank's expertise and industry links.

Do Bank Group Mobilization Approaches Meet Investors' Expectations?

Key indicators under this heading are the level of demand that has been observed and the liquidity of IBRD instruments.

Demand

ILS capital employed (including cat bonds) grew at a compound annual growth rate of 20 percent over the 10 years 2009 to 2018, with total capital available at the end of 2018 amounting to $93 billion, of which cat bonds accounted for $27 billion (Willis 2019). Swiss Re. (2019) estimates that alternative capital currently equates to approximately 4 percent of total insurance risk transfer capacity, with reinsurance accounting for another 16 percent and domestic direct insurers accounting for 80 percent. Total risk transfer capacity is well above both historical actual and insured global direct losses, but traditional reinsurance capacity can be constrained in regions with high aggregate exposures (that is, peak risks)—see annex E.5. Almost all direct insurance capacity is allocated to advanced economies (and the United States in particular), leaving approximately $400 billion to deal with the tails of (re)insurers' loss distributions and to support developing and emerging markets' disaster risk transfer needs.

The rapid growth of ILS has been driven partly by the institutional hunt for risk-adjusted yield (demonstrated by superior performance during the 2008 financial crisis) and a number of specialized funds have been set up to invest solely in this sector.[26] The extreme losses in 2017 and heavy losses in 2018 were seen as a first test of this market, but growth continues, although at a reduced pace, and price spreads have risen, although not to the levels of the 2000s. A majority of World Bank–arranged, or World Bank–intermediated bonds have been oversubscribed;

[26] Artemis currently lists more than 30.

none have been issued for less than originally offered. In addition, most have been priced at less than originally estimated (table E.3).

Table E.2. World Bank–Arranged and World Bank–Intermediated Catastrophe Bonds, $

Tranche	Original Offer ($, millions)	Final issued ($, millions)	Final coupon (risk margin) *(%)*	Indicated Coupon *(%)*
Multicat Mexico 2009 A	100	140	11.5	N/A
Multicat Mexico 2009 B	50	50	10.25	N/A
Multicat Mexico 2009 C	50	50	10.25	N/A
Multicat Mexico 2009 D	50	50	10.25	N/A
Multicat Mexico 2012 A	140	140	8.0	8.75 to 9.0
Multicat Mexico 2012 B	60	75	7.75	9.0 to 9.5
Multicat Mexico 2012 C	100	100	7.5	8.75 to 9.1
Intermediation				
CCRIF 2014–1	30	30	6.3	6.3 to 6.5
Pandemic Class A 2017 111	75	225	6.9	7.25 to 8.0
Pandemic Class B 2017 112	25	95	11.5	12.25 to 13.0
Mexico 2017 FONDEN 113	120	150	4.5	5.0 to 5.5
Mexico 2017 FONDEN 114	85	100	9.3	9.9 to 10.5
Mexico 2017 FONDEN 115	85	110	5.9	6.5 to 7.1
Chile 2018 116	300	500	2.5	2.75 to 3.5
Colombia 2018 117	300	400	3.0	3.0 to 4.25
Mexico FONDEN 2018 118	140	160	2.5	3.0 to 3.75
Mexico FONDEN 2018 118	85	100	8.25	9.0 to 9.75
Philippines 123 2019	75	75	5.5	5.0 to 5.75
Philippines 124	150	150	5.65	5.5 to 6.0

Sources: Caribbean Catastrophe Risk Insurance Facility; Artemis; Treasury.

Note: CCRIF = Caribbean Catastrophe Risk Insurance Facility.

There also appears to be a strong demand for World Bank–intermediated catastrophe swaps, which, aside from any contextual pricing advantage, are preferred by some countries (table E.4) because they offer scope for more flexible annual program adjustments than cat bonds.

Reinsurer feedback points to two possible concerns. The first is that World Bank cat bonds be used appropriately and do not crowd out reinsurers in nonpeak lower-risk layers (see annex E.5) where they should be more competitive. The second involves tensions arising with reinsurance brokers placing risk for some donor-supported risk pools. The core issue here is that too many reinsurers are being included in some relatively small programs,[27] and placement sizes are well below economical levels.

Table E.3. World Bank Catastrophe Swap Deals

Geography and Period Covered	Countries *(no.)*	Aggregate Cover Provided *($, millions)*	Reinsurance Purchased *($, millions)*	World Bank intermedia-tion *($, millions)*	Average Rate on Line *(%)*
CCRIF					
3/07–5/08	16	455	110	20	7.18
To 5/09	16	560	132.5	30	7.17
To 5/10	16	600	132.5	30	6.64
To 5/11	16	620	108.975	18.25	9.36
To 5/12	16	625	125	30	8.00
To 5/13	16	625	120	30	8.67
To 5/14	16	620	107.5	30	8.65
Malawi Maize					

[27] The Africa Risk Pool has placed 32 contracts with member states since 2014 for a total premium of $73 million.

Geography and Period Covered	Countries *(no.)*	Aggregate Cover Provided *($, millions)*	Reinsurance Purchased *($, millions)*	World Bank intermedia-tion *($, millions)*	Average Rate on Line *(%)*
2009	1				
2009 10	1				
2010 11	1				
PCRAFI					
2013 Pilot	5	45	45	45	3.33
To 10/2014	5	67	67	67	3.28
To 10/2015	5	43	43	43	3.02
To 10/2016	5	43	43	43	5.35
To 10/2017	5	38	38	38	6.05
Uruguay Energy Index	1	450			
PEF 7/17	N/A	425			
Philippines					
12/17	1	206		206	
12/18	1	390			

Sources: Vyas et al. 2019; CCRIF.

Note: CCRIF = Caribbean Catastrophe Risk Insurance Facility; PEF = Pandemic Emergency Financing Facility.

Secondary Market Dynamics

A more liquid market for IBRD cat bonds could improve both pricing and market depth and possibly influence the broader market to be more transparent. Cat bonds issued under relevant Securities and Exchange Commission rules in the United States to qualified institutions trade over the counter through broker-dealers, but market liquidity is limited: only 7 percent of cat bonds outstanding were traded in 2018 (Vloedman 2019). A number of these securities qualify for

Category II treatment under IFRS 13, and fair values are partly guided by transaction data issued by information services such as TRACE and broker-dealers.

Pricing can become very volatile where there is the possibility that a payment will be triggered; for example when a tropical cyclone has formed, or a pandemic may cross a border and more frequently updated modeled net asset values are desirable under these circumstances (Guidon and Soulsby 2008). The American Academy of Actuaries is producing a White Paper on cat bond secondary market valuation and expects its members to become more active on the investor side. Treasury has the capacity to support such efforts.[28]

Conclusions and Lessons

- There is a clear market demand for World Bank disaster risk products, as evidenced by consistent oversubscription for IBRD-intermediated cat bonds at spreads that are often less than originally forecast and at or below prevailing market levels.
- The extent of long-term partner country demand has yet to be crystallized and for this reason the World Bank Group's risk transfer program will need some time to establish itself. In the interim it should be treated as a worthwhile initiative that deserves support. Nonetheless, careful thought needs to be given as to which product designs, and which specific triggers the World Bank is prepared to offer. Those triggers based on objective and readily available metrics have tended to perform relatively well (subject to model development and appropriate coverage specification) while the

[28] The fair value is net asset value, which is theoretically the collateral balance plus outstanding earned premium at the valuation date less the price a rational risk taker would charge to assume the remaining risk.

application of "soft" triggers, which are based on human judgment or which may be hard to verify still has to be proved.

- Treasury could support the development of the cat bond market by working with modelers, actuaries, and broker-dealers to improve market transparency and liquidity. Regardless of IBRD's long-term role, capital markets are likely to become a more important component of the disaster risk transfer space as new peak risks emerge and severe weather-related risk frequencies increase. To the extent that IBRD balance sheet can support the development of these markets there is likely to be a welfare benefit.

- If the World Bank is to participate as an intermediary in catastrophe excess of loss reinsurance schedules, it should encourage reinsurance brokers to seek terms that are competitive, but that will encourage ongoing interest from the global reinsurance sector.

- Treasury should ensure to the extent possible that cat bonds do not crowd out reinsurance solutions for more frequent nonpeak risks in partner countries.

What Are the External and Internal Drivers of Results?

What are the Internal (Structure, Selectivity, New Products and Platforms) and External Opportunities?

There are three main vectors along which the Bank Group could expand its presence in the ILS space. These are i) becoming more active in the markets for instruments other than intermediated cat bonds and swaps and derivatives, ii) expanding the range of risks that are covered, and iii) the development of intermediation vehicles through IFC.

Other Insurance-Linked Securities Instruments

Cat bonds are not the largest component of the ILS market, though they did hold this status until the global financial crisis. Since then, collateralized reinsurance

has grown rapidly and now occupies approximately 60 percent of the ILS market. Other related products such as sidecars and industry loss warranties have relatively minor market shares.

Fronted collateralized reinsurance is basically a special purpose reinsurer backed by an investment fund offering full collateral backing for the reinsurer's obligations, thus reducing the role of (and possible necessity for) independent claims paying ability ratings.[29] In other words, a fund (rather than bonds) backs the risk. The attractions of this model are that it is typically easier to arrange than cat bonds, which have a comparatively complex documentation and issuance process, and that a wider range of risks can be accessed outside peak risk regions, offering greater diversification; however, collateralized reinsurance is issued on a single year basis, and in periods of heavy back-to-back loss years, such as 2017 and 2018, collateralized reinsurance instruments tend to be very capital intensive if renewals are to be offered. The reason is that capital from earlier years is "trapped" during the period when earlier claims are assessed and settled. Emerging thinking is that specialized investors should hold both cat bonds, which offer some liquidity, and collateralized risk transfer exposures. Like cat bonds, collateralized insurance contracts have the disadvantage that they cannot offer automatic reinstatement after a major claim occurs.

Other Risks

The ILS market is expanding rapidly into risks that are on the fringe of insurability (that is, with endogenous as opposed to purely exogenous characteristics), but which have developmental implications. These include collateralized reinsurance of mortgage lenders insurers; approximately 20 such deals have been done since 2015. Other new risks being transferred to capital

[29] Technically collateralized insurance in its original form is not fronted. Collateral is held in a reinsurer-established trust fund and the cedant has a legal contract with the trustee and the reinsurer. This structure is largely found in the US market for historical regulatory reasons.

markets include longevity, terrorism, cyber-attack, and medical benefits claims levels.

IFC Fund

One possible innovation would involve the establishment of a specialized fund by IFC to provide backup collateralization of a special purpose reinsurer. This special purpose vehicle could assume private sector catastrophe risk directly insured by domestic underwriters, including, for example for small and medium enterprises (World Bank 2012).

Conclusions

- The World Bank should actively monitor market developments and test new product ideas with partner countries. This could involve an annual conference, possibly associated with the Annual Meetings or Spring Meetings that would also enhance the demonstration effect through presentations by Treasury and partner countries.
- The World Bank should research those risks, such as cyber-attack, that are likely to have developmental impacts on partner countries and seek to provide suitable risk hedging facilities.

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Annex E.1. Relevant Tables

Table AE1.1. World Bank Treasury Deal Summary (as of June 2018)

Country		World Bank Role *(instrument)*	Amount to Date *($, millions)*
Caribbean Catastrophe Risk Insurance Facility (CCRIF)	Natural Catastrophe – earthquake and hurricane (annually, 2007 to 2013, 2014 for three years) Risk Pool for Caribbean Island Countries	Intermediation (swap/bond)	203.5
Malawi	Weather and Commodity Hybrid Derivative – drought and maize (annually, 2008 to 2011)	Intermediation (swap)	19
Mexico	Natural Catastrophe – earthquake and hurricane (2009 and 2012)	Adviser/Arranger (bond)	605
Pacific Catastrophe Risk Financing Initiative (PCRFI)	Natural Catastrophe – earthquake, tropical cyclone and tsunami (annually, 2012 to 2016) Risk Pool for Pacific Island Countries	Intermediation (swap)	232.5
Uruguay	Weather and Commodity Hybrid Derivative – drought and oil price (2013)	Intermediation (swap)	450
Mexico	Natural Catastrophe – earthquake and hurricane (2017)	Intermediation (bond)	360
Global	Pandemic (2017) Global Risk Pool targeted to IDA countries	Intermediation (bond/swap)	425

Country		World Bank Role *(instrument)*	Amount to Date *($, millions)*
Philippines	Natural Catastrophe – earthquake and hurricane (2017) Risk Pool for national and 25 provinces	Intermediation (swap)	206
Pacific Alliance—Chile, Colombia, Mexico and Peru	Natural Catastrophe – earthquake (2018) Joint Issuance of Cat Bond notes for four countries	Intermediation (bond)	1,360
		Total	3,861

Source: Independent Evaluation Group.

Table AE1.2. Claims Paid Where a World Bank Instrument Was Involved

Event	Amount *($, millions)*	Date	Time to Payment	Usage	Comment
Dominica earthquake	0.5	11/2007			
St Lucia earthquake	0.4	11/2007			
Turks and Caicos	6.3	8/2008		Temporary feeding stations for displaced people.	
Haiti earthquake	7.8	1/2010	2 weeks	Civil servant salaries, provision of civilian security.	
Anguilla	4.3	8/2010		Damage repair, upgrading early warning systems, setting up recovery fund.	

Event	Amount *($, millions)*	Date	Time to Payment	Usage	Comment
Barbados hurricane	8.6	10/2010	< 2 weeks	Emergency repair of key infrastructure.	50 percent preliminary amount paid within days
St Lucia hurricane	3.2	10/2010	< 2 weeks	Restoration of basic services.	50 percent preliminary amount paid within days
St Vincent hurricane	1.1	10/ 2010	< 2 weeks	Acquiring restoration materials.	50 percent preliminary amount paid within days
Anguilla rainfall	0.5	10/2014	<2 weeks	Repair work.	
Anguilla rainfall	0.6	11/2014	<2 weeks		
St Kitts rainfall	1.1	11/2014	<2 weeks		
Barbados rainfall	1.3	11/2014	<2 weeks		
Dominica cyclone	2.4	8/2015	<2 weeks		
Tonga cyclone	1.3	1/2014	< 10 days	Transport of emergency goods and personnel.	
Vanuatu cyclone	.9	3/2015	< 10 days	Transport of emergency goods and personnel.	
Nicaragua earthquake	0.5	6/2016			

Event	Amount *($, millions)*	Date	Time to Payment	Usage	Comment
Belize rainfall	0.3	8/2016			
St Vincent rainfall	0.3	9/2016			
Barbados cyclone, rainfall	1.8	9/2016		Road repair, recovery of low-lying areas.	
St Lucia cyclone	3.8	9/2016		Agricultural resilience.	
Haiti cyclone, rainfall	23.4	9/2016		Food, shelter, medications, roof replacement, roads.	Funds 50 percent applied by November 2016
Nicaragua cyclone	1.1	11/2016			
Peru earthquake	60	5/2019	24 days		Contractual deadline was 25 days

Source: Independent Evaluation Group.

Table AE.1.3. Relevant Sustainable Development Goal Objectives

Sustainable Development Goal	Relevant Subobjective
1. Poverty	1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social, and environmental shocks and disasters.
3. Health	3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria, and neglected tropical diseases and combat hepatitis, waterborne diseases and other communicable diseases.

Sustainable Development Goal	Relevant Subobjective
8. Work and economic growth	8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity, and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.
11. Cities and communities	11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.

Source: Independent Evaluation Group.

Annex E.2. Mobilization Attribution of "Unfunded" Risk Transfer

The Multilateral Development Bank/Development Finance Institution (MDB/DFI) Reference Guide to private investment mobilization does not reference insurance-linked securities or traditional insurance, except in the context of credit risk transfer when MDB loans or investments are involved, where it is referred to as unfunded risk transfer. In this latter situation, credit risk transfer may be included as mobilization if directly related to an MDB financing and the MDB offsets the amount of risk transferred against its commitments.

The "unfunded" concept appears to come from a taxonomy developed by Culp (2006) on the basis that under most insurance arrangements there is neither separately identified collateral nor asset transfer. The "unfunded" categorization is technically and empirically questionable in the context of private capital mobilization for two reasons:

- Though monoline insurers did suffer during and after the 2008 financial crisis the insurance sector, including global reinsurers underwriting catastrophe risk, performed much better than the rest of the financial sector (including numerous collateralized lending arrangements).

- The global reinsurers of interest in this review are required to maintain demanding levels of capital under European Solvency II, the Swiss equivalent of Solvency II and the US Risk-Based Capital regime. However, unlike the situation with individual transactions, insurers and reinsurers can take advantage of the laws of large numbers and the central limit theorems and do not need to cover 100 percent of each risk. For this reason, the Reference Guide is too generous in its attribution of capital mobilized in the case of credit insurance related to MDB lending and investment activities.

For purposes of this document a capital mobilization of 20 percent of the sum at risk has been assumed for cat swaps and catastrophe reinsurance, based on the following:

For CCRIF the pool-expected maximum loss, assuming a 200-year event and 16 countries, is approximately 25 percent of the aggregate expected maximum loss. Global reinsurers tend to be much more diversified, but the diversification effect reduces rapidly after the first 20 or so risks.

A heuristic that the marginal economic capital to underwrite catastrophe risk is approximately five times the pure premium (Zanzani 2002).

A comparison of statutory and internal model cat risk under Solvency II by Aon Benfield demonstrating an internal model solvency capital requirement of approximately 20 percent of probable maximum loss for combined wind plus surge and flooding under an optimal placement (Aon Benfield 2011, 25).

The relevant US earthquake and windstorm risk-based capital requirements assume 100 percent of a 100-year-event loss (a relatively modest severity assumption), but also allow for risk diversification under a square root formula.

Annex E.3. Optimal Use of Uncollateralized Reinsurance and Collateralized Risk Transfer

Cat bonds are investment instruments employed by sophisticated institutional investors and their value is found in an ability to improve the risk return characteristics of managed funds. This benefit because markets, to date, have required cat bonds spreads slightly more than those available from similarly rated corporate paper, while these instruments normally bring no correlation with other investment choices and virtually no counterparty risk. Provided that cat bonds do not form a significant proportion of assets under management or that there is adequate diversification of exposures, cat bonds will not threaten a fund as a whole, and spreads can be set solely according to their contribution to an efficient frontier.

Reinsurance is insurance of primary insurers and rests on capital that is normally substantially less than the sums at risk, thanks to the law of large numbers and the central limit theorem. As the event return period increases (that is, as the probability of an event becomes lower) and the coefficient of variation of loss rises, the reinsurer needs to set aside more marginal capital relative to a unit of coverage, and at some point will no longer be able to underwrite the risk at an acceptable price: particularly if a peak risk is involved and it already has a significant accumulation. Reinsurer cost of capital is to some extent market driven, but a board's risk appetite is also relevant and generally is significantly higher than the market's required spread on cat bonds, with some exceptions.

The conceptual trade-off then becomes a lower return on a larger sum (the cat bond collateral) versus a higher return on reinsurer marginal capital employed, where that commitment increases as the return period increases or if a peak risk accumulation is involved.[1] This would indicate that reinsurance should be more

[1] The major global peak risks for private sector (re)insurers are US windstorm and earthquake.

competitive with capital market instruments at lower return periods and in nonpeak regions, but become uncompetitive at higher return periods and if accumulations in peak risk areas already exist. Little research has been done to date on determining the optimal blending of reinsurance and collateralized risk transfer. Hardle and Cabrera (2010) demonstrated that such a reinsurance cat bond blend was optimal for Mexico earthquake risk in terms of cost and counterparty risk. More recently Trottier and Lai (2017) tested a range of risk transfer possibilities[2] with a theoretical model allowing for counterparty risk. This study supported the earlier Mexican empirical findings.

Figure AE3.1 is a stylized illustration of the underlying cost of capital dynamics using reasonably realistic values. In practice numerous other factors will be brought to bear in choosing between reinsurance and capital market risk transfer instruments. These will include relative market pricing movements, the availability of relevant skills and organizational capacities, information asymmetries and moral hazard, governmental budgeting policies, and where political support lies. However, all else being equal, the World Bank Treasury should encourage partner countries to optimize the relative employment of a pure reinsurance approach and collateralized risk transfer.

[2] Reinsurance only, cat bond only, combinations with reinsurance at low return periods levels, cat bonds at low return periods.

Table AE3.1. Reinsurance versus Collateralized Risk Transfer

	Peak Risk windstorm	Non peak risk windstorm
Reinsurers' PML	$200 bn	$3bn
Capital/unit of risk// required	50%/ $100 bn	3%/ $30mn
Required ROE	10%	10%
Reinsurers' cost of capital per unit of risk	**5%**	**0.3%**
Investors' capital/ unit of risk	100%	100%
Required return	3%	3%
Investors' cost of capital per unit of risk	**3%**	**3%**

Based an idea originated by Alphacat senior management.

Source: Based on an idea originated by Alphacat senior management.

Note: PML = probable maximum loss; ROE = return on equity.

Appendix F. Emerging Lessons from IFC's Green Bonds and Bond Mobilization Approach

The green bond market began with the issuance of a climate awareness bond by the European Investment Bank in 2007. During the first five years of the market, all but 10 green bonds issued were by development banks. The International Finance Corporation (IFC) issued its first green bond to private investors in 2010 in the amount of $200 million. Since then, IFC has issued on average $1.5 billion green bonds per year with $7.8 billion in issuances from 2007–18, according to the Climate Bond Initiative. Among development banks, IFC is ranked fourth in total issuance since 2007, just behind the European Investment Bank ($28.7 billion), KfW Development Bank ($16.3 billion), and the World Bank ($13.3 billion). At the same time IFC is ranked seventh among all green bond issuers.

In addition to being an active issuer of green bonds, IFC also played a prominent role in promoting them. IFC is part of the Global Green Bond Partnership consortium, was a founding member of the Green Bond Principles, and has served on the Executive Committee since FY14. These consortiums publish documents for the public to green bonds and the opportunities they provide (IFC 2019). IFC also engaged with banking regulator to help make a green financial sector more sustainable. All these activities have resulted in reductions of 18.4 million metric tons of carbon dioxide emissions between FY14 and FY19 from IFC commitments (IFC 2019).

Table F.1. Top 10 Green Bond Issuers, 2007–18

Issuer	Year of First Issue	Total Issuance ($, millions)
Fannie Mae	2016	51,171
EIB	2007	28,702
Republic of France	2017	16,743
KfW	2014	16,336
World Bank (IBRD)	2008	13,301
Iberdrola	2014	9,952
IFC	2010	7,826
Engie	2014	7,782
SPD Bank	2016	7,589
TenneT Holdings	2015	7,007

Source: Climate Bond Initiative.

Note: EIB – European Investment Bank; IBRD = International Bank for Reconstruction and Development; IFC = International Finance Corporation; SPD Bank = Shanghai Pudong Development Bank.

IFC also sought to increase private sector participation in addressing climate change by mobilizing institutional investors to allocate capital toward climate investments. To this end, IFC and Amundi, established the Amundi Planet Emerging Green One Fund. As of 2018, Amundi had assets of €1.4 billion under management, making it one of the largest green bond funds in the world (Amundi 2018). Amundi clients have been successful not only in investing capital in climate projects, but also in reducing greenhouse gas emissions. For example, Axis Bank allocated $500.8 million as of March 2018, mostly in the solar and wind sectors (Axis Bank 2018). These investments have resulted in the reduction of 1 million tons of carbon dioxide emissions. Similarly, the State Bank of India was able to raise $650 million via green bonds in 2018. Overall, the work of IFC has resulted in the mobilization of $18.9 billion since 2005 (IFC 2019).

Table F.2. Top 10 Green Bond Issuers: Development Banks, 2007–18

Development Bank	Year of First Issue	Total Issuance ($, millions)
EIB	2007	28,702
KfW	2014	16,336
World Bank (IBRD)	2008	13,301
IFC	2010	7,826
SPD Bank	2016	7,589
Asian Development Bank	2010	5,755
Nordic Investment Bank	2010	4,120
China Development Bank	2017	3,914
African Development Bank	2010	2,498
Development Bank of Japan	2014	2,156

Source: Climate Bond Initiative.

Note: EIB – European Investment Bank; IBRD = International Bank for Reconstruction and Development; IFC = International Finance Corporation; SPD Bank = Shanghai Pudong Development Bank.

Given the role played by IFC as both an early adopter of the use of green bonds and one of the most active issuers, the objective of this note is to present the initial results of the attempts to quantify IFC's impact on the green bond market. More precisely, this appendix attempts to answer the following question: Is there a relationship between IFC participation in the green bond market and market activity (that is, the size of green bond issuances)?

The empirical strategy for this appendix follows the approach of the literature on the determinants of bond premiums. In particular, the appendix will be following the specifications in Kapraun and Scheins (2019); they looked at the characteristics of bonds that traded with a green bond premium in primary and secondary markets. In both cases, they controlled for bond characteristics such as date of issuance, bond rating, and maturity date. Their main explanatory variable was a dummy indicating whether a bond was a green bond and their

data include both conventional and green bonds. For the purposes of this appendix, the empirical approach would modify the independent variable of interest to whether IFC also issued green bonds in the same market as the other green bonds, while the dependent variable will be issue size, given the mobilization aspirations of IFC. This appendix is an exploratory attempt at looking at IFC's impact on green bond markets; caveats about inferring causality are discussed after the presentation of results.

The following equation will be estimated using ordinary least squares:[1]

$$ln(amount_i) = \alpha + \beta_1 with\_IFC_i + \boldsymbol{\theta X_i} + \varepsilon_i \quad (1)$$

where $amount_i$ is the size of the issuance, $with\_IFC_i$ is a dummy variable with a value of 1 if the green bond was issued in the same market where IFC has also issued a green bond and zero otherwise. The markets of issuance were adjusted by the currency of the bond. For example, the Bloomberg sample shows that IFC issued green bonds in domestic (6), Euro (18), and global (25) markets. The currencies of issuance for green bonds issued in domestic markets were New Zealand dollars (1), US dollars (4), and South African rand (1). After adjustment IFC's green bonds are now distributed as follows: New Zealand (1), United States (4), South Africa (1), Euro (18), and global (25); $with\_IFC_i$ will have a value of 1 for green bonds issued in these markets. The vector $\mathbf{X_i}$ is a vector of control variables that include the following: year of issuance, number of years till maturity at issuance, yield to maturity *(mid)*, and Moody's ratings.

Outliers were excluded from the data using Cook's distance critical values. In addition, the same equation was also estimated using the robust regression approach to check for robustness of the outlier methodology using Cook's

[1] An attempt to construct a panel based on issuers of green bonds and issue year to analyze the trends in green bond issuance was made. However, aggregating the data this way resulted in loss of observations. Moreover, most of the issuers have four years or less of observations and would not provide enough variation to analyze long-term trends. A panel based on country of issuance using the currency of issuance faced similar challenges.

distance. The robust regression approach drops observations with Cook's distance > 1 and generates a weight for each observation. The iteration stops when the maximum change between weights from one iteration to the next is below the stated tolerance level.

The primary source of data for the analysis is Bloomberg. The data include only active bonds (2010–18) that were tagged as "green" and were issued in emerging and advanced economies. Overall, with assistance from the World Bank-International Monetary Fund library, we were able to collect information on 721 green bonds. Twenty-seven countries issued green bonds, with most of the issuances concentrated in the United States (174 issuances), supranational entities (155), and France (134). It should also be noted that 54 percent of green bonds in the data set were issued in international markets (Euro, global, and Samurai); the rest were issued in domestic markets (41 percent) and private placements (5 percent). The information in the data set and used in the analysis comprised: (i) amount issued, (ii) original number of years to maturity, (iii) mid-yield to maturity, and (iv) Moody's rating.[2] The rating data were transformed into a categorical variable with 1 as the highest rating and 17 the lowest.[3]

Table F.3 presents the descriptive statistics regarding IFC's green bond issuances. IFC bonds on average tend to be smaller than those of other supranational entities (such as the World Bank) or private issuers. In addition, compared with private sector bonds, IFC bonds were shorter, but had significantly better ratings: all IFC's bonds were rated Aaa by Moody's. Perhaps this pattern suggests the pioneering role in developing the green bond market is well suited to supranational entities, specifically development banks, because their bond issuances tend to have better ratings.

[2] Moody's was chosen over the other available ratings variable because it had the highest number of observations in the data set.

[3] Bonds that have missing Moody's rating or received a rating of "NR" or "WR" were coded as missing.

Table F.3. Descriptive Statistics

Issuance Type	Observations	Mean	SD	Min	Max
All observations					
Amount Issued *($, millions)*	720	237.65	706.62	0.01	15,952.03
Original Maturity *(no. years)*	720	8.74	5.32	1.00	30.50
Yield to maturity *(mid)*	615	5.49	4.19	−0.51	37.83
Moody's rating	282	4.79	4.30	1.00	17.00
Observations *(no.)*	721				
IFC Issuance					
Amount Issued *($, millions)*	49	90.53	236.27	0.83	1,200.00
Original Maturity *(no. years)*	49	7.43	4.78	1.50	30.00
Yield to maturity *(mid)*	47	4.84	4.15	0.32	24.67
Moody's rating	41	1.00	0.00	1.00	1.00
Observations *(no.)*	49				
SNAT Issuance (excluding IFC)					
Amount Issued *($, millions)*	106	116.34	198.01	0.99	800.00
Original Maturity *(no. years)*	106	7.07	3.94	2.00	30.00
Yield to maturity *(mid)*	93	4.75	3.45	-0.25	20.44
Moody's rating	53	1.15	0.69	1.00	5.00
Observations *(no.)*	106				
Non-SNAT Issuance					
Amount Issued *($, millions)*	565	273.17	786.49	0.01	15,952.03
Original Maturity *(no. years)*	565	9.17	5.52	1.00	30.50
Yield to maturity *(mid)*	475	5.69	4.31	−0.51	37.83
Moody's rating	188	6.65	4.15	1.00	17.00
Observations *(no.)*	566				

Source: Independent Evaluation Group.

Note: IFC = International Finance Corporation; SD = standard deviation; SNAT = supranational entity.

From equation (1), the coefficient of interest is β_1. This coefficient captures the difference between bonds issued in the same markets where IFC had issued as well, that is, between markets with IFC participation and markets without. Assuming that the estimated coefficients represent causal relationships, IFC appears to have significant "mobilization" effects on green bond markets. Column (2) in table F.5 shows that markets with IFC participation have on average 175 percent larger bond issuances than markets without. Table F.6 confirms this large result using the robust regression approach.

The sign of the coefficient reversed in column (3) for both tables. This appears to be caused by the large number of observations dropped when Moody's rating is added in the regression. Running column (2) with bonds that have rating observations only, and without including Moody's rating itself, also returned a negative coefficient. This indicates that the reversal of signs was not caused by Moody's rating and its correlation with the other regressors and $ln(amount_i)$. However, this result does suggest that there might be an omitted variable in the regression, or that Moody's rating may be a bad control.

There are, however, some challenges in interpreting the results as causal from our simple estimation. First, the definition of "green" in the Bloomberg database may not be consistent across the different bonds. Another study identified green bonds in Bloomberg using Climate Bond Initiative information to keep the definition consistent (see Kapraun and Scheins 2019, 9). Second, there are identification issues regarding the interpretation of β_1. IFC and the other supranational entities issued majority of their green bonds in international markets—IFC issued 88 percent of its green bonds while other supranational entities issued 85 percent of their green bonds in either Euro or global markets. As a result, we cannot separate IFC effect on green bond markets from the effects of the other supranational entities' green bonds, especially for the large and active issuers like the European Investment Bank and the World Bank. Finally, another identification issue is reverse causality: were bonds issued in the international markets bigger because IFC and the other supranational entities were active in these markets, or did IFC issue in these markets because these

bonds would have more possible purchasers there than they would in domestic markets?

Table F.4. Bonds Issued in Markets With versus Without IFC Participation, Ordinary Least Squares

Dependent Variable: Log of Issued Amount	(1)	(2)	(3)
Dummy for market with IFC participation	1.256***	1.012***	−0.815***
	(0.155)	(0.219)	(0.290)
Issue year		0.0482	0.0134
		(0.0604)	(0.0797)
Original Maturity *(no. years)*		0.0420***	0.0965***
		(0.0160)	(0.0153)
Yield to Maturity *(mid)*		−0.318***	−0.424***
		(0.0265)	(0.0472)
Moody's rating			0.273***
			(0.0287)
Constant	2.313***	−93.19	−21.77
	(0.121)	(122.0)	(160.7)
Observations	691	584	255
Adjusted *R*-squared	0.048	0.243	0.318

Source: Independent Evaluation Group.

Note: Robust standard errors appear in parenthesis. IFC = International Finance Corporation.

a. Moody's rating ranges from 1 to 17, with 1 having the highest rating.

*$p < 0.10$ **$p < 0.05$ ***$p < 0.01$.

Table F.5. Bonds Issued in Markets With versus Without IFC Participation, Robust Regression Approach

Dependent Variable: Log of Issued Amount	(1)	(2)	(3)
Dummy for market with IFC participation	0.750***	1.112***	−0.256
	(0.232)	(0.238)	(0.446)
Issue year		0.110*	0.189***
		(0.0662)	(0.0702)
Original Maturity *(no. years)*		0.0482**	0.0466**
		(0.0192)	(0.0208)
Yield to Maturity *(mid)*		−0.224***	−0.282***
		(0.0229)	(0.0435)
Moody's Rating			0.221***
			(0.0320)
Constant	2.791***	−218.2	−374.9***
	(0.206)	(133.6)	(141.5)
Observations	720	614	264
Adjusted *R*-squared	0.013	0.173	0.258

Source: Independent Evaluation Group.

Note: Standard errors in parenthesis. Moody's rating ranges from 1 to 17, with 1 having the highest rating.

*$p < 0.10$ **$p < 0.05$ ***$p < 0.01$.

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Annex F.1. Additional Regression Results

This section presents the empirical results showing differences between IFC bonds and other issuers as suggested by the descriptive statistics (table F.3). Given the concentration of issuances by IFC and other supranational entities in international markets, a dummy for domestic market issuance is included in the regression. Table FA1.1 shows regression results using ordinary least squares and Cook's distance critical levels to exclude outliers. Table FA1.2 shows regression results using the robust regression approach as a robustness check. The results confirm that IFC does indeed tend to issue smaller bonds on average compared with the private sector issuers.

Table F.A1.1. IFC Green Bond Issuance Ordinary Least Squares Regressions

Dependent Variable: Log of Issued Amount	(1)	(2)	(3)	(4)	(5)
IFC dummy	−1.515***	−1.707***	−1.885***	−2.981***	−3.507***
	(0.199)	(0.218)	(0.297)	(0.412)	(0.381)
SNAT dummy (excluding IFC)		−0.387*	−0.768***	−0.550	−1.087***
		(0.199)	(0.217)	(0.363)	(0.303)
Issue year			−0.105*	−0.0200	0.138**
			(0.0554)	(0.0747)	(0.0622)
Original maturity *(no. years)*			0.0117	0.0601***	0.0257**
			(0.0171)	(0.0166)	(0.0120)
Yield to maturity *(mid)*			−0.326***	−0.235***	−0.105**
			(0.0280)	(0.0521)	(0.0424)
Moody's rating[a]				0.142***	0.0601**
				(0.0356)	(0.0288)

Dependent Variable: Log of Issued Amount	(1)	(2)	(3)	(4)	(5)
Domestic market dummy					−3.710***
					(0.473)
Constant	3.519***	3.579***	217.1*	45.55	−271.3**
	(0.0872)	(0.0971)	(111.8)	(150.5)	(125.4)
Observations	688	679	588	249	235
Adjusted *R*-squared	0.013	0.023	0.235	0.467	0.682

Source: Independent Evaluation Group.

Note: Robust standard errors appear in parenthesis. IFC = International Finance Corporation; SNAT = supranational entity; OLS = ordinary least squares.

a. Moody's rating ranges from 1 to 17, with 1 having the highest rating.

*$p < 0.10$ **$p < 0.05$ ***$p < 0.01$.

Table F.A1.2. IFC Green Bond Issuance Robust Regressions Approach

Dependent Variable: Log of Issued Amount	(1)	(2)	(3)	(4)	(5)
IFC dummy	−1.155***	−1.204***	−1.486***	−4.816***	−4.805***
	(0.371)	(0.371)	(0.360)	(0.232)	(0.230)
SNAT dummy (excluding IFC)		−0.317	−0.594**	−1.142***	−1.111***
		(0.264)	(0.278)	(0.227)	(0.226)
Issue year			−0.0298	0.156***	0.156***
			(0.0649)	(0.0419)	(0.0419)
Original Maturity *(no. years)*			0.0263	0.0166	0.0219*
			(0.0194)	(0.0121)	(0.0121)
Yield to Maturity *(mid)*			−0.242***	−0.0717**	−0.0616**
			(0.0230)	(0.0277)	(0.0276)
Moody's Rating				0.0309	0.0249
				(0.0229)	(0.0230)

Dependent Variable: Log of Issued Amount	(1)	(2)	(3)	(4)	(5)
Domestic market dummy					−5.711***
					(0.217)
Constant	3.455***	3.509***	64.72	−308.9***	−307.8***
	(0.0968)	(0.105)	(130.9)	(84.47)	(84.56)
Observations	720	720	614	264	264
Adjusted *R*-squared	0.012	0.013	0.169	0.744	0.852

Source: Independent Evaluation Group.

Note: Robust standard errors appear in parenthesis. IFC = International Finance Corporation; SNAT = supranational entity; OLS = ordinary least squares.

a. Moody's rating ranges from 1 to 17, with 1 having the highest rating.

*$p < 0.10$ **$p < 0.05$ ***$p < 0.01$.

Annex F.2. Additional Descriptive Tables

Table FA2.1 Country of Issuance

Country	Issuance (no.)	Amount of Issuance ($, millions)
Argentina	4	910
Australia	1	750
Austria	3	1,600
Brazil	4	3,125
Cayman Islands	1	700
Chile	2	1,000
China	3	1,477
Colombia	1	66
Costa Rica	2	1,000
Estonia	1	56
France	134	51,748

Country	Issuance (no.)	Amount of Issuance ($, millions)
Germany	72	36,779
India	17	4,218
Indonesia	4	2,527
Latvia	3	165
Lithuania	3	720
Malaysia	98	979
Mauritius	6	2,950
Mexico	11	13,106
Nigeria	1	30
Peru	2	408
Poland	2	2,007
SNAT	155	16,768
Singapore	10	1,206
South Africa	5	307
United Arab Emir	1	587
United States	174	25,921
Total	720	171,111

Source: Independent Evaluation Group.

Note: One bond did not contain information on the amount of the issuance.

Table FA2.2 Currency of Issuance

Currency	Issuance (no.)	Amount of Issuance (US$, millions)
AUD	16	1,690
BRL	16	247
CAD	1	10
CHF	1	126

Currency	Issuance (no.)	Amount of Issuance (US$, millions)
CNY	1	151
COP	3	241
EUR	135	82,432
GBP	3	2,225
HKD	4	178
IDR	5	37
INR	47	1,378
JPY	6	287
MXN	9	378
MYR	100	1,001
NGN	1	30
NZD	5	147
PEN	1	42
PHP	1	90
PLN	1	28
RUB	3	129
SEK	17	3,147
SGD	1	72
TRY	9	540
USD	326	75,989
ZAR	8	515
Total	720	171,111

Source: Independent Evaluation Group.

Table FA.2.3 Market of Issuance

Market of Issuance	Issuance (no.)	Amount of Issuance (US$, millions)
Domestic	13	648
Domestic MTN	219	6,103
EURO MTN	228	56,289
Euro Non-Dollar	12	2,997
EURO Dollar	32	18,488
EURO Zone	38	31,779
Global	76	25,603
Private Placement	38	21,087
Samurai	2	227
Shogun	1	100
US Domestic	61	7,790
Total	720	171,111

Source: Independent Evaluation Group.

Table FA.2.4 Adjusted Market of Issuance

Market of Issuance	Issuance (no.)	Amount of Issuance (US$, millions)
Australia	5	1,417
Colombia	1	66
Euro	310	109,553
Global	76	25,603
India	8	419
Indonesia	2	27
Japan	2	227
Malaysia	98	979
Mexico	1	106
New Zealand	1	92
Nigeria	1	30
Private Placement	38	21,087
Shogun	1	100
Singapore	1	72
South Africa	6	373
United States	169	10,961
Total	720	171,111

Source: Independent Evaluation Group.

Note: Currency of the bond issue was used to determine the country for domestically issued green bond. All euro issuances were combined into one category.

Appendix G. Effectiveness of World Bank Group Interventions in Public-Private Partnerships

Executive Summary

- Data from the Private Participation in Infrastructure (PPI) database show that multilateral development banks (MDBs) in general have not been active in projects with private sector participation, although interventions have been increasing post-2012.
- Within MDBs, the World Bank Group contributes a significant share of total MDB support.
- Empirical analysis suggests that MDB interventions have positive effects on the number of projects and the amount of investment in infrastructure projects with private sector participation. However, past MDB intervention experiences appear to have only a statistical relationship with the number of projects, indicating that the MDBs' main effect is perhaps through sharing of knowledge in identification and design of infrastructure projects.
- In contrast, Bank Group interventions appear to have a statistical relationship with the amount invested, which may suggest that their main effects are that they alleviate financing constraints. Past Bank Group support did not have any relationship with the number or amount of investments.
- This note is exploratory; for a full causal interpretation of the results further detailed analysis, especially of the empirical specification of the regression equations, is needed.

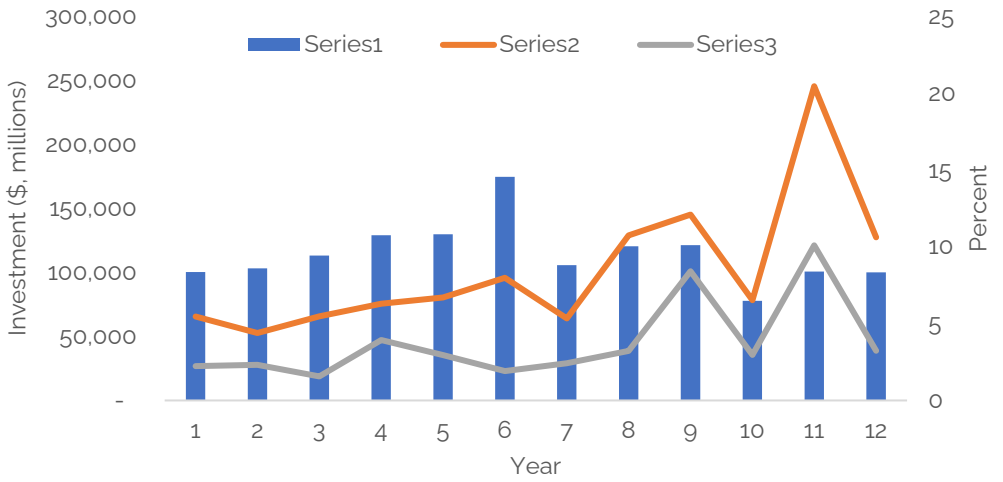
The Bank Group's Public-Private Partnership Interventions

Private sector participation in public infrastructure investments can be traced to two primary motives: (i) profit maximization by private sector firms, and (ii) the public sector's concern for its capacity for the provision of public goods. Several cross-country and country-specific studies have been conducted to investigate the determinants of the private sector's participation in the provision of public goods (see Hyun, Park, and Tian 2018). These included factors such as the level of economic development, macroeconomic stability, financial market frictions, and the general quality of a country's institutions. This short note presents an exploratory econometric analysis of the Bank Group's support for PPI projects (2007–18). Bank Group interventions, such as loans, guarantees, and syndication, and efforts attempt to alleviate the financial constraints faced by both private and public parties in partnership projects. It could also be argued that a significant knowledge transfer and accumulation of experience takes place whenever these investments with Bank Group interventions take place; the analysis therefore attempts to distinguish between these two channels by examining whether there are differences in the impact of Bank Group interventions between the scale (number and size) of investments per country (financial friction channel) and the cumulative impacts (knowledge transfer and experience channel).

The analysis uses the World Bank's PPI database and builds on the analysis of Hammami, Ruhashyankiko, and Yehou (2006) on the determinants of public-private partnership (PPP) investments in infrastructure. The PPI database has information on investments in infrastructure projects in low- and middle-income countries. It is important to note that according to the PPI team most PPIs worldwide occur in advanced economies. In addition, a large proportion of the universe of PPI projects happen in the social infrastructure sector (such as schools and hospitals), which are outside the scope of the database. Therefore, the results of the analysis cannot be generalized outside the context of developing countries or the infrastructure sector.

PPI data from 2007–18 show that investments have remained relatively flat throughout the period except for a spike in 2012 and the drop in 2016 (figure G.1).[1] Despite the flat investment trend, MDB support has been trending upward since 2012: the share of the number of investments with MDB support per year doubled from 5.5 percent in 2007 to 10.6 percent in 2018. Similarly, the share of the number of Bank Group–supported investments to the total number of investments per year increased from 2.2 percent in 2007 to 3.2 percent in 2018. Among MDBs, the Bank Group plays a major role, contributing on average 25 percent of all MDB investments during the period (figure G.2). Overall, however, MDBs were not active participants in PPI; of the 4,400 projects during the period, only 552 were supported by MDBs, and 274 of these were supported by the Bank Group.

Figure G.1. Total Investments (in constant prices), 2007–18

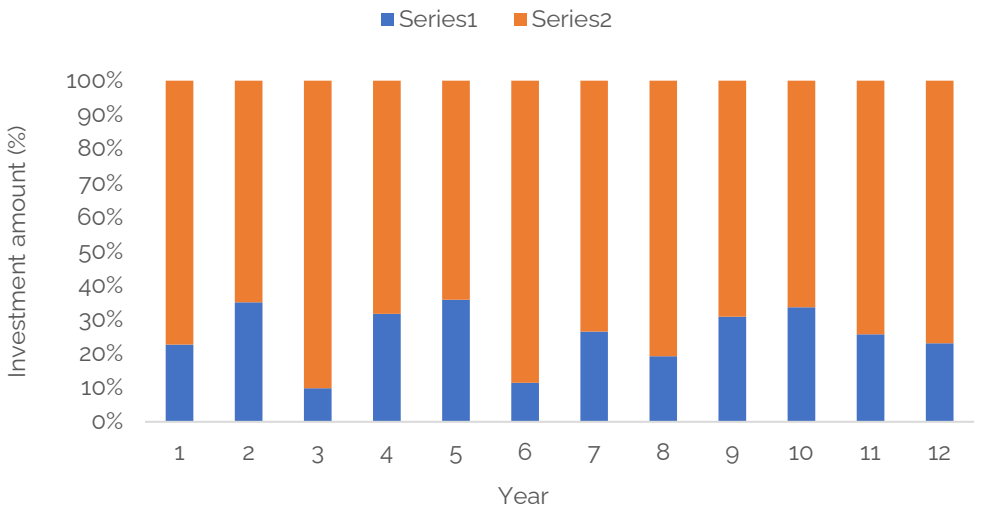


Sources: World Bank Private Participation in Infrastructure database, and staff calculations.

Note: WBG = World Bank Group.

[1] Another possible interpretation is that there was a level shift after 2012. That is, the trend remains flat, but at a lower level post-2012.

Figure G.2. Investment Amount: Bank Group Support Relative to Other Multilateral Development Banks, 2007–18



Sources: World Bank Private Participation in Infrastructure database; and staff calculations.

Note: MDB = multilateral development bank; WBG = World Bank Group.

The empirical approach for the analysis aggregates the investment-level data in the PPI database into country-level observations by counting and adding all investments in a particular year per country and creating a panel database. This method results in a large number of zeroes in both the investment count and investment amount per country per year (711 out of 1,284 observations have zero investments). As a result of the nature of the panel database the statistical method used by this note will be the Poisson fixed-effects method.[2] This is not surprising when applied to the number of investments as an independent

[2] Because we are only interested in the conditional means, problems of overdispersion are not an issue, and other approaches such as negative-binomial models or zero-inflated Poisson regressions are not necessary.

variable.[3] The estimated coefficients of the Poisson fixed-effects method can be interpreted as semi-elasticities. However, this approach cannot be applied for a strictly positive dependent variable such as the amount of investment per year.[4] Therefore, when using the investment amount as a dependent variable, the analysis will be using the Tobit model (Tobin 1958). Tobit maximum likelihood estimators are consistent under the assumptions of homoskedasticity and normally distributed errors.

Below is the regression equation that will be estimated:

$$inv_{i,t} = \alpha + \boldsymbol{\beta MLS}_{i,t} + \boldsymbol{\gamma MLS\_exp}_{i,t} + \boldsymbol{\theta X}_{\boldsymbol{i,t}} + \omega_i + \tau_t + \varepsilon_{i,t} \quad (1)$$

where $inv_{i,t}$ is either the number or size of PPI investment, $MLS_{i,t}$ is a vector of dummy variables to control for MDB support and Bank Group support,[5] and $\boldsymbol{MLS\_exp}_{i,t}$ is a vector of dummy variables for historical MDB intervention and Bank Group intervention.[6] The vector $\boldsymbol{X_i}$ is a vector of lagged control variables that include the following: PPI experience, log of real gross domestic product per capita, inflation, aid per capita, and International Country Risk Guide variables (control of corruption, voice and accountability, regulatory quality, government effectiveness, and political violence and stability). ω_i and τ_t are country and

[3] Poisson Random Effects uses more stringent assumptions and is not often recommended as a starting point for analysis.

[4] Tobit models are also typically applied when dealing with censored dependent variables. An example of censored data would be measuring accuracy of nicotine content on furniture surface. Because of equipment sensitivity, censors cannot detect nicotine levels below a certain threshold and these are recorded as 0 in the database.

[5] Takes a value of 1 if a country received multilateral development bank or World Bank Group intervention in a particular year, 0 otherwise.

[6] Takes a value of 1 on the first year of multilateral development bank or World Bank Group intervention and afterwards, 0 otherwise.

time fixed effects. The coefficients in $\boldsymbol{\beta}$ capture the contemporaneous effect of MDB or Bank Group interventions, while coefficients in $\boldsymbol{\gamma}$ capture the cumulative effect of these interventions. Tables G.1 and G.2 show the results of the regressions with estimates from standard ordinary least squares with fixed effects and random effects also shown for comparison.[7]

Looking first at table G.1, the analysis on the count of investments shows that relying on OLS results can be misleading without consideration of the nature of the dependent variable. Although in some cases the significance and the sign of the coefficients are consistent across models, in others the coefficients actually switched signs (for example, PPP experience in models 3 and 4 versus models 1–2, 5–6). MDBs in general have a strong relationship with the number of investments (model 5). Moreover, MDB intervention in these investments appears to have significant cumulative effects, separately from having previous PPP experience. However, when splitting the MDBs into Bank Group and non-Bank Group, the effects of MDBs appear to be concentrated in non-Bank Group interventions. One issue regarding the regression results that needs to be addressed with further fine-tuning of the model/specification is the negative coefficients on GDP per capita. One possible interpretation is that richer countries (among developing economies) tend to rely less on private sector participation in infrastructure investment. However, this runs counter to the results of Hayammi et al. (2006) and other studies cited by Hyun, Park, and Tian (2018), though Hyun, Park, and Tian (2018) also found a negative relationship between private sector participation and GDP per capita.

[7] The Hausman test and the Breusch-Pagan LM test indicate that the ordinary least squares random effects are the more appropriate estimation approach. However, Wooldridge (2009, 493) states that random effects may not be suitable for policy analysis at the aggregate level when the units of observation are large geographical units. In addition, fixed-effects estimates are more consistent than random effects. Lastly, the Poisson specifications in table G.1 passed the Ramsey RESET test for misspecification at the 0.05 significance level.

In contrast to table G.1, table G.2 shows that both MDBs in general and the Bank Group in particular have the same significant relationship with the amount of PPI investments (models 5 and 6). This suggests that the Bank Group's effect is mainly through the financing of larger investments. Another interesting result from table G.2 is that experience with PPPs or MDBs does not seem to be correlated with investment amounts, which suggests that knowledge and PPP experience in general are more correlated in the design of investment projects than possible financing issues. GDP per capita now has the expected positive sign and is significant in models 5 and 6, while regulatory quality also appears to have a positive relationship with investment amounts.

The international aid variable was not included in table G.2 (models 5 and 6) because the Tobit model would not converge when this variable was included. Running the Poisson fixed effects on the number of investments without the official development assistance variable produces similar results to table G.1. The Bank Group dummy is now significant and positive, while the sign on the coefficient of GDP per capita is now positive. This suggests that there may be some relationship between international aid, GDP per capita, and the Bank Group dummy that needs further investigation.

This exploratory note raises issues for future, more-in-depth research:

- Results from both the Poisson and Tobit estimates do not necessarily show causal relationships. It is highly likely that the models presented above may have endogeneity or omitted variable issues, which can cause the previous estimates to be incorrect.[8] For example, the presence of regional projects or Bank Group interventions in neighboring countries may affect both private sector participation and Bank Group intervention in a particular country. Or, given the Bank Group's mission, higher participation of the private sector may signal that its expertise and services may not be needed in that country, which suggests a negative relationship between PPIs and Bank Group

[8] The omitted variable problem may explain the switching of signs of the explanatory variables.

intervention. These factors are not sufficiently captured in the present formulation of the regressions. One option to address this issue is to implement Poisson estimates using nonlinear instrumental variables methods. One key challenge in this approach, or in any issues regarding endogeneity,[9] is to identify a proper instrumental variable that satisfies the exclusion restrictions.[10] Moreover, because there are more than one Bank Group variable, there is a need for more than one instrumental variable as well. Another option is to use the difference between the fixed-effects and random-effects estimates as a guide for identifying the omitted variable (the omitted factor is correlated with variables that changed signs).

- The Tobit model relies heavily on the assumptions of homoskedasticity and normality of error terms. The Tobit model assumes that the same mechanism affects the probability of non-zero observations and the magnitude of the observation itself. Typically, a more flexible approach would be to use either a two-part model or a selection model. A two-part model assumes that the two mechanisms of nonzero observation and the magnitude of the observation are independent and can be modeled separately. Two-part models, however, cannot be used because the probability of a PPI investment and the amount of the investment are arguably not independent of each other – they are determined simultaneously. Therefore, we cannot estimate these two mechanisms separately. A selection model approach would be more appropriate, but the use of this approach requires the availability of an instrument that satisfies

[9] Running the regressions with lags of the main key independent variable to alleviate, to a degree, the endogeneity issue resulted in the switching of signs in some of the key variables (such as PPP experience compared to table G.1 model 6) or supported the results of the main tables (such as the Bank Group dummy compared to table G.2 model 6). This further reinforces the need for a proper identification strategy to address causality issues in the regression.

[10] The instrumental variable should only affect the control variable of interest and not the dependent variable.

the exclusion restriction of the Heckman maximum likelihood estimator, similar to what was mentioned in the identification issues.

- Including international aid changes the results for both the Bank Group dummy and GDP per capita; these issues should be investigated further.
- The analysis in this note is done on the investment level. It would be interesting to see the MDB and Bank Group effects at the project level. In some instances, one or more other MDBs or the Bank Group provides support after the project has already begun. Therefore, it is important to capture this timing effect when doing the analysis at the project level.

The analysis is restricted to include only the years 2007–18. These severely restricts the variation in the data, especially on PPP experience, not to mention MDB and Bank Group experience. This is in addition to the consequence of using FE approach, which removes a lot of cross-country variations.

Table G.1. Regression Results: Number of Investments

Dependent Variable: Number of Investments	OLS FE		OLS RE		Poisson FE	
	(1)	(2)	(3)	(4)	(5)	(6)
MDB dummy	2.152***	..	2.417***	..	0.445***	..
	(0.568)	..	(0.598)	..	(0.168)	..
MDB experience	0.170	..	−0.565*	..	1.083**	..
	(0.393)	..	(0.320)	..	(0.443)	..
Bank Group dummy	..	2.011*	..	2.360**	..	0.226
	..	(1.044)	..	(1.040)	..	(0.160)
Bank Group experience	..	1.199	..	0.0425	..	0.628
	..	(0.947)	..	(0.540)	..	(0.431)
Other MDB dummy	..	4.606***	..	4.751***	..	0.673***
	..	(1.474)	..	(1.593)	..	(0.125)
PPP experience	0.664	0.390	−0.0442	−0.144	18.29***	18.29***

Dependent Variable: Number of Investments	OLS FE		OLS RE		Poisson FE	
	(1)	(2)	(3)	(4)	(5)	(6)
	(0.473)	(0.472)	(0.491)	(0.491)	(0.542)	(0.538)
Lag GDP per capita	−4.298	−4.555	−0.631**	−0.625**	−0.922	−1.866***
	(3.887)	(3.914)	(0.290)	(0.295)	(0.875)	(0.521)
Lag Inflation	−0.00818	−0.0110	0.0236	0.0194	−0.00132	−0.0107
	(0.0117)	(0.0113)	(0.0195)	(0.0179)	(0.00870)	(0.00808)
Lag Aid per capita	−0.0744	−0.222	−1.032***	−1.105***	0.194	0.106
	(0.330)	(0.290)	(0.376)	(0.403)	(0.119)	(0.0891)
Lag Control of corruption	0.377	−0.0181	0.502	0.328	−0.284	−0.313
	(3.426)	(3.252)	(3.225)	(3.060)	(0.437)	(0.336)
Lag Voice and Accountability	1.368	2.048	0.853	1.342	0.543	0.783***
	(1.425)	(1.425)	(1.353)	(1.319)	(0.357)	(0.291)
Lag Regulatory quality	2.216	1.713	2.235	1.725	1.196	0.895
	(1.527)	(1.361)	(1.420)	(1.172)	(0.846)	(0.767)
Lag Government effectiveness	0.127	0.0491	0.174	0.0115	−0.274	−0.314
	(1.675)	(1.633)	(1.717)	(1.702)	(0.506)	(0.491)
Lag Political violence and stability	−0.412	−0.239	−0.750	−0.571	−0.207	−0.172
	(0.593)	(0.561)	(0.663)	(0.626)	(0.213)	(0.191)
Observations	1,053	1,053	1,053	1,053	1,041	1,041
Overall *R*-squared	0.01	0.02	0.28	0.33	..	..
F-stat *p*-value	0.00	0.00	..	..	..	..
Wald test *p*-value	..	..	0.00	0.00	0.00	0.00

Dependent Variable: Number of Investments	OLS FE		OLS RE		Poisson FE	
	(1)	(2)	(3)	(4)	(5)	(6)
Time FE	Yes	Yes	No	No	Yes	Yes
Region dummies	No	No	Yes	Yes	No	No
Clustered SE	Yes	Yes	Yes	Yes	Yes	Yes

Source: Independent Evaluation Group.

Note: Standard errors appear in parentheses. FE = fixed effects; GDP = gross domestic product; MDB = multilateral development bank; OLS = ordinary least squares; PPP = public-private partnership; RE = random effects.

$^{*}p < 0.10$ $^{**}p < 0.05$ $^{***}p < 0.01$.

Table G.2. Regression Results: Amount of Investments

Dependent Variable: Amount of Investments	OLS FE		OLS RE		Tobit	
	(1)	(2)	(3)	(4)	(5)	(6)
MDB dummy	387.3		709.9***		4.907***	
	(246.0)		(171.2)		(0.348)	
MDB experience	10.50		−351.8***		0.952	
	(309.4)		(129.1)		(0.717)	
Bank Group dummy		391.1		985.1**		3.571***
		(460.7)		(438.4)		(0.429)
Bank Group experience		558.5		−138.0		0.690
		(384.0)		(170.0)		(0.904)
Other MDB dummy		1,059.8**		1,345.4**		4.277***
		(473.7)		(634.4)		(0.361)
PPP experience	240.7	179.0	−93.88	−130.9	16.64	16.61
	(356.7)	(364.2)	(110.6)	(104.5)	(514.6)	(538.4)
Lag GDP per capita	−2480.9	−2551.7	−124.7	−123.5	0.198*	0.220**
	(3,370.6)	(3,427.9)	(79.52)	(76.14)	(0.105)	(0.107)

Dependent Variable: Amount of Investments	OLS FE		OLS RE		Tobit	
	(1)	(2)	(3)	(4)	(5)	(6)
Lag Inflation	−2.941	−3.542	6.253	4.624	0.00188	−0.00785
	(5.064)	(5.163)	(8.299)	(7.828)	(0.0187)	(0.0189)
Lag Aid per capita	177.0	141.5	−422.1**	−445.2**	..	..
	(234.1)	(214.6)	(179.3)	(188.9)	..	..
Lag Control of corruption	582.9	479.7	620.9	644.4	−0.976	−1.189
	(2,233.1)	(2,185.1)	(1,604.4)	(1,501.3)	(0.740)	(0.739)
Lag Voice and Accountability	31.05	187.8	321.7	453.9	−0.0697	−0.0635
	(888.2)	(828.7)	(591.6)	(562.5)	(0.498)	(0.505)
Lag Regulatory quality	1,850.0**	1,736.4*	1,094.3**	853.6*	1.687**	1.561**
	(912.7)	(899.3)	(547.4)	(452.6)	(0.703)	(0.707)
Lag Government effectiveness	311.7	296.5	−68.15	−150.1	0.919	0.884
	(1,144.3)	(1,146.5)	(1,111.2)	(1,133.3)	(0.816)	(0.815)
Lag Political violence and stability	−100.4	−51.14	−250.8	−170.3	−0.851**	−0.689**
	(240.6)	(238.5)	(213.1)	(195.4)	(0.339)	(0.344)
Observations	1,053	1,053	1,053	1,053	1,105	1,105
Overall *R*-squared	0.001	0.003	0.200	0.237	..	..
F-stat *p*-value	0.00	0.00	..	..	..	..
Wald test *p*-value	..	..	0.00	0.00	0.00	0.00
Time FE	Yes	Yes	No	No	No	No
Region dummies	No	No	Yes	Yes	Yes	Yes
Clustered SE	Yes	Yes	Yes	Yes	No	No

Source: Independent Evaluation Group.

Note: Standard errors appear in parentheses. FE = fixed effects; GDP = gross domestic product; MDB = multilateral development bank; OLS = ordinary least squares; PPP = public-private partnership; RE = random effects.

$^{*}p < 0.10$ $^{**}p < 0.05$ $^{***}p < 0.01$.

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Appendix H. IFC Support via the Distressed Assets Recovery Program

This section provides a summary of Independent Evaluation Group evaluations of International Finance Corporation (IFC) support to clients via the Distressed Assets Recovery Program (DARP) and its relevance and effectiveness as an approach to mobilizing private capital in the financial sector.

Increasingly, high levels of nonperforming loans (NPLs) in emerging economies are limiting the ability and appetite of financial institutions to extend new credit. Consequently, across emerging markets, access to financing is significantly reduced, the stability of the financial systems of these economies is threatened, and their economic growth or recovery is severely hindered. In this context, robust markets for distressed assets are essential for recycling these large amounts of nonproductive assets and allowing economies to restore financial stability and enable economic growth.

Distressed assets cover a multitude of sectors, borrower types, and lending products. They also cover a wide range of problem loans ranging from those with recent payment defaults (90 days+) to those for which contractual payments involve arrears measured in yearly multiples. Recent delinquencies offer less upside than do highly aged and commensurately riskier claims. Appropriate organizational, procedural, legal, and technological arrangements for each of these segments of distressed assets can vary widely. For example, at one end of the spectrum, delinquent credit card and consumer loans, handled in bulk, often require either master servicer arrangements or alternatively telephone call centers where each account executive may be responsible for managing scores of accounts.

At the other end of the spectrum, distressed corporate borrowers, ranging from larger small and medium enterprises to major international companies, require teams of highly experienced workout specialists who may deal with no more than a few highly active accounts at a time.

Many stakeholders from both the private and public sectors need to be involved to create sound distressed asset markets. Given the magnitude of the NPL problem and given the need for significant capital and expertise, private sector participation is crucial. IFC's role in supporting recovery of such loans is managed through DARP. Since 2009, DARP has $5 billion, with $1.4 billion from IFC's resources and $3.6 billion in resources mobilized from investors.

A vital component of DARP was the close collaboration with the former Finance, Competitiveness, and Innovation Global Practice (GP) of the World Bank Group. DARP provides valuable and practical feedback regarding the key elements required or lacking in a country's insolvency.

The former Finance, Competitiveness, and Innovation GP provided advisory work on banking resolution, asset classification, provisioning rules, and collateral valuation, as well as legal and regulatory work on corporate and personal insolvency, foreclosure, debt resolution, and creation of public and private asset management companies, which are entities established to manage and enhance recoveries of distressed assets removed from the banking system. The Finance, Competitiveness, and Innovation GP also arranged training for court officials and for banking industry executives, supervisors, and bankruptcy administrators, much of this categorized as catalytic activities.

Figure H.1. IFC's Distressed Asset Recovery Program Partners

Source: International Finance Corporation.

Relevance

For IFC, distressed assets represent a new asset class with the prospect of certain advantages for IFC:

- Countercyclicality with respect to traditional lending and, to some extent, equity investing, is an attractive feature.
- For institutions that are highly experienced, well-organized, and well-managed, the asset class offers the potential for high returns.
- For development finance institutions and multilateral development banks like IFC, the asset class also offers a focus of "credit repair," which potentially contributes to "access to finance" and "financial inclusion" objectives, a feature that can be persuasive with troubled borrowers and member governments.

- DARP companies consequently employ collection methods that avoid many of the harsher methods and practices applied by traditional money lenders and less reputable servicers.

Additionally, however, effective decision making regarding several important issues is key to success in this business:

- Thorough and appropriate risk identification involves legal (including chain of title), counterparty, operational, and real asset liquidity risk, in addition to the usual financial risks (interest-rate, credit, price volatility, and so on).
- Despite frequent reference to distressed asset markets, in many cases price discovery in connection with distressed asset portfolios takes place under conditions more like those of a bazaar (negotiations between prospective buyer and seller without immediate outside influence) rather than as the consequence of any market "tatonnement" or even the familiar clearing functions of stock or commodity exchanges.
- Market segmentation and distressed asset diversification involve trade-offs—for example, whether to diversify across several borrower types (consumer credit, homeowner and commercial mortgages, microfinance, distressed corporates, and so on) within the home country or expand internationally; with the former, taking on more market segments involves trading off changes in organizational, procedural, and information technology arrangements as against understanding and mastering different insolvency and legal regimes and practices in other countries, even while remaining with the same few borrower types.
- Appropriate financial leverage is determined by knowing the costs and risk associated with your portfolio and being able to control them effectively: greater control allows higher financial leverage (though the tendency is often to overreach).
- For DARP companies, corporate strategy calls for ascertaining whether to operate strictly as servicers (in which case, revenue is strictly fee-based,

some portion of which may be performance-related), as investors in portfolios (revenue determined as "carry"), or as some combination of the two.

- Appropriate funding instruments are determined with reference to the characteristics of the particular distressed asset portfolio under management; for example, conventional self-amortizing senior debt has in certain instances been found to be inappropriate, given the cash flow patterns involved, while the more flexible debt becomes, the higher the equity-like hurdle rate likely to be required (diluting the advantage of financial leverage).

- Given that a few large firms specializing in distressed assets operate successfully internationally, the theory of contestable markets suggests that DARP companies need to ascertain whether and how international expansion in this asset class offers economies of scale and scope and, at minimum, how vulnerable they may be to encroachment at home from international operators.

IFC has demonstrated the relevance of its mobilization efforts for this asset class. It has not only drawn on its network of client banks to provide steady deal flow of NPLs; it has developed a significant network of investors as well that cut across the typical institutional types found in other asset classes (private equity investors, hedge funds, contractual savings institutions, universal banking institutions, niche specialists, and so on). Moreover, this asset class does not raise the issue of substitution or encroachment into markets for IFC's other products. Though IFC has had reasonably good success with special purpose vehicles within the countries where DARP operates, it continues to explore new investment vehicle modalities, including an international fund with the potential to access international economies of scale and scope and the prospect of extending markets for NPLs across international borders.

Effectiveness

Mobilization for DARP has been successful to date (given the US dollar amounts involved). The important issue is the extent to which future mobilization efforts will depend on results and their associated demonstration effect. This is not only the case for portfolio investors, but for strategic investors (those that might make an offer to acquire one or more DARP companies) as well.

DARP has proven to be an effective tool for efficiently mobilizing significant amounts of capital for the acquisition and resolution of distressed assets in emerging markets. As such, the overall level of DARP mobilization has reached almost twice IFC's investment for its own account. The mobilization approach adopted for DARP draws on (i) international distressed assets investors (typically private equity funds, industry funds, sovereign wealth funds, and commercial investors); (ii) domestic niche investors; and (iii) domestic and international financial institutions.

- The Latin American DARP investments are the oldest (Colombia, Brazil, and Peru, with a new operation being prepared in Mexico; DARP operations in Asia, Central Europe, and South Africa are either recent investments or under preparation) and have shown sound returns, though not without some retrenchment. Because these are portfolios with significant opacity, it is not entirely clear whether recent shortfalls in profitability and rates of return have been the consequence of misjudgments regarding initial pricing, strategy missteps, inability to adequately control costs and risks relative to the financial leverage employed, unforeseen macroeconomic or sectoral developments, or some combination thereof. It is recommended that the study focus on the main determinants of recent performance in these companies and the portfolios they are managing.

An important feature of DARP companies and their portfolios has been the use of financial leverage. Although the companies themselves do not have exceptionally high gearing ratios (either as servicers or on a consolidated basis), the investment vehicles in which some of their portfolios are held are highly

leveraged. Given this feature, the study should examine the extent to which recent softening in profitability and rates of return has implications for their capital structure. Pricing of portfolios, pricing of services, observable statistical variation of costs and crystallized risk, as well as tax and other factors that impinge on investor returns should be carefully examined.

- Covinoc, the Colombian company, has expanded its operations with IFC into Peru. However, although the initial results are recent, it appears that some factors in Peru not present in Colombia (such as lack of availability of foreign exchange hedging instruments in Peru that have been available in Colombia, differences in insolvency practices, and so on) have been responsible for results falling short of expectations. The study should examine whether these represent normal "growing pains" or are missteps in either strategy or structuring. The Covinoc experience has also helped IFC recognize the importance of designing funding instruments for portfolios to better match the anticipated cash flow profiles of those portfolios.

Despite the progress achieved, much remains to be done, especially in the current environment where the NPL stock in emerging markets is on the rise. In addition to collaborating with the World Bank to develop solid legal and regulatory frameworks and working with some of the largest banks across emerging markets to encourage them to dispose of their NPL portfolios, DARP needs to engage with many of the leading international distressed asset investors to facilitate their entry into markets. In scaling up DARP initiatives for increased private capital mobilization, the development of a project pipeline again and the volatility of financial sector portfolios in client countries are significant challenges.

Appendix I. Frontier Analysis of World Bank Group Approaches to Private Capital Mobilization

This appendix presents Independent Evaluation Group analyses of private capital flows at the country level using nonparametric methods, data envelopment analysis. This section further assesses the relevance of the World Bank Group's interventions to mobilize private capital interventions in client countries and posits the potential of client countries to attract more capital flows.

Outline

Summary

This paper assesses the effect of the Bank Group's efforts to mobilize capital on countries' performance in attracting private capital. Data envelopment analysis (DEA) is used to estimate the empirical production possibility frontier for private capital flows and to rate countries' performance relative to other countries facing a similar domestic investment environment.[1] The obtained results are then used to assesses how the Bank Group's efforts at mobilizing private finance are distributed across countries with certain needs and characteristics, including countries that are performing relatively well despite low absolute levels of capital flows and countries that are still some distance away from the estimated frontier.

General Results

Among the 115 Bank Group client countries included in our sample, most are currently achieving between 50 percent and 80 percent of their potential levels of private capital flows (considering foreign direct investment [FDI], portfolio equity, and private sector borrowing). On average, private capital flows are at 61 percent of the estimated potential among these countries for 2015–18. The estimated DEA efficiency scores underlying these results range between 0.39 (Mongolia) and 1 (Republic of Yemen, South Africa, and the Netherlands—the countries on the frontier).

[1] Data envelopment analysis (DEA) is a nonparametric method for estimating production possibility frontiers based on linear programming, which is used to rate countries' performance relative to that of other countries facing similar conditions. We provide some methodological background (for a more detailed introduction to DEA we refer to Coelli et al. 2005): DEA has been applied in a wide range of fields, including public sector efficiency (Afonso et al. 2005 2013; Gupta and Verhoeven 2001), health and education (Clements 2002; Herrera and Pang 2005), agriculture (Latruffe et al. 2004), and regional economic integration (Naeher 2015; Naeher and Narayanan 2019).

Most regions show positive trends in attracting private capital flows (relative to gross domestic product [GDP]) as well as in their domestic investment environment and associated DEA scores. According to our results, Sub-Saharan Africa experienced the strongest increase in DEA scores between 2007 and 2018, indicating that countries in this region are catching up with the frontier. The only regions with decreases in DEA scores over this time period are East Asia and Pacific and Europe and Central Asia. However, for these two regions the decreases arise mainly from improvements in domestic conditions coupled with comparably weak increases in private capital flows.

Increases in the performance of individual countries may be driven by distinct factors, including improvements in countries' ability to attract private capital and changes in their domestic investment environments. Our analysis allows us to track countries' performance over time and separately examine the roles of different factors. Table I.1 provides an overview of the main results focusing on the five countries with the strongest increases and declines in DEA efficiency scores between 2007 and 2018 in each income group, respectively, as well as the case study countries (marked in bold).

Among low-income countries (LICs), the economies with the largest increases in DEA scores over time are the Republic of Yemen (0.46), Mozambique (0.36), Chad (0.34), and Nepal (0.28). Except in the Republic of Yemen, we find that these increases are mainly owing to increases in private capital flows (relative to GDP) rather than changes in the quality of domestic conditions. The two LICs with the largest declines in DEA scores are Liberia (−0.22) and Madagascar (−0.20). As shown in table J.1, columns (2) to (5), these two countries experienced significant decreases in their relative performance in attracting private capital (as a percentage of GDP), especially for FDI.

Among lower-middle-income countries (LMICs), Angola (0.45) and the Democratic Republic of Congo (0.28) have the largest increases in DEA scores. Although both countries experienced improvements in attracting private capital flows, the strong increase in the Angola's DEA score was also partially driven by

a decline in our proxy measure of the domestic investment environment. The LMICs with the largest reductions in DEA scores are Mongolia (−0.51), Pakistan (−0.29), the Solomon Islands (−0.26), Myanmar (−0.22), and Vietnam (−0.19). Except in Mongolia and the Solomon Islands, these reductions seem to be driven by improvements in the domestic environment rather than declines in private capital flows. The other case study countries Bangladesh, Zambia, and Kenya show relatively constant performance over time in DEA scores and slight increases in both aggregate private capital flows (driven mainly by FDI) and the domestic investment environment.

Among upper-middle-income countries (UMICs), the countries with the largest increases in DEA scores are Gabon (0.27), Paraguay (0.15), Algeria (0.15), China (0.14), and Mexico (0.13). In all these countries, the increases seem to be mainly driven by improvements in the measure of private capital flows. The UMICs with the largest reductions in DEA scores are Montenegro (−0.34), Lebanon (−0.24), St. Lucia (−0.21), Bulgaria (−0.20), and Jordan (−0.17). These five countries experienced relatively strong declines in their relative performance in attracting private capital (as a percentage of GDP). According to the results in table I.1, columns (3) to (5), these declines were mainly owing to lower relative performance on FDI in Montenegro, St. Lucia, and Bulgaria, whereas in Lebanon and Jordan the declines were mainly driven by portfolio equity.

Table I.1. Overview of Changes in Key Indicators from 2007 to 2018

Income Category and Country		DEA Score	Private Capital Flows				Domestic Environment
			Aggregate	FDI	Portfolio Equity	Private Sector Borrowing	
			(2)	(3)	(4)	(5)	
Low-income							
Yemen, Rep.	↑	0.46	0.01	0.08	−0.02	0.02	−0.12
Mozambique	↑	0.36	0.25	0.69	−0.03	−0.09	0.03
Chad	↑	0.34	0.16	0.28	0.00	−0.03	−0.01

Income Category and Country		DEA Score	Private Capital Flows				Domestic Environ-ment
			Agg-regate	FDI	Portfolio Equity	Private Sector Borrowing	
			(2)	(3)	(4)	(5)	
Nepal	↑	0.28	0.21	0.24	0.00	−0.18	0.06
Congo, Dem. Rep.	↑	0.27	0.19	0.02	0.54	−0.01	0.05
Rwanda	→	−0.03	0.08	0.23	−0.04	−0.05	0.09
Niger	→	−0.07	0.03	0.07	0.00	−0.03	0.06
Guinea	→	−0.08	0.12	0.34	−0.03	−0.04	0.14
Madagascar	↓	−0.20	−0.04	−0.11	−0.03	−0.02	0.06
Liberia	↓	−0.22	−0.11	−0.37	−0.02	−0.05	0.02
Lower-middle income							
Angola	↑	0.45	0.09	0.27	−0.02	−0.04	−0.09
Congo, Rep.	↑	0.28	0.17	0.33	0.05	−0.12	0.00
Uzbekistan	↑	0.17	0.12	0.12	0.00	0.00	0.05
Cameroon	↑	0.17	0.08	0.24	−0.03	−0.03	0.00
Sri Lanka	↑	0.17	0.18	0.22	0.21	−0.10	0.10
Bangladesh	→	0.00	0.10	0.23	−0.01	−0.08	0.09
Zambia	→	0.02	0.03	0.11	−0.04	−0.03	0.02
Kenya	→	0.05	0.08	0.23	−0.03	−0.06	0.07
Vietnam	↓	−0.19	−0.03	0.11	−0.42	−0.21	0.08
Myanmar	↓	−0.22	0.12	0.32	−0.07	−0.10	0.13
Solomon Islands	↓	−0.26	−0.07	−0.27	0.00	−0.06	0.07
Pakistan	↓	−0.29	0.02	0.17	−0.07	0.04	0.12

Income Category and Country		DEA Score	Private Capital Flows				Domestic Environ-ment
			Agg-regate	FDI	Portfolio Equity	Private Sector Borrowing	
			(2)	(3)	(4)	(5)	
Mongolia	↓	−0.51	−0.31	−0.60	−0.44	−0.11	0.06
Upper-middle income							
Gabon	↑	0.27	0.13	0.31	0.05	−0.02	−0.02
Paraguay	↑	0.15	0.14	0.23	0.00	−0.18	0.06
Algeria	↑	0.15	0.10	0.19	0.05	−0.06	0.02
China	↑	0.14	0.13	0.15	−0.06	−0.31	0.02
Mexico	↑	0.13	0.14	0.23	0.10	−0.08	0.08
Jordan	↓	−0.17	−0.09	−0.06	−0.22	0.00	0.00
Bulgaria	↓	−0.20	−0.10	−0.24	−0.02	0.04	0.07
St. Lucia	↓	−0.21	−0.11	−0.11	0.00	0.10	0.04
Lebanon	↓	−0.24	−0.15	−0.13	−0.53	−0.21	0.01
Montenegro	↓	−0.34	−0.16	−0.40	0.05	0.13	0.08
High income							
Netherlands	↑	0.35	0.35	0.00	1.00	−0.06	0.05
Finland	↑	0.25	0.24	0.21	0.38	−0.12	0.04
United Arab Emirates	↑	0.16	0.16	0.21	0.00	−0.10	0.08
Canada	↑	0.14	0.16	0.16	0.32	0.00	0.05
Italy	↑	0.10	0.11	0.23	0.08	−0.04	0.05

Income Category and Country		DEA Score	Private Capital Flows				Domestic Environment
			Agg-regate	FDI	Portfolio Equity	Private Sector Borrowing	
			(2)	(3)	(4)	(5)	
Argentina	➡	0.09	0.07	0.20	0.00	−0.02	0.00
United Kingdom	⬇	−0.13	−0.07	0.20	−0.20	0.21	0.03
Ireland	⬇	−0.14	−0.08	0.31	0.00	0.56	0.01
Switzerland	⬇	−0.15	−0.09	0.35	−0.80	−0.17	0.04
Belgium	⬇	−0.30	−0.22	−0.77	0.07	−0.05	0.04
Seychelles	⬇	−0.33	−0.10	−0.27	−0.05	−0.03	0.13

Source: Independent Evaluation Group.

Note: All values indicate changes over time calculated as differences between the average value of the most recent time period (2015–18) and that of the first period considered (2007–10). Colored arrows correspond to increases in data envelopment analysis efficiency scores greater than 0.1 (green), changes between −0.1 and 0.1 (yellow), and declines stronger than −0.1 (red). Case study countries are marked in bold.

Results on Targeting of the Bank Group's Mobilization Efforts

Overall, we are unable to identify a systematic relationship between the Bank Group's efforts to mobilize private finance and countries' performance in attracting private capital flows as captured by the DEA efficiency scores. This suggests that the targeting of the considered Bank Group efforts was not driven by considerations about countries track records in attracting private capital relative to their domestic environment.

A similar conclusion arises when looking at the distribution of the Bank Group's mobilization efforts across countries with different absolute levels of attracted private capital, that is, independent of their domestic environment, and for alternative targeting indicators. At most, there might be some suggestive

evidence that efforts tend to be less pervasive in countries that are already achieving relatively high levels of private capital flows (UMICs such as China, Lebanon, South Africa, and Thailand) as well as in those countries with the lowest performance in attracting private capital (mostly LICs).

When comparing the Bank Group's efforts at mobilizing private finance with total official development assistance (ODA) flows we find that the two are very differently distributed across countries, but neither appears to be strategically allocated with respect to countries' performance in attracting private capital. This holds both for achieved absolute levels of private capital flows (relative to GDP) and for countries' performance in attracting private capital relative to their domestic environment as measured by the DEA scores.

Implications for Private Finance Mobilization Efforts

The analysis shows that there is not only large variation in countries' ability to attract private capital (relative to GDP) within income groups but also a considerable overlap across income groups. This holds even though overall, private capital flows tend to be positively linked to income levels. For example, some of the LICs and LMICs achieve values that are comparable to those of the average high-income country (HIC), while some HICs feature values that are more like those of the average LMIC.

We find that countries with large untapped mobilization potential are spread across all income groups and regions of the world, and average DEA scores are relatively similar across income groups and regions. This suggests that, if strategic priorities were to be given in the future to countries relative to their performance in attracting private capital or to their domestic investment environment, these priorities would not necessarily end up disproportionately benefiting countries belonging to a particular income group or geographical region.

Strong variation also exists in the quantitative roles that different types of private capital flows play in different income groups. Private sector borrowing,

especially, appears to play an important role among HICs and some UMICs but seems almost nonexistent in many LICs, whereas LICs and LMICs often achieve similarly high values of portfolio equity (as a percentage of GDP) compared with countries in other income groups. The measure of FDI varies strongly even among countries of the same income group. These results underline the importance of tailoring programs to countries' individual characteristics and targeting mobilization efforts at specific types of private capital flows.

Most of our analysis focuses on identifying general patterns in the relationship between countries' performance in attracting private capital, their domestic environment, and distribution of the Bank Group's efforts, our data and results can be disaggregated to yield insights about which types of private capital flows and which domestic factors (for example, market-related factors, human capital, infrastructure, or institutions) are particularly strong or weak in certain countries. Though beyond the scope of this paper, these insights may readily be used to evaluate the relevance of individual Bank Group projects and country strategies, for example, by assessing the achievements of these efforts in addressing the most binding constraints for attracting more capital flows in each country and to inform decisions about the types of interventions that future programs should prioritize in each country.

All our results are subject to limitations. Most importantly, the study relies exclusively on descriptive and nonparametric methods which do not generally allow for a causal interpretation of the identified relationships. Rather, the analysis provides some general insights on empirical patterns of private capital flows to developing countries and their association with Bank Group efforts. Moreover, the assessment is based on current conditions and does not yield any forecasts of potential levels of capital flows under possible scenarios of future changes in political or economic conditions.

There are several related questions in the context of private capital mobilization that go beyond the scope of this study and may be subject to further research. Most importantly, it has been argued that most of the money spent on the world'

poor is raised domestically by governments in developing countries rather than through mobilization of international capital inflows (Banerjee and Duflo 2011). To incorporate this view, our current analysis includes a domestic indicator of private sector borrowing as one of the three considered types of private capital flows. However, this can certainly only serve as a first step; a more detailed analysis on the (potentially distinct) patterns of domestic resource mobilization and underlying factors is left for future research.

The remainder of the paper is structured as follows. Section II provides a brief introduction to DEA and explains how the method is used to estimate countries' performance in attracting private capital flows relative to domestic conditions. Section III describes the variables and data sources involved in the analysis. Section IV presents the empirical results and discusses their implications.

Methodology

The analysis is conducted in three steps. First, we identify the magnitudes and patterns of private capital flows in developing countries, focusing on FDI, portfolio equity investment, and domestic credit to the private sector (private sector borrowing). In a second step, we DEA to assess countries' performance in attracting private capital relative to the domestic resources and constraints they face, that is, their domestic investment environment. Third, by comparing the obtained results with Bank Group efforts aimed at mobilizing private finance we derive insights on how its efforts are distributed across countries with certain needs and characteristics, for example, countries that are performing relatively well despite low absolute levels of capital flows and countries that are still away from the estimated frontier. We can then assess the Bank Group's achievements in targeting mobilization efforts at countries with bigger needs or larger untapped potential.

Data Envelopment Analysis

DEA is a nonparametric method for estimating production possibility frontiers. It can be used to measure relative efficiency rates across sets of comparable units of observation. In its simplest form, DEA assumes the existence of a convex production possibility set and estimates the frontier as the maximal attainable level of output for a given input level. Efficiency of an observed input–output combination is measured as the distance to the estimated frontier. Units that produce more output with the same amount of input (or units that need less input for the same amount of output) are considered more efficient than others. The obtained efficiency scores are normalized to range between 0 and 1, where units located on the frontier are assigned the maximum value of 1.[2]

In the context of private capital mobilization, DEA can be used to assess countries' achievements in attracting private capital relative to the quality of their domestic investment environment. For this purpose, DEA first calculates the empirical production possibility frontier for private capital flows, which is then used to rate the performance of each country relative to the frontier. Overall, this provides an estimate of the capital flows each country should be able to achieve based on what countries with similar characteristics and enabling factors are achieving. The underlying assumption is that countries that feature similar domestic conditions should in principle be able to attract similar levels of private capital.

The efficiency scores obtained from DEA can be interpreted as follows. Scores close to 1 indicate that a country is attracting relatively large amounts of private capital given its domestic environment, that is, the country is "efficient" in attracting private capital. Efficiency scores well below 1 indicate inefficiency or untapped potential. For example, an efficiency score of 0.5 indicates that a country is currently only generating half of the private capital flows that it

[2] DEA has been applied in a wide range of fields (see references listed in previous note). For a more detailed introduction to DEA, we refer to Coelli et al. (2005).

should theoretically be able to, based on its performance relative to the estimated frontier. In line with the obtained efficiency scores, untapped capital mobilization potential is defined as the distance between a country's current level of private capital flows and the theoretically possible level as captured by the frontier.

The estimates obtained from DEA are based on currently available resources and conditions, not on potential future developments. Our analysis does not seek to forecast capital flows under possible scenarios of future changes in political or economic conditions. Instead, the analysis compares levels of private capital flows across countries at a given time and identifies those countries that, relative to others with similar domestic conditions, are currently performing below the level at which they should potentially be able. Furthermore, the obtained estimates relate only to the considered measures of private capital flows and do not provide direct implications for potential welfare gains or growth effects of increased capital flows.

Composite Measure of Domestic Investment Environment

In the economic literature, the factors determining private capital flows across countries are usually divided into external "push" factors and domestic "pull" factors (Calvo, Leiderman, and Reinhart 1993; Fernandez-Arias; Ahmed and Zlate 2014; Hannan 2018).[3] Push factors are supply-side factors that affect the supply of global liquidity and investors' willingness to increase exposure to higher-risk investments. For example, push factors include variables like global risk aversion, global commodity prices, and interest rates in the United States or other advanced economies (Reinhart, Reinhart, and Trebsch 2016; IMF 2016). Pull factors are domestic characteristics that attract foreign investors to a particular country, such as local macroeconomic fundamentals, regulations,

[3] This distinction is based on the portfolio balance approach, according to which capital flows are driven by expected returns, perceived risk, and risk preferences across countries (Ahmed and Zlate 2014; Hannan 2017).

governance, and market imperfections (Ghosh et al. 2014; Fernandez-Arias and Montiel 1996; EBRD 2018).

Since our analysis is concerned with comparing individual countries with each other rather than explaining developments in the overall size of global capital flows, we focus on domestic (pull) factors. Several empirical variables have been identified in the literature as being important in this context. Although we seek to account for all relevant factors, it would go beyond the scope of this study to analyze each separately. We therefore construct a composite measure of pull factors, which we use as a proxy measure of the domestic investment environment in each country.

In aggregating information about different indicators into a single composite measure we apply standard normalization and weighting methods that are also used in the construction of other well-known composite indexes, such as the World Bank's Doing Business Index and the United Nations Human Development Index. The following provides a detailed description of the methodology underlying the construction of our measure, which is in line with the guidelines about the construction of composite indexes laid out by the Organisation for Economic Co-Operation and Development (OECD 2008).

The selection of variables included in our composite measure is based on a structured literature review. The underlying methodology is described in appendix A. According to the results of the structured literature review, we construct our measure to capture seven aspects, or dimensions, of the domestic investment environment:[4]

i. Market-related factors (for example, market size and growth potential)

[4] The considered dimensions are broadly in line with the classifications used in other policy-related studies on private capital flows conducted by the World Bank (2011, 2015, 2018; Fay et al. 2018) and the IMF (Hannan 2018).

ii. Institutional and regulatory quality

iii. Openness

iv. Economic and political stability

v. Infrastructure development

vi. Financial development

vii. Natural and human resources

Each of the seven dimensions comprises two empirical indicators. For example, dimension II (institutional and regulatory quality) is composed of subindicators II.a (political regime type) and II.b (business regulation environment). To facilitate aggregation into one composite measure, the data for all indicators are normalized such that higher values indicate more favorable conditions, and all variables feature a comparable range of values. There are several possible methods for rescaling, each featuring its own set of advantages. We apply standard min-max rescaling, which ensures that all variables range between 0 and 1.[5] For country i in the overall sample N, indicator I is normalized using the formula

$$I_i^* = \frac{I_i - \min_{i \in N}(I_i)}{\max_{i \in N}(I_i) - \min_{i \in N}(I_i)} \qquad (2)$$

This normalization method is very sensitive to outliers, so we winsorize all variables at the 98 percent level before applying min-max rescaling. This effectively caps the two most extreme values in each variable and ensures that the aggregated values are not driven by a few outliers.

Overall, the construction of the composite measure involves two steps of aggregation. First, within each dimension two indicators are combined into one measure for that dimension. Second, the seven dimensions are aggregated into

[5] The same method is used in the construction of other well-known composite indexes, such as the World Bank's Doing Business Index and the United Nations Human Development Index.

the final measure. At both levels of aggregation, an equal weighting scheme is applied to combine the respective subindicators. This facilitates the interpretation of the results and is in line with many other studies that construct composite indexes, including both popular indexes such as the Human Development Index and others constructed specifically for use in DEA (Afonso, Schuknecht, and Tanzi,2005; Herrera and Pang 2005).

Because each dimension enters the composite measure with equal weight, the resulting scores of the final measure can be interpreted as the average performance of a given country along the considered dimensions of the domestic environment. The same applies to each of the seven dimensions individually across the two respective subindicators. Alternative weighting and aggregation schemes, including principal component analysis, are explored as part of the robustness tests in appendix C.

Data and Variables

Table I.2 provides a complete list of the variables and respective data sources used in the analysis. Panel A specifies the three types of capital flows used as output variables in the DEA: FDI, portfolio equity investment, and domestic credit to the private sector (private sector borrowing). Panel B specifies the variables used to measure the Bank Group's efforts at mobilizing private finance in developing countries. Panel C lists the variables used in the construction of the composite measure of the domestic investment environment.

The sample consists of 135 countries. It includes 115 Bank Group client countries, comprising 26 LICs, 37 LMICs, 39 UMICs, and 13 high-income countries, as well as an additional 20 nonclient HICs as benchmark group. For most countries, data on the variables listed in table J.1 are available annually for 2007 to 2017/18. To limit the role of temporary fluctuations and measurement error, we work with four-year averages for all variables, taking the mean values for all available years within the periods 2007–10, 2011–14, and 2015–18, respectively (for ease of exposition, all tables and figures refer to these time periods, even if the available data are only available for a subset of years).

Additional measures to address issues resulting from missing data are reported in appendix B.

Because it would be very cumbersome to work separately with all three types of private capital flows listed in table I.2, panel a, most of the analysis uses a single measure that we construct by aggregating the values for FDI, portfolio equity, and private sector borrowing using the same methodology as for the composite measure of the domestic environment (normalization via min-max rescaling and aggregation based on equal weights). This also greatly facilitates the computation and interpretation of DEA as it reduces the number of output variables to one. The resulting values for aggregate private capital flows across countries in the period 2015–18 are depicted in figure I.1 (exact numerical values are reported in appendix E). These values should be thought of as a (normalized) proxy composite measure of magnitudes of private capital flows (relative to GDP) in each country.

As shown in table I.2, panel b, we use two variables to measure the Bank Group's efforts at mobilizing private capital in developing countries: the Bank Group's own commitment allocated to projects aimed at mobilizing private capital, and the amount of private finance mobilized by the associated Bank Group projects. In addition to absolute magnitudes of Bank Group commitment and mobilized finance we also work with a measure of the relative importance of a country in the Bank Group's private finance mobilization portfolio, that is, Bank Group commitment (percent of ODA), which we construct as the fraction of Bank Group commitment over a country's total net ODA inflows (countries with negative net ODA inflows are excluded from the respective tables and figures).

Table I.2, panel c, lists the 14 empirical indicators that are used in the construction of our measure of the domestic investment environment**.** Many other factors affect private capital flows, including supply-side ("push") factors of international capital flows such as global risk preferences and commodity prices; however, our analysis is concerned with exploring differences across countries rather than developments in global capital flows over time, so we focus

on domestic conditions in the host countries (pull factors). Overall, the constructed composite measure should be thought of as a proxy of each country's broader enabling environment for private capital mobilization.

Dimension I (market-related factors) in panel c comprises two indicators capturing market size and capital returns, and growth potential. In line with a common approach in the literature (Edwards 1990; Asiedu 2002), we use the inverse of per capita GDP as a proxy for market size and capital return. This approach assumes that the marginal product of capital is equal to the return on capital, which implies that, all else being equal, investment in countries with higher per capita incomes will tend to yield a lower return, and therefore real GDP per capita should be inversely related to foreign investment. In addition, the inverse relationship may also reflect a perception that investment risk rises as per capita GDP declines, and thus investors tend to require higher returns to offset the perceived greater risk.

The values of our measure of the domestic environment for the period 2015–18 are graphically depicted in figure I.2, and exact numerical values are reported in appendix E. According to this measure, the countries with the most favorable environments for attracting private capital are Switzerland (0.72), the Netherlands (0.71), and Ireland (0.70), followed by the United Kingdom (0.69) and Japan (0.69). The countries with the weakest environments in the period 2015–18 are the Republic of Yemen (0.21), Angola (0.26), the Central African Republic (0.29), and Haiti (0.30).

Unsurprisingly, the measure of the domestic environment tends to improve with higher income levels. Simple averages across income groups for the period 2015–18 are LICs (0.39), LMIC (0.43), UMICs (0.47), and HICs (0.55). For Bank Group regions, average values are South Asia (0.41), Sub-Saharan Africa (0.41), Middle East and North Africa (0.43), East Asia and Pacific (0.46), Latin America and the Caribbean (0.47), Europe and Central Asia (0.50).

Table I.2. List of Variables and Data Sources

Indicator	Subindicator		Description and Available Years	Source
a. Private Capital Flows (DEA outputs)				
Foreign direct investment		n.a.	Foreign direct investment, net inflows (% of GDP); 2007–17	World Bank, WDI
Portfolio equity		n.a.	Portfolio equity, net inflows (% of GDP); 2007–17	World Bank, WDI
Private sector borrowing		n.a.	Domestic credit to private sector (% of GDP); 2007–17	World Bank, WDI
b. Mobilization efforts				
ODA			Net ODA received ($, millions); 2007–17	World Bank, WDI
Bank Group commitment		n.a.	Bank Group own commitment ($, millions), including World Bank direct guarantees, World Bank indirect, IFC portfolio, and MIGA portfolio; 2007–18	World Bank, internal data
Bank Group–mobilized finance			Private finance mobilized by Bank Group ($, millions); 2007–18	World Bank, internal data
c. Domestic Environment (DEA inputs)				
I. Market-related factors	I.a	Market size and capital return	Inverse of real GDP per capita (constant 2010 $); 2007–17	World Bank
	I.b	Growth potential	GDP growth (annual %); 2007–17	World Bank
II. Institutional and regulatory quality	II.a	Political regime type	Combined polity score, scale from –10 (strongly autocratic) to 10 (strongly democratic); 2007–17	Center for Systemic Peace, Polity IV Project

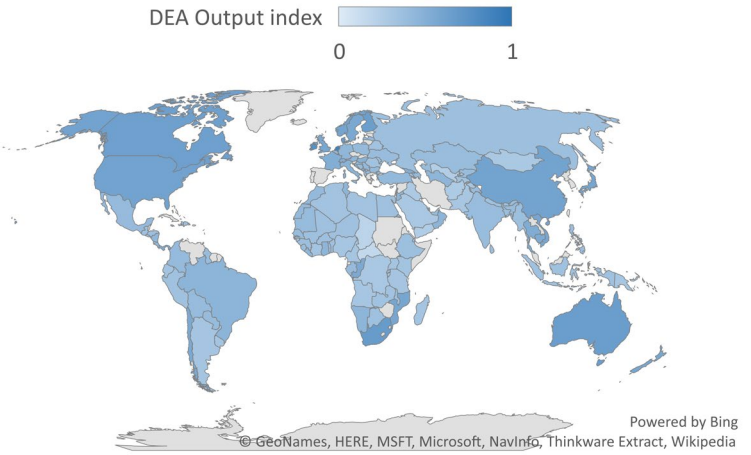
Indicator	Subindicator		Description and Available Years	Source
	II.b	Business regulation environment	Ease of doing business score, scale from 0 (worst) to 100 (best) regulatory performance; 2010–18	World Bank, Doing Business
III. Openness	III.a	Trade openness	Sum of exports and imports of goods and services (% of GDP); 2007–17	World Bank, WDI
	III.b	Market openness	Index of economic freedom, average score for trade, investment, and financial freedom, scale from 0 (lowest) to 100 (highest) degree of freedom; 20–2018	Heritage Foundation, Index of Economic Freedom
IV. Economic and political stability	IV.a	Inflation	Inverse of the inflation rate (annual %); 2007–17	IMF, International Financial Statistics
	IV.b	Political stability	Political stability and absence of violence, estimated score, scale from −2.5 (lowest) to 2.5 (highest) stability; 2007–17	World Bank, Worldwide Governance Indicators
V. Infra-structure development	V.a	Logistics	Logistics Performance Index, overall score; 2007, 2010, 2012, 2014, 2016, 2018	World Bank, Logistics Performance Index
	V.b	ICT	Fixed broadband subscriptions (per 100 people); 2007–17	World Bank, WDI
VI. Financial development	VI.a	Financial depth	Liquid liabilities (% of GDP); 2007–16	IMF, International Financial Statistics
	VI.b	Banking competition	Inverse of the 5-bank asset concentration; 2007–16	World Bank (citing Bankscope, Bureau van Dijk)

Indicator	Subindicator		Description and Available Years	Source
VII. Natural and human resources	VII.a	Natural resources	Total natural resources rents (% of GDP); 2007–16	World Bank, WDI
	VII.b	Skilled workforce	Secondary school enrollment (% net); 2007–17	World Bank, WDI

Source: Independent Evaluation Group.

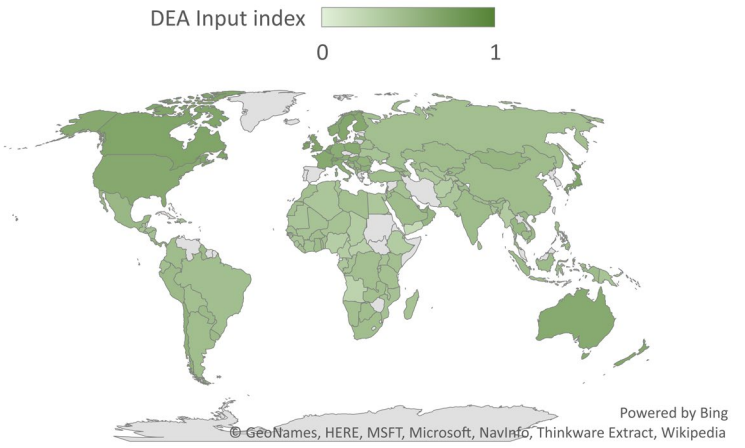
Note:. DEA = Data envelopment analysis, ICT = Information and communications technology, IFC = International Finance Corporation; IMF = International Monetary Fund; MIGA = Multilateral Investment Guarantee Agency; ODA = Official development assistance; WDI = World Development Indicators.

Figure I.1. Private Capital Flows (Aggregate), 2015–18



Note: Depicted values are based on an aggregate measure of private capital flows comprising foreign direct investment, portfolio equity, and private sector borrowing. Variables and data sources are described in table I.2. DEA = data envelopment analysis.

Figure I.2. Domestic Investment Environment (Composite Index), 2015–18



Note: Depicted values are based on a composite measure of the domestic investment environment constructed based on 14 empirical indicators covering seven dimensions: market-related factors, institutional and regulatory quality, openness, economic and political stability, infrastructure development, financial development, and natural and human resources. Variables and data sources are described in table I.2. DEA = data envelopment analysis.

Empirical Results

Patterns of Private Capital Flows

Figure I.3 shows our normalized measure of private capital flows when disaggregated into the three individual components FDI, portfolio equity, and private sector borrowing. Among LICs, Liberia (0.52) and Mozambique (0.50) feature the highest levels of private capital flows relative to GDP, which is mainly due to their large FDI inflows (as a percentage of GDP). Afghanistan (0.25) and Yemen (0.25) have comparable magnitudes of FDI and portfolio equity to most other countries, but very little private sector borrowing. The Democratic Republic of Congo (0.17) has relatively high FDI, but very little portfolio equity and private sector borrowing (all relative to GDP). Note that for Nepal, the Central African Republic, and Chad no data on portfolio equity is available.

Among LMICs, Vietnam (0.57) and Mongolia (0.49) feature the highest levels of private capital flows relative to GDP, with Vietnam having by far the strongest

private sector borrowing among all LMICs. Angola (0.26) and Cameroon (0.27) have the lowest levels of private capital flows (for Djibouti, Honduras, and Uzbekistan some data are missing, see appendix B). Among UMICs, South Africa (0.64) and Mauritius (0.58) achieve the highest values, and Iraq (0.26) and Algeria (0.28) have the lowest results (data for Turkmenistan are missing). While South Africa, China, and Thailand feature very high levels of private sector borrowing, Montenegro performs exceptionally well on FDI (as a percentage of GDP, respectively). The highest values of aggregate private capital flows in the sample are achieved by HICs, namely Ireland (0.79), the Netherlands (0.76), and Singapore (0.70).

As shown in figure I.3, there is not only large variation in countries' ability to attract private capital (relative to GDP) within income groups but also a considerable overlap across income groups. This holds despite the (unsurprising) finding that, overall, private capital flows tend to be positively linked to income levels. For example, some of the higher-performing LICs and LMICs achieve values that are comparable to those of the average HIC, and some of the lower-performing HICs (such as Poland, Uruguay, and Argentina) feature values that are not very different from those of the average LMIC.

The quantitative roles of different types of private capital flows vary considerably across income groups. This applies especially to private sector borrowing, which plays an important role among HICs and some of the UMICs but seems almost nonexistent in many LICs (see figure I.3). This result is in line with the average values reported in table I.3, which imply that the role of private sector borrowing is more than three times larger in UMICs and HICs than in LICs. Nevertheless, LICs and LMICs often achieve similarly high values of portfolio equity (as a percentage of GDP) than countries in other income groups.

The average role of FDI in total private capital flows is very similar across income groups but varies strongly between countries within the same income groups. As summarized in table I.3, our normalized measure of FDI inflows ranges between 0.27 (LMICs) and 0.30 (HICs), which is much less than the range of private sector borrowing. Figure I.3 shows that there is strong variation across countries within the

same income groups; this suggests that programs for helping countries mobilize private capital may need to be targeted at different types of private capital flows, even among countries within the same income groups.

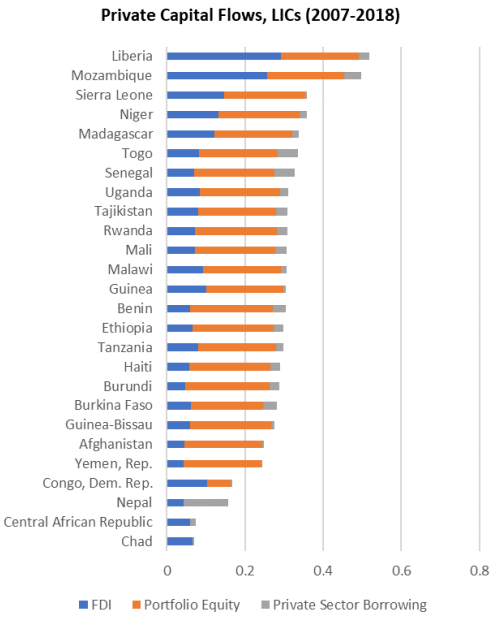
Table I.3. Types of Private Capital Flows by Country Income Group

	Average 2007–18			Change Over Time		
Income Group	FDI	Portfolio Equity	Private Sector Borrowing	FDI	Portfolio Equity	Private Sector Borrowing
Low income	0.28	0.59	0.08	0.07	0.01	0.01
Lower-middle income	0.27	0.62	0.19	0.05	−0.02	0.02
Upper-middle income	0.28	0.63	0.27	0.04	−0.02	0.02
High income	0.30	0.64	0.29	0.02	−0.01	0.01
Average	0.28	0.63	0.27	0.05	−0.01	0.02

Note: Changes over time are calculated as differences between the average value of the most recent time period (2015–18) and that of the first period considered (2007–10). Colored numbers indicate increases larger than 0.5 (green) and declines (red). The underlying sample consists of 115 World Bank Group client countries and 20 benchmark advanced economies. FDI = foreign direct investment.

Figure I.3. Disaggregated Private Capital Flows

a. Private capital flows, LICs (2007–18)



b. Private capital flows, LMICs (2007–18)

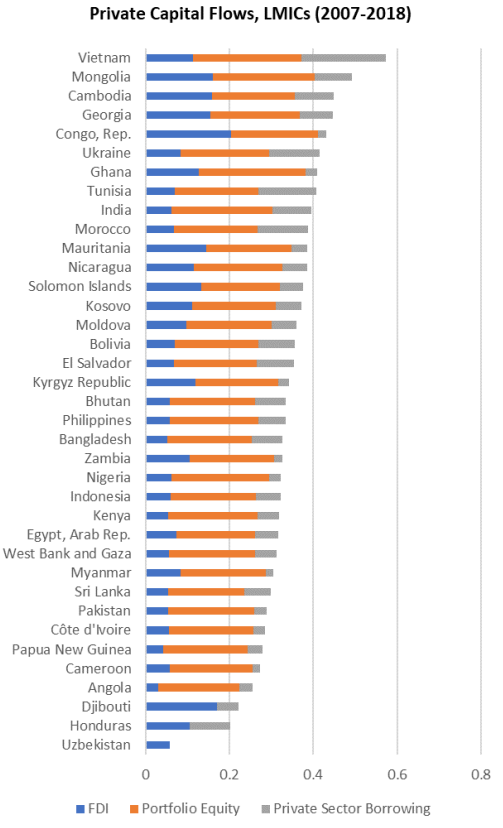
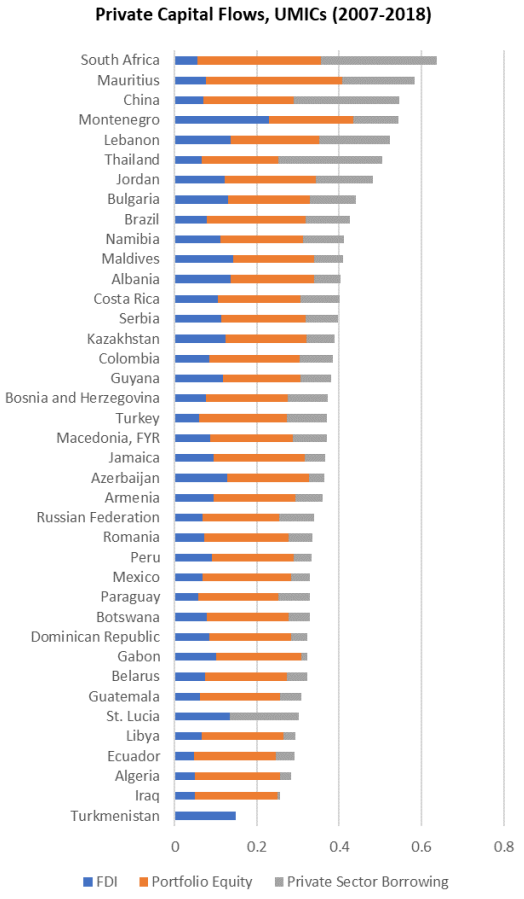
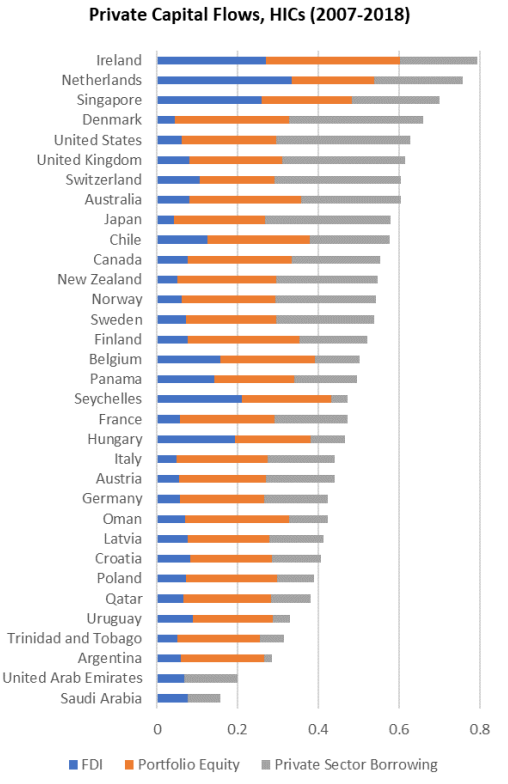


Figure I.3. (Cont.). Disaggregated Private Capital Flows

c. Private capital flows, UMICs (2007–18)



d. Private capital flows, HICs (2007–18)



Source: Independent Evaluation Group.

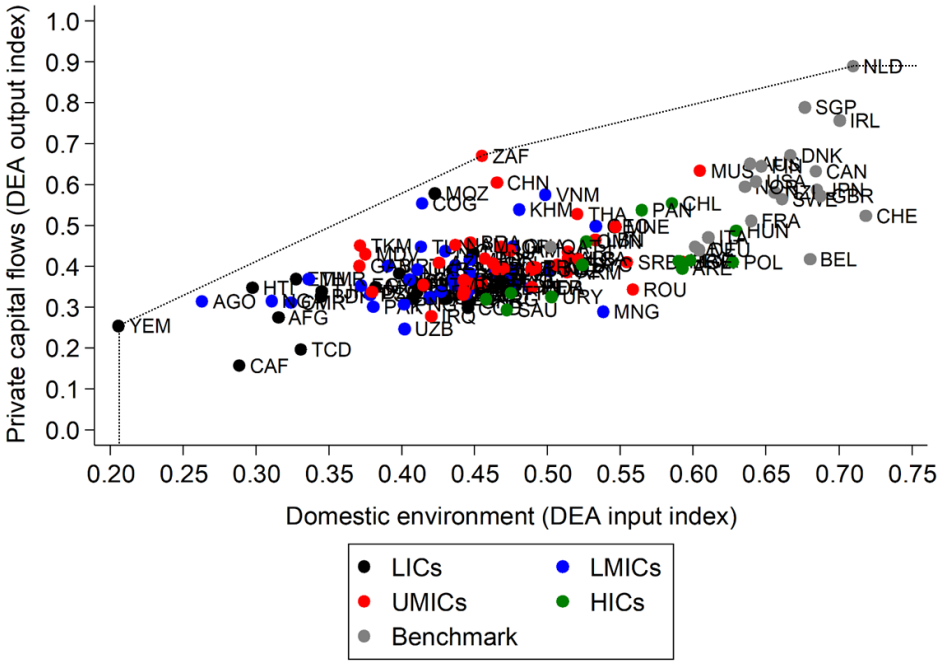
Frontier Analysis

The frontier analysis investigates how private capital flows are related to factors in the host economy, that is, the domestic investment environment. The latter is operationalized by a composite measure of relevant pull factors which aggregates information from 14 empirical indicators that have been identified in the economic literature (based a structured literature review) as important

determinants of private capital flows. Recall that the estimated frontier specifies the potential level of private capital flows as a function of the domestic environment. The obtained frontier is used to rate achieved levels of capital flows relative to countries' empirical potential. We can then identify those countries that, relative to other countries facing similar domestic conditions, are currently achieving relatively high capital flows, and those countries that are apparently falling short of their potential.

As a first illustration, figure I.4 plots aggregate private capital flows over our composite measure of the domestic investment environment for the period 2015–18 and shows the resulting production possibility frontier (dotted line). For the considered sample of 135 countries, the frontier turns out to be determined by three countries. At the lower end of the domestic environment, the frontier is defined by the Republic of Yemen, which during this period featured by far the weakest domestic environment among the considered countries. In the middle of the sample, the frontier is defined by South Africa, which outperforms many countries with similar values for the domestic environment. At the upper end, the frontier is defined by the Netherlands, which features both the highest level of private capital flows and one of the strongest domestic environments.

Figure I.4. Estimated Frontier, 2015–18



Source: Independent Evaluation Group.

Note: The dotted line represents the production possibility frontier for attracting private capital flows, quantified as an aggregate measure (data envelopment analysis output variable) of foreign direct investment inflows, portfolio equity inflows, and private sector borrowing ranging from 0 to 1. Exact values of the underlying data envelopment analysis input and output variables for each country are reported in appendix E. HICs = high-income countries; LICs = low-income countries; LMICs = lower-middle-income countries; UMICs = upper-middle-income countries.

Most of the included countries feature DEA efficiency scores between 0.5 and 0.8, suggesting that these countries are currently achieving about 50 percent to 80 percent of their potential levels of private capital flows.[6] The estimates of

[6] Note that these estimates are based exclusively on currently available resources and prevailing conditions, and generally do not allow for interpretations of how close countries are to their potential levels of private capital flows if economic or political conditions improve in the future. Also, the obtained results should be interpreted as lower bounds, because for countries located on

countries' performance relative to the frontier (DEA efficiency scores), and underlying input and output variables are reported in appendix E. Recall that DEA scores close to one indicate that a country is attracting relatively large amounts of private capital (as a percentage of GDP), given its domestic environment whereas smaller scores indicate inefficiencies in attracting private capital. For 2015–18, the estimated DEA scores range between 0.39 (Mongolia) to 1 (the countries located on the frontier).

The case study countries Argentina (0.47), Kenya (0.51), Mongolia (0.39), and Zambia (0.52) feature DEA scores at the lower ends of the ranges of values estimated among the countries in their respective income groups, indicating potential inefficiencies in attracting private capital flows. Bangladesh (0.63) and Jordan (0.66) are achieving considerably higher scores which place them above the median in the overall sample of 135 countries. Nevertheless, according to the estimated frontier, these two countries still feature untapped potential for increasing private capital flows, given currently available resources and conditions.

Splitting the data into three time periods of four years each, we can track countries' performance over time by calculating the frontier separately for each of the three and comparing countries' efficiency scores across time. It is important to note that the analysis is designed to track countries' relative performance within the sample, that is, in comparison to the performance of other countries in the same time period, rather than countries' absolute performance. This means that the absolute values of the DEA input and output variables cannot be directly compared across time (for example, private capital flows of x in one period may be different in absolute magnitude to capital flows of x in another period). Instead, similar levels of capital flows in two periods

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the frontier untapped potential is assumed to be zero by definition, even though there may still be scope for further enhancement (there are simply no other countries in the sample that can serve as benchmarks).

indicate that the relative performance of the country within the sample remained about the same.

This approach has the important advantage that it controls for general time effects, that is, for events that affect all countries simultaneously. For example, suppose country A has private capital flows of 0.4 in the first period and 0.5 in the second period. It might be the case that the absolute size of capital flows in country A actually declined from the first to the second period. This might be the case if a global shock (such as the financial crisis) negatively affected capital flows in all countries, but country A managed to do relatively better than other countries. In this case, country A would have improved its performance relative to other countries, despite the decline in capital flows in absolute terms, and thus features a larger value in the second period than in the first period (of course, it might also be the case that capital flows in country A increased in absolute terms and did so more strongly than in other countries).–

Figure I.5 shows the resulting frontier associated with each of the three considered time periods. For ease of exposition, the results are reported by income group. Each chart includes the frontier (dotted line) obtained from the full sample for the corresponding time period as well as the 20 benchmark countries (marked in gray). In addition, appendix J.3 reports the corresponding changes in the DEA scores for each country between the first time period (2007–10) and the third period (2015–18) as well as the underlying changes in private capital flows (DEA output variable) and our measure of the domestic investment environment (DEA input variable).

Among LICs, the countries with the largest increases in DEA scores over time are the Republic of Yemen (0.46), Mozambique (0.36), Chad (0.34), Nepal (0.28), and the Democratic Republic of Congo (0.27). Increases in the DEA scores can be driven by two different factors: increases in private capital flows or a worsening

of the domestic investment environment.[7] A good example of the latter case is the Republic of Yemen, where capital flows remained about the same (as indicated by the orange bar in the figures in appendix J.3), but the quality of the domestic environment (blue bar) decreased sharply. Together, these effects suggest that despite a significant decline in its domestic environment the Republic of Yemen managed to keep capital flows at a similar level, and consequently its DEA scores increased. This case seems to be an exception. For all other LICs with increases in DEA scores, these increases are owing to improvements in private capital flows rather than to decreases in the domestic environment.

The LICs with the largest declines in DEA scores over time are Liberia (−0.22), Madagascar (−0.20), Guinea (−0.08), and Niger (−0.07). While Liberia and Madagascar experienced decreases in the private capital flows measure, Guinea and Niger feature increases both in capital flows and in their domestic environments, with the latter factor apparently dominating and being responsible for the decrease in efficiency scores.

Among LMICs, Angola (0.45) and the Democratic Republic of Congo (0.28) show by far the largest increases in DEA scores over time. Though both countries experienced positive changes in the measure of capital flows, the strong increase in Angola's DEA score was also partially driven by a decline in the domestic environment. The LMICs with the largest reductions in DEA scores are Mongolia (−0.51), Pakistan (−0.29), the Solomon Islands (−0.26), Myanmar (−0.22), and Vietnam (−0.19). Except for Mongolia, these reductions seem to be driven by improvements in the domestic environment rather than declines in private capital flows. The other case study countries, Bangladesh, Zambia, and Kenya show a relatively constant performance over time in DEA scores and slight

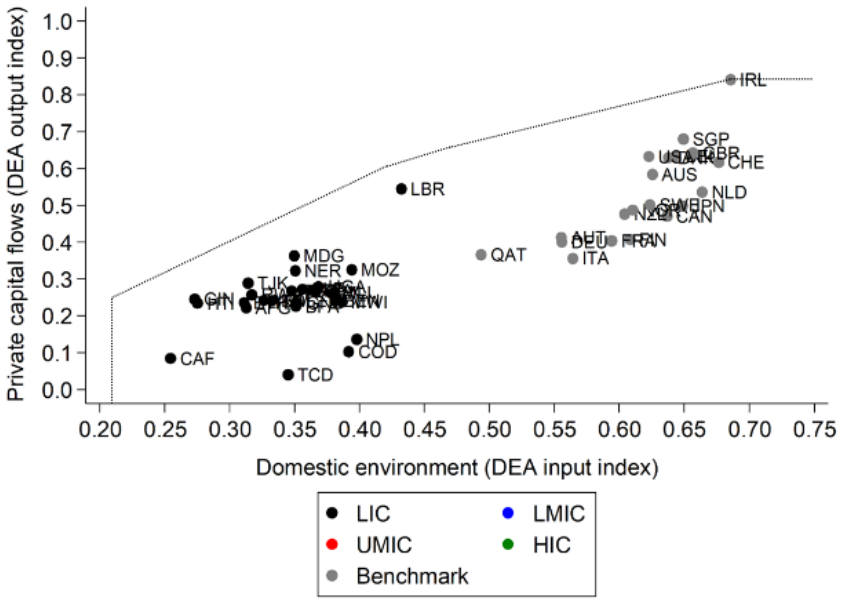
[7] Furthermore, changes in the DEA scores of a given country may be based on changes in the frontier itself because of the performance of other countries.

increases in both aggregate private capital flows (driven mainly by FDI) and the domestic investment environment.

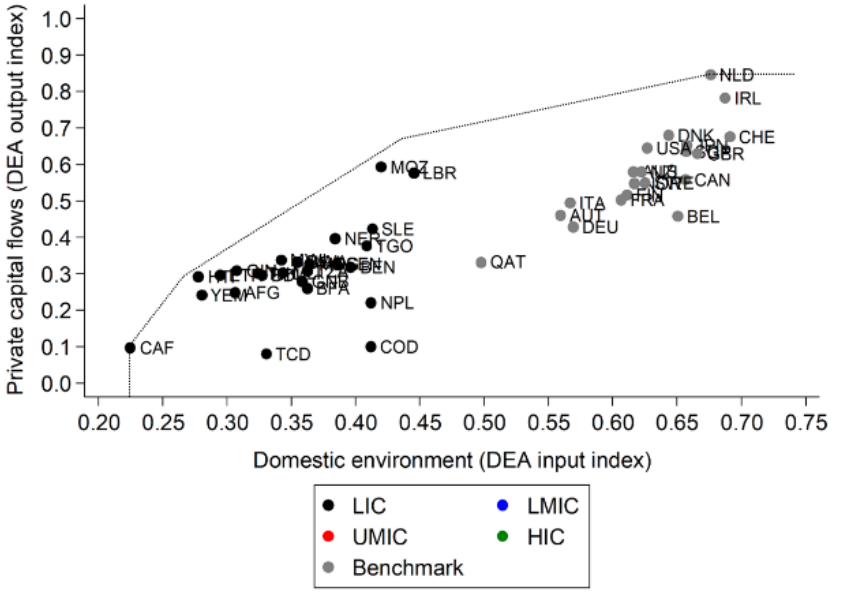
Among UMICs, the countries with the largest increases in DEA scores are Gabon (0.27), Paraguay (0.15), Algeria (0.15), China (0.14), and Mexico (0.13). In all these countries, the increases seem to be mainly driven by improvements in the measure of private capital flows. The UMICs with the largest reductions in DEA scores are Montenegro (−0.34), Lebanon (−0.24), St. Lucia (−0.21), Bulgaria (−0.20), and Jordan (−0.17). These four countries all show relatively strong declines in their performance on attracting private capital flows (relative to GDP). According to the results in table I.2, columns (3) to (5), these declines were mainly owing to lower relative performance on FDI in the case of Montenegro, St. Lucia, and Bulgaria, whereas in Lebanon and Jordan they were mainly driven by portfolio equity.

Figure I.5. Estimated Frontier over Time, by Country Income Group

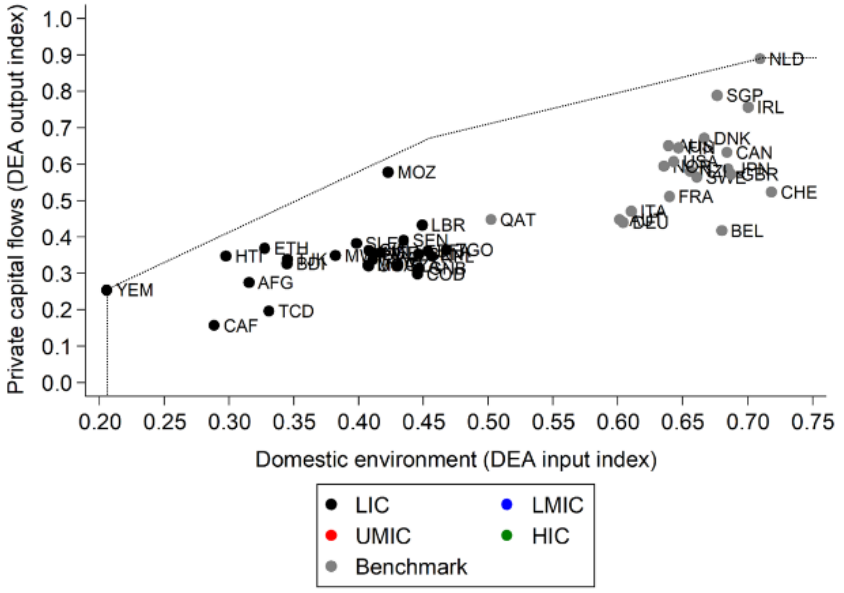
a. Low-income countries, 2007–10



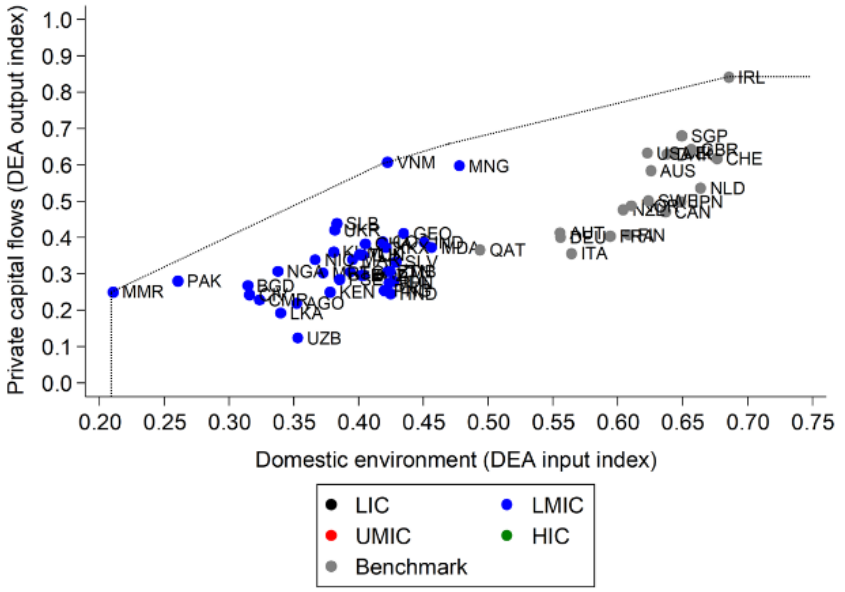
b. Low-income countries, 2011–14



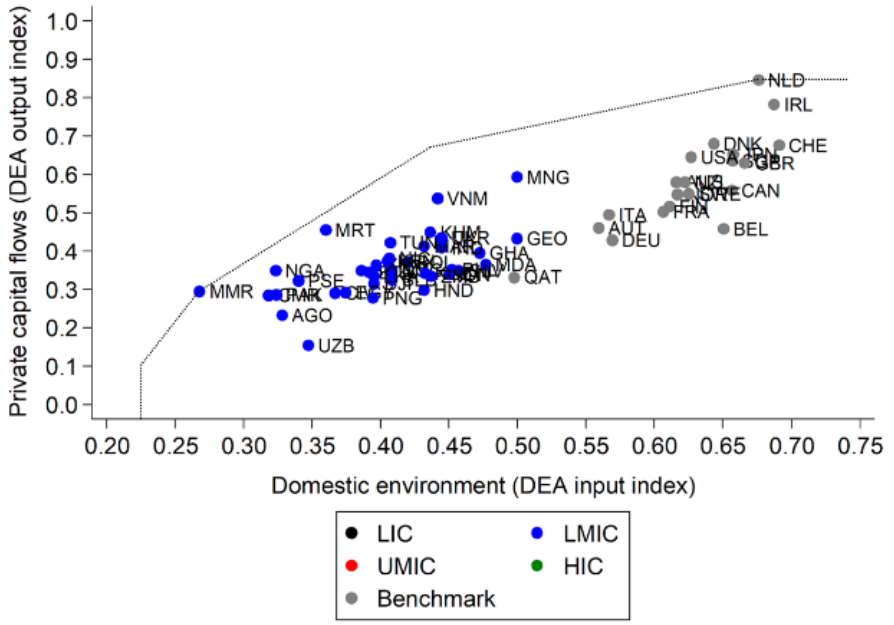
c. Low-income countries, 2015–18



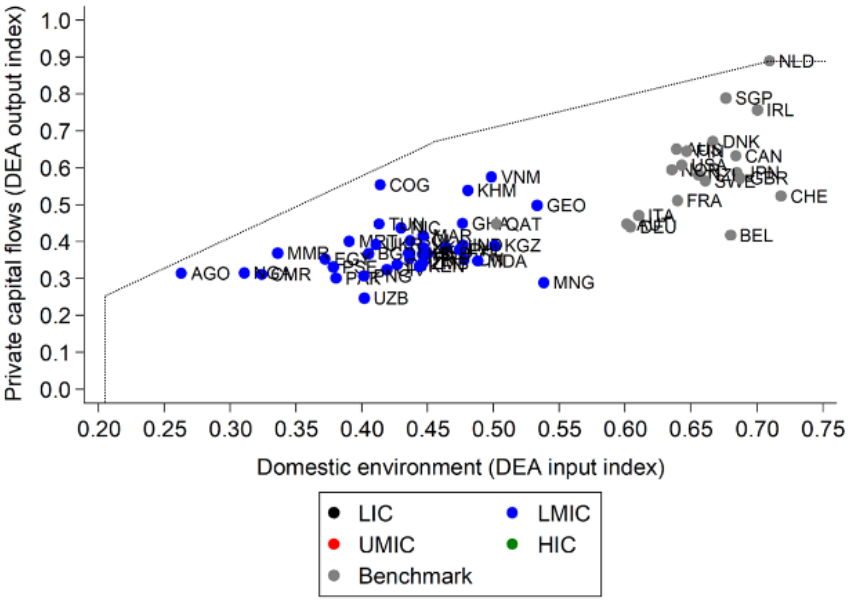
d. Lower-middle-income countries, 2007–10



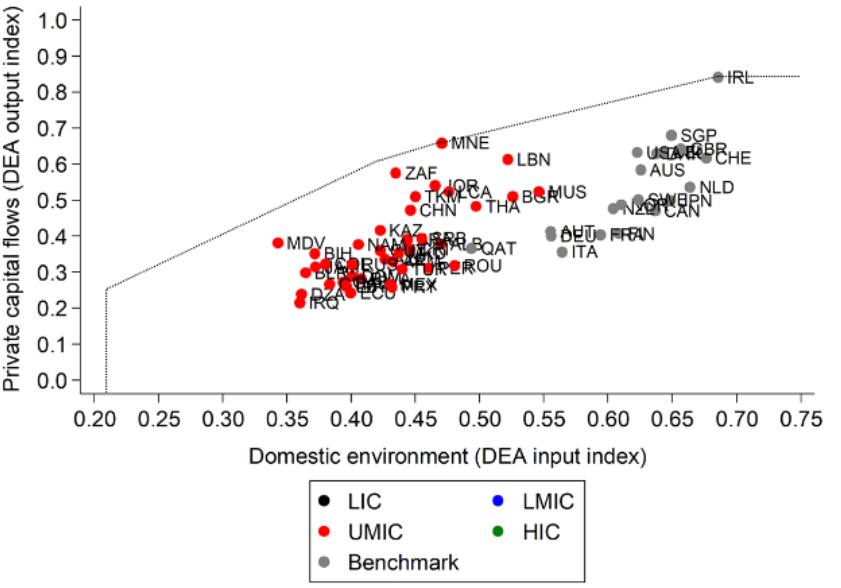
e. Lower-middle-income countries, 2011–14



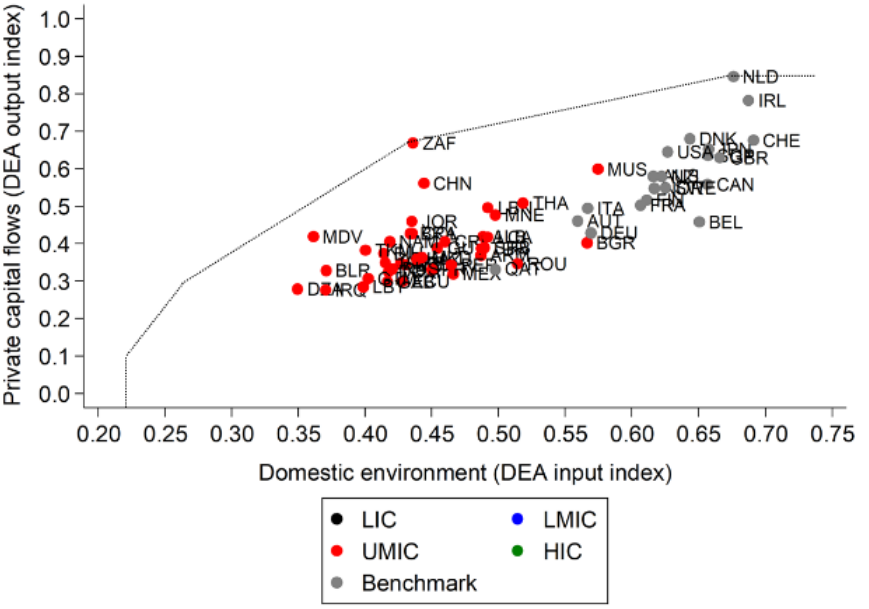
f. Lower-middle-income countries, 2015–18



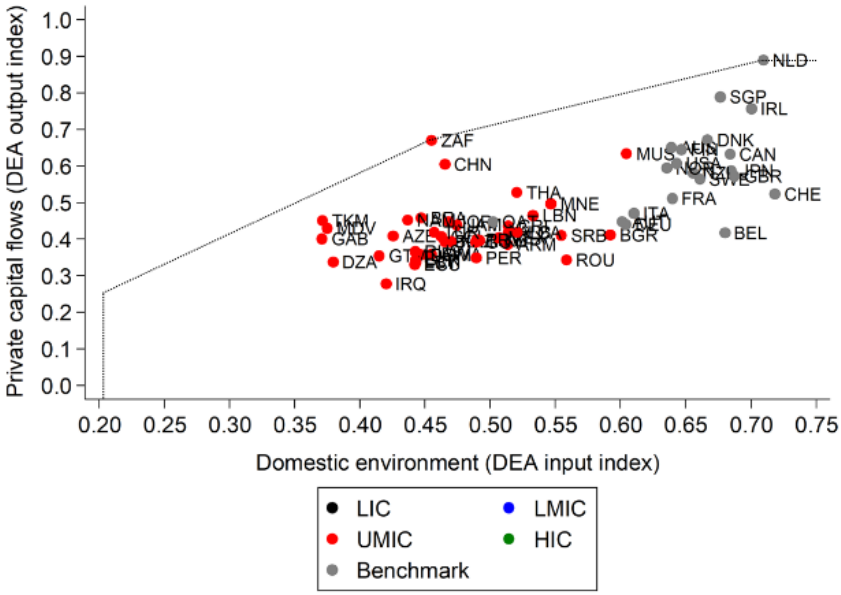
g. Upper-middle-income countries, 2007–10



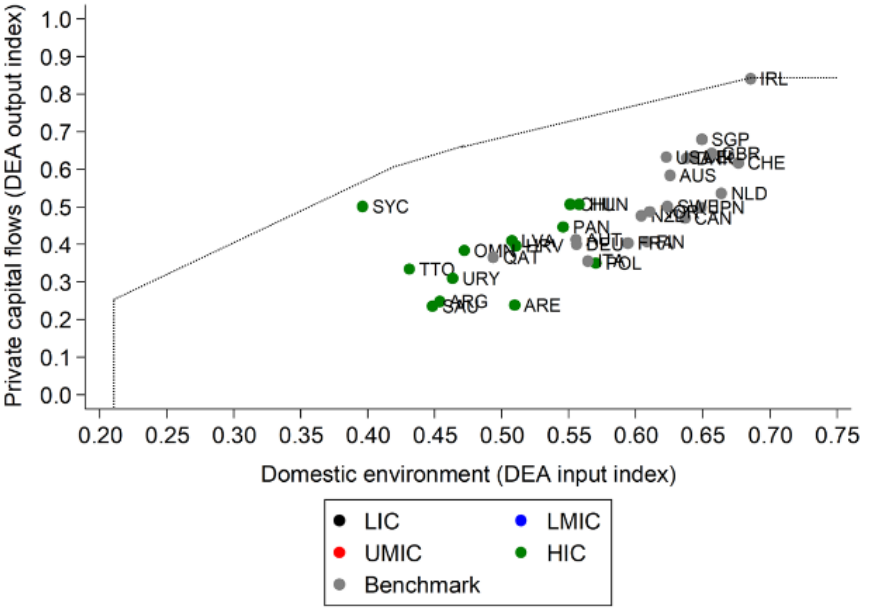
h. Upper-middle-income countries, 2011–14



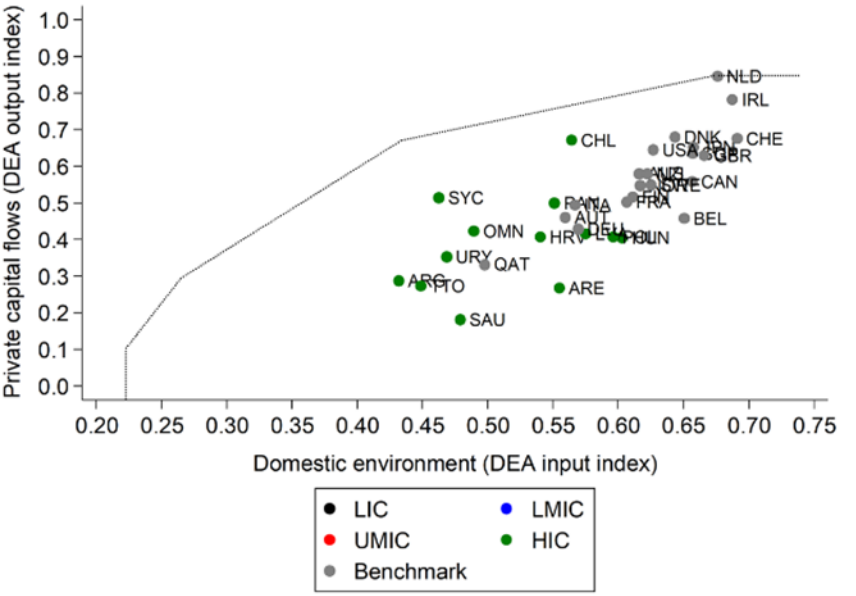
i. Upper-middle-income countries, 2015–18



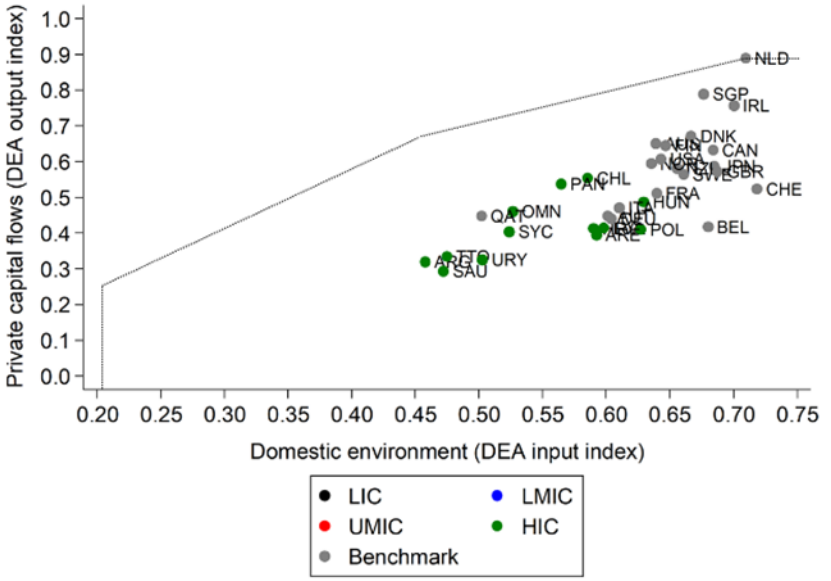
j. High-income countries, 2007–10



k. High-income countries, 2011–14



I. High-income countries, 2015–18



Source: Independent Evaluation Group.

Table I.4. Regional and Global Averages

Region	2007–10			2011–14			2015–18		
	Private Capital	Domestic Environ.	DEA Score	Private Capital	Domestic Environ.	DEA Score	Private Capital	Domestic Env.	DEA Score
East Asia and Pacific	0.40	0.41	0.72	0.42	0.43	0.69	0.43	0.46	0.65
Europe and Central Asia	0.38	0.44	0.61	0.37	0.47	0.56	0.40	0.50	0.58
Latin America and the Caribbean	0.33	0.43	0.55	0.37	0.44	0.57	0.40	0.47	0.59
Middle East and North Africa	0.33	0.42	0.56	0.33	0.41	0.58	0.37	0.43	0.62
South Asia	0.27	0.36	0.57	0.33	0.38	0.62	0.35	0.41	0.60
Sub-Saharan Africa	0.29	0.37	0.55	0.35	0.38	0.66	0.37	0.41	0.63
Average	0.33	0.40	0.58	0.36	0.42	0.61	0.39	0.45	0.61

Source: Independent Evaluation Group.

Note: The underlying sample consists of 115 World Bank Group client countries (benchmark countries are not included).

Overall, average levels of private capital flows are at 61 percent of the estimated potential among the 115 considered Bank Group client countries and magnitudes of untapped potential for private capital mobilization are very similar across geographical regions. Table I.4 reports simple averages of the main results for geographical regions. For the most recent period, 20–18, the

regions with the highest levels of private capital flows are East Asia and Pacific (0.43), Latin America and the Caribbean (0.40), and Europe and Central Asia (0.40). South Asia (0.35) shows the lowest value. On our measure of the domestic investment environment, Europe and Central Asia (0.50) and Latin America and the Caribbean (0.47) perform best, and South Asia (0.41) and Sub-Saharan Africa (41) have the lowest values. The DEA scores are very similar across regions, ranging only from 0.58 to 0.65, which suggests that all regions feature similar magnitudes of untapped potential for private capital mobilization.

When changes across regions over time are examined, most regions show positive trends in attracting private capital flows (relative to GDP) as well as in their domestic investment environment and associated DEA scores. According to our results, Sub-Saharan Africa experienced the strongest increases in DEA scores between 2007 and 2018, indicating that some countries in this region are catching up with the frontier. The East Asia and Pacific and Europe and Central Asia regions experienced the strongest improvements in domestic environment between 2007 and 2018. At the same time, private capital flows increased only marginally. As a result, the DEA scores for these two regions declined. For all other regions, measures of capital flows and domestic environment as well as DEA scores show positive trends.

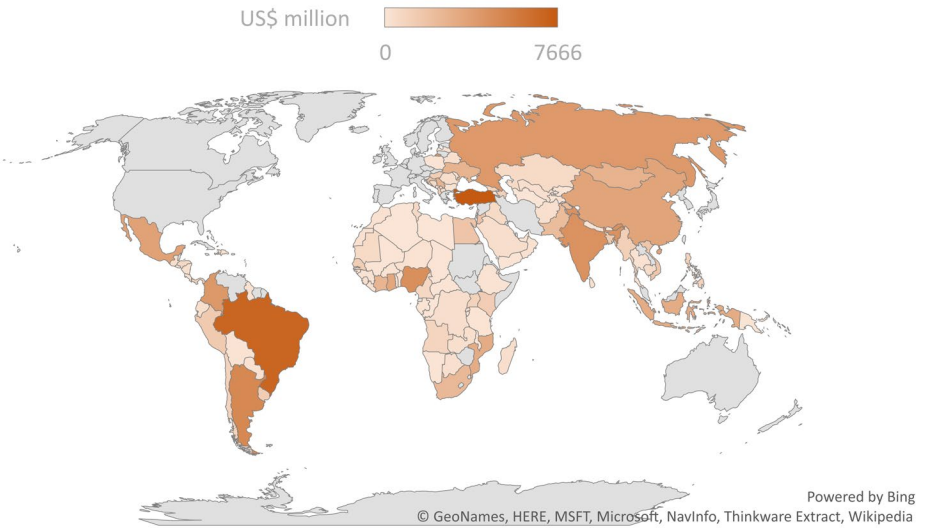
Appendix C presents the results of several robustness tests: the obtained results are generally robust to moderate changes in the aggregation methods underlying the construction of the composite indexes, including different weighting schemes and exclusion of potential outliers. Nevertheless, we highlight that all quantitative results should be interpreted with caution; data quality for the used indicators is limited, and the used variables provide only rough measures of capital flows and enabling domestic factors, and the precision of quantitative results for individual countries is thus very limited. We therefore suggest that the results should be treated as providing some basic insights about the patterns and underlying factors of private capital flows but cannot replace the insights of detailed country case studies or more rigorous econometric analysis.

Targeting of Bank Group Efforts

We now use the results from the frontier analysis to assess the targeting of the Bank Group's efforts in mobilizing private finance. Figure I.6 illustrates the geographical distribution of the Bank Group's efforts for private finance in terms of absolute amounts of Bank Group own commitment over 2007–18. Exact numerical values for each country are reported in appendix E. This appendix also reports Bank Group commitment as a percentage of ODA, which we interpret as a measure of the relative importance of a country in the Bank Group's private finance mobilization portfolio.

According to these values, Mozambique (15.6 percent) and Senegal (12.8 percent) are the two countries in the group of LICs most strongly targeted by the Bank Group's efforts at mobilizing private finance. Among LMICs, Indonesia (75 percent) and Mongolia (72 percent) receive exceptionally high support from the Bank Group, and, among UMICs, Brazil (103 percent), Mexico (69 percent), and Azerbaijan (66 percent). Some of the UMICs and HICs feature very high values on this measure simply because the received amounts of ODA are very small.

Figure I.6. World Bank Group Commitment for Private Finance, 2007–18



Note: Depicted values represent Bank Group own commitment for mobilizing private finance, including the World Bank's direct guarantees, the World Bank's indirect guarantees, the International Finance Corporation's portfolio, and the Multilateral Investment Guarantee Agency portfolio. Variables and data sources are described in table I.2.

How does the targeting of Bank Group efforts for mobilizing private finance relate to countries' performance in attracting private capital? To answer this question, figure I.7 shows Bank Group own commitment for mobilizing private finance as a percentage of ODA (right axis) and sets it in relation to private capital flows (left axis).

Among LICs, Bank Group efforts appear to be positively associated with higher capital flows, because most of the countries with relatively high Bank Group commitment appear at the left-hand side of the graph featuring higher levels of private capital flows. Among LMICs, there seems to be no systematic relationship between Bank Group efforts and capital flows; countries featuring higher Bank Group commitment are relatively evenly distributed across levels of private capital flows. Among UMICs, the countries enjoying the highest levels of

private capital flows appear to be less targeted by Bank Group mobilization efforts (including South Africa, China, Lebanon, and Thailand).

Overall, there does not appear to be a strong relationship between the targeting of Bank Group efforts at mobilizing private finance and the levels of private capital flows that countries attracted. At most, figure I.7 might indicate that Bank Group mobilization efforts tend to be less pervasive in countries that are already achieving relatively high levels of private capital flows (UMICs such as South Africa, China, Lebanon, and Thailand) and in the countries with the lowest performance on attracting private capital (many LICs, including Mali, Malawi, Afghanistan, and Nepal).

A similar conclusion can be reached when looking at Bank Group own commitment for mobilizing private finance as a percentage of total private capital flows (instead of as a percentage of ODA). The results are shown in figure I.8. Again, it appears to be difficult to identify a systematic relationship between this alternative indicator of the targeting strategy of the Bank Group's mobilization efforts and the levels of private capital flows that countries attract.

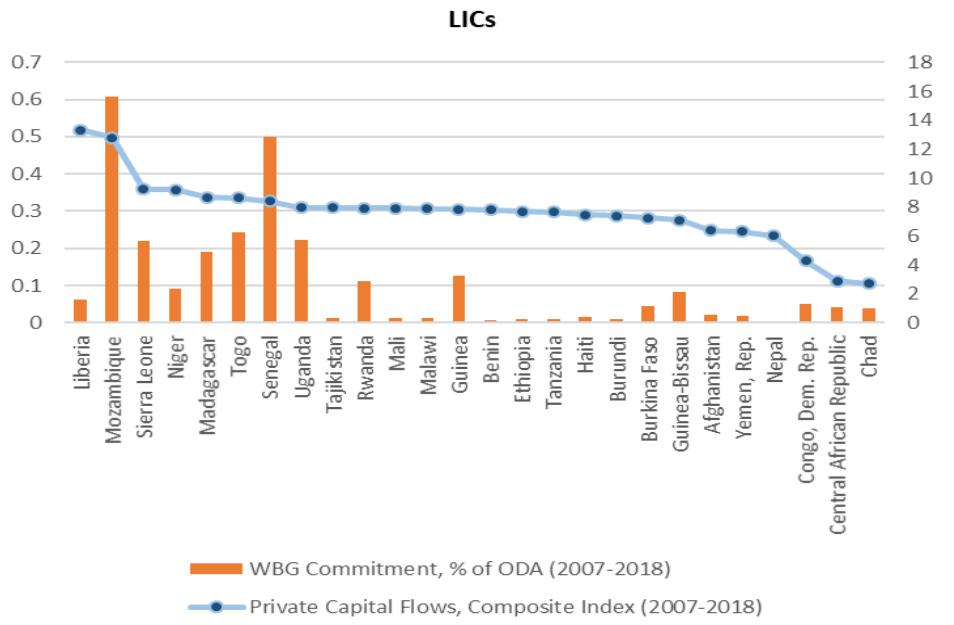
There also seems to be no systematic relationship between the targeting of Bank Group and our DEA-based measure of countries' performance in attracting private capital relative to their domestic environment. Figure I.9 illustrates the relationship between Bank Group mobilization efforts as percentage of ODA (right axis) and the estimated DEA efficiency scores (left axis). Based on the four panels covering different income groups, we are unable to identify a systematic relationship between the targeting of the Bank Group's mobilization efforts and the DEA-based measure of countries' performance in attracting private capital. This applies both overall and within given income groups.[8]

[8] Simple correlation coefficients between Bank Group mobilization efforts (as a percentage of official development assistance) and the DEA scores support this interpretation of the results in figure I.8 because the correlation coefficients tend to be small (−0.10 for the whole sample and

Bank Group efforts aimed at mobilizing private finance are very differently distributed across countries than total ODA inflows, but neither of the two flows appears to be strategically allocated with respect to countries' performance in attracting private capital. As shown in figure I.8 panels b, d, f, and h and figure I.10 panels b, d, f, and h, this holds both for achieved absolute levels of private capital flows (relative to GDP) and for countries' performance in attracting private capital relative to their domestic environment (as measured by the DEA scores).

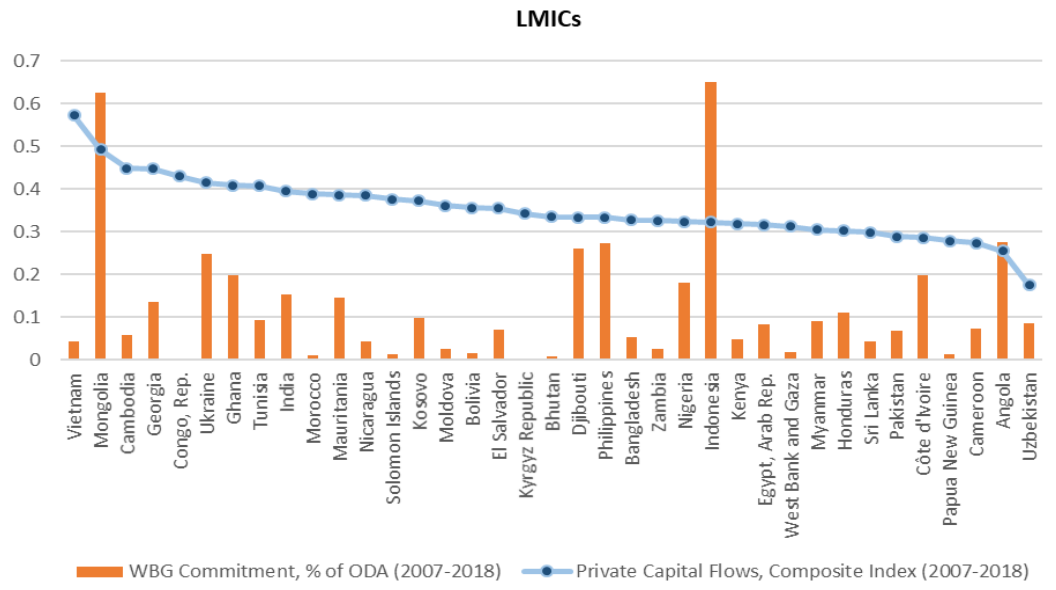
Figure I.7. Targeting of World Bank Group Commitment—Private Capital Flows, by Percent of ODA

a. Low-income countries

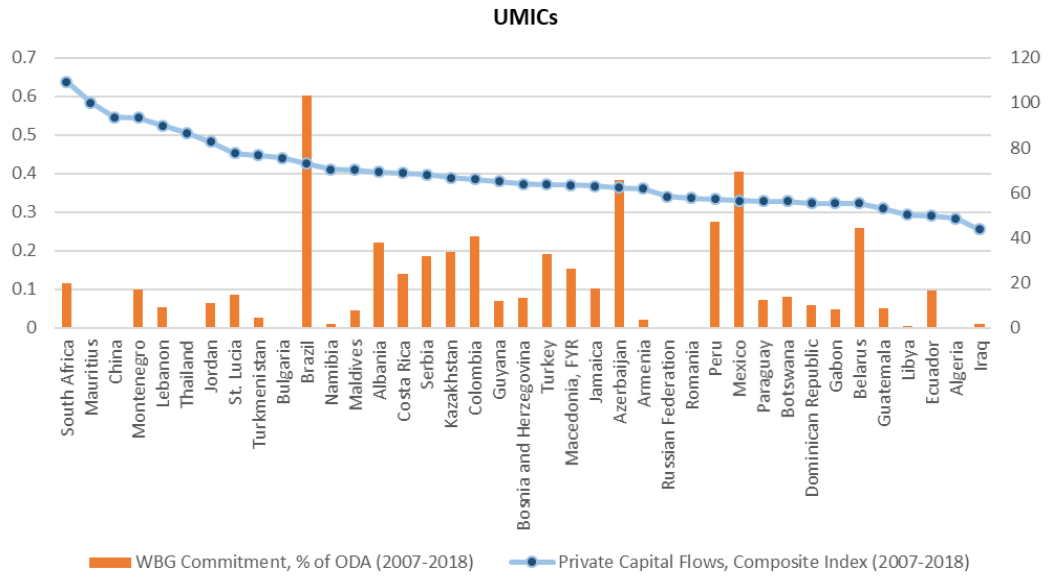


between −0.23 and 0.22 for individual income groups) and are never significant at a 10 percent significance level.

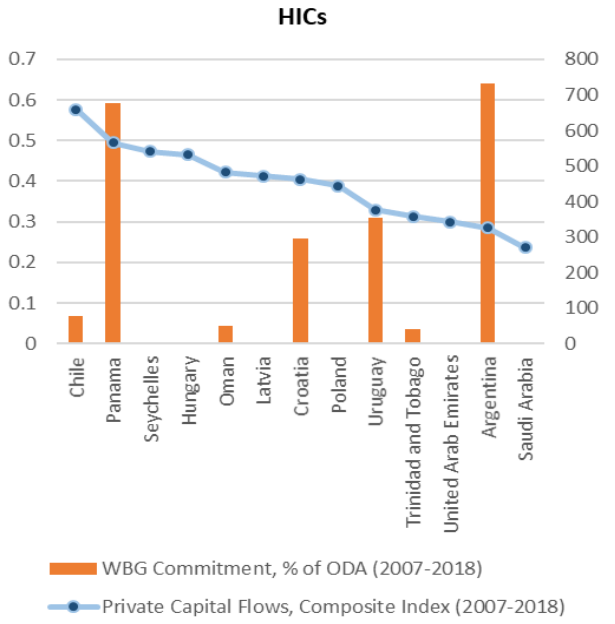
b. Lower-middle income countries



c. Upper-middle-income countries



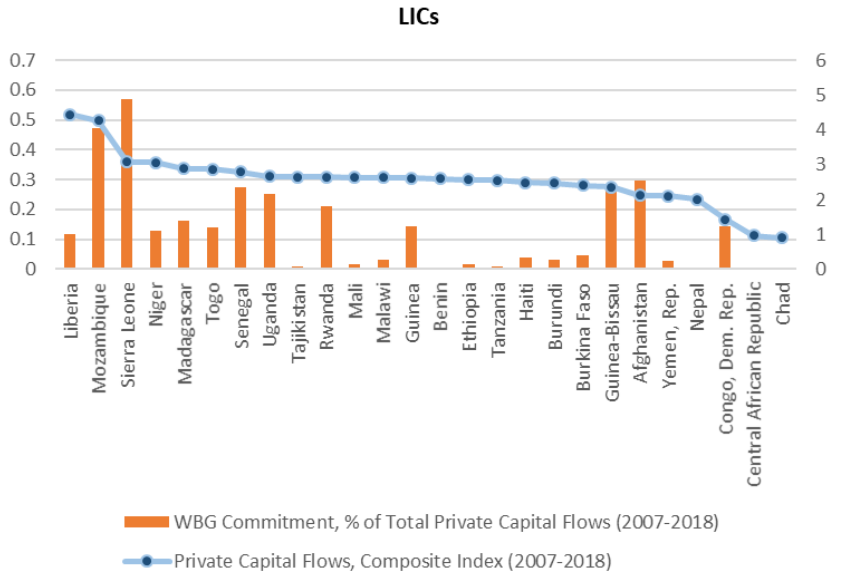
d. High-income countries



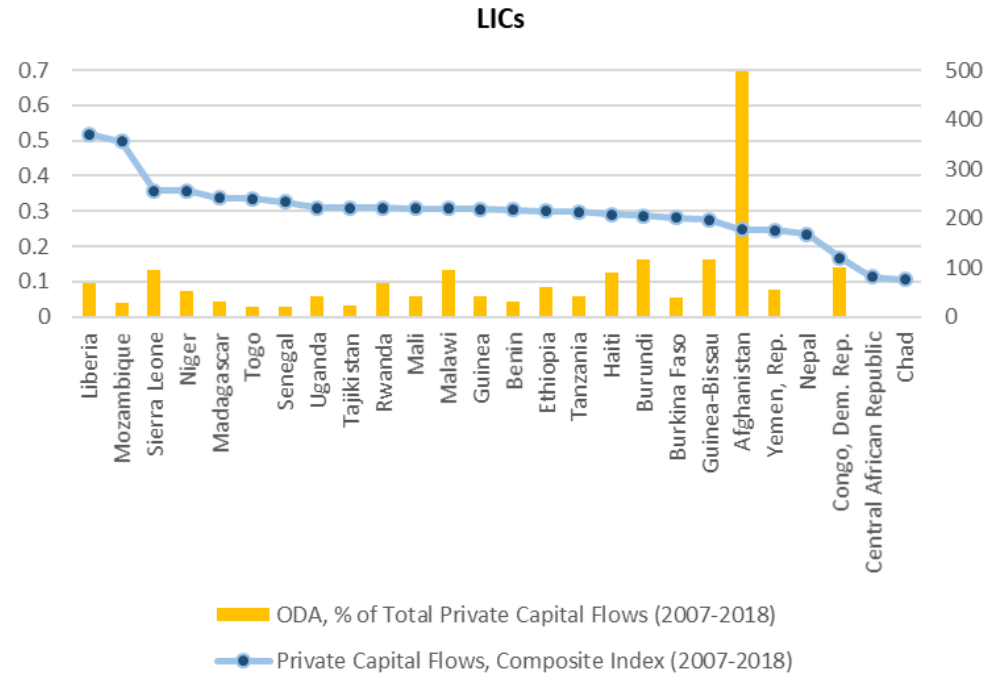
Note: ODA = official development assistance.

Figure I.8. Targeting of World Bank Group Commitment and ODA—Private Capital Flows, by Percent of Total Flows

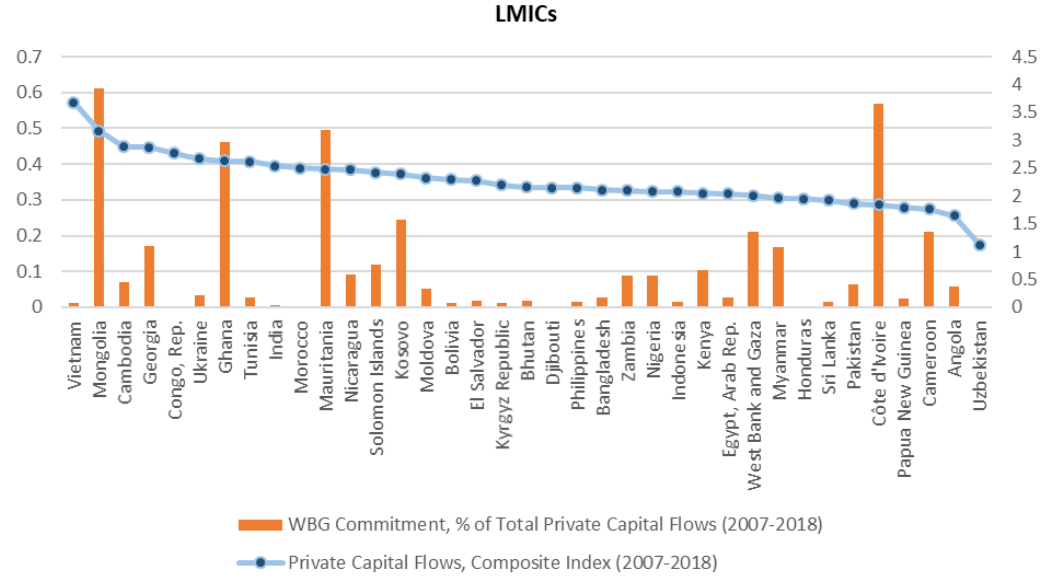
a. Bank Group commitment in low-income countries



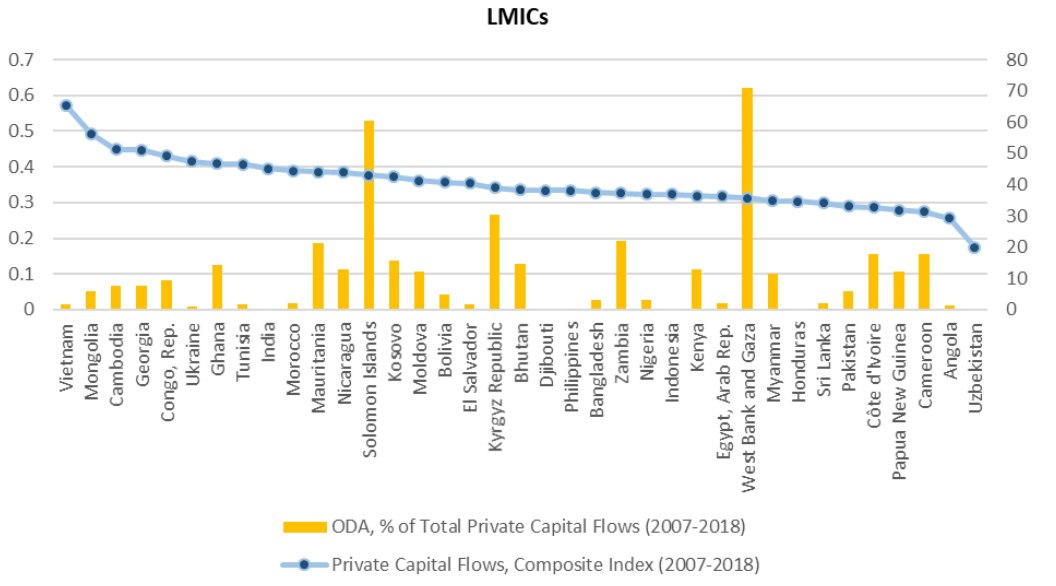
b. ODA in low-income countries



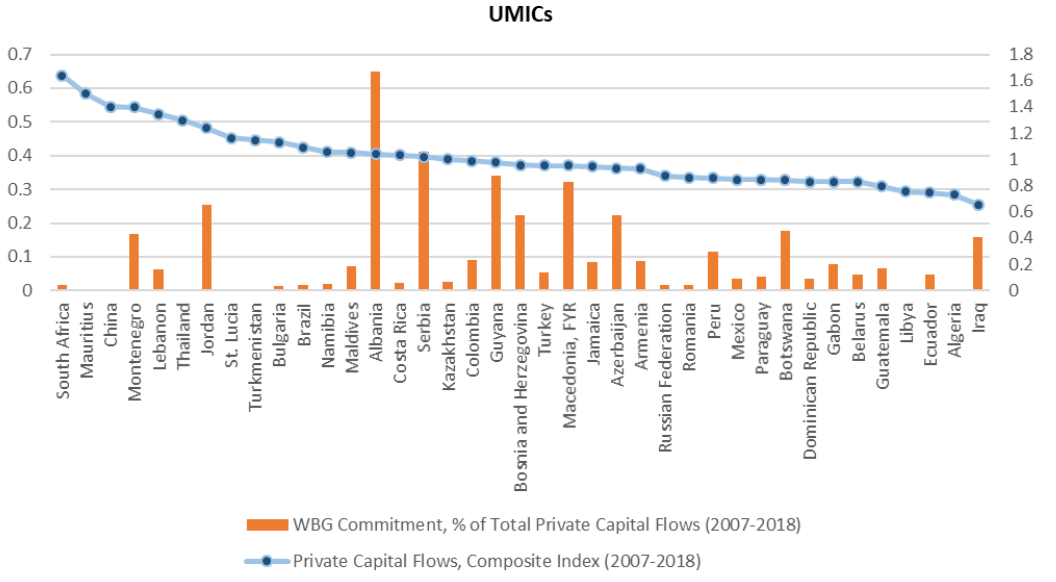
c. Bank Group commitment in lower-middle-income countries



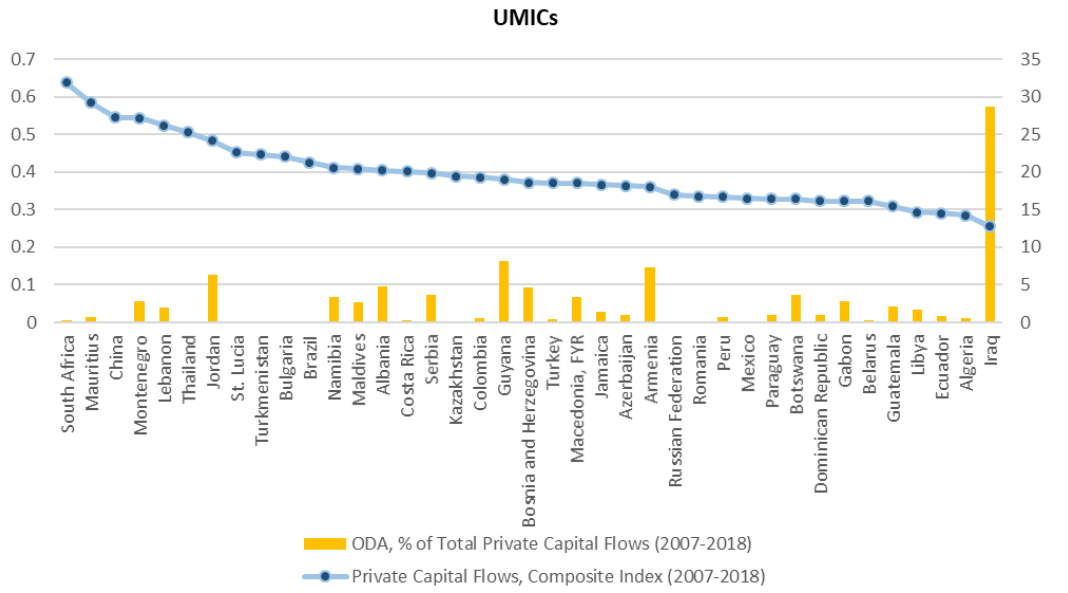
d. ODA in lower-middle-income countries



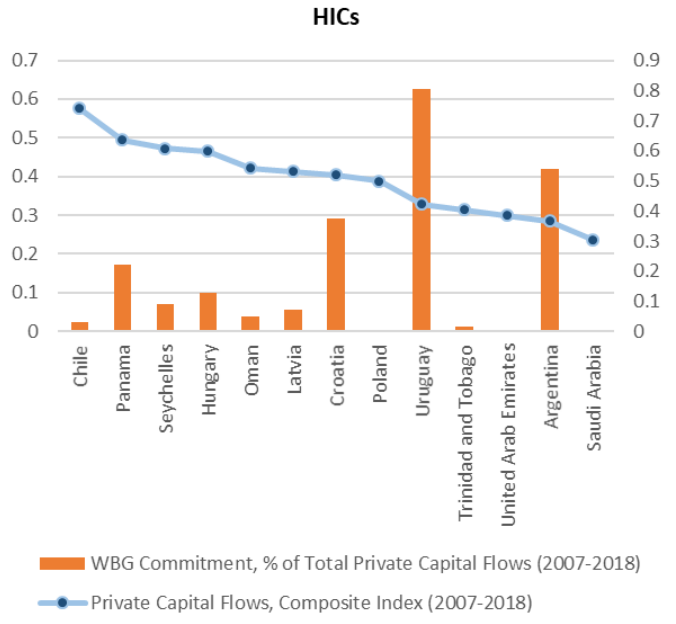
e. Bank Group commitment in upper-middle-income countries



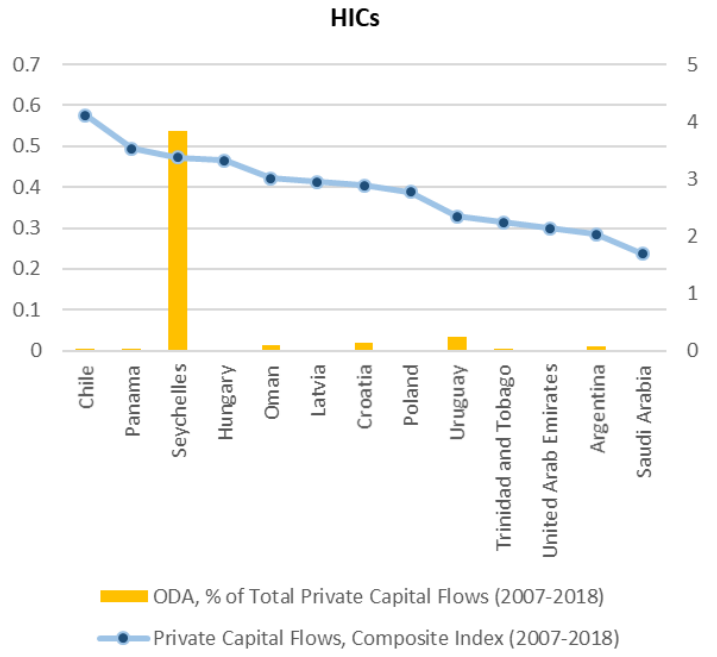
f. ODA in upper-middle-income countries



g. Bank Group commitment in high-income countries



h. ODA in high-income countries

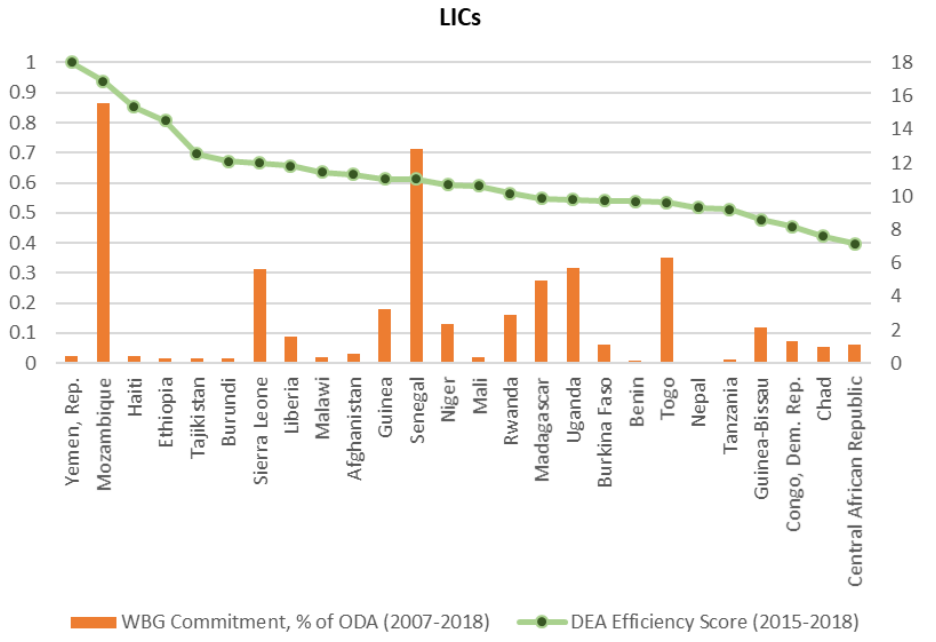


Source: Independent Evaluation Group.

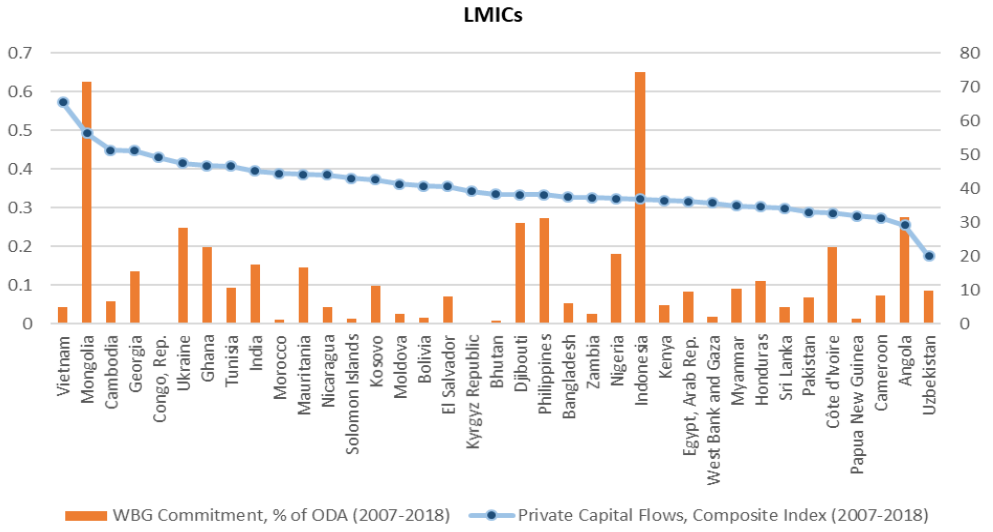
Note: ODA = official development assistance.

Figure I.9. Targeting of World Bank Group Commitment—DEA Efficiency Scores, by Percent of ODA

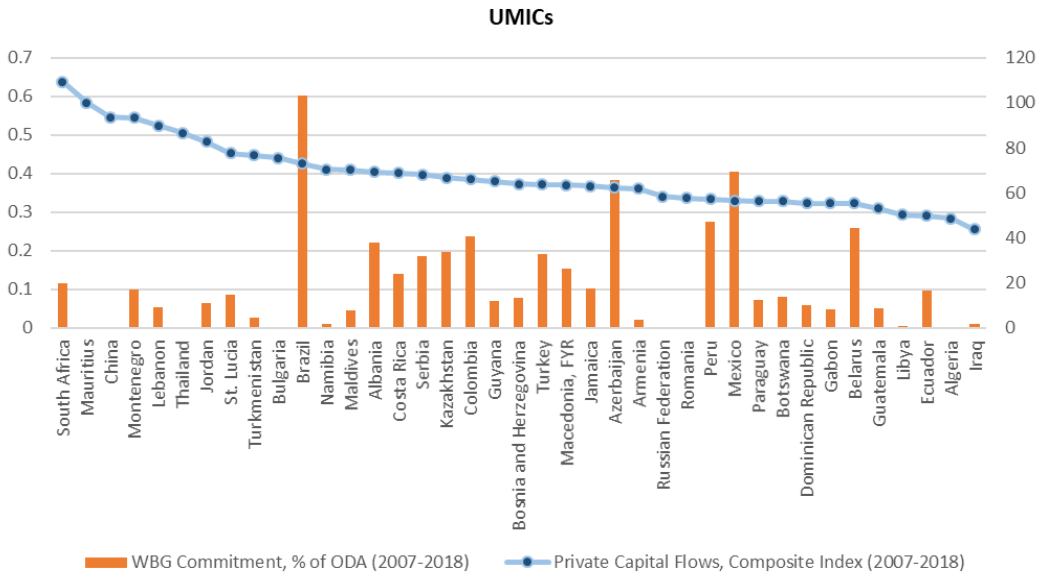
a. Low-income countries



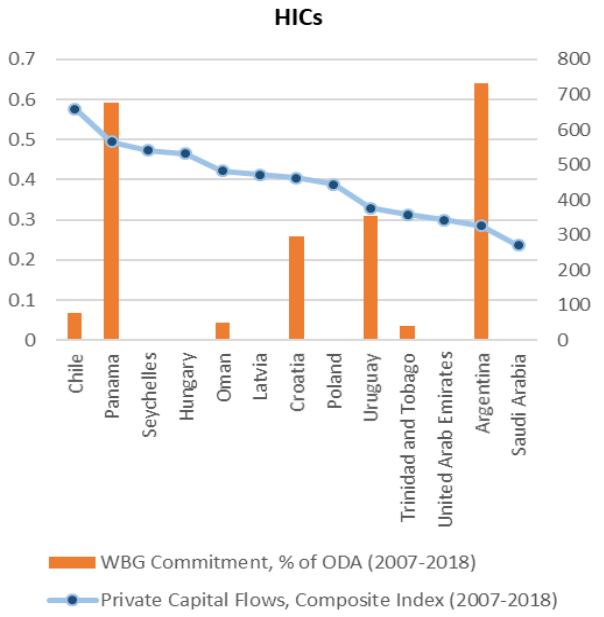
b. Lower-middle income countries



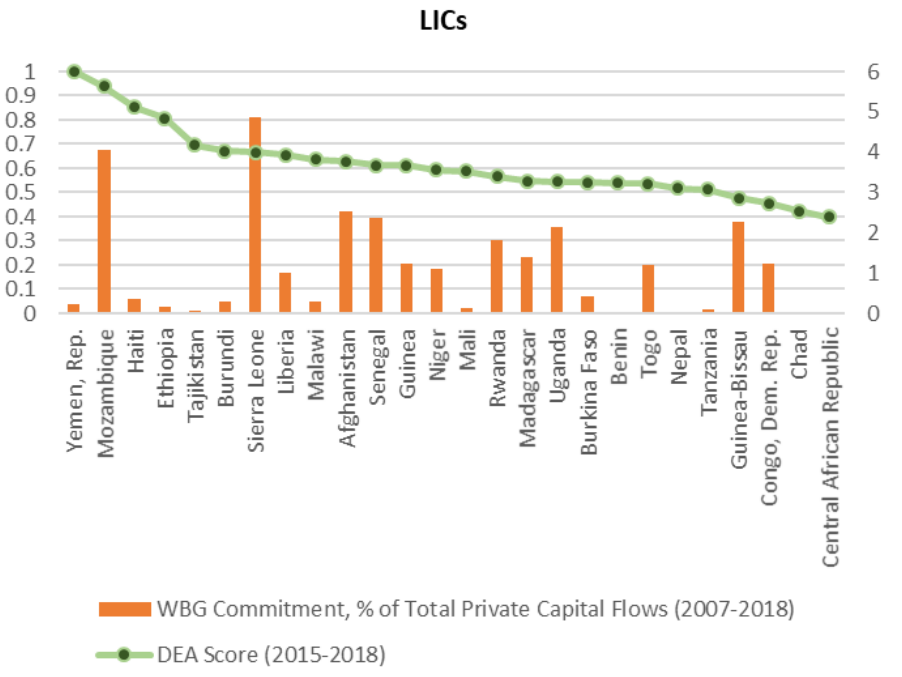
c. Upper-middle-income countries



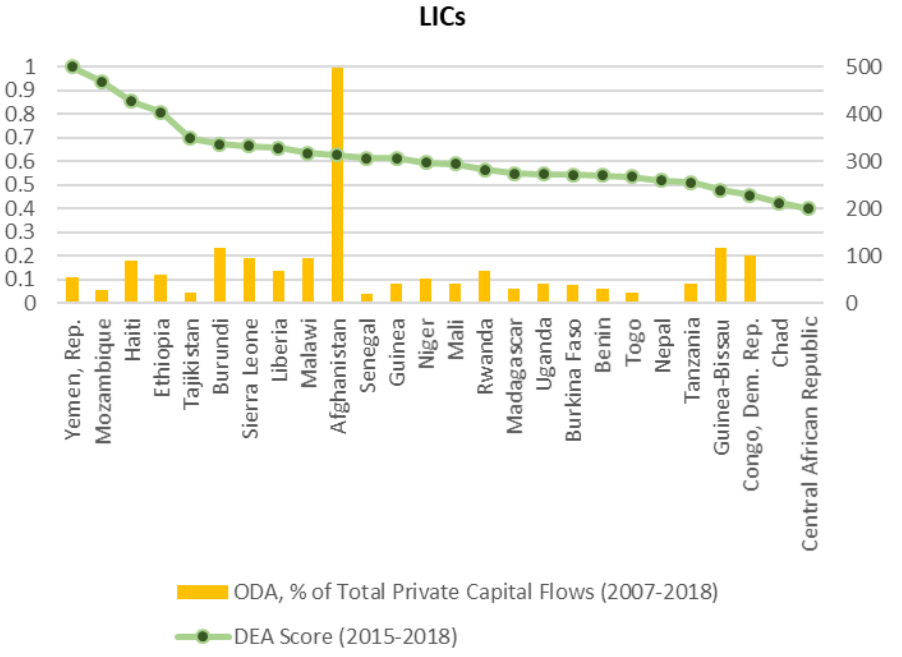
b. High-income countries



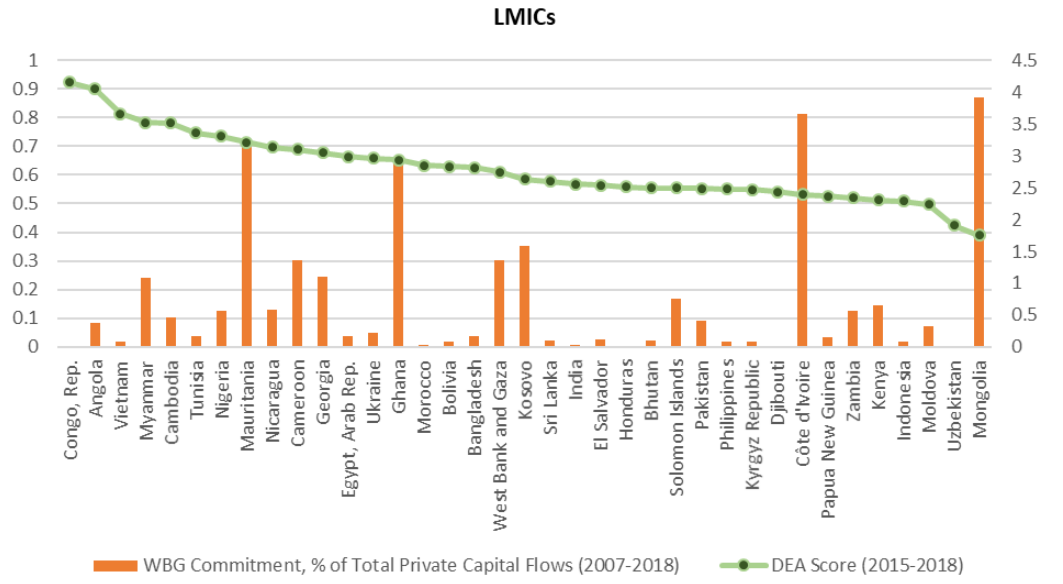
a. Bank Group commitment in low-income countries



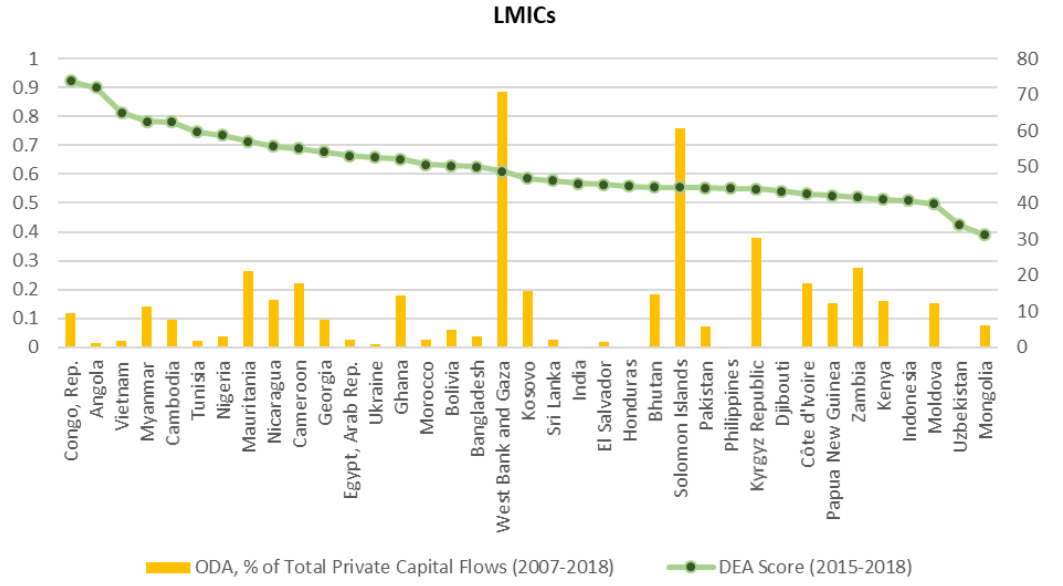
b. ODA in low-income countries (% of total flows)



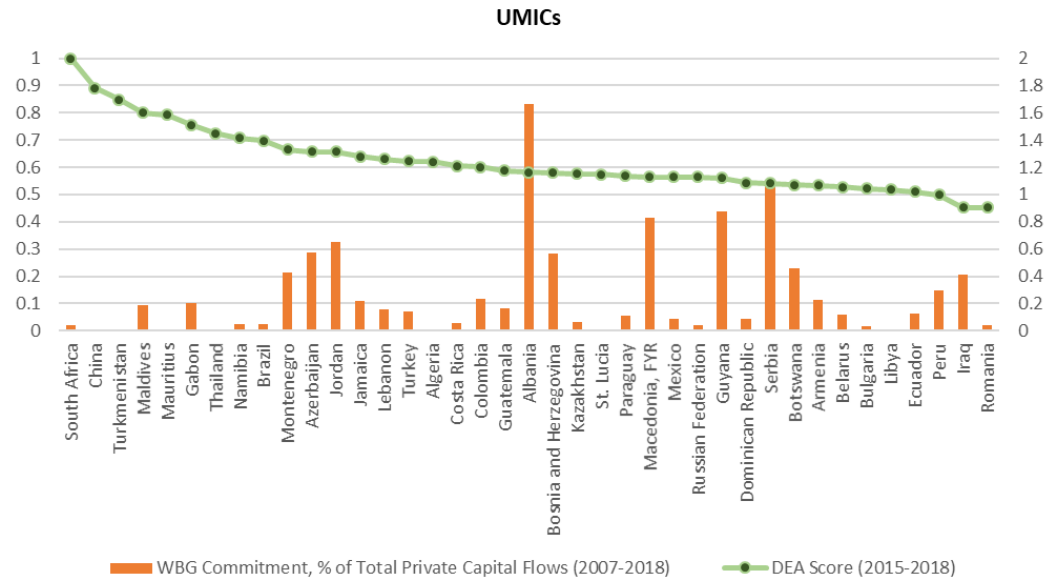
b. Bank Group commitment in lower-middle-income countries (% of total flows)



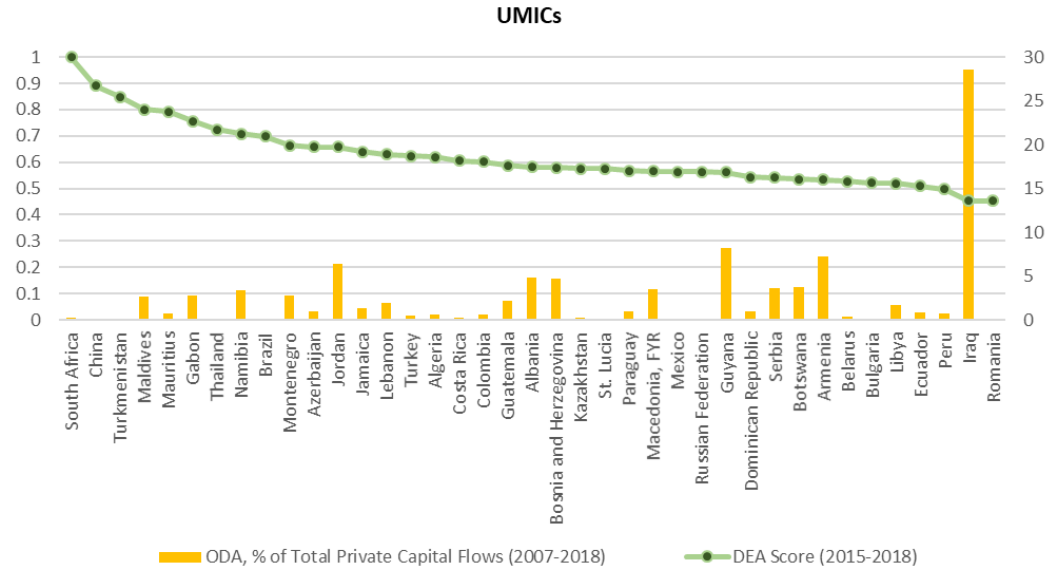
c. ODA in lower-middle-income countries (% of total flows)



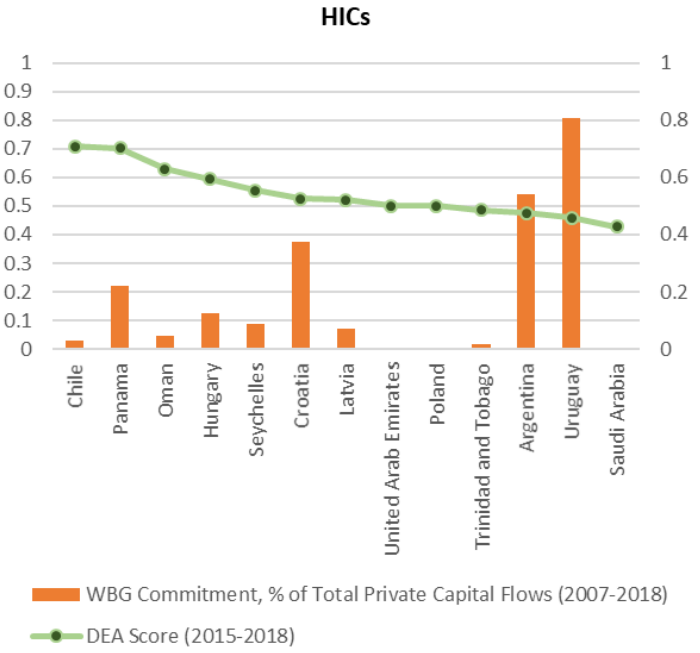
d. Bank Group commitment in upper-middle-income countries (% of total flows)



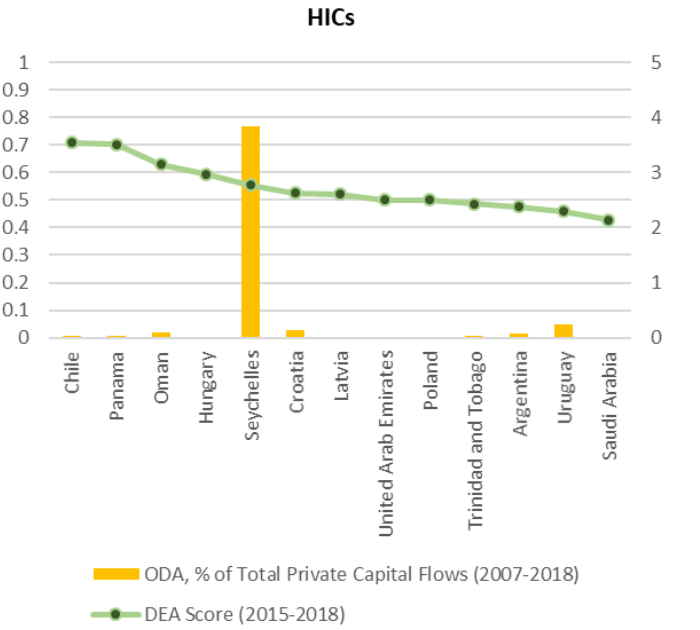
e. ODA in upper-middle-income countries (% of total flows)



f. Bank Group commitment in high-income countries (% of total flows)



g. ODA in high-income countries (% of total flows)



Source: Independent Evaluation Group.

Note: ODA = official development assistance.

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Annex I.1. Structured Literature Review

The frontier analysis investigates how private capital flows (data envelopment analysis [DEA] outputs) are related to domestic factors in the host economies (DEA inputs). The latter is operationalized by a composite measure of relevant pull factors, which aggregates information about empirical variables that have been identified in the economic literature as important determinants of private capital flows. The selection of variables included in the composite measure is based on a structured literature review using the following methodology:

Two independent keyword searches are performed using Google Scholar and Web of Science with the following parameters:

- Keywords: "determinants capital flows developing countries"
- Time span: since 2000
- Additional settings: only articles (no patents, and so on); only economics database (World of Science)
- Sorting of results: by relevance (Google Scholar); by times cited (World of Science)

The first 20 articles from both searches are reviewed in detail and further considered if they provide information about:

- Foreign direct investment or portfolio flows (for example, not remittances)
- Empirical determinants (not purely theoretical)
- Domestic ("pull") factors in the host country (not foreign "push" factors)

The variables used in the construction of the composite measure are selected based on the most common indicators among the remaining articles (Table 1, listed alphabetically by author) as well as data availability for the considered time period and sample of countries. In addition, we make sure to account for a

set of recent policy-related studies (Table 3), which may otherwise remain unconsidered (because they are not regarded as academic articles and thus not included in the two databases used for the structured literature review).

Data Coverage and Handling of Missing Values

To minimize potential biases from missing data, some attempts were made to impute missing values. The analysis is affected by two types of data unavailability: missing values for individual years of country observations and complete absence of some economies in the original data sets. To address the first issue, we augment the data with information from other years, that is, we impute missing values for a given time period with the corresponding values from the previous or later time period if available. Other than this procedure, no additional imputations for missing values are performed.

Because all our variables are based on widely used empirical indicators and data sources, most of the included economies in the analysis have information for all variables. Exceptions are reported in table JA.1 Regarding our measure of aggregate private capital flows, data on portfolio equity are unavailable for 10 countries, and 2 of these countries also have missing information on domestic credit. In these cases, our measure of aggregate private capital flows is constructed based only on those types of private capital flows for which data is available for a given country. The same applies to the two cases where data on dimension V (infrastructure) and dimension VI (financial development) are missing.

Table IA1.1. Missing Information

Country	FDI	Portfolio Equity	Domestic Credit	Domestic Investment Environment						
				I	II	III	IV	V	VI	VII
Central African Republic		X								
Chad		X								
Djibouti		X								
Honduras		X								
Kosovo								X		
Nepal		X								
Saudi Arabia		X								
St. Lucia		X								
Turkmenistan		X	X						X	
United Arab Emirates		X								
Uzbekistan		X	X							

Source: Independent Evaluation Group.

Note: "X" indicates that data on the variable are missing for a given country. FDI = foreign direct investment.

Robustness Checks

The construction of composite measures of private capital flows and domestic investment environment involves several decisions about the applied aggregation methodology which may affect our results. This annex explores the robustness of our findings to alternative specifications and different weighting schemes.

Our measure of private capital flows (DEA output variable) aggregates information on three types of capital flows: foreign direct investment, portfolio equity, and private sector borrowing. For the baseline measure used in the analysis each of these variables carries equal weight. We test the robustness of our results to three alternative weighting schemes, where each scheme assigns

double weight to one type of capital flow (this approach mirrors the robustness checks with respect to weighting in Afonso, Shuknecht, and Tanzi 2005). For example, one alternative specification assigns a weight of 1/2 to foreign direct investment, while the indicators for the other two capital flows are assigned a weight of 1/4 each. The other two alternative specifications assign a weight of 1/2 to portfolio equity and to private sector borrowing, and 1/4 to the other two types of capital, respectively.

To assess the similarity of the resulting outcomes with our baseline specification, we calculate two sets of correlation coefficients. The first set consists of standard Pearson correlation coefficients for continuous variables. These are used to test the similarity between the resulting values under alternative weighting schemes with those of the baseline measure. Second, we calculate Spearman correlation coefficients which measure the similarity between discrete rankings. The Spearman correlation coefficient ranges inside the interval [−1,1] and takes the value 1 if the two rankings are identical, whereas values smaller than 1 indicate less agreement (a value of 0 indicates that the rankings are completely independent, and a value of −1 indicates that one ranking is the reverse of the other). These are used to assess the similarity between the resulting rankings of countries rather than the associated absolute values.

In total, we calculate 18 correlation coefficients: 2 coefficients for each of the three weighting specifications in each of the three time periods. In all these cases, the correlation between our baseline measure and a given alternative specification is never below 90 percent and is always significant at the 1 percent significance level. This suggests that our main results are robust against moderate changes in the underlying weighting scheme for our measure of private capital flows.

Our measure of the domestic investment environment (DEA input variable) aggregates information on 14 indicators spanning seven dimensions. With so many variables involved, it is unlikely that alternative weighting schemes that

assign double weights on one indicator or dimension will have a relevant effect on the final outcome. Instead, we test the robustness of the results to alternative specifications that drop one of the dimensions entirely. For this purpose, we construct seven alternative composite indexes for each of the three time periods, in each case dropping one of the seven dimensions included in the baseline measure. In addition, we construct another alternative measure, where the weights for each dimension are based on the results of a principal components analysis. In total, we construct 24 alternative specifications across the three time periods, leading to 48 correlation coefficients.

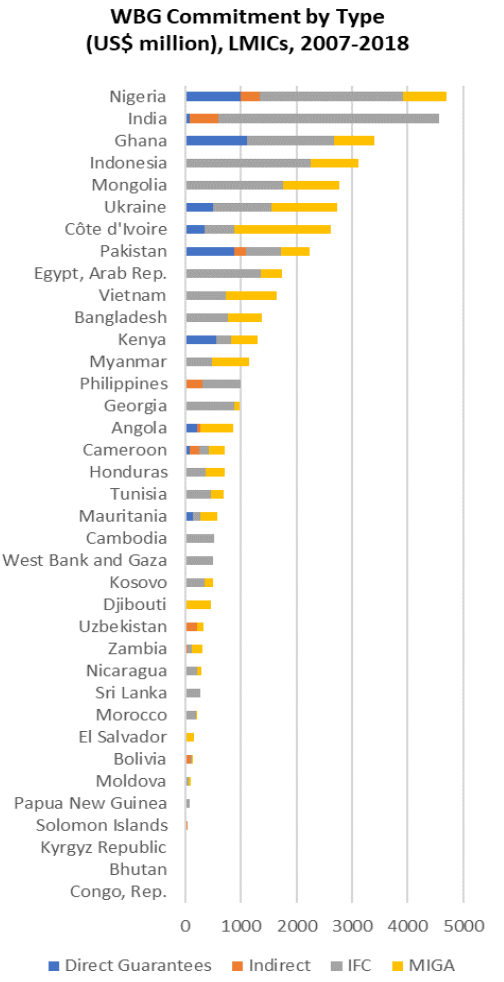
The Pearson correlation coefficients between our baseline measure of the domestic environment and any given alternative specification is never below 90 percent and is always significant at the 1 percent significance level. The same holds for the Spearman correlation coefficients when the rankings of countries resulting from the alternative specifications are compared with the ranking associated with our baseline measure. This suggests that our results are not driven by a single variable or dimension in the constructed composite measure of the domestic investment environment.

Annex I.2. Additional Tables and Figures

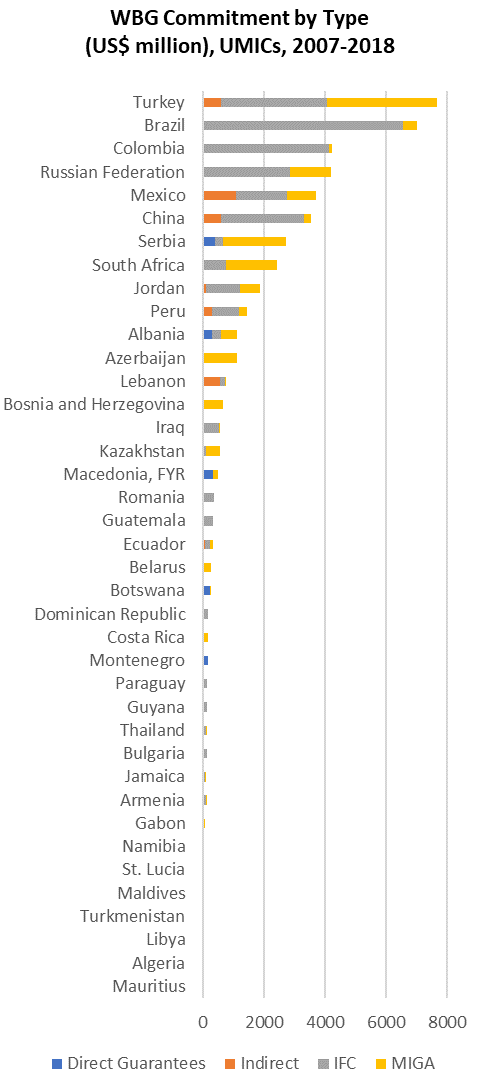
Figure IA2.1. World Bank Group Commitment, by Type

a. Low-income countries

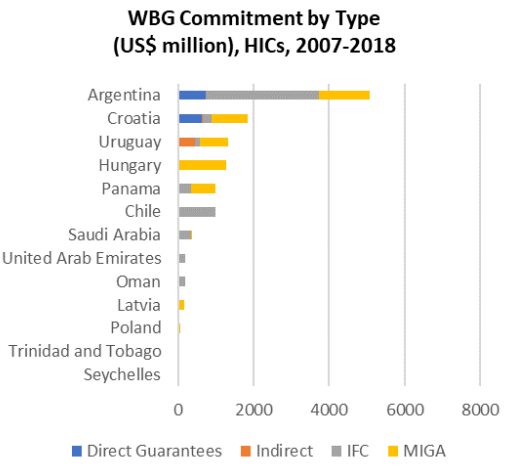
b. Lower-middle-income countries



c. Upper-middle-income countries



b. High-income countries

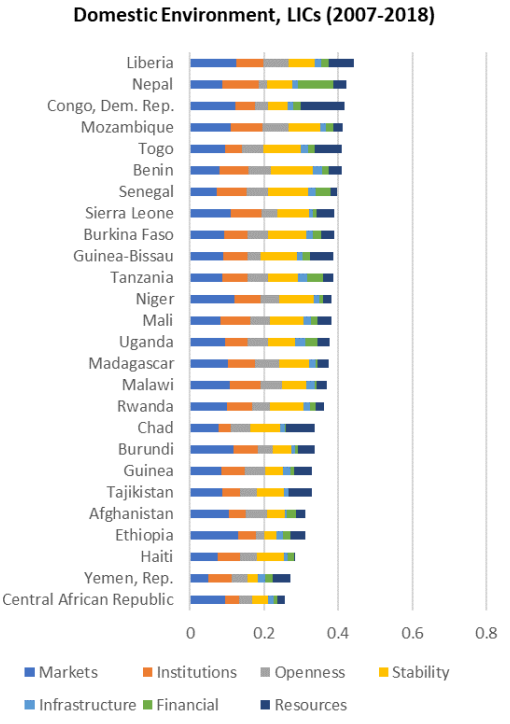


Source: Independent Evaluation Group.

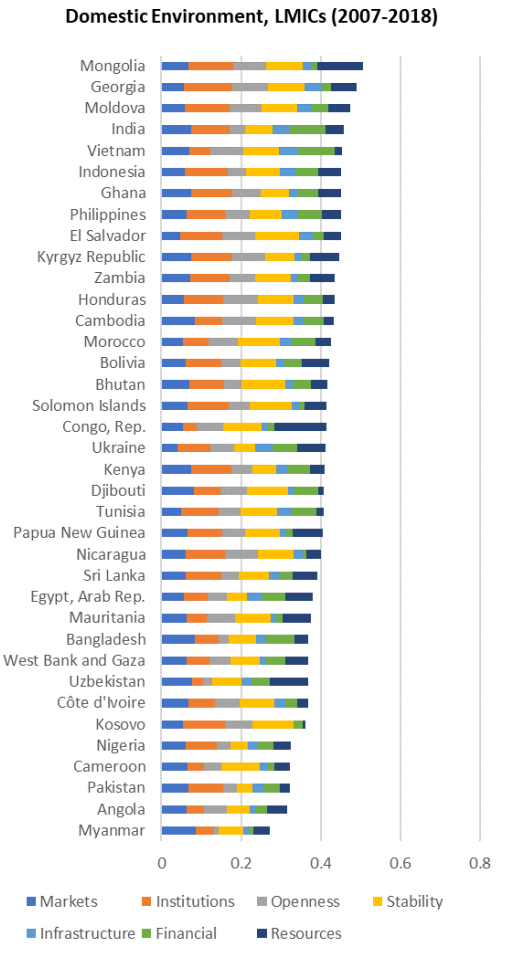
Note: HIC = high-income country; IFC = International Finance Corporation; MIGA = Multilateral Investment Guarantee Agency; UMIC = upper-middle-income country; WBG = World Bank Group.

Figure IA2.2.

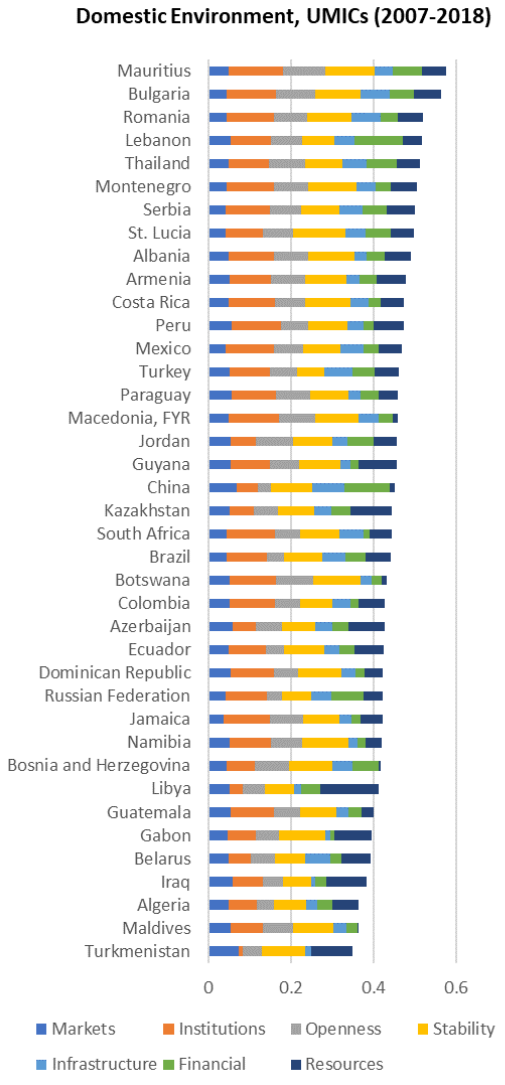
a. Low-income countries



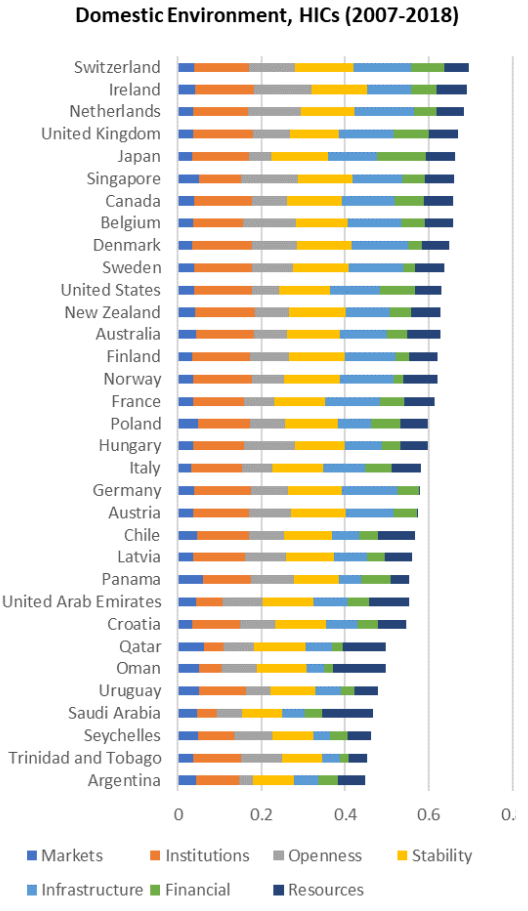
b. Lower-middle-income countries



c. Upper-middle-income countries



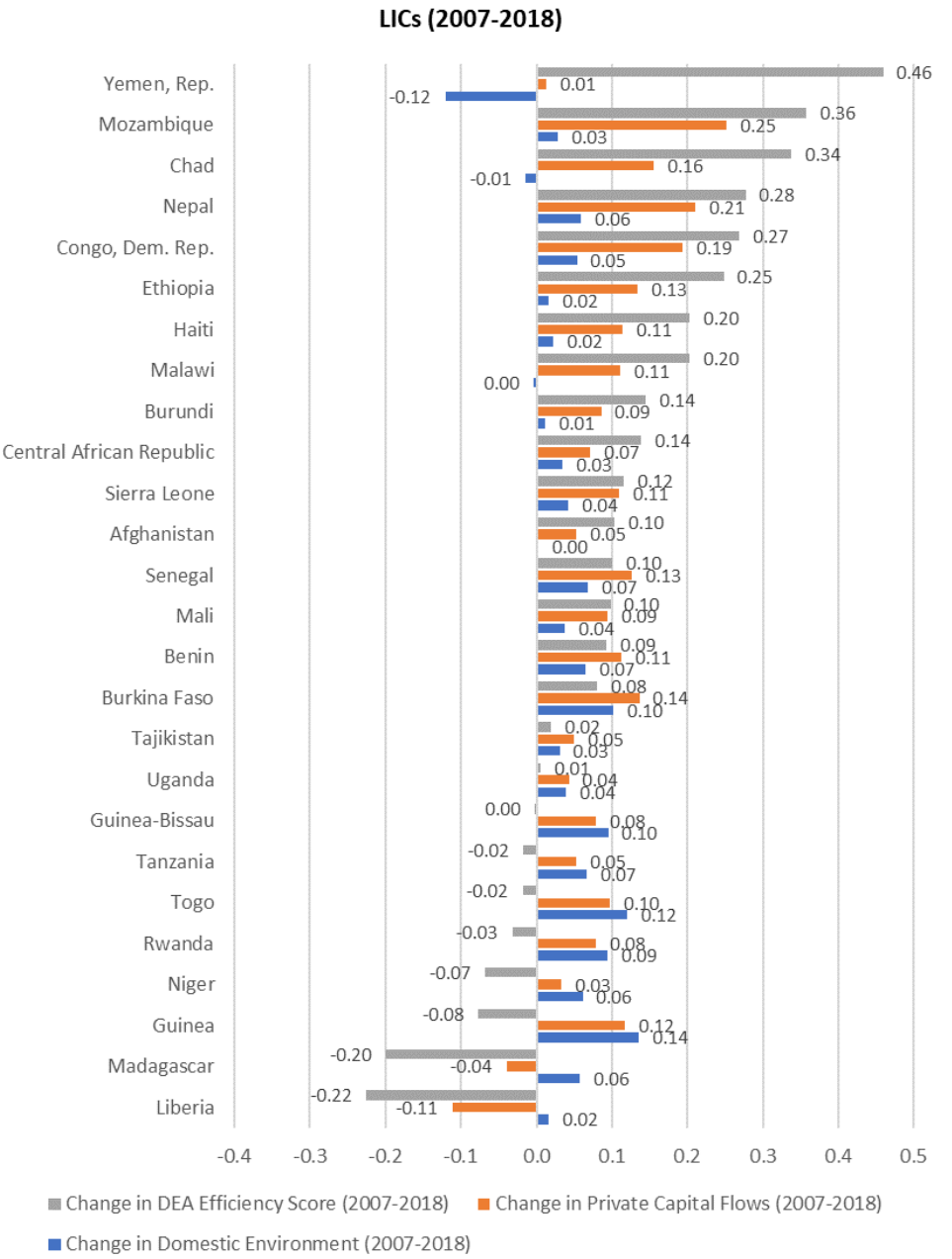
b. High-income countries



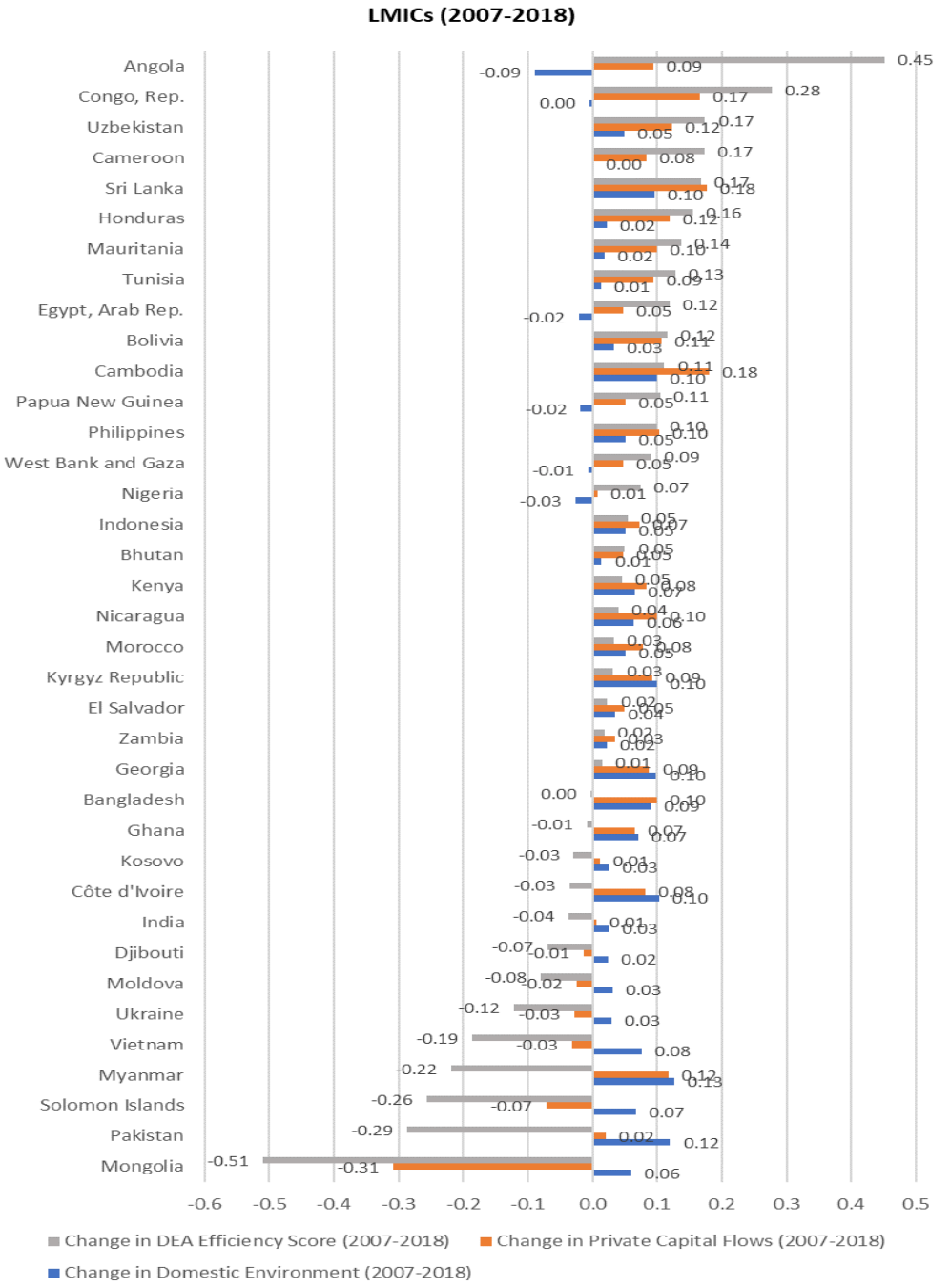
Source: Independent Evaluation Group.

Figure I.10.

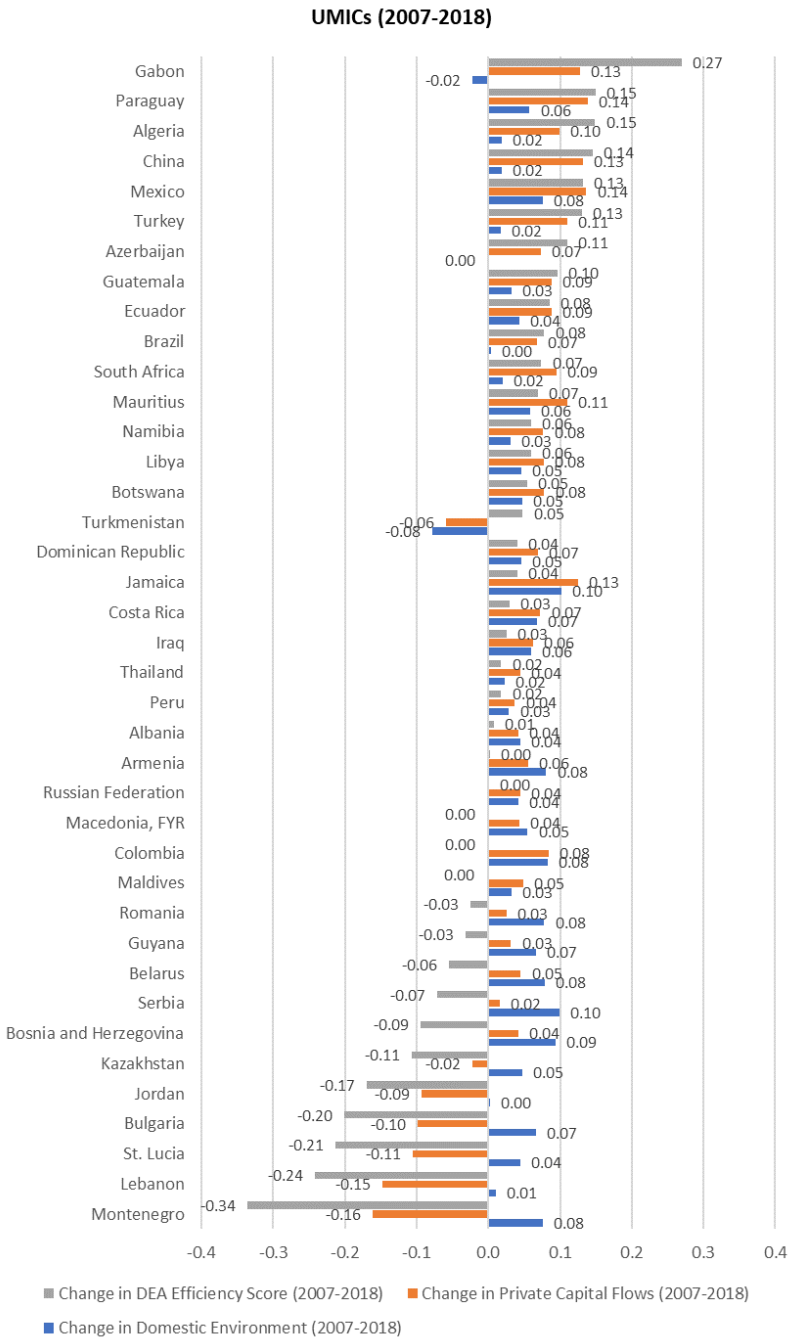
a. Low-income countries



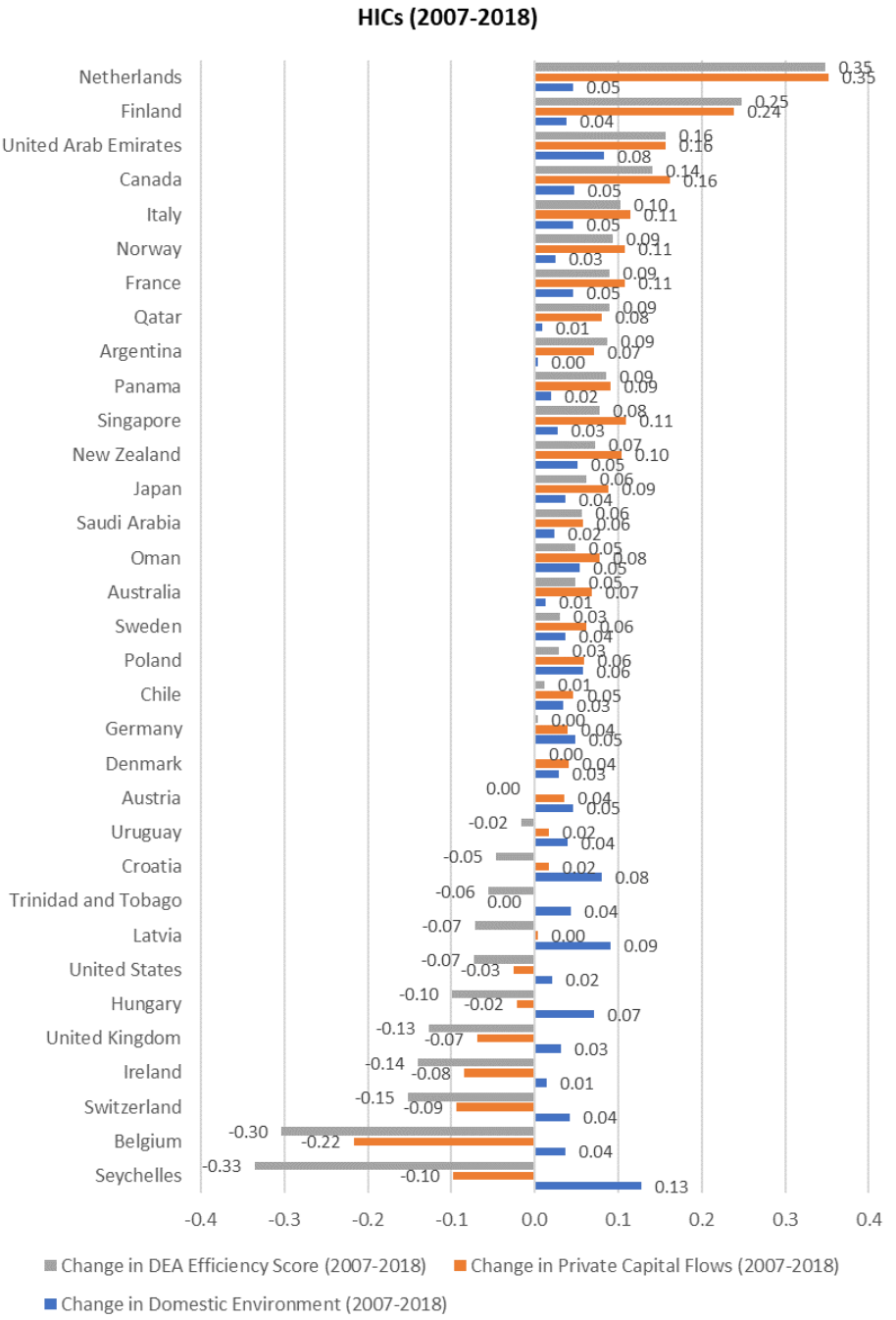
b. Lower-middle-income countries



c. Upper-middle-income countries



d. High-income countries



Source: Independent Evaluation Group.

Table IA2.1. Data

Country Income	2007–10			2011–14			2015–18			2007–18				
	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Bank Group Com. ($, mil.)	Bank Group Com. (% of ODA)
Low-income														
Afghanistan	0.22	0.31	0.52	0.25	0.31	0.65	0.27	0.32	0.63	0.25	0.31	0.60	316	0.6
Benin	0.24	0.38	0.45	0.32	0.40	0.55	0.35	0.45	0.54	0.30	0.41	0.51	9	0.1
Burkina Faso	0.22	0.35	0.46	0.26	0.36	0.51	0.36	0.45	0.54	0.28	0.39	0.51	119	1.1
Burundi	0.24	0.33	0.53	0.30	0.33	0.69	0.33	0.34	0.67	0.29	0.34	0.63	15	0.3
Central African Rep.	0.08	0.25	0.26	0.10	0.22	1.00	0.16	0.29	0.40	0.11	0.26	0.55	38	1.1
Chad	0.04	0.35	0.09	0.08	0.33	0.18	0.20	0.33	0.42	0.11	0.34	0.23	51	1.0
Congo, Dem. Rep.	0.10	0.39	0.19	0.10	0.41	0.16	0.30	0.45	0.46	0.17	0.42	0.27	360	1.3
Ethiopia	0.23	0.31	0.56	0.30	0.29	0.83	0.37	0.33	0.81	0.30	0.31	0.73	104	0.3
Guinea	0.25	0.27	0.69	0.31	0.31	0.80	0.36	0.41	0.61	0.31	0.33	0.70	135	3.2

Country Income	2007–10			2011–14			2015–18			2007–18				
	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Bank Group Com. ($, mil.)	Bank Group Com. (% of ODA)
Guinea-Bissau	0.23	0.35	0.48	0.28	0.36	0.56	0.31	0.45	0.48	0.28	0.39	0.51	27	2.1
Haiti	0.23	0.28	0.65	0.29	0.28	0.92	0.35	0.30	0.85	0.29	0.28	0.81	58	0.4
Liberia	0.54	0.43	0.88	0.58	0.45	0.85	0.43	0.45	0.66	0.52	0.44	0.80	142	1.6
Madagascar	0.36	0.35	0.75	0.33	0.36	0.64	0.32	0.41	0.55	0.34	0.37	0.65	308	4.9
Malawi	0.24	0.39	0.43	0.34	0.34	0.73	0.35	0.38	0.63	0.31	0.37	0.60	35	0.3
Mali	0.26	0.38	0.49	0.30	0.34	0.65	0.36	0.42	0.59	0.31	0.38	0.58	43	0.4
Mozambique	0.32	0.39	0.58	0.59	0.42	0.94	0.58	0.42	0.94	0.50	0.41	0.82	3,105	15.6
Nepal	0.14	0.40	0.24	0.22	0.41	0.36	0.35	0.46	0.52	0.23	0.42	0.37	3	0.0
Niger	0.32	0.35	0.66	0.40	0.38	0.72	0.35	0.41	0.59	0.36	0.38	0.66	191	2.4
Rwanda	0.26	0.32	0.60	0.33	0.35	0.68	0.34	0.41	0.56	0.31	0.36	0.62	313	2.9
Senegal	0.26	0.37	0.51	0.33	0.39	0.59	0.39	0.43	0.61	0.33	0.40	0.57	1,266	12.8
Sierra Leone	0.27	0.36	0.55	0.42	0.41	0.68	0.38	0.40	0.67	0.36	0.39	0.63	326	5.6

Country Income	2007–10			2011–14			2015–18			2007–18				
	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Bank Group Com. ($, mil.)	Bank Group Com. (% of ODA)
Tajikistan	0.29	0.31	0.68	0.30	0.32	0.72	0.34	0.35	0.70	0.31	0.33	0.70	12	0.3
Tanzania	0.27	0.36	0.53	0.31	0.36	0.61	0.32	0.43	0.51	0.30	0.39	0.55	63	0.2
Togo	0.27	0.35	0.55	0.38	0.41	0.62	0.36	0.47	0.54	0.34	0.41	0.57	189	6.3
Uganda	0.28	0.37	0.54	0.33	0.35	0.68	0.32	0.41	0.55	0.31	0.38	0.59	1,016	5.7
Yemen, Rep.	0.24	0.33	0.54	0.24	0.28	0.75	0.25	0.21	1.00	0.25	0.27	0.76	55	0.5
Average	0.25	0.35	0.52	0.31	0.35	0.66	0.34	0.39	0.62	0.30	0.36	0.60	319	2.7
Lower-middle income														
Angola	0.22	0.35	0.45	0.23	0.33	0.54	0.31	0.26	0.90	0.26	0.31	0.63	867	31.5
Bangladesh	0.27	0.31	0.63	0.35	0.39	0.63	0.37	0.41	0.63	0.33	0.37	0.63	1,373	6.1
Bhutan	0.31	0.42	0.50	0.34	0.39	0.61	0.35	0.44	0.56	0.34	0.42	0.56	10	0.8
Bolivia	0.30	0.40	0.51	0.37	0.42	0.59	0.40	0.44	0.63	0.36	0.42	0.58	126	1.7
Cambodia	0.36	0.38	0.67	0.45	0.44	0.67	0.54	0.48	0.78	0.45	0.43	0.71	519	6.6

Country Income	2007–10			2011–14			2015–18			2007–18				
	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Bank Group Com. ($, mil.)	Bank Group Com. (% of ODA)
Cameroon	0.23	0.32	0.52	0.28	0.32	0.70	0.31	0.32	0.69	0.27	0.32	0.64	710	8.4
Congo, Rep.	0.39	0.42	0.64	0.35	0.41	0.58	0.55	0.41	0.92	0.43	0.41	0.71	6	0.2
Côte d'Ivoire	0.24	0.32	0.57	0.29	0.37	0.56	0.32	0.42	0.53	0.29	0.37	0.55	2,619	22.6
Djibouti	0.35	0.40	0.61	0.31	0.40	0.54	0.34	0.43	0.54	0.33	0.41	0.57	451	29.7
Egypt, Arab Rep.	0.30	0.39	0.55	0.29	0.37	0.55	0.35	0.37	0.66	0.32	0.38	0.59	1,745	9.4
El Salvador	0.33	0.43	0.54	0.35	0.46	0.51	0.38	0.46	0.56	0.35	0.45	0.54	154	7.9
Georgia	0.41	0.44	0.66	0.43	0.50	0.60	0.50	0.53	0.68	0.45	0.49	0.65	983	15.5
Ghana	0.38	0.41	0.66	0.39	0.47	0.57	0.45	0.48	0.65	0.41	0.45	0.63	3,397	22.5
Honduras	0.25	0.42	0.40	0.30	0.43	0.45	0.37	0.45	0.56	0.30	0.43	0.47	701	12.6
India	0.39	0.45	0.61	0.41	0.44	0.61	0.39	0.48	0.57	0.39	0.46	0.59	4,568	17.6
Indonesia	0.28	0.43	0.46	0.34	0.45	0.50	0.35	0.48	0.51	0.32	0.45	0.49	3,109	74.5
Kenya	0.25	0.38	0.47	0.37	0.41	0.62	0.33	0.44	0.51	0.32	0.41	0.53	1,296	5.6

Country Income	2007–10			2011–14			2015–18			2007–18				
	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Bank Group Com. ($, mil.)	Bank Group Com. (% of ODA)
Kosovo	0.37	0.42	0.61	0.36	0.40	0.62	0.38	0.45	0.58	0.37	0.42	0.61	492	11.1
Kyrgyz Republic	0.30	0.40	0.52	0.34	0.43	0.52	0.39	0.50	0.55	0.34	0.45	0.53	14	0.3
Mauritania	0.30	0.37	0.58	0.45	0.36	0.91	0.40	0.39	0.71	0.39	0.37	0.73	578	16.5
Moldova	0.37	0.46	0.58	0.36	0.48	0.52	0.35	0.49	0.50	0.36	0.47	0.53	104	2.9
Mongolia	0.60	0.48	0.90	0.59	0.50	0.83	0.29	0.54	0.39	0.49	0.51	0.71	2,766	71.6
Morocco	0.34	0.40	0.60	0.41	0.43	0.63	0.41	0.45	0.63	0.39	0.42	0.62	199	1.3
Myanmar	0.25	0.21	1.00	0.29	0.27	1.00	0.37	0.34	0.78	0.30	0.27	0.93	1,155	10.3
Nicaragua	0.34	0.37	0.66	0.38	0.41	0.63	0.44	0.43	0.70	0.38	0.40	0.66	295	4.8
Nigeria	0.31	0.34	0.66	0.35	0.32	0.83	0.31	0.31	0.73	0.32	0.32	0.74	4,712	20.6
Pakistan	0.28	0.26	0.84	0.29	0.32	0.68	0.30	0.38	0.55	0.29	0.32	0.69	2,229	7.8
Papua New Guinea	0.25	0.42	0.42	0.28	0.39	0.48	0.31	0.40	0.53	0.28	0.41	0.48	72	1.4

Country Income	2007–10			2011–14			2015–18			2007–18				
	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Bank Group Com. ($, mil.)	Bank Group Com. (% of ODA)
Philippines	0.27	0.42	0.45	0.35	0.45	0.52	0.38	0.47	0.55	0.33	0.45	0.51	984	31.2
Solomon Islands	0.44	0.38	0.81	0.33	0.41	0.54	0.37	0.45	0.55	0.38	0.41	0.63	34	1.4
Sri Lanka	0.19	0.34	0.41	0.33	0.40	0.58	0.37	0.44	0.58	0.30	0.39	0.52	259	4.9
Tunisia	0.35	0.40	0.62	0.42	0.41	0.70	0.45	0.41	0.75	0.41	0.41	0.69	680	10.5
Ukraine	0.42	0.38	0.78	0.43	0.44	0.64	0.39	0.41	0.66	0.42	0.41	0.69	2,725	28.4
Uzbekistan	0.12	0.35	0.25	0.15	0.35	0.33	0.25	0.40	0.43	0.17	0.37	0.33	320	9.7
Vietnam	0.61	0.42	1.00	0.54	0.44	0.80	0.58	0.50	0.81	0.57	0.45	0.87	1,639	4.9
West Bank and Gaza	0.28	0.39	0.52	0.32	0.34	0.71	0.33	0.38	0.61	0.31	0.37	0.61	502	2.1
Zambia	0.31	0.42	0.50	0.33	0.44	0.50	0.34	0.45	0.52	0.33	0.44	0.51	297	2.8
Average	0.32	0.39	0.60	0.36	0.41	0.62	0.38	0.43	0.62	0.35	0.41	0.61	1,153	14.0

Country Income	2007–10			2011–14			2015–18			2007–18				
	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Bank Group Com. ($, mil.)	Bank Group Com. (% of ODA)
Upper-middle income														
Albania	0.38	0.47	0.57	0.42	0.49	0.59	0.42	0.51	0.58	0.40	0.49	0.58	1,139	37.6
Algeria	0.24	0.36	0.47	0.28	0.35	0.58	0.34	0.38	0.62	0.28	0.36	0.56	4	0.2
Armenia	0.33	0.43	0.53	0.37	0.49	0.52	0.38	0.51	0.53	0.36	0.48	0.53	118	3.4
Azerbaijan	0.33	0.43	0.55	0.35	0.43	0.54	0.41	0.43	0.66	0.36	0.43	0.58	1,113	65.6
Belarus	0.30	0.36	0.58	0.33	0.37	0.63	0.34	0.44	0.53	0.32	0.39	0.58	274	44.3
Bosnia and Herzegovina	0.35	0.37	0.67	0.37	0.41	0.60	0.39	0.47	0.58	0.37	0.42	0.62	682	13.4
Botswana	0.28	0.41	0.48	0.34	0.43	0.52	0.36	0.46	0.54	0.33	0.43	0.51	255	13.5
Brazil	0.39	0.44	0.62	0.43	0.43	0.64	0.46	0.45	0.70	0.43	0.44	0.65	7,003	103.1
Bulgaria	0.51	0.53	0.72	0.40	0.57	0.53	0.41	0.59	0.52	0.44	0.56	0.59	137	0.0
China	0.47	0.45	0.75	0.56	0.44	0.83	0.60	0.47	0.89	0.55	0.45	0.82	3,532	0.0

Country Income	2007–10			2011–14			2015–18			2007–18				
	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Bank Group Com. ($, mil.)	Bank Group Com. (% of ODA)
Colombia	0.32	0.38	0.60	0.43	0.44	0.64	0.41	0.46	0.60	0.39	0.43	0.61	4,217	40.8
Costa Rica	0.36	0.45	0.57	0.41	0.46	0.59	0.44	0.51	0.61	0.40	0.47	0.59	176	24.1
Dominican Republic	0.29	0.40	0.50	0.33	0.42	0.52	0.36	0.45	0.54	0.32	0.42	0.52	182	10.0
Ecuador	0.24	0.40	0.43	0.30	0.43	0.46	0.33	0.44	0.51	0.29	0.42	0.47	336	16.2
Gabon	0.27	0.39	0.49	0.30	0.42	0.47	0.40	0.37	0.76	0.32	0.39	0.57	63	7.9
Guatemala	0.27	0.38	0.49	0.31	0.40	0.52	0.35	0.42	0.59	0.31	0.40	0.53	336	8.5
Guyana	0.36	0.42	0.59	0.39	0.45	0.57	0.39	0.49	0.56	0.38	0.46	0.57	140	11.7
Iraq	0.21	0.36	0.43	0.28	0.37	0.53	0.28	0.42	0.45	0.26	0.38	0.47	571	1.6
Jamaica	0.31	0.37	0.60	0.35	0.42	0.56	0.44	0.47	0.64	0.37	0.42	0.60	122	17.4
Jordan	0.54	0.47	0.83	0.46	0.44	0.69	0.45	0.47	0.66	0.48	0.46	0.73	1,874	11.1
Kazakhstan	0.41	0.42	0.68	0.36	0.44	0.54	0.39	0.47	0.58	0.39	0.44	0.60	564	33.5
Lebanon	0.61	0.52	0.87	0.49	0.49	0.70	0.46	0.53	0.63	0.52	0.52	0.73	763	8.9

Country Income	2007–10			2011–14			2015–18			2007–18				
	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Bank Group Com. ($, mil.)	Bank Group Com. (% of ODA)
Libya	0.26	0.40	0.46	0.28	0.40	0.49	0.34	0.44	0.52	0.29	0.41	0.49	10	0.5
Macedonia, FYR	0.35	0.44	0.57	0.36	0.44	0.54	0.40	0.49	0.56	0.37	0.46	0.56	504	26.3
Maldives	0.38	0.34	0.80	0.42	0.36	0.83	0.43	0.38	0.80	0.41	0.36	0.81	34	7.5
Mauritius	0.52	0.55	0.72	0.60	0.57	0.78	0.63	0.60	0.79	0.58	0.58	0.76	0	0.0
Mexico	0.27	0.43	0.43	0.32	0.47	0.46	0.40	0.51	0.56	0.33	0.47	0.49	3,705	69.3
Montenegro	0.66	0.47	1.00	0.48	0.50	0.67	0.50	0.55	0.66	0.54	0.51	0.78	172	16.9
Namibia	0.38	0.41	0.65	0.40	0.42	0.64	0.45	0.44	0.71	0.41	0.42	0.67	38	1.5
Paraguay	0.26	0.43	0.42	0.33	0.45	0.49	0.40	0.49	0.57	0.33	0.46	0.49	141	12.4
Peru	0.31	0.46	0.48	0.34	0.46	0.50	0.35	0.49	0.50	0.33	0.47	0.49	1,456	46.9
Romania	0.32	0.48	0.48	0.35	0.51	0.48	0.34	0.56	0.45	0.34	0.52	0.47	365	0.0
Russian Federation	0.32	0.40	0.56	0.33	0.42	0.52	0.37	0.44	0.56	0.34	0.42	0.55	4,180	0.0

Country Income	2007–10			2011–14			2015–18			2007–18				
	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Bank Group Com. ($, mil.)	Bank Group Com. (% of ODA)
Serbia	0.39	0.46	0.61	0.39	0.49	0.55	0.41	0.55	0.54	0.40	0.50	0.57	2,711	31.7
South Africa	0.57	0.44	0.93	0.67	0.44	1.00	0.67	0.46	1.00	0.64	0.44	0.98	2,415	20.0
St. Lucia	0.52	0.48	0.79	0.42	0.49	0.59	0.42	0.52	0.57	0.45	0.50	0.65	35	14.6
Thailand	0.48	0.50	0.71	0.51	0.52	0.70	0.53	0.52	0.73	0.51	0.51	0.71	139	0.0
Turkey	0.31	0.44	0.49	0.39	0.49	0.55	0.42	0.46	0.62	0.37	0.46	0.55	7,666	32.6
Turkmenistan	0.51	0.45	0.80	0.38	0.40	0.65	0.45	0.37	0.85	0.45	0.41	0.77	14	4.3
Average	0.37	0.43	0.61	0.39	0.45	0.60	0.42	0.47	0.62	0.39	0.45	0.61	1,210	19.4
High income														
Argentina	0.25	0.45	0.39	0.29	0.43	0.44	0.32	0.46	0.47	0.28	0.45	0.43	5,084	730.8
Chile	0.51	0.55	0.70	0.67	0.56	0.88	0.55	0.59	0.71	0.58	0.57	0.76	984	78.0
Croatia	0.40	0.51	0.57	0.41	0.54	0.55	0.41	0.59	0.52	0.40	0.55	0.55	1,832	296.9
Hungary	0.51	0.56	0.69	0.40	0.60	0.51	0.49	0.63	0.59	0.47	0.60	0.60	1,280	0.0

Country Income	2007–10			2011–14			2015–18			2007–18				
	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Bank Group Com. ($, mil.)	Bank Group Com. (% of ODA)
Latvia	0.41	0.51	0.59	0.42	0.58	0.54	0.41	0.60	0.52	0.41	0.56	0.55	169	0.0
Oman	0.38	0.47	0.58	0.42	0.49	0.60	0.46	0.53	0.63	0.42	0.50	0.60	192	48.9
Panama	0.45	0.55	0.62	0.50	0.55	0.66	0.54	0.56	0.70	0.49	0.55	0.66	987	677.9
Poland	0.35	0.57	0.47	0.41	0.60	0.52	0.41	0.63	0.50	0.39	0.60	0.50	36	0.0
Saudi Arabia	0.24	0.45	0.37	0.18	0.48	0.26	0.29	0.47	0.43	0.24	0.47	0.35	360	0.0
Seychelles	0.50	0.40	0.89	0.51	0.46	0.75	0.40	0.52	0.55	0.47	0.46	0.73	5	2.5
Trinidad and Tobago	0.33	0.43	0.54	0.27	0.45	0.40	0.33	0.47	0.49	0.31	0.45	0.48	15	40.4
United Arab Emirates	0.24	0.51	0.34	0.27	0.56	0.35	0.39	0.59	0.50	0.30	0.55	0.40	192	0.0
Uruguay	0.31	0.46	0.47	0.35	0.47	0.51	0.33	0.50	0.46	0.33	0.48	0.48	1,320	353.5
Average	0.38	0.49	0.56	0.39	0.52	0.54	0.41	0.55	0.54	0.39	0.52	0.55	958	171.5
Benchmark														

Country Income	2007–10			2011–14			2015–18			2007–18				
	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Bank Group Com. ($, mil.)	Bank Group Com. (% of ODA)
Australia	0.58	0.63	0.74	0.58	0.62	0.72	0.65	0.64	0.79	0.60	0.63	0.75		
Austria	0.41	0.56	0.56	0.46	0.56	0.61	0.45	0.60	0.56	0.44	0.57	0.58		
Belgium	0.63	0.64	0.79	0.46	0.65	0.55	0.42	0.68	0.48	0.50	0.66	0.61		
Canada	0.47	0.64	0.59	0.56	0.66	0.67	0.63	0.68	0.73	0.55	0.66	0.66		
Denmark	0.63	0.64	0.79	0.68	0.64	0.83	0.67	0.67	0.79	0.66	0.65	0.80		
Finland	0.41	0.61	0.52	0.52	0.61	0.65	0.64	0.65	0.77	0.52	0.62	0.65		
France	0.40	0.59	0.53	0.50	0.61	0.63	0.51	0.64	0.62	0.47	0.61	0.59		
Germany	0.40	0.56	0.55	0.43	0.57	0.56	0.44	0.60	0.55	0.42	0.58	0.55		
Ireland	0.84	0.69	1.00	0.78	0.69	0.92	0.76	0.70	0.86	0.79	0.69	0.93		
Italy	0.36	0.56	0.48	0.49	0.57	0.65	0.47	0.61	0.59	0.44	0.58	0.57		
Japan	0.50	0.65	0.61	0.65	0.66	0.78	0.59	0.69	0.68	0.58	0.66	0.69		
Netherlands	0.54	0.66	0.65	0.84	0.68	1.00	0.89	0.71	1.00	0.76	0.68	0.88		

Country Income	2007–10			2011–14			2015–18			2007–18				
	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Private Capital	Dom. Env.	DEA Score	Bank Group Com. ($, mil.)	Bank Group Com. (% of ODA)
New Zealand	0.48	0.60	0.62	0.58	0.62	0.72	0.58	0.66	0.69	0.55	0.63	0.68		
Norway	0.49	0.61	0.63	0.55	0.62	0.68	0.59	0.64	0.72	0.54	0.62	0.68		
Qatar	0.37	0.49	0.54	0.33	0.50	0.47	0.45	0.50	0.63	0.38	0.50	0.54		
Singapore	0.68	0.65	0.84	0.63	0.66	0.76	0.79	0.68	0.92	0.70	0.66	0.84		
Sweden	0.50	0.62	0.63	0.55	0.63	0.68	0.56	0.66	0.67	0.54	0.64	0.66		
Switzerland	0.62	0.68	0.74	0.67	0.69	0.80	0.52	0.72	0.59	0.60	0.70	0.71		
United Kingdom	0.64	0.66	0.79	0.63	0.67	0.75	0.57	0.69	0.66	0.61	0.67	0.73		
United States	0.63	0.62	0.80	0.64	0.63	0.80	0.61	0.64	0.73	0.63	0.63	0.78		
Average	0.53	0.62	0.67	0.58	0.63	0.71	0.59	0.65	0.70	0.56	0.63	0.69		

Source: Independent Evaluation Group.

Note: DEA = data envelopment analysis; ODA = official development assistance; Bank Group = World Bank Group.

Appendix J. Synthesis of World Bank Group Country Cases

This appendix presents the findings and conclusions of the 12 country case studies. It focuses on the World Bank Group's support for private capital mobilization over the evaluation period (FY08–18) with particular attention to the relevance, effectiveness, areas of improvement, and opportunities for scaling up mobilization efforts across client countries.

Background

All 11 case study countries had different growth trajectories over the evaluation period. Most experienced considerable growth and sought to achieve fiscal consolidation as a way to promote investor confidence; others achieved minimal growth. In Albania, the government implemented ambitious policy measures toward fiscal consolidation, which was critical in rebuilding investor confidence. The corporate income tax increased from 10 percent to 15 percent while taxes on small businesses were abolished.

Some countries—Ghana, Lebanon, and Nigeria—shared similar stories with high debt to Gross Domestic Product (GDP) ratios, which had the potential to deter investors. The Ghana case highlighted that during recent years the chronic fiscal deficits and currency depreciation led to increasing debt and higher inflation. Lebanon also suffered from different vulnerabilities, such as twin deficits (fiscal and current account), high dollarization of the economy, and a large banking system. To finance its budget deficits, the government has issued multiple Eurobonds, which contributed to elevated public debt levels.

Private Capital Flows

Private capital flows are highly dependent on country inputs such as investment climate, governance, and debt service. For example; countries like Mongolia and Albania attracted substantial foreign direct investment (FDI). Outside of mining, the International Finance Corporation (IFC) mobilized over $300 million into

Mongolia's banking sector from 2012 to 2017. FDI in Albania is three times the average of middle-income countries at approximately 9 percent of GDP since 2008; however, its diversity remains limited. Countries like Jordan and Ghana suffered from diminished private investment over the past decade. FDI inflows went from an annual average of $2.7 billion (equal to 15.5 percent of GDP) between 2006 and 2009 (all-time high of 23.5 percent in 2006) to $1.71 billion between 2010 and 2017 (5.22 percent), demonstrating an overall decline over the evaluation period. Domestic credit to the private sector in Jordan (as a percentage of GDP) had remained over 90 percent for 2006 and 2007, but saw a significant decrease to a little over 80 percent in 2008. Ghana's FDI has been declining in recent years despite interventions by the government to improve the macro environment and create a business enabling environment. FDI peaked in 2008 as a percentage of GDP at 9.52 percent and declined sharply in 2013 to 5.10 percent of GDP and has averaged 5.84 percent in subsequent years. The overall weight of the formal private sector in Ghana's economy remains low in terms of investment—and FDI inflows are largely directed to capital-intensive jobs-poor sectors. Gross private capital formation is significantly lower than in Ghana's structural peers, lower-middle-income countries, and aspirational peers.

Zambia showed mixed results with private capital flows high and declining overtime. The case study highlighted that FDI inflows have been historically higher than the Sub-Saharan Africa average, but have consistently declined since 2015. Generally, Zambia has been characterized by one of the most open FDI regimes in Africa, and its Doing Business ranking is rather high (65.08 in 2019. [1] However, its current macroeconomic conditions appear to have shaken investor confidence. FDI inflows were characterized by spikes and falls in the past 12 years, but have considerably contracted since 2015, from 7.5 percent of GDP to 1.5 percent of GDP in 2018, falling below the Sub-Saharan Africa average

[1] A combined score for Ease of Doing Business. Scale from 0 (worst) to 100 (best) regulatory performance.

for the first time. Foreign firms repatriated earnings, while new investments remained subdued due to the uncertain macroeconomic outlook (IMF 2019).

Mobilization Priorities and Programs in Country Strategies

Each of the case study countries had two or three Country Partnership Frameworks (CPFs), Country Partnership Strategies (CPSs) or country assistance strategies (CASs) during the evaluation period; all of these addressed mobilization issues, albeit indirectly. Mobilization efforts were not mainstreamed in the objectives and pillars of strategy documents, but they were captured as part of activities under the various objectives.

Relevance

Clients (government and corporate) acknowledged that World Bank Group objectives and pillars highlighted in the CPS and CAS were mostly aligned with their priorities. Though private capital mobilization efforts were not clearly outlined in the CPS and CAS, they were embedded in activities undertaken under the various objectives and pillars. Notable catalytic activities undertaken by the Bank Group to boost mobilization efforts included helping some countries to create an enabling business and investment climate to attract private investors. Findings from Albania indicated that although the mobilization of private capital is not consistently or extensively discussed in relevant strategy documents, mobilization instruments are used strategically to respond to the government's requests and country's needs, given existing macroeconomic constraints. In addition, the Bank Group's interventions are sequenced to address upstream business environment constraints.

Private capital mobilization through Maximizing Finance for Development has been part of the Bank Group's country and sector strategy in countries for the past 10 years, yet the sectors of focus continued to change every cycle, resulting in sporadic outputs and outcomes for this programmatic approach. For example;

Mongolia's case study indicated that the Bank Group's role in mobilizing private capital was highly relevant and the results were satisfactory. The Oyu Tolgoi mine has added tremendous economic value throughout Mongolia, and the Bank Group's private capital mobilization interventions show positive demonstration effects. The World Bank's analytical and advisory work with the National Development Agency is highly relevant in mobilizing private capital for Mongolia. The World Bank's work is widely disseminated and well publicized in the Mongolian press, and the views of staff are frequently sought and quoted in the media. The Investment Reform Map report for Mongolia was developed as part of an IFC Investment Policy and Agricultural Improvement Program advisory project. It was prepared in close collaboration with the Cabinet Secretariat and the National Development Agency. It has shaped the government's core investment plan, the $30 billion MNT Public Investment Program published by the National Development Agency, with the input from members of parliament and the industry ministries. This program seeks investment outside of the state budget and is eager to raise private capital for its projects.

Three of the case studies also indicated that the commitment and support of the government were highly relevant in reaching the mobilization goals.

- For example: the Argentina case study indicated that the preparedness of the government of Argentina to benefit from the Bank Group's support was the most important factor behind the success Argentina's mobilization of private capital under the Bank Group's Maximizing Finance for Development. The preparedness included, but was not limited to (i) the readiness of the Renewable Energy Sub-Secretariat, both in its leadership and its top team structure; and (ii) its willingness to meet the return requirements of investors, which the case study terms as the seven-year rule.

- In Albania, mobilization of private capital was relevant under the first pillar of the strategy. Specifically, to maintain macroeconomic stability and improve the business environment, International Bank of Reconstruction and Development (IBRD) lending was to contribute to increased export

competitiveness and attract FDI through the Business Environment Enhancement and Institutional Reform Project (FY06). This project—in conjunction with development policy loans—would support measures associated with financial sector development, to be compatible with the European Union's legal and institutional frameworks. IFC identified the promotion of external competitiveness as its priority with the goal and supporting local export–oriented and import-substitution companies. Though the Multilateral Investment Guarantee Agency (MIGA) had not begun operations in Albania, it sought opportunities to invest in the agribusiness, manufacturing, and tourism sectors; these were identified based on their potential to attract increasing FDI inflows.

Effectiveness

The Bank Group's efforts in championing the Maximizing Finance for Development agenda and its private capital mobilization efforts show mixed results – demonstration and replication effects at the intervention level did not translate to country level effects even in systemic, large projects in infrastructure or the financial sectors. When long-term investment decisions are being made, the Bank Group's additionality for investors was reported as risk mitigating (navigating uncertain and contradictory regulatory regime) and return seeking (high returns on investments and the preferred creditor status).

The Bank Group's convening power and collaborative effort were seen as effective among stakeholders for driving the private capital mobilization agenda. Evidence from the CAS suggested that the Bank Group's efforts to mobilize private capital have crowded in some financing support from development partners like the Inter-American Development Bank, but there is a lot of untapped potential for private capital mobilization from other partners and international financial institutions, especially in case of renewable energy projects. Currently a coordination among these institutions is weak, and the Bank Group should take the lead to leverage synergies and build on each other's comparative advantage.

- Mongolia showed positive results from Bank Group intervention and demonstrated itself as a proving ground for Bank Group innovation in Phase 1 of the mining intervention. The Bank Group country team's view on Oyu Tolgoi is that it is a learning environment. On one hand, a single project on Oyu Tolgoi has enabled a climate where capital can be mobilized from domestic sources and where new downstream sectors can also attract capital. On the other, exports from Oyu Tolgoi generated demands for expansion into infrastructure projects to strengthen Mongolia's geographical position as an economic corridor. Local currency financing gaps increasingly is an opportunity for the Bank Group, as echoed by teams in Mongolia and across Asia. Furthermore, IFC's innovative Green Bond financing with XAC Bank is a testimony that the Bank Group can leverage capital markets to mobilize new forms of capital.

World Bank Treasury support for private capital mobilization showed demonstration effects across various countries, especially with insurance-linked securities and catastrophe bonds. For example; in terms of demonstration effects, the Bank Group played a major role in promoting disaster and risk financing and insurance activities in Mexico, which led to similar projects being implemented in other countries. Working in close partnership with government institutions, the World Bank was successful in supporting integration of disaster risk within Mexico's broader fiscal risk management strategy through MultiCat bonds. The project, first implemented in 2009, overachieved its objective, leading to the issuance of the second bond in 2017 and to demonstration effects in other countries prone to disaster risk. IFC's efforts in Mexico also had demonstration effects at the market level, by strengthening investor confidence in the newly opened up sectors.

- Similarly, Jordan's transport sector witnessed a significant scale-up of support owing to the success of initial private capital mobilization by the Bank Group in a landmark transport project, the Queen Alia International Airport. Through IFC's various roles in the deal, the project was able to raise $160 million through IFC's syndication loan, $100 million through parallel

financing from the Islamic Development Bank, and $304 million through internal equity. The subsequent scale-up in 2013 was a result of IFC's syndicated loan of $160 million, the Islamic Development Bank's $100 million loan, and a total equity contribution of $485.3 million, resulting in almost doubling of the commercial capital.

Areas of Improvement

A theme which is emphasized in most of the CPS documents is the need for internal cooperation within the Bank Group to maximize finance for development and promote private capital mobilization efforts. The case studies highlighted the need to improve coordination, both internally and externally. While the Bank Group tries to leverage synergies among its institutions to achieve common development objectives. The Ghana case study highlighted that more attention should be given to improved coordination between World Bank and IFC programs, in critical sectors where there are natural complementarities. In the first instance, efforts should be made to build on recent coordination in the energy sector (for example, the Sankofa operation) to jointly develop a program that better supports Ghana's energy objectives through identifying opportunities for coordinated action on sectoral policy and appropriate private sector development efforts. Similarly, synergies should be exploited in the agriculture sector, especially in sustainable agricultural technologies and support for cultivation of nontraditional crops and agricultural exports.

The World Bank should continue catalytic activities including helping countries create a strong macro environment to attract private capital, based on stakeholder interviews. At the country level, developing solutions to crowd-in domestic investors along with international investors will be instrumental in mobilizing private capital for development. Increased attention to governance and investment climate reforms to various sectors are essential for the next stage of most country's economic development. Areas of improvement that the Bank Group can explore include developing solutions to bring onboard commercial capital and domestic investors. Increased capital market

development activities and supporting local private equity funds could help address the low access to capital.

The World Bank should help client countries to develop a pipeline of bankable projects, which will attract investors. Considering that investors have confidence in the World Bank's ability to maximize finance for development and provide risk-mitigating support to navigate investments in various countries.

- The investment climate in Jordan is somewhat conducive to capitalizing on investment opportunities, but there is a lack of consistency across sectors, and uncertainty surrounds regulatory landscape and tax regime. This inconsistency is also reflected in Bank Group operations, where despite the identified priorities of the government of Jordan, uncertainty prevails and there is no clear pipeline of projects to be implemented in the long-term (even though the government has a pipeline of infrastructure projects, developed after the London Investment Conference). As discussed before, this inconsistency was also reflected in the Bank Group's support to Jordan during the period of the FY 12–15 CPF, given the evolving regional context. Additionally, the banking sector is the most heavily taxed sector and suffers from unpredictable changes in tax rates, which is an obstacle to the promotion of longer-term financing models and have to prioritize short-term consumer lending. The energy and water sectors enjoy sovereign guarantees of fiscal responsibility from the government in case of single-buyer state-owned off-takers, which make the sectors more attractive to investors.

- In Bangladesh it was found that natural gas accounts for more than 60 percent of power generation, and its depleting supply is a risk identified as a key inhibiting factor in the scale-up of power generation projects. This presents opportunities for the Bank Group to explore and develop a pipeline of projects in alternative power generation to reduce the country's reliance on natural gas. As of 2016, about 39 percent of Summit Corporation Limited's power plants ran on gas, and given the gas shortage in Bangladesh, Summit Corporation Limited had been actively seeking to diversify its power

generation portfolio into dual-fuel technology (which can operate on gas in addition to heavy fuel oil) and heavy fuel oil engine plants. Further, the government of Bangladesh is also working actively to augment gas supply via the import of liquefied natural gas (LNG), for which onshore and offshore terminals are being planned; and Summit is in an advantageous position to get LNG allocation, given that it would play a key role in Petrobangla's supply of LNG through its Floating Storage Regasification Unit LNG terminal service.[2] IFC has started its engagement with Summit Group for its LNG business line and has played a vital role in the overall partnership of Summit with other LNG services groups, including United States–based Excelerate Energy.

- In Zambia, all stakeholders engaged indicated that the Bank Group should leverage its track record in developing a pipeline of bankable projects, which would also attract more private investments.

Other important lessons drawn from reviewing CPS documents across various countries include the importance of government and stakeholder ownership in achieving CPS objectives. Many projects achieving a successful rating had government ownership as a key element. Another factor is mapping the results framework to measurable outcomes in CPS; Multi-Donor Budget Support has been critical; sector operations need to incorporate multisectoral approaches; regional projects need to be closely aligned; integrating Bank Group engagement requires further effort; and decentralization of World Bank capacity is critical to client needs.

- The Zambia case study indicated that to address the issues of access to credit for midmarket companies, IFC could leverage its global expertise to support Zambia-based private equity funds. This would allow for addressing the funding gap, for catalyzing funds to strategic sectors, and for establishing

[2] "Detailed Client Supervision, Summit Power International." IFC, October 2019.

partnerships with fund managers for possible co-investments.[3] Finally, the country needs assistance in developing a pipeline of bankable projects.

On the downside, the Maximizing Finance for Development approach has not clarified a role for the public sector while private sector capital is mobilized. The Argentina case study indicates that the public sector's role was central in Argentina's success. Furthermore, based on the Argentina Electricity Sector, the public sector's ole needs support beyond pricing and subsidies policy issues and project support that IBRD has provided for more than 20 years. It needs support to address issues at the sector level for (i) project pipeline development; (ii) evaluation of risks; and (iii) coordination/regulation.

Scale Up

To scale up mobilization efforts in client countries the Bank Group should aim to provide more technical assistance and analytical support for client countries. This can be done in the areas of helping clients to create an enabling business environment and improving macroeconomic conditions, which are necessary steps to attract private capital. For example; Jordan's ongoing challenges in attracting FDI could diminish with Bank Group catalytic activities in areas of investment climate and capital markets that can lead to private capital mobilization. Again, macroeconomic challenges, like a high debt-GDP ratio (almost 94 percent) for Jordan are not only indicative of slow economic growth but also serve as deterrents for international investors. The World Bank's catalytic work through Treasury solutions (for example, debt management) and development policy loans can act as potential risk mitigation solution in the approach to mobilization.

Further collaboration between the Bank Group and other stakeholders and development partners is essential in scaling up mobilization efforts. The Mexico case study indicated that the Bank Group prioritized internal synergies and

[3] In line with IFC's strategy for investing in private equity funds.

collaboration with other international financial institutions, notably with the Inter-American Development Bank. However, the absence of proper evaluations limits the extent to which internal collaboration can be regarded as successful. Given the existing constraints to the amount of financing the Bank Group can provide to an upper-middle-income country like Mexico, leveraging internal synergies to crowd-in private capital is essential. Mexico could be a good example where IBRD and IFC worked together, such as on drafting CPS, on developing a common private sector strategy, and on providing advisory services for public-private partnerships. However, given the absence of robust evaluations, it is unclear to what extent it is possible to judge such collaborations as exemplary. IFC was also successful in leveraging cofinancing with development partners. Notably, it implemented nine projects with a parallel loan component in FY08–19 in partnership with the Inter-American Development Bank.

- In Zambia, the Bank Group's catalytic work can drive additional mobilization and provide opportunities for scaling up mobilization activities. The Bank Group could provide continued assistance to Zambia by helping stabilize the country's macroeconomic environment, which would allow for unlocking private sector investments. The country also needs strong liquidity and capital market development activities. Finally, developing a pipeline of bankable projects would also attract more private investments. Also, the Bank Group could develop solutions to bring commercial capital on board and domestic investors, particularly institutional investors. Pension funds and insurance companies with long-term liabilities would be best placed to invest in infrastructure projects. Moreover, the domestic private sector suffers from low access to credit, which constrains its ability to contribute to development projects and attract FDI. To address the issues of access to credit for Zambian mid-market companies, IFC could inject funding into Zambia-based private equity funds, which would serve as intermediaries.
- In Jordan, the Bank Group's private capital mobilization efforts in energy and transport were successful, as evidenced by demonstration effects and

replication effects through the Tafila Wind Power Project, the country's first wind power plant. Initially providing $69 million of its own investment, IFC was able to mobilize $60 million through its B loan to build the 117 megawatt (MW) plant. However, following Tafila, the government launched the wider renewable program across the sector, focusing first on solar photovoltaics. With IFC in the role of mandated lead arranger, not only did the government receive a record number of proposals, they were also priced with some of the most globally competitive tariffs then offered, ranging from 6 to 7 US cents per kilowatt-hour. The program subsequently saw the successful financing program for eight solar projects, totaling over 150 MW in production capacity, an unprecedented success in the renewable energy sector in Jordan.

There exist many opportunities for the World Bank to scale up private capital mobilization in the area of helping client countries achieve fiscal consolidation and ensure debt sustainability. In recent years, the chronic fiscal deficits and currency depreciation led to increasing debt and higher inflation in countries like Ghana, Mozambique, and Zambia.

- Ghana possesses great potential for private capital mobilization to support its development agenda as long as government ensures debt sustainability and improves the macro environment. Ghana has the advantage of being a preferred investment destination in West Africa. It will be useful for the Bank Group to scale up its catalytic activities including creating an enabling investment climate and business environment in Ghana.

- In Mozambique, increasing debt stock, lower investment, falling exports, and decreasing confidence are key drivers of the slowdown in growth. The country faced successive downgrades by credit ratings agencies as debt levels increased, which have weakened investor confidence.[4] FDI recorded a

[4] Mozambique's rating was downgraded several times by Fitch, Moody's, and S&P to CC, Caa3, and CC, respectively, during 2016. The outlook on ratings by Moody's and S&P remains negative.

20 percent annual decline by end-2016. This decrease comes as a result of a slowdown in investment in real estate, construction, and financial services. These constraints present an opportunity for the World Bank to assist the government with debt management interventions.

- Zambia's challenging macroeconomic environment represents a major constraint to attracting international private capital. The country is at high risk of debt distress because of fiscal deficits caused by expensive external borrowing, the depreciating kwacha, and declining copper prices (World Bank 2019; IIF 2019). Creditworthiness of government agencies has been a matter of concern to potential investors. The private sector fears that the government may not be able to pay its debts. This fact poses major impediments to attracting private investments and realizing public-private partnerships in Zambia. In particular, Zambia's state-owned utility company ZESCO's financial position and operational performance, and payment arrears, currently hinder the new investments needed to bolster generating capacity. The World Bank's intervention and support in terms of providing risk-mitigating guarantees and helping the country achieve fiscal consolidation in this area has the potential to change the narrative and provide comfort to investors.

Another important area for the World Bank to scale up private capital mobilization is developing new and innovative products as in the case of Mongolia and Bangladesh. Development partners recognize the World Bank's convening power and its ability to lead the private capital mobilization agenda through its instruments and analytical and advisory services. This provides an opportunity for the World Bank to explore and introduce new and innovative products, which can be replicated by other development partners.

- Mongolia is demonstrating itself as a proving ground for Ban Group innovation. The Bank Group country team's view on Oyu Tolgoi is that it is a learning environment. On one hand, a single project on Oyu Tolgoi has enabled a climate where capital can be mobilized from domestic capital sources and where capital can be mobilized into new downstream sectors.

On the other, exports from Oyu Tolgoi generated demands for expansion into infrastructure projects to strengthen Mongolia's geographical position as an economic corridor. Local currency financing gaps increasingly are an opportunity for the Bank Group, as echoed by teams in Mongolia and across Asia. Furthermore, IFC's innovative Green Bond financing with XAC Bank is a testimony that the Bank Group can leverage capital markets to mobilize new forms of capital.

- In Bangladesh, MIGA mobilized more than $166 million for the power sector, supporting projects generating over 1,200 MW of electricity, while IFC's mobilization support for the power sector resulted in over $754 million in debt and equity mobilization. The most significant success story of the Bank Group's private capital mobilization engagement in Bangladesh is IFC's client Summit Group. IFC's investment in the Group resulted in mobilization of $113.5 million for the Bibiyana II project, including mobilization through a development finance institution's joint venture company, EMA Power. There was evidence of positive demonstration effect from the Bank Group's engagement with Summit, which provided many lessons for the joint IFC/MIGA project of Sirajgunj 414 MW dual fuel (gas and high-speed diesel)–fired combined cycle power plant Unit 4 in Sirajganj. MIGA mobilized $68.9 million through Breach of Contract cover for Sembcorp Utilities' equity and shareholder loan investments in the project in the amount of $82.8 million for up to 20 years. Further, MIGA provided cover against the risks of Expropriation, Transfer Restriction and inconvertibility, Breach of Contract, and War and Civil Disturbance for Clifford Capital's nonshareholder loan investment in the amount of up to $180.0 million for 14 years.

Congruence within the 12 country cases is presented in table J.1.

Table J.1. Congruence in Private Capital Mobilization Country Case Studies

Country	Region	Primary Sector/s with Mobilization Activities	Type of Engagement[a]	MFD / Upstream/ Catalyzation Link[b]	Demonstration Effects/ Follow-on Mobilization / Catalyzation[c]	Constraints Addressed by Upstream Work	Constraints Not Addressed or Current on Private Capital Mobilization[d]	Given the Constraints, What Can Bank Group Can Do Differently?[e]
Albania	ECA	Power sector, macro reforms, highways, financial sector	Systematic support in power	DPL/PBG, advisory	Limited	IBRD guarantee de-risked investors in distribution company. Later IBRD PBG provided further support on power sector enabling framework. DPLs and advisory have	Contract enforcement and regulatory capacity. Capacity to develop projects and assess and manage fiscal costs. Macro stability (levels of public debt).	Urgency in pipeline of projects, Parallel Investment Climate reforms

Country	Region	Primary Sector/s with Mobilization Activities	Type of Engagement[a]	MFD / Upstream/ Catalyzation Link[b]	Demonstration Effects/ Follow-on Mobilization / Catalyzation[c]	Constraints Addressed by Upstream Work	Constraints Not Addressed or Current on Private Capital Mobilization[d]	Given the Constraints, What Can Bank Group Can Do Differently?[e]
						targeted broader investment climate reforms.		
Argentina	LAC	Infrastructure – Energy	Joint Bank Group support to two large programs: PPP Advisory, World Bank guarantee, IFC/MIGA downstream	Policy notes/dialogue	Macroeconomic and regulatory reforms impacting financial closure of existing deals	Operationalization of FODER, bidding process for renewable energy	Macroeconomic reforms Sector investments (transmission network),	Treasury Advisory, In CPF cycles, avoid constant rotating sectors
Bangladesh	SAR	Multisector	Opportunistic approach				Liquidity constraints, Competition among MDBs, G2G initiatives	Programmatic approach for PPPs, Innovative

Country	Region	Primary Sector/s with Mobilization Activities	Type of Engagement[a]	MFD / Upstream/ Catalyzation Link[b]	Demonstration Effects/ Follow-on Mobilization / Catalyzation[c]	Constraints Addressed by Upstream Work	Constraints Not Addressed or Current on Private Capital Mobilization[d]	Given the Constraints, What Can Bank Group Can Do Differently?[e]
								finance, and Partnerships
Ghana	AFR	Multisector, focus on energy	Systematic	DPL, policy advice, and so on.	None yet	Sector enabling reforms	Debt sustainability, sector policy reforms	Advisory, Partnerships
Jordan	MENA	Infrastructure – Energy	Sustained sector program with mobilization in infra over 10+ years	Financial viability funding, Energy and Water sector focus	Several energy projects spun off (wind to solar), Transport sector developed	Financial sector development	Financial sector and capital market development	Treasury Advisory, South-South mobilization, Investor orientation around pipeline of projects
Lebanon	MENA	Financial Sector (IFC), Urban transport,	Opportunistic approach	Policy dialogue and market development (need to check on DPLs)	Ongoing dialogue in many sectors for example, energy	Financial sector crisis focus	Broad governance challenges, corruption	Selected pilot transactions

Country	Region	Primary Sector/s with Mobilization Activities	Type of Engagement[a]	MFD / Upstream/ Catalyzation Link[b]	Demonstration Effects/ Follow-on Mobilization / Catalyzation[c]	Constraints Addressed by Upstream Work	Constraints Not Addressed or Current on Private Capital Mobilization[d]	Given the Constraints, What Can Bank Group Can Do Differently?[e]
		Private sector (World Bank)						
Mexico	LAC	Financial Sector and Disaster Risk Management	Multisector	Dialogue to develop innovative solutions				Urgency in pipeline of projects
Mongolia	EAP	Infrastructure—Mining	Opportunistic – large scale mining	DPLs, technical assistance supporting improvement in governance	Phase 2 of Oyu Tolgoi pending	Mining tax policy, licensing alignment with EITI Public info on EIAs (above all World Bank) Investment reform map (IFC)	Governance, investment climate	Prioritize Governance and Reform agenda

Country	Region	Primary Sector/s with Mobilization Activities	Type of Engagement[a]	MFD / Upstream/ Catalyzation Link[b]	Demonstration Effects/ Follow-on Mobilization / Catalyzation[c]	Constraints Addressed by Upstream Work	Constraints Not Addressed or Current on Private Capital Mobilization[d]	Given the Constraints, What Can Bank Group Can Do Differently?[e]
Mozambique	AFR	Multisector, major project in transport	Specific projects rather than sectoral approach	Upstream dialogue by World Bank, IFC (including advisory)	No evidence of follow-ons	Project focused rather than sectoral approach	Sector reforms, governance, debt sustainability	Opportunistic support, Regional projects
Nigeria	AFR	Multisector	Specific projects rather than sectoral approach		No evidence of follow-ons	Project focused rather than sectoral approach	Governance, debt sustainability	Opportunistic support, Urgency in pipeline of projects (local and regional)
Panama	LAC	Infrastructure – Energy and Transport	Large projects (for example, Metro line 1), renewable energy	Limited, has included dialogue on PPP reforms, power transmission	Metro–new infra financed by bilateral or MDBs Potential in other areas (infra)	None	None	Opportunistic support for investment opportunities

Country	Region	Primary Sector/s with Mobilization Activities	Type of Engagement[a]	MFD / Upstream/ Catalyzation Link[b]	Demonstration Effects/ Follow-on Mobilization / Catalyzation[c]	Constraints Addressed by Upstream Work	Constraints Not Addressed or Current on Private Capital Mobilization[d]	Given the Constraints, What Can Bank Group Can Do Differently?[e]
Zambia	AFR	Infrastructure—Energy	Scaling solar		Yes, two projects	None	Focus on capital market development, Debt sustainability and Governance	Prioritize reform agenda and avoid frequent rotation of sectors in CPFs

Source: Independent Evaluation Group field missions and desk reviews.

Note: CPF = Country Partnership Framework; DPL = development policy loan; MFD = Maximizing Finance for Development; MDB = multilateral development bank; PPP = public-private partnership. AFR = Sub-Saharan Africa; EAP = East Asia and Pacific; ECA = Europe and Central Asia; LAC = Latin America and Caribbean; MENA = Middle East and North Africa.

a. For example, Joint, programmatic, opportunistic.

b. For example, policy dialogue, DPLs, loans, mobilization projects in area.

c. For example, Bank Group, MDBs, or other.

d. For example, macro, cross-cutting institutional for example, corruption, sector.

e. Feedback from stakeholders.

Lessons Learned

Regarding the performance of the Bank Group, the Zambia Solar Project highlighted that it was able to successfully leverage synergies working as one team, but its high level of bureaucracy was noted as a disadvantage. It was noted that IFC had a well-staffed team that provided consistent support to the client and bidders. The World Bank and IFC also made sure that parties stick to the plan, and the team was able to negotiate with the government to escalate the issues if needed, which was important for the project to go through. Another important aspect to highlight is that IFC and the World Bank worked as a single team on this project, which can be regarded as success in terms of synergies among respective institutions. However, the rather high level of bureaucracy on the part of the Bank Group was noted as a disadvantage, as in a politically volatile context like that of Zambia, time is of crucial importance.

More attention should be given to improved coordination between Bank and IFC programs, in critical sectors where there are natural complementarities. In the first instance, efforts should be made to build on recent coordination in the energy sector (such as the Sankofa operation) to jointly develop a program that better supports Ghana's energy objectives through identifying opportunities for coordinated action on sectoral policy and appropriate private sector development efforts. Similarly, synergies should be exploited in the agriculture sector, especially with respect to sustainable agricultural technologies, support for cultivation of nontraditional crops and agricultural exports.

Other important lessons drawn from reviewing CPS documents include the importance of government and stakeholder ownership in achieving CPS objectives. Many projects achieving a successful rating had government ownership as a key element. Another factor is mapping the results frame to measurable outcomes in CPS; Multi-Donor Budget Support has been critical; sector operations need to incorporate multisectoral approaches; regional projects need to be closely aligned; integrating Bank Group engagement requires

further effort; and decentralization of World Bank capacity is critical to client needs.

Portfolio and Instruments

The Bank Group employed a range of instruments to support private capital mobilization activities of client countries. This included debt, equity, syndicated loans and parallel loans from IFC, and guarantees and technical assistance from IBRD while MIGA provided guarantees.

In Albania, the Bank Group private capital mobilization interventions were clearly designed to help the country address its fiscal deficit and manage the effects of the Euro crisis. The IBRD guarantees were specifically targeted at addressing public financial management—including interventions focused on the power and electricity sector, which has historically placed a significant amount of pressure on the country's fiscal deficit. Energy sector work was complemented by IFC advisory and investment interventions, which supported private investments in hydropower plants. One MIGA guarantee also supported the high-pressure processing sector while all others were structured to provide relief on capital adequacy requirements in the financial sector—which would allow for Albanian subsidiaries to continue lending productively, minimizing the impact of regulatory reforms on borrowers.

The Bank Group's support in Argentina came from various sources, such as: (i) IFC support for front-end legal work that was necessary to run the auctions and their investments in the crucial Round 1, which created "traction" for the program; (ii) the newly designed World Bank (IBRD) Guarantee (as distinct from the old-style partial risk guarantees) along with MIGA Guarantee, which was particularly valuable to foreign equity investors; and (iii) World Bank-processing of a sector operation. All these were necessary and complemented each other, but none was enough by itself.

The World Bank supported private capital mobilization through two projects in Jordan. The direct mobilization project was called Amman East Power Plant

(P094306), implemented by the Energy and Extractives Global Practice; the indirect mobilization project was called Jordan Innovative Startups Fund (P161905), implemented the by Finance, Competitiveness and Innovation Global Practice. The IBRD commitment for the Amman East power project was $45 million, while the innovative startups project's commitment from IBRD was $50 million, with an additional $48 million mobilized indirectly through Jordan's private sector.

Appendix K. Country-Led Reforms and Approaches to Private Capital Mobilization

This section examines linkages among the World Bank Group activities that address the enabling environment at the sector or broader level and its efforts to mobilize private capital. These points of link include the sequencing of engagements, upstream interventions, and observed demonstration and replication effects. The note draws on several recent Independent Evaluation Group (IEG) evaluations in related areas, on a set of country case studies undertaken for this evaluation, and on timelines for mobilization drawn from other cases.

From many of the cases reviewed there is evidence that reforms to the enabling environment benefited mobilization efforts. This includes advisory and investment lending in the sector, and development policy operations, which address sector and economy-level reforms. There is some evidence from other IEG evaluations that reforms that address both sector and macro constraints are more successful.

Opportunities to mobilize private capital also arise in unregulated or lightly regulated environments and in the absence of extensive upstream reform efforts by the Bank Group. As these arise, it is necessary to be able to respond flexibly and quickly.

Several of the cases also point to the need for continued engagement on the enabling environment, including after mobilization, because some critical constraints were not addressed, or because some factors deteriorated. Adverse macroeconomic trends can affect the contractual and regulatory arrangements underpinning some mobilization approaches, and, more generally, sector frameworks can deteriorate over time. Where there has been substantial mobilization a sustained engagement might be needed to focus on the enabling environment.

The cases also show that Bank Group collaboration can facilitate mobilization, though this takes different forms. Some mobilization has taken place through joint projects among Bank Group institutions. In other cases, complementary activities have helped mobilization. The constraints on Bank Group collaboration have been relatively well diagnosed—in earlier IEG evaluations, for example—and are yet to be fully addressed.

There is some evidence that efforts of the Bank Group, and other multilateral development banks (MDBs) to mobilize private capital can lead to further private sector investments without the support of the MDBs themselves; the scale of these investments depends on the country context.

Evaluative data on joint Bank Group approaches at the sector level in each country can be strengthened. Many project-level evaluations do not comment substantively on upstream efforts or on Bank Group collaboration more generally outside of joint projects.

Catalytic Activities and Mobilization

Project-level evaluations have very little commentary or analysis of activities undertaken upstream to address the enabling environment, though the quality of policies and institutions and their impact on the project are often covered. For this evaluation, we have reviewed activities that are intended to have a catalytic effect on the enabling environment as manifested in the country case studies that were developed for this evaluation. In addition, we have reviewed several case studies developed to illustrate the application of the cascade. Finally, we have also reviewed relevant IEG evaluations of Bank Group work on the enabling environment, including *"Creating Markets" to Leverage the Private Sector for Sustainable Development and Growth—An Evaluation of the World Bank Group's Experience* and *Maximizing the Impact of Development Policy Financing in IDA Countries—A Stocktaking of Success Factors and Risks*.

A review of the country cases provides a generalizable finding that typically upstream activities have facilitated mobilization. These vary, however,

depending on the circumstances. In some cases, the catalytic efforts were focused on strengthening sector-enabling frameworks:

- In Jordan, upstream interventions shaped the creation of markets and a strengthening of the financial situation of the utility, including a technical assistance engagement to develop the wind power market, and prior actions on power tariffs in development policy loans: there has been sustained mobilization by the World Bank in the energy sector, including renewables. Development policy operations (DPOs) also focused on macro and public sector management issues.

- In Ghana, sector-enabling reforms were covered by prior actions for DPOs, which focused on financial sustainability, and a sustained engagement at the sector level. DPOs also helped introduce Extractive Industries Transparency Initiative (EITI) standards into the industry

- In Mongolia, World Bank DPOs focused at the mining sector level on introducing EITI standards, improving mining tax policy, and improving public disclosure of environmental impact assessments.

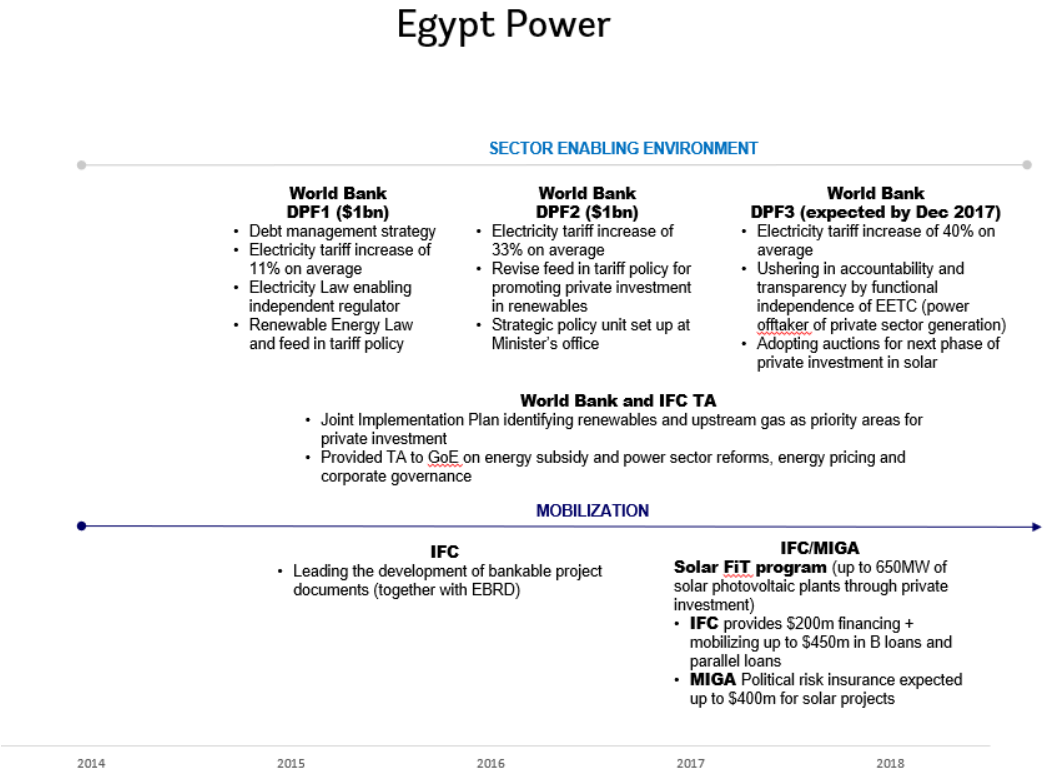
In some cases, the timeline for the development of markets and the role of extensive Bank Group efforts to develop the enabling environment can be visualized. Figures L.1 and L.2 depict the timelines for several Bank Group efforts to mobilize private investment:

- In Cameroon, parallel public investments and a DPO provided the enabling environment for the Nachtigal hydroelectric power plant; earlier reforms, including the passage of a revised electricity law, helped spur private investment and mobilization in the sector

- In the Arab Republic of Egypt, reforms for the energy sector and the broader economy were supported by DPOs, and these laid the foundation for successful public-private partnerships (PPPs) and mobilization in the power sector.

- Examples of sustained upstream engagements, which led to mobilization include the power and health sectors in Turkey and the power sector in Kenya and Jordan.

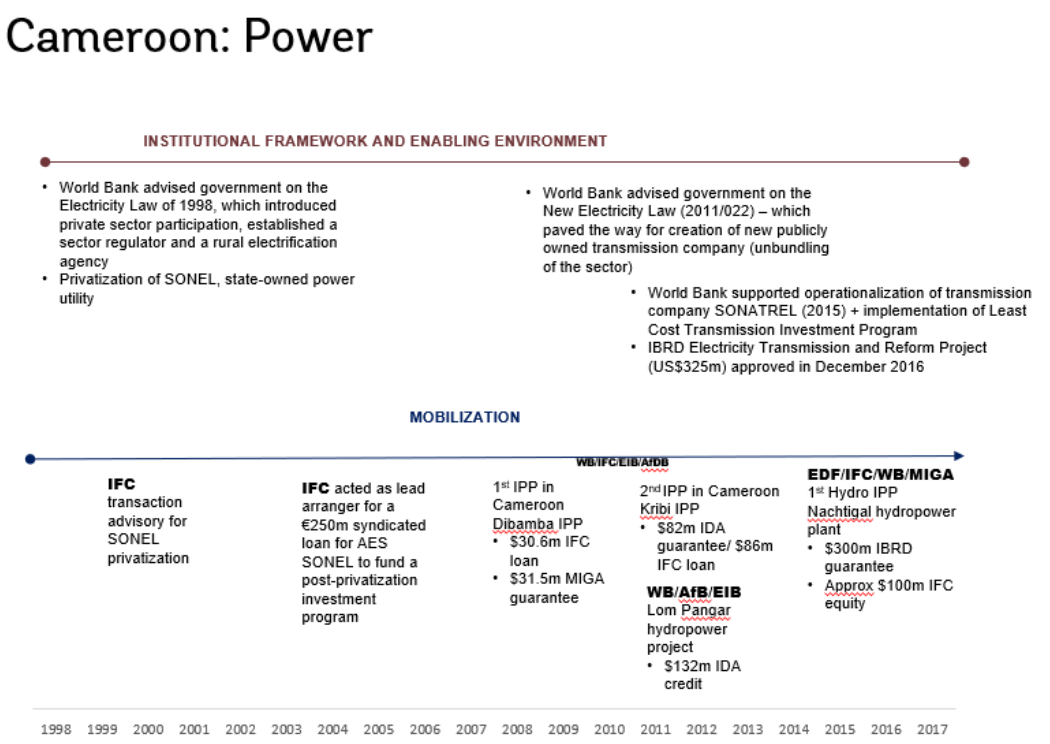
Figure K.1. Linkages between Catalyzation and Mobilization in the Arab Republic of Egypt



Source: Independent Evaluation Group.

Note:: DPF = development policy financing; EBRD = European Bank for Reconstruction and Development; GoE = government of the Arab Republic of Egypt; EETC = Egyptian Electricity Transmission Company ; FiT = feed-in tariff; MIGA = Multilateral Investment Guarantee Agency; MW = megawatt; TA = technical assistance.

Figure K.2. Linkages between Catalyzation and Mobilization in the Power Sector in Cameroon



Source: Independent Evaluation Group.

Note: AfDB = African Development Bank; EIB = European Investment Bank; IBRD = International Bank for Reconstruction and Development; IDA = International Development Association; IFC = International Finance Corporation; IPP = independent power project; MIGA = Multilateral Investment Guarantee Agency; WB = World Bank.

At the same time, mobilization opportunities can arise in unregulated or lightly regulated environments, or in projects, which are robust (for example, those based on hard currency export revenues) in countries with otherwise weak enabling environments. These examples include the following:

- Argentina, where earlier World Bank work had provided technical inputs to shape the approach to renewable energy, but where a change in

administration and approach presented an opportunity for Bank Group mobilization. Where International Finance Corporation (IFC) Advisory was able to assist the government in implementing its plans for renewable energy auctions, and where the World Bank was able to provide a guarantee to backstop government commitments under the renewable energy fund.

- Panama, where mobilization volumes were driven by specific large transactions (for example, Panama Metro line 1), which needed relatively little in the way of enabling environment reforms and where overall the investment climate was favorable.

Resolving market constraints is often a difficult and long process, and actions to strengthen the enabling environment need to be taken private capital has been mobilized. Examples of such cases include the following:

- In Albania, a policy-based guarantee supporting the financial viability of the power sector framework after the privatization of distribution companies, and advisory engagements on generation privatization; and

- In Ghana, an energy sector reform technical assistance, which was approved in 2018 to strengthen the enabling environment.

The country cases highlight some of the challenges of sustaining reforms, and on occasion ensuring that all relevant constraints are addressed:

- In Argentina, transmission capacity is a substantial constraint on the implementation of renewable energy;

- In Mongolia, the World Bank did undertake upstream work to enhance transparency around mining revenues and rents, but this is still a politically charged topic with potential to affect the mobilization activities undertaken;

- In Zambia, continued institutional weaknesses and a slower pace of sectoral reform have limited the scaling-up of initial successes with Bank Group–supported solar projects; and

- Where public funding is available, private capital mobilization may have very little replication effect – for example, in Panama, where the Multilateral Investment Guarantee Agency (MIGA) successfully mobilized commercial capital for the first lines, subsequent lines of the metro have been funded through development finance investments; government-to-government funding competition in Bangladesh also reduces the space for mobilization.

Two of the earlier IEG evaluations ("*Creating Markets"* and *Development Policy Financing in IDA*) have noted that addressing both sector and broader reforms is important to create an environment conducive to private sector investment. The necessary features of such an environment include country governance capacity, transparency, efficient and predictable public administration, and physical infrastructure. Corruption, for example, could be an impediment to reforms of state-owned enterprises and sectors. Investing in the latter to move forward with market creation is important. Multisector operations that balance Equitable Growth, Finance, and Institutions–related objectives with objectives related to Human Development and Sustainable Development perform better, all else being equal, than operations focused mainly on economic reforms and those focused mainly on reforms led by line ministries.

These reviews also suggest that the diagnostic underpinnings of the upstream reforms needed for mobilization and market creation need to be strengthened so that they shape Bank Group and address both sector-specific and cross-sectoral issues. IEG's evaluations found that the Systematic Country Diagnostics (SCDs) cover the private sector agenda inconsistently and that integrating the private sector agenda adequately into Country Partnership Frameworks (CPFs) is still a challenge. The new Country Private Sector Diagnostics, and other products such as Infrasaps, can provide a picture of sector-specific and macro reforms that are needed to mobilize private capital. These, however, have been recently introduced and will need to be evaluated for their effectiveness at the appropriate time, as will the impact of the new IFC upstream units.

The evidence as to the benefits of collaboration with development partners on reforms to the enabling environment is mixed. The *"Creating Markets"* evaluation found that where the Bank Group coordinated well with other donors, the results were positive. Partnerships with development agencies enhanced strategy consensus and financial resources. However, another IEG evaluation found that in International Development Association (IDA) countries, development policy financing (DPF) with development partners using joint policy assessment frameworks (JPAFs) have not been associated with better outcomes than other DPF operations with otherwise similar characteristics.

Bank Group Collaboration to Mobilize Private Capital

The cases examined show an important role for Bank Group collaboration, either programmatic, where the Bank Group engages in complementary activities (for example, DPOs to affect the enabling environment for the World Bank, and mobilization for IFC and MIGA), and joint projects (such as in Nachtigal) where the Bank Group institutions provide financial support to the same project. IEG reviews and reports have addressed some of the constraints to more effective collaboration, including the learning review of *World Bank Group Joint Projects: A Review of Two Decades of Experience Lessons and Implications from Evaluation* and the joint IEG-IFC report on joint implementation plans (JIPs).

The evaluation of joint projects found that they had higher transaction costs due to more coordination, overlapping processes, and differing requirements. These often led to delays in project completion, requiring extra project preparation, appraisal, and intra- Bank Group coordination. Clients complained about having to comply with two different sets of World Bank and IFC environmental and social requirements. Clients also did not always understand the overlap and complementarity of Bank Group products.

Though joint projects are not a large share of the total number of private capital mobilization projects some of these constraints, particularly around alignment

of incentives and budget. More generally, addressing these will be important to strengthen Bank Group collaboration in presenting development solutions. As part of the effort to implement Maximizing Finance for Development and the cascade approach, a number of recent initiatives have been undertaken to enhance collaboration among the different parts of the Bank Group and to focus on the upstream including the Maximizing Finance for Development strategy for the Mashreq, which provided joint World Bank, IFC, and MIGA oversight of a common work program; and the Maximizing Finance for Development accelerator, which built teams in identified areas for priority programs. These all began to be implemented in 2018 and will need to be evaluated at the appropriate time.

The IEG/IFC review of JIPs highlighted how JIPs can be helpful where Bank Group institutions are involved in the same sector. The benefits of JIPs included better information sharing, a reduction of overlaps and conflicts, better sequencing of activities, and providing a more unified voice in external and internal communications. Written plans of joint work facilitated oversight by Bank Group senior management.

This evaluation has also shown the importance of an integrated Bank Group engagement to mobilization, including addressing the upstream environment, particularly where this is a sustained engagement. This goes beyond policy and regulatory reforms to include physical investments that crowd in the private sector. Examples include the following:

- The Colombia 4G roads program, where upstream institutional capacity building and strengthening was undertaken by joint World Bank and IFC teams, in addition to work on capital markets policies and regulations: this, with the advisory project, helped the success of the engagement, which also saw investment in projects by IFC and support by investors to MIGA.
- In India, the Rewa solar project, collaboration with the World Bank helped de-risk many aspects of the solar project, resulting in strong private sector interest and low prices.

- In India also, The Clean Ganga project has demonstrated the benefits of close World Bank–IFC engagement, with IFC structuring the project, and financing being provided for part of the government payment for the project under a World Bank loan.

At the same time, the Bank Group needs to be flexible and opportunistic. Sector reforms can regress, broader governance issues and macroeconomic factors are critical, and the openings for sector and economic reforms can be narrow. This means that the Bank Group's joint activities to support mobilization may need to be recalibrated within CPFs, both to pull back where opportunities have diminished and to engage where they have increased. Joint programs need to be driven by the country directors and regional directors and should reflect the realities of opportunities for collaboration.

The project pipeline is also a likely constraint to scaling up mobilization in the medium term. Recognition of this had led to the creation of the Global Infrastructure Facility, which is currently funding preparation of 20 infrastructure projects that are being implemented by the Bank Group and other MDBs; in addition, other MDBs have invested in their own project preparation funds. A continued emphasis on developing the project pipeline will be needed alongside efforts to improve upstream and enabling environment. An increased emphasis on the project pipeline sharpens the need for collaboration on upstream activities that affect the enabling environment and the pursuit of downstream activities.

Does Mobilization Catalyze Further Investment? Yes, But Not Systematically

The team has reviewed cases and literature and has undertaken empirical work to see whether there is evidence that mobilization by the MDBs and the World Bank have catalytic effects; that is, whether they lead to an increase in investment when the World Bank is not involved. There is some evidence of this happening, but such effects are not systematic and need to be better understood.

The PPP Advisory mobilization projects provide some anecdotal examples of possible catalyzation. In the Clean Ganga national mission in India, the structure developed by the World Bank Group is being replicated and scaled up to include projects where the Bank Group is not now involved. Of the eight projects under implementation (awarded and under construction) only three involve PPP Advisory. In addition, the success of the Rewa solar park led to efforts to replicate this although with mixed success. In Brazil, IFC's advisory engagement on airport concessions focused on Rio de Janeiro and Belo Horizonte and brought in international operators for the first time. Subsequently, two other projects (in Fortaleza and Porto Alegre) also saw successful bids by international operators.

In other cases, it is not clear that there have been catalytic impacts:

- In the Philippines, the four projects that led to mobilization were individually significant, but there do not seem to have been many transactions in the same sectors after these – this may partly because the national government moved away from its PPP program;
- In Albania, according to the Private Participation in Infrastructure database there were no new energy projects following the advisory services on hydro privatization besides IFC's advisory on privatization of Kurum HPPs;
- In Brazil, though the success of the Goias distribution privatization was expected to lead to six more privatizations; these have not moved forward so far.

The portfolio review analysis done for this evaluation indicates that 75 percent of the 270 IFC projects, which mobilized private capital and were evaluated did not have any demonstration effects, as assessed by the task team, and that 14 percent had market-level demonstration effects.

Some empirical studies have supported findings that the involvement of MDBs has broader benefits than for the projects they support and can catalyze future investments.

Broccilini et al. (2019) use loan-level data on syndicated lending to a large sample of developing countries between 1993 and 2017 to estimate the mobilization effects of MDBs, controlling for a large set of fixed effects. They find evidence of positive and significant direct and indirect mobilization effects of multilateral lending on the number of deals and on the total size of bank inflows; the number of lending banks and the average maturity of syndicated loans also increase after MDB lending. These effects last up to three years and are not offset by a decline in bond financing. However, most of the effects are concentrated in countries, which are more economically and financially developed and have better credit ratings. By contrast, MDB lending is less effective in low-income, less financially developed, and risky countries.

Marcelo and House (2016) investigate the relationship between multilateral support and contract cancellation in long-term infrastructure public-private partnerships. The results suggest that multilateral support has a positive effect on the survival of long-term public-private partnership infrastructure contracts. Whereas the observed data suggest that multilateral support has no effect on cancellation rates, a quasi-experimental approach shows that the cancellation rate for projects with multilateral support (6 percent) would have been about 48 percent higher without it. The authors speculate that possible causes of this difference include policy advice, capacity building, oversight and risk mitigation, project preparation assistance, assistance in mediation or renegotiation, and other forms of support that are bundled into projects. The preferred creditor status could also be having an effect.

Finally, for this evaluation, IEG undertook empirical work to assess the impact of MDB financing on private infrastructure investments over the period 2007–18, using the Private Participation in Infrastructure database (https://ppi.worldbank.org/en/ppi). This found a positive relationship between MDB participation and the number of projects and the volume of investments. More work would be needed to establish a causal relationship, but the tentative results suggest the possibility of benefits from MDB involvement outside of the projects that are supported.

Synthesis of Relevant Findings from Other IEG Evaluations on Upstream

'Creating Markets' to Leverage the Private Sector for Sustainable Development and Growth. An Evaluation of the World Bank Group's Experience—Through 16 Case Studies

This evaluation makes the following points of relevance to Bank Group efforts around the mobilization of private capital:

- The enabling environment is essential for market creation efforts: good sector regulations are not enough because country-level constraints, which include country governance capacity, transparency, efficient and predictable public administration, and physical infrastructure, may also need to be addressed.
- Deficiencies in the regulatory and legal framework not only slow the formation of markets, but can also jeopardize already-established markets. Resolving such market constraints is often a difficult and long process and poses a challenge to how the Bank Group structures its country-level engagement programs.
- Bank Group success factors included the high-quality work of Bank Group staff in structuring deals and providing advice and the physical presence of Bank Group staff, their familiarity with local risks, and the quality of engagement. Long-term policy dialogue and design flexibility can help navigate political change, as does early and broad stakeholder involvement.
- Countries with limited experience in working with the private sector, such as many low-income or countries with fragile and conflict-affected situations are likely to face the greatest challenges in creating markets.
- Overall, the evidence points to the significance of the cascade approach as a tool for implementing the Bank Group's Maximizing Finance for Development objectives, with its focus on clearing the obstacles that block

private sector solutions and helping client countries create markets. Nevertheless, a rigid implementation of the approach should be avoided. Reform efforts can take a long time to succeed; meanwhile, opportunities arise spontaneously in unregulated or lightly regulated environments. IEG cases suggest that downstream activities that have a demonstration effect can help policymakers shape the rules of the market.

- The Bank Group needs to have a better understanding of how to best catalyze market creation by either investing directly or by working on the enabling environment. This can include efforts to establish the necessary regulatory and policy frameworks, and promote competition, foster innovation, and build local capacity and skills at the government or firm level. The Bank Group's traditional advisory services and analytics work does not provide a comprehensive enough view of country-level opportunities and constraints. The SCDs do cover the private sector agenda, but inconsistently. A 2017 IEG assessment of the CPF process pointed out that integrating the private sector agenda adequately into CPFs is still a challenge, possibly because their coverage of the private sector development agenda is uneven.

- Where the Bank Group coordinated well with other donors, the results were positive, suggesting the Bank Group should reinforce its practice of coordinating with other development partners. Partnerships with development agencies enhanced strategy consensus and financial resources.

Maximizing the Impact of Development Policy Financing in IDA Countries: A Stocktaking of Success Factors and Risks

This evaluation makes the following points of relevance to the Bank Group's efforts in private capital mobilization:

- In countries with low capacity, successful operations have been associated with efforts to secure high government ownership and with the use of

simpler designs. In high-capacity contexts, ensuring the borrower's readiness to pursue complex structural reforms is still important for success.

- There is some evidence on the benefits of programmatic DPFs, but the added benefits are higher when commitment amounts are lower as a share of government expenditures.
- DPFs with development partners using joint policy assessment frameworks have not been associated with better outcomes than other DPF operations with otherwise similar characteristics. When the design is already strongly relevant, the net added benefits of JPAFs may be negative. Lower reform success in countries with strong donor coordination has been found when government are experiencing reform fatigue or when changes in political circumstances require bilateral negotiations.
- Multisector operations that balance Equitable Growth, Finance, and Institutions–related objectives with objectives related to Human Development and Sustainable Development perform better, all other things being equal, than operations focused mainly on economic reforms and those focused mainly on reforms led by line ministries. The increased success rates of multisector operations are enhanced when design relevance is stronger.

Knowledge Flows

This evaluation makes points around collaboration, which are of relevance to work on private capital mobilization, which may require collaboration across the Bank Group and among different practices within it:

- Country director leadership is essential for collaboration on integrated solutions. Interviews and country visits repeatedly show that collaboration across Global Practices (GPs) depends on country directors, and that lending operations tend to include adequate cross-GP collaboration only when country directors and project leads insisted on it. Some Country Management Units (CMUs) have set up platforms for cross-sector

collaboration. CMU staff insist uniformly that the operating model incentivizes GPs to embrace single-sector lending support more than multisector approaches; they ascribe this behavior to the competition among GPs to lead on lending. As a result, collaboration for integrated approaches must be driven by country programs, that is, by country directors specifically, who uniformly complained about high transaction costs. In interviews, country directors often described the GPs as seeking to lead on lending operations and unenthusiastic about cross-GP collaboration.

- Collaboration is strongest in initiatives with high visibility for senior management. In prominent projects, GPs will be visible if they are involved even if only in a supporting role. Second, prominent challenges with clear goals and important consequences reduce organizational infighting. Third, senior management is more likely to pay attention to these initiatives and require collaborative integrated solutions.

Summary of IEG Review of Joint Bank Group Approaches

World Bank Group Joint Projects: A Review of Two Decades of Experience Lessons and Implications from Evaluation

This evaluation focused on projects that are explicitly joint (one or more Bank Group entity providing financing or risk-bearing) as opposed to programmatic approaches at the sectoral level. Joint projects are a minority of mobilization approaches, but are nonetheless significant and some of the constraints identified are likely to hinder broader joint approaches.

Some of the significant findings in the evaluation are the following:

- Standardization of World Bank Group documents could also accelerate joint projects' timelines and, for clients, minimize expensive legal fees. These challenges emerged in addition to differing nondisclosure requirements and other caveats negotiated among the Bank Group partners, especially private

sector clients. Overall, intra- Bank Group coordination challenges delayed project implementation and completion and, thus, the benefits of joint projects.

- Inadequate explanation to the implementing agencies (about the pros and cons of the various Bank Group instruments) hindered client understanding about the suite of Bank Group products. Increased efforts to explain the nuances of different Bank Group instruments and financing packages, especially to government agencies involved, would go a long way to advance clients' understanding about the potential additionality of blended Bank Group support.

- Joint projects entailed added transaction costs due to more coordination, overlapping processes, and differing requirements. These required extra project preparation, appraisal, and intra-World Bank Group coordination. Clients complained about having to comply with two different sets of World Bank and IFC environmental and social requirements. The World Bank Group's separate accountability mechanisms have dismayed clients and some stakeholders, especially those involved in co-financed PPP projects. On one occasion, both the World Bank Inspection Panel and IFC/MIGA Compliance Adviser Ombudsman investigated separate complaints about the same issue in a joint project.

- Differing business models, mandates, procedures, organizational cultures, and mindsets within the World Bank Group have created disincentives, magnified differences of approach, and spawned perceptions of conflicts of interest..

- Different procedures, organizational cultures, and mindsets can entrench practices that hinder collaboration. Operational Policy/Bank Policy 4.03 in 2012 was intended to relieve clients of the burden of complying with both the World Bank Safeguards Policies and IFC Environmental and Social Performance Standards in joint projects involving the two institutions. However, the evaluation of joint projects did not find a co-financed joint

IFC–World Bank PPP project that applied IFC Environmental and Social Performance Standards. Internal procedures (including templates in the World Bank's Operations Portal) have yet to be developed, and decision-making rules in joint projects are not aligned. Unfamiliarity of World Bank staff and managers with IFC's performance standards also prevent its adoption.

- The decision-making process of each participating World Bank Group institution in a joint project remain separate from the others.
- Integrity due diligence processes are often conducted separately and not aligned across the three World Bank Group institutions, though due diligence information is shared eventually in some cases.
- Information sharing remains a big hurdle. Knowledge exchange falls short among some joint project teams, partly because of different ranking of rights in a project. Differing definitions of the "client" create diverging views about contractual obligations and positions, including the levels of access to information on the same project. For the World Bank, the client is the government or the country. For the most part, IFC and MIGA clients are private sector companies.
- Harmonizing and testing of a single evaluation framework or methodology for Bank Group joint projects would enable deeper understanding of their effectiveness and outcomes. Evaluative evidence, and lessons about how to work as "One World Bank Group," remain scarce. Because business models, project timelines, and evaluation and sampling methodologies differ, evaluation remains focused on each Bank Group institution separately.
- The value-proposition to clients of World Bank Group joint projects is not fully known. Information relating to clients' motivation for seeking World Bank Group joint support could not be confirmed.

IEG/IFC Evaluation *Experience with Bank Group Joint Implementation Plans*

Though not a formal evaluation this report has some findings that can inform joint Bank Group approaches that may be needed to mobilize private capital. JIPs were developed in 2014 as part of a new country engagement model for increasing collaboration among the Bank Group institutions. They have by and large fallen out of use although some staff use some of these tools.

Some relevant findings of this report include the following:

- Maximizing Finance for Development and the cascade approach provide overall direction and approaches for joint Bank Group approaches, but this does not guarantee coordination.
- JIPs can be helpful where Bank Group institutions are involved in the same sector. The benefits of JIPs are better information sharing, a reduction of overlaps and conflicts, better sequencing of activities, and providing a more unified voice in internal and external communications.
- Of the JIPs reviewed, not all were successfully implemented. The Georgia energy JIP, for example, did not see its milestones met, possibly because fundamental energy sector issues were not addressed.
- The additionality of JIPs is not completely clear; some staff interviewed for this report felt that many or most projects would have been undertaken in these countries anyway in the absence of JIPs. Other staff felt that the information sharing and joint process helped these projects and thereby added value.
- Different elements of the JIPs have greater utility. Written plans serve as a bridge between the CPF and individual projects. Senior management oversight is important and is needed in oversight of the joint programs of work. Country and regional directors will be essential in identifying when JIPs are needed.

Appendix L. Lessons of Experience from IEG Micro Evaluations

This section captures the main lessons from Independent Evaluation Group (IEG) micro evaluations related to World Bank Group approaches to private capital mobilization. The following categories were used to code the projects: Project Preparation and Design; Implementation and Supervision; Risk Assessment; Enabling Environment; Financial Viability; Governance; Investors Interest; Internal Collaboration; Client Commitment; Sponsor Capacity; Market Comfort, Negotiating project terms with client, Accountability, Right Financial Instrument, Standalone Assessment by Bank Group, Client Relationship Management.

Based on the above coding the following lessons were identified:

- An adverse market change can be managed well by maintaining flexibility, and by working closely with the company's shareholders and management team to understand business issues early on and support business value preservation. The conservative market assumption (including crude oil price, coal prices, and market demand growth) should be used to forecast prices, and market demand and supply dynamics. In the Neo Gas (2014) project, the company incurred large debt-financed capital expenditures to expand off-pipeline compressed natural gas distribution, but a sharp drop in oil prices caused a sudden drop in the competitiveness of compressed natural gas. In this changed market, certain financial covenants were amended. Rebalance the company's capital structure by adjusting the financing mix and initiating restructuring discussions to prevent liquidity issues and rebalance.
  Even in the presence of an operating regulatory regime, supported by well-structured contracts, dysfunctional sector dynamics can hamper the success of a project. When faced with such sector-related systemic risks, a project team should consider additional mechanisms in the transaction structure of the project to further mitigate the risks related to the lack of financial viability in the sector. The financial sustainability of Ghana's power sector and the Volta River Authority Infrastructure Crisis Facility (2013) was

highlighted at the time of Board approval, and the transaction team raised payment risk as a key concern. Having tight covenants provides additional comfort for IFC and B lenders; however, in structuring deals, the long-term expansion prospects, especially those that are not shown in the financial projections, should also be considered so that the company can seize attractive new business opportunities like in Clearing Corporation of India II (2007, India), where IFC and B lenders agreed to replace the debt limit with financial covenants.

- A realistic assessment of the probability of project execution should be made at approval: In InterEnergy (2017, Dominican Republic), the liquified natural gas (LNG) gas conversion plan of Compañía de Electricidad de San Pedro de Macorís) seemed at the time to be imminent and would allow IFC to support the diversification away from heavy fossil fuel toward cleaner LNG gas generation. The government of the Dominican Republic, however, delayed approval of the gas conversion plan after the decline in gas prices reduced the attractiveness of the project. The project did not reach completion, and generation was below target because of lower wind resource. Because of the change in InterEnergy Holdings' strategic plan, the investments yielded lower than expected operating results. It still lacks an attractive pipeline and did not meet the development goals.

- Thorough political assessment is needed: To save time in the creation of the guarantee structure before the bid session, IFC can include a contractual provision for the creation of such guarantee as a condition antecedent to the contract signing. This structure obviously needs to be cautiously evaluated and depends on the country and sector and can occur only after having strong market signals that it would work. In Belo Horizonte Schools (2013) the guarantee structure, created jointly by the municipality of Belo Horizonte and IFC, required the creation of a backstop facility, which could take more than the time frame expected for the contract signature in case the bidding was successful. This timeline mismatch between the conclusion of phase 2 and the creation of the guarantee structure could jeopardize the

whole project, because elections were approaching, and a different government could take over and decide to drop it. In the Institute of Business Management (2007, Pakistan), because of the political and economic environment the local economy deteriorated. The Client chose to expand only partially, cancel part of the loan, change the use of the facilities constructed, and not enter a new market. Hence, see whether an expansion can be broken down into two phases so that a portion can be canceled if the worst-case scenario becomes the reality.

- In Kadikoy-Kartal-Kaynarca Metro Line (2011, Turkey), political decisions can have a significant and sometimes long-lasting impact on project performance, notably in infrastructure, because they might interfere with the project's operating environment. In addition, these political decisions are more predictable in political risk insurance projects because private investors would require their implementation prior to the investment, when feasible, or would include them in the government's contractual obligations. This is unlikely to happen in the case of non-honoring of financial obligations projects; therefore, these key decisions should be identified up front at the underwriting stage. If political decisions are expected to be taken during project implementation, they should be monitored accordingly. Multilateral Investment Guarantee Agency (MIGA) should then leverage the policy dialogue between the Bank Group and the sovereign or sub-sovereign to address potential issues. This will maximize the (expected) development impact and ensure the implementation of sound political decisions and sector reforms.

Macroeconomic Impacts on Loans: It may be salient to pay attention to the impact of currency volatility on the capitalization of the borrower, in addition to the borrower's debt service capacity. It may be worthwhile to examine any correlation between the macroeconomic environment and the expected pricing strategies employed by IFC borrowers (that is, would steeper discounting be required if disposable income is in a scenario that coincides with broader macroeconomic events affecting the exchange rate?). The risks posed by the

mismatch between local currency earnings and US dollar–denominated debt of the borrower may best be analyzed in the context of a cost-benefit analysis of various foreign exchange hedging strategies. It may be helpful to refer the borrowers to some providers of hedging services, particularly in times where volatility is expected (as IFC does for insurance, for example). In Wings HAS (2013) in Indonesia, additional equity unexpectedly had to be injected in 2015.

Repeat Clients: Risk sharing facility structures may be perceived as too complex in the marketplace. IFC may have a better chance getting existing or previous clients, who understand IFC's investment process, to sign up for these structures. In the EBG Risk Sharing Facility (2009), the only bank that signed up for the risk sharing facility under the micro, small, and medium enterprise program was already a client of IFC. This client understood IFC's investment process and was comfortable signing up. This is a clear indication that it is easier to layer new projects onto existing clients. Because of the upfront fee, EBG was committed to the project despite the delay in the ramping up period. The World Bank expanded its small and medium enterprise lending business while deriving comfort from the risk sharing facility structure, which promised to cover 50 percent of the credit risk. Similarly, MIGA' ability to diversify its guarantees portfolio based on host country is as important as repeat engagement with a guarantee holder.

The disadvantage of repeat clients is that a disproportionate increase in business with these clients raises concentration issues and may affect MIGA's ability to diversify client exposure. As in Shareholder Loan (Croatia 2013), MIGA could develop and deepen business relationships with sponsors with well-developed business plans and management systems and pay attention to providing high-quality service to its existing customers. IEG agrees that MIGA benefits from its business relationships with UniCredit and other repeat clients such as Raiffeisen and KBC; however, diversification of clients is important.

Sponsor Capacity: Good sponsorship is essential for project success. In JICT (2010, Indonesia), despite a construction delay, the company's general performance exceeded IFC's expectation at appraisal. With its strong technical

capacity and cost-effective business model, the company was able to manage the project cost within budget and recorded strong financial performance.

Good sponsor quality, with strong technical capacity, is fundamental to project success. This factor, and a conservative approach on company's performance, can deliver results beyond expectation. In Cencosud Arg (2009), a guarantee from a strong sponsor contributes to mobilize additional lending; the sponsor in this case was a leading retailer in South America (headquartered in Chile), with investment-grade status and a solid balance sheet. IFC recognized the value of a strong guarantee. Without the guarantee, it would have been very difficult to mobilize the B Loan, because the project would imply assuming full risk in Argentina. The banks were not willing to lend in the country. Thanks to the sponsor guarantee and IFC umbrella, IFC was able to mobilize $90 million from B lenders. The lesson for future operations is that to mobilize additional funding, IFC may need to search for additional security that can provide comfort to B lenders. A strong guarantee is a good option, when feasible.

Right Financial Instrument: Policy-based guarantees are potentially a useful instrument for supporting clients facing large external financing needs. As in FYR Macedonia Public Expenditure (2013, North Macedonia), these guarantees, when implemented in a challenging macrofiscal situation where there are large financing needs, should incorporate a consistent macroeconomic framework with necessary macro and fiscal actions for risk mitigation. The positive impact of important public expenditure measures can be weakened if the program lacks an overarching fiscal and debt framework.

Appendix M. Analysis of Country Risk Factors and Mobilization Approaches

Executive Summary

We analyzed financing instruments of three institutions—the International Bank for Reconstruction and Development (IBRD) and International Development Association (IDA); the International Finance Corporation (IFC) for both investment services (IS) and advisory services (AS); and the Multilateral Investment Guarantee Agency (MIGA)—against country indicators. The country indicators analyzed were total debt service, ease of doing business score, protecting minority rights, enforcing contracts, and regulatory quality. Indicators range from low to high for total debt service and from weak to strong for ease of doing business score, protecting minority rights, enforcing contracts, and regulatory quality.

- The IBRD/IDA mobilization projects use investment project financing (IPF) the maximum times as instrument for financing. Financing by IBRD falls as we indicators for total debt service move from low to high, and as other indicators move from weak to strong.
- The mobilization projects for MIGA use equity the maximum times as instrument for financing. MIGA invests hugely in countries with weak ease of doing business, protecting minority investor rights, and regulatory quality scores.
- The mobilization projects for IFC-IS use B loans the maximum times as instrument for financing. From analyzing portfolio data and lessons from evaluated projects, we find that IFC-IS investments in projects are most successful when the indicators are strongest. Exceptions occur when enforcing contracts is weak; IFC additionalities can be used to explain high investments. Asset Management Company components are increasingly used as instruments of financing when scores for enforcing contracts, protecting minority rights, and regulatory quality improve.

- IFC-AS projects, which are public-private partnership (PPP) mobilization projects, are mapped along with World Bank guarantees. PPP mobilization is high in countries where protecting minority investor rights is weak.

IBRD/IDA

We explored IBRD/IDA instrument used in countries with different levels of total debt service (percent of exports of goods, services, and primary income).[1, 2] We distribute the data in quartiles to analyze the same. The first quartile (Q1) represents data that lie in the bottom 25 percent of data, quartile Q2 represents 50 percent of data that lie below the median, Q3 represents the quartile wherein 75 percent of the data lies below Q3, and quartile Q4 represents the 25 percent of the data that lie above Q3.

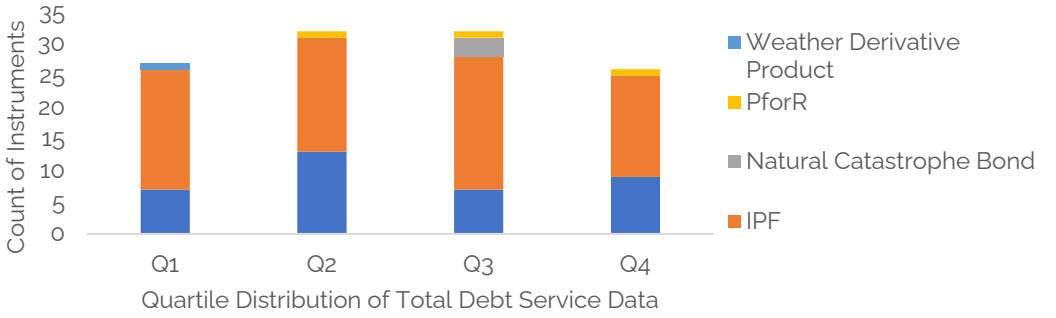
The quartiles are not equidistant; that is, depending on data for countries the distribution of quartiles will differ. The unit of analysis is projects for which capital is mobilized. Hence, the count of specific instruments is project based.

In figure M.1, we plot a pivot table for instrument used for supporting investment with different levels of debt service.

[1] A similar approach is used for MIGA, IFC-IS, and IFC-AS.

[2] We use this indicator because the data are most consistent for this indicator with respect to gross debt (percent of GDP).

Figure M.1. Total Debt Service, by Quartile and Instrument



Source: Independent Evaluation Group.

Note: IPF = investment project financing; PforR = Program-for-Results; Q = quartile.

In figure M.1 the IPF instrument is used most times by IBRD/IDA as an instrument for investment by countries paying total debt service lying in quartiles Q1, Q2, Q3, and Q4. The second-best instrument used is guarantees.

In table M.1 we give a detailed overview of size of quartiles and total number of instruments used.

Table M.1. Size of Quartiles and Total Number of Instruments Used (number)

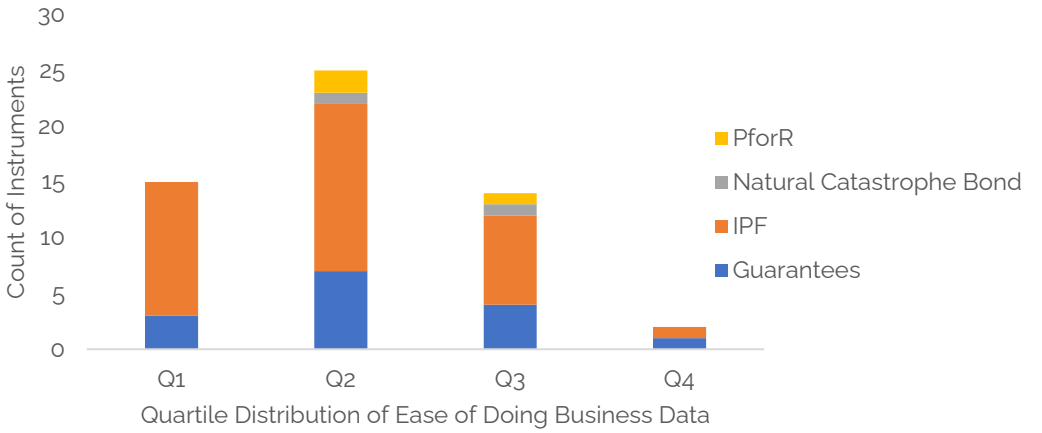
Quartile	Guarantees	IPF	Natural Catastrophe Bond	PforR	Weather Derivative Product	Total
Q1	7	19			1	27
Q2	13	18		1		32
Q3	7	21	3	1		32
Q4	9	16		1		26
Total	36	74	3	3	1	117

Source: Independent Evaluation Group.

Note: IMF = International Monetary Fund; IPF = investment project financing; PforR = Program-for-Results.

In figure M.2 we plot a pivot table for instrument used for investment with different levels of ease of doing business.

Figure M.2. Ease of Doing Business Scores, by Quartile and Instrument



Source Independent Evaluation Group.

Note: IPF = investment project financing; PforR = Program-for-Results; Q = quartile.

In figure M.2 IPF is used the maximum times by IBRD/IDA as an instrument for investment by countries with ease of doing business scores lying in quartiles Q1, Q2, Q3, and Q4. The second-best instrument used is guarantees. The histograms form an inverted U-shaped curve. As of the score for ease of doing business increases and it gets easier to do business, the use of IPF increases till quartile Q2 and then falls.

In table M.2 we give a detailed overview of size of quartiles and total number of instruments used.

Table M.2. Size of Quartiles and Total Number of Instruments Used (number)

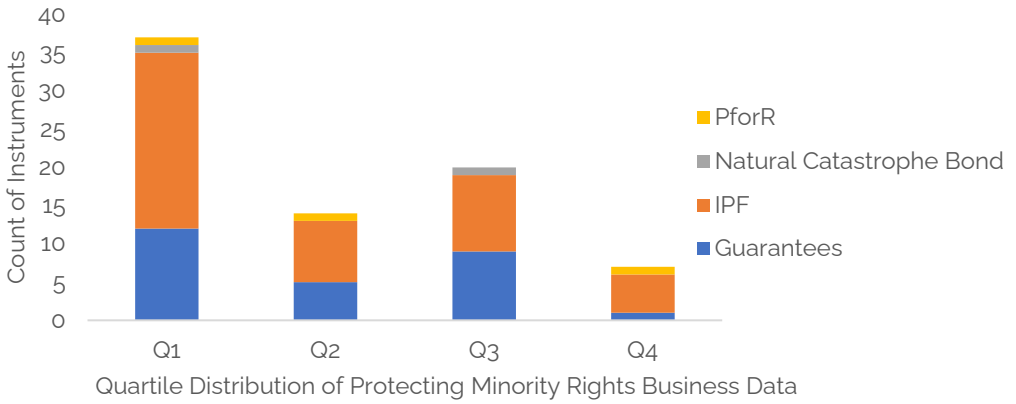
Quartile	Guarantees	IPF	Natural Catastrophe Bond	PforR	Total
Q1	3	12			15
Q2	7	15	1	2	25
Q3	4	8	1	1	14
Q4	1	1			2
Total	15	36	2	3	56

Source: Independent Evaluation Group.

Note: DB = Doing Business; IPF = investment project financing; PforR = Program-for-Results.

In figure M.3 we plot a pivot table for instrument used for investment with different levels of protecting minority investor rights.

Figure M.3. Quartile Distribution of Protecting Minority Rights Scores on Instrument



Source: Independent Evaluation Group.

Note: IPF = investment project financing; PforR = Program-for-Results.

In figure M.3 the instrument IPF is used the maximum times by IBRD/IDA as an instrument for investment by countries with protecting investor rights scores lying in quartiles Q1, Q2, Q3, and Q4. The second-best instrument used is guarantees. The maximum investment is in Q1 where the scores for protecting minority investor rights are lowest. The lowest investment is in Q4 where the scores of protecting minority investor rights is highest.

In table M.3 we give a detailed overview of size of quartiles and total number of instruments used.

Table M.3. Size of Quartiles and Total Number of Instruments Used

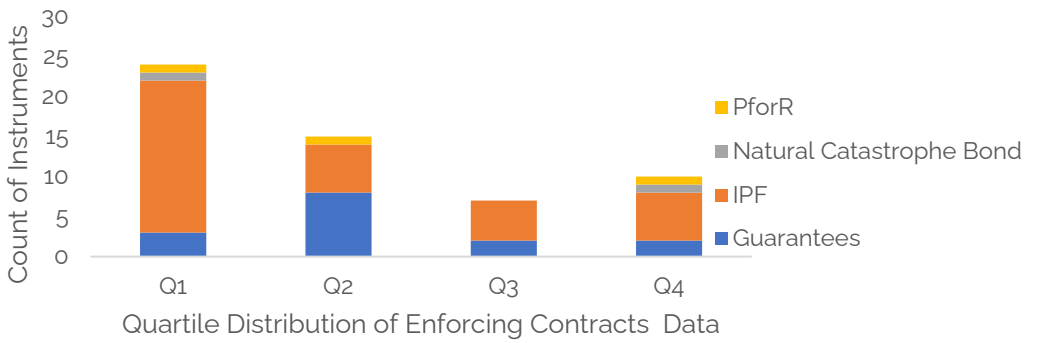
Count of DB_Score of Protect Minority Investor Rights	Guarantees	IPF	Natural Catastrophe Bond	PforR	Total
Q1	12	23	1	1	37
Q2	5	8		1	14
Q3	9	10	1		20
Q4	1	5		1	7
Total	27	46	2	3	78

Source: Independent Evaluation Group.

Note: DB = Doing Business; IPF = investment project financing; PforR = Program-for-Results.

In figure M.4 we plot a pivot table for instrument used for investment with different levels for enforcing contracts.

Figure M.4. Quartile Distribution of Enforcing Contracts Scores on Instrument



Source: Independent Evaluation Group.

Note: IPF = investment project financing; PforR = Program-for-Results.

In figure M.4 the instrument IPF is used the maximum times by IBRD/IDA as for investment by countries with enforcing contracts scores lying in quartile-Q1. The second-best instrument used is guarantees. In Q4, it is easiest to enforce contracts where the IPF is used most by IBRD/IDA, and the second-best instrument used is guarantees. In table M.4 we give a detailed overview of size of quartiles and total number of instruments used.

Table M.4. Size of Quartiles and Total Number of Instruments Used

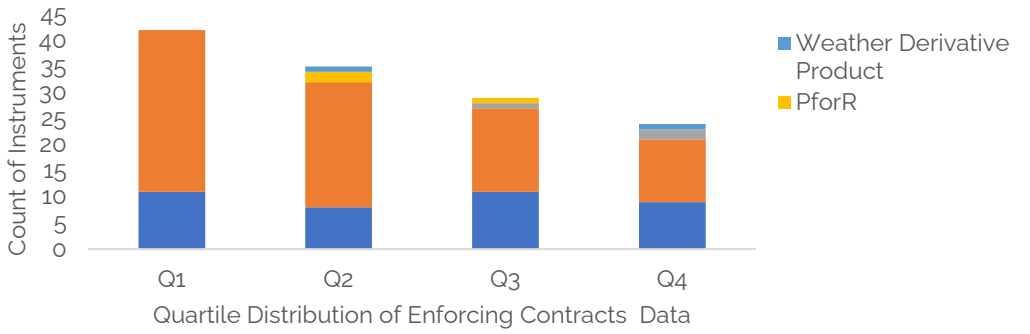
Count of DBScore Enforcing Contracts	Guarantees	IPF	Natural Catastrophe Bond	PforR	Total
Q1	3	19	1	1	24
Q2	8	6		1	15
Q3	2	5			7
Q4	2	6	1	1	10
Total	15	36	2	3	56

Source: Independent Evaluation Group.

Note: DB = Doing Business; IPF = investment project financing; PforR = Program-for-Results.

In figure M.5 we plot a pivot table for instrument used for investment with different levels of regulatory quality.

Figure M.5. Quartile Distribution of Regulatory Quality Scores on Instrument



Source: Independent Evaluation Group.

Note: DB = Doing Business; IPF = investment project financing; PforR = Program-for-Results.

In figure M5 the instrument IPF is used most by IBRD/IDA as an instrument for investment by countries with regulatory quality scores lying in quartile Q1. The second-best instrument used is guarantees. The investment steadily reduces as we move along the x-axis, hence, as regulatory quality improves the investment by IBRD/IDA is reduced.

In table M.5 we give a detailed overview of size of quartiles and total number of instruments used.

Table M.5. Size of Quartiles and Total Number of Instruments Used

Count of Regulatory Quality_Quartiles	Guarantees	IPF	Natural Catastrophe Bond	PforR	Weather Derivative Product	Total
Q1	11	31				42
Q2	8	24		2	1	35
Q3	11	16	1	1		29
Q4	9	12	2		1	24
Total	39	83	3	3	2	130

Source: Independent Evaluation Group.

Note: DB = Doing Business; IPF = investment project financing; PforR = Program-for-Results.

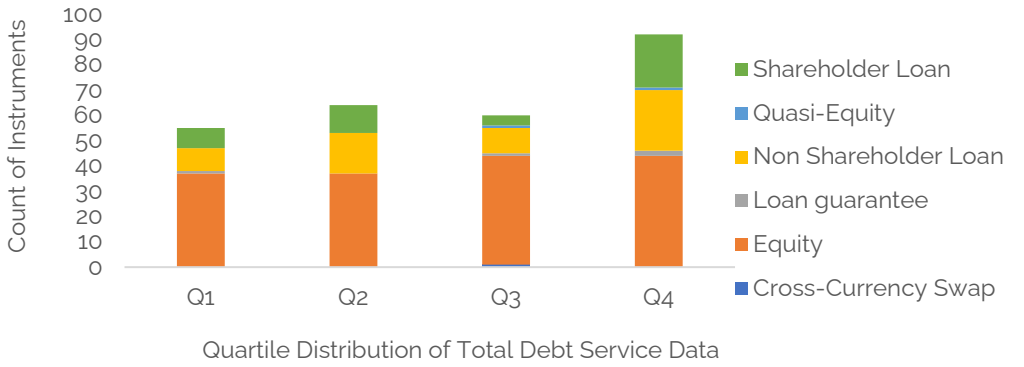
MIGA

We explore the MIGA instrument used in countries with different levels of total debt service (percent of exports of goods, services, and primary income).[3] We distribute the data in quartiles to analyze the same. The first quartile (Q1) represents data that lie in the bottom 25 percent of data, quartile Q2 represents 50 percent of data that lie below the median, Q3 represents the quartile wherein 75 percent of the data lie below Q3. Quartile Q4 represents the 25 percent of the data that lie above Q3. The quartiles are not equidistant; that is, depending on data for countries paying debt service, the distribution of quartiles will differ.

In figure M.6 we plot a pivot table for instrument used for supporting investment with different levels of total debt service.

[3] We use this indicator because the data are most consistent for this indicator with respect to gross debt (percent of GDP)

Figure M.6. Quartile Distribution of Total Debt Service Scores on Instrument



Source: Independent Evaluation Group.

In figure M.6 the equity instrument is used the maximum times by MIGA as an instrument for supporting investment with total debt service lying in quartiles Q1, Q2, Q3, and Q4. The investment support by MIGA increases as we move along the x-axis. The second-most used instrument for supporting investment is Non-Shareholder Loan. In table M.6 we give a detailed overview of size of quartiles and total number of instruments guaranteed.

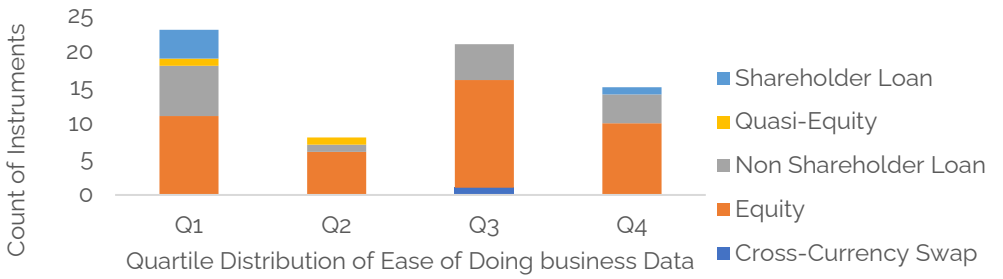
Table M.6. Overview of Size of Quartiles and Total Number of Instruments Guaranteed

Count of IMF_Total Debt Service_Quartile	Cross-Currency Swap	Equity	Loan Guarantee	Non-Shareholder Loan	Quasi-Equity	Shareholder Loan	Total
Q1		37	1	9		8	55
Q2		37		16		11	64
Q3	1	43	1	10	1	4	60
Q4		44	2	24	1	21	92
Total	1	161	4	59	2	44	271

Source: Independent Evaluation Group.

In figure M.7 we plot a pivot table for instrument used with different levels of ease of doing business scores.

Figure M.7. Quartile Distribution of Ease of Doing Business Scores on Instrument



Source: Independent Evaluation Group.

In figure M.7 the equity instrument is used most by MIGA by countries with ease of doing business scores lying in quartiles Q1, Q2, Q3, and Q4. The second most used instrument for supporting investment is Non-Shareholder Loan. Quasi-equity is used in Q1 and Q2 where ease of doing business scores are weakest.

Caveat: The subset of Non-Shareholder Loan projects has not been included.

In table M.7 we give a detailed overview of size of quartiles and total number of instruments used.

Table M.7. Size of Quartiles and Total Number of Instruments Used

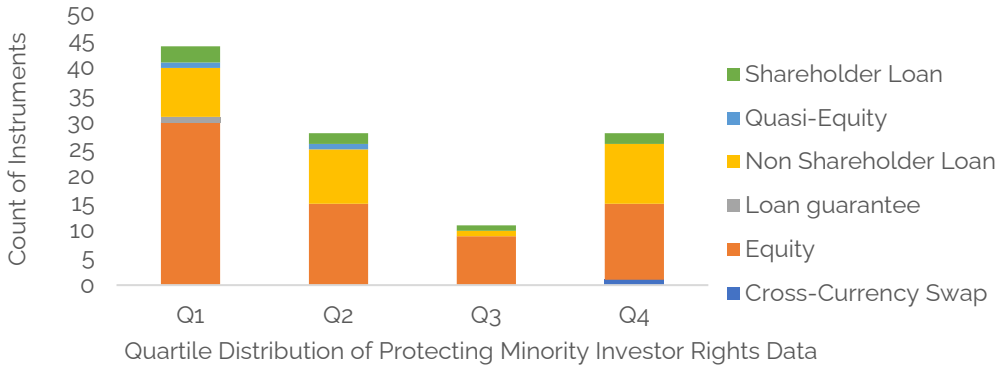
Count of DB_Score_Ease of Doing Business	Cross-Currency Swap	Equity	Non-Shareholder Loan	Quasi-Equity	Shareholder Loan	Total
Q1		11	7	1	4	23
Q2		6	1	1		8
Q3	1	15	5			21
Q4		10	4		1	15
Total	1	42	17	2	5	67

Source: Independent Evaluation Group.

Note: DB = Doing Business; IPF = investment project financing; PforR = Program-for-Results.

In figure M.8 we plot a pivot table for instrument with different levels of protecting minority investor rights.

Figure M.8. Quartile Distribution of Protecting Minority Investor Rights Scores on Instrument



Source: Independent Evaluation Group.

In figure M.8, the equity instrument is used the maximum times by MIGA with ease of doing business scores lying in quartiles Q1, Q2, Q3, and Q4. The second-

most instrument for investment used is Non-Shareholder Loan. The investment is highest in Q1 where the score for protecting minority investor rights is lowest.

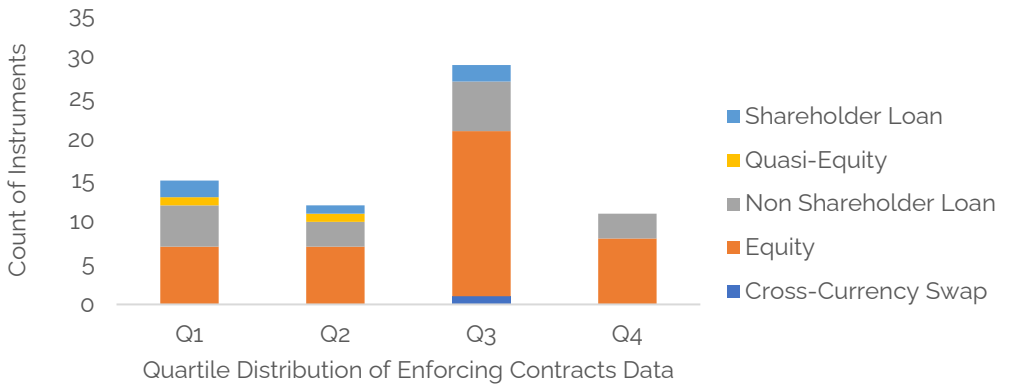
In table M.8 we give a detailed overview of size of quartiles and total number of instruments used.

Table M.8. Size of Quartiles and Total Number of Instruments Used

Count of DB_Score Protecting Investor Rights Quartiles	Cross-Curr-ency Swap	Equity	Loan Guar-antee	Non-Share-holder Loan	Quasi-Equity	Share-holder Loan	Total
Q1		30	1	9	1	3	44
Q2		15		10	1	2	28
Q3		9		1		1	11
Q4	1	14		11		2	28
Total	1	68	1	31	2	8	111

In figure M.9 we plot a pivot table for instrument used for investment with different levels of Enforcement of Contracts.

Figure M.9. Quartile Distribution of Enforcing Contracts Scores on Instrument



Source: Independent Evaluation Group.

In Q1 and Q2, enforcing contracts is weakest, and four instruments of financing are used: Shareholder Loan, quasi-equity, Non-Shareholder Loan, and equity. In Q4, where enforcing contracts is strongest only equity and Non-Shareholder Loans are used.

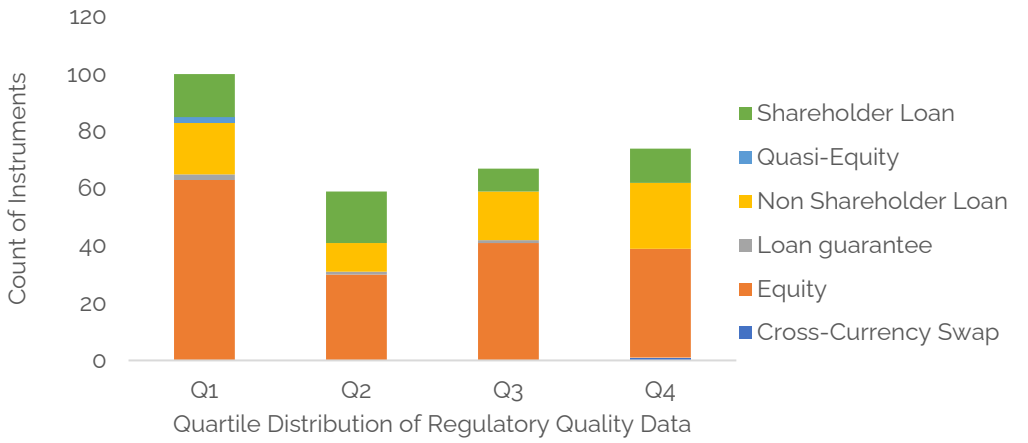
Table M.9. Instrument Used for Investment

Count of DB_Score Enforcing Contracts_Quartiles	Cross-Currency Swap	Equity	Non-Shareholder Loan	Quasi-Equity	Shareholder Loan	Total
Q1		7	5	1	2	15
Q2		7	3	1	1	12
Q3	1	20	6		2	29
Q4		8	3			11
Total	1	42	17	2	5	67

Source: Independent Evaluation Group.

In figure M.10 we plot a pivot table for instrument used for investment with different levels of regulatory quality.

Figure M.10. Quartile Distribution of Regulatory Quality Scores on Instrument



Source: Independent Evaluation Group.

In figure M.10, the equity instrument is used most by MIGA for countries with ease of doing business scores lying in quartiles Q1, Q2, Q3, and Q4. The second-most used instrument for supporting investment is Non-Shareholder Loan. The financing is maximum in Q1 where the regulatory quality is lowest. In Q1, four instruments are used: Loan guarantee, quasi-equity, Shareholder Loan, and equity. In Q4, Loan Guarantee is not used. In table M.10 we give a detailed overview of size of quartiles and total number of instruments used.

Table M.10. Size of Quartiles and Total Number of Instruments Used

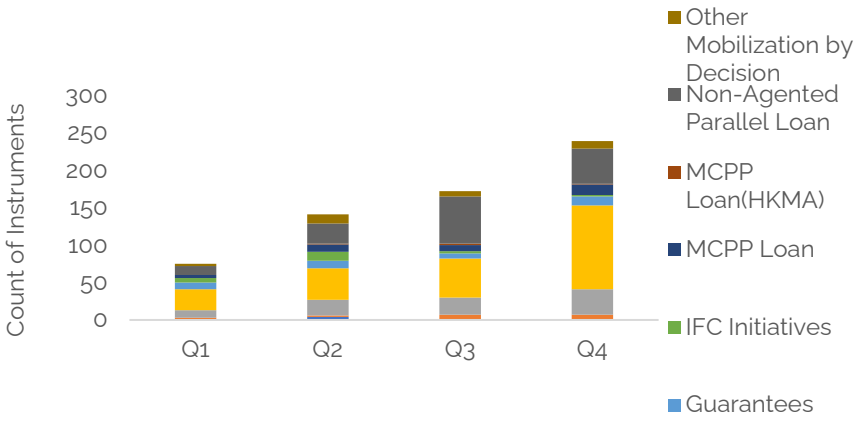
Count of Regulatory Quality_Quartiles	Cross-Currency Swap	Equity	Loan Guarantee	Non-Shareholder Loan	Quasi-Equity	Shareholder Loan	Total
Q1		63	2	18	2	15	100
Q2		30	1	10		18	59
Q3		41	1	17		8	67
Q4	1	38		23		12	74
Total	1	172	4	68	2	53	300

Source: Independent Evaluation Group.

IFC-IS

In figure M.11 we plot a pivot table for instrument used for investment with different levels of debt service.

Figure M.11. Quartile Distribution of Total Debt Service Scores on Instrument



Source: Independent Evaluation Group.

Note: AMC = Asset Management Company; HKMA = Hong Kong Monetary Authority; MCPP = Managed Co-Lending Platform Program.

In figure M.11, the instrument "B loans" is used the maximum times by IFC-IS for investment by countries where Total Debt Services lies in quartiles Q1, Q2, Q3, and Q4. The Asset Management Company as instrument of financing increases as we move along the x-axis. In Q1 and Q2, IFC initiatives are used more as financing instruments. The **traditional** investment consists of: A loan Participation, Agented Parallel Loans, B loan, Managed Co-Lending Platform Program loan, Managed Co-Lending Platform Program loan (Hong Kong Monetary Authority), Non-Agented Parallel Loan, and Other Mobilization by Decision. We classify for each instrument separately we can see its impact. IFC initiatives consist of Infrastructure Crisis Facility–Debt Pool, Distressed Asset Recovery Program, Microfinance Enhancement Facility, Global Trade Liquidity Program I and II and Critical Commodities Finance Program, Global Trade Liquidity Program I and II and Critical Commodities Finance Program and Global Warehouse Finance Program, and Microfinance Enhancement Facility. We classify this as IFC initiatives. The Asset Management Company consists of IFC Funds. We classify this as AMC. Guarantees consist of Structured Finance Non-IFC. We classify this as guarantees.

In table M.11 we give a detailed overview of size of quartiles and total number of instruments used.

Table M.11. Size of Quartiles and Total Number of Instruments Used

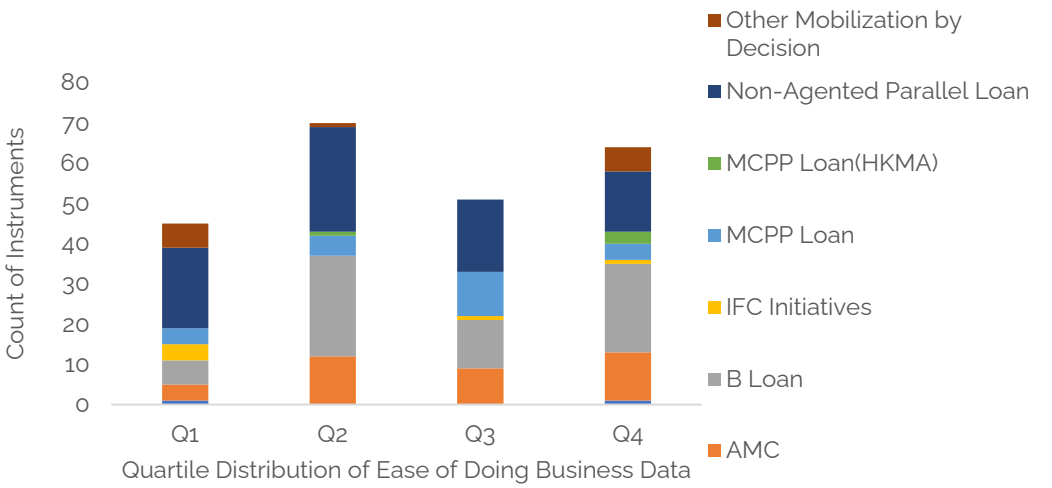
Count of IMF_Total Debt Service Quartile	A Loan Partici-pation	Agented Parallel Loan	AMC	B Loan	Guarantees	IFC Initiatives	MCPP Loan	MCPP Loan (HKMA)	Non-Agented Parallel Loan	Other Mobili-zation by Decision	Total
Q1		3	10	28	9	6	4		12	3	75
Q2	4	2	21	42	10	12	10	1	27	12	141
Q3	1	6	23	52	7	3	8	2	63	7	172
Q4		7	34	112	12	2	14	1	47	10	239
Total	5	18	88	234	38	23	36	4	149	32	627

Source: Independent Evaluation Group.

Note: AMC = Asset Management Company; HKMA = Hong Kong Monetary Authority; MCPP = Managed Co-Lending Platform Program.

In figure M.12 we plot a pivot table for instrument used for investment with different levels of ease of doing business.

Figure M.12. Quartile Distribution of Ease of Doing Business Scores on Instrument



Source: Independent Evaluation Group.

Note: AMC = Asset Management Company; HKMA = Hong Kong Monetary Authority; MCPP = Managed Co-Lending Platform Program. In Q1, out of eight instruments for financing seven are used; for the exception is MCPP Loan (HKMA). In Q4, all eight instruments are used for financing. Use of Other Mobilization by Decision and AMC as instruments has increased in Q4.

Caveats: The Guarantees instrument does not figure in because the Doing Business scores for the specific approval year for the country are not available.

Table M.12. Overview of Size of Quartiles and Instruments Used

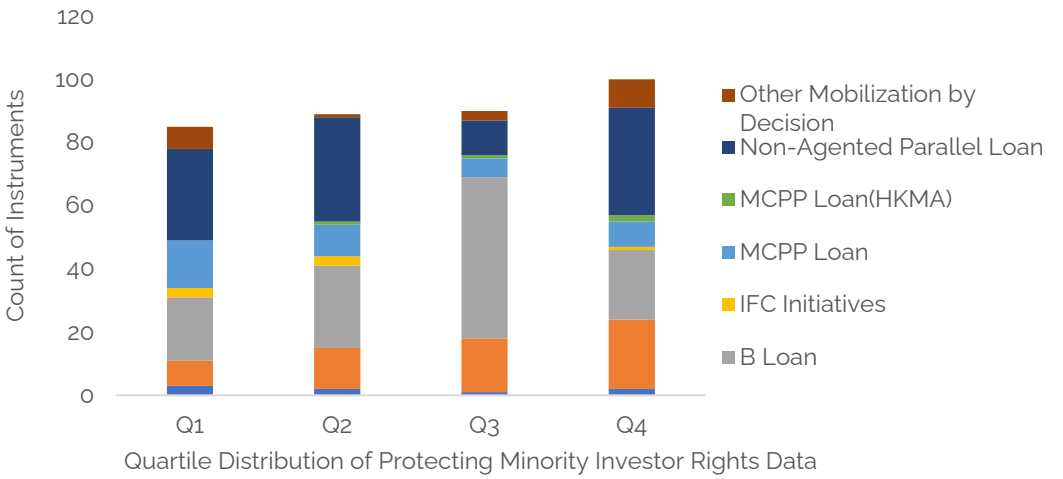
Count of DB_Score Ease of Doing Business	Agented Parallel Loan	AMC	B Loan	IFC Initiatives	MCPP Loan	MCPP Loan (HKMA)	Non-Agented Parallel Loan	Other Mobilization by Decision	Total
Q1	1	4	6	4	4		20	6	45
Q2		12	25		5	1	26	1	70
Q3		9	12	1	11		18		51
Q4	1	12	22	1	4	3	15	6	64
Total	2	37	65	6	24	4	79	13	230

Source: Independent Evaluation Group.

Note: AMC = Asset Management Company; HKMA = Hong Kong Monetary Authority; MCPP = Managed Co-Lending Platform Program.

In figure M.13 we plot a pivot table for instrument used for investment with different levels of protecting minority investor rights.

Figure M.13.



Source: Independent Evaluation Group.

Note: AMC = Asset Management Company; HKMA = Hong Kong Monetary Authority; MCPP = Managed Co-Lending Platform Program.

As we move along the x-axis from Q1 to Q4, the financing steadily increases. The use of AMC has steadily increased. Other Mobilization by Decision has also increased in Q4.

In table M.13 we give a detailed overview of size of quartiles and total number of instruments used.

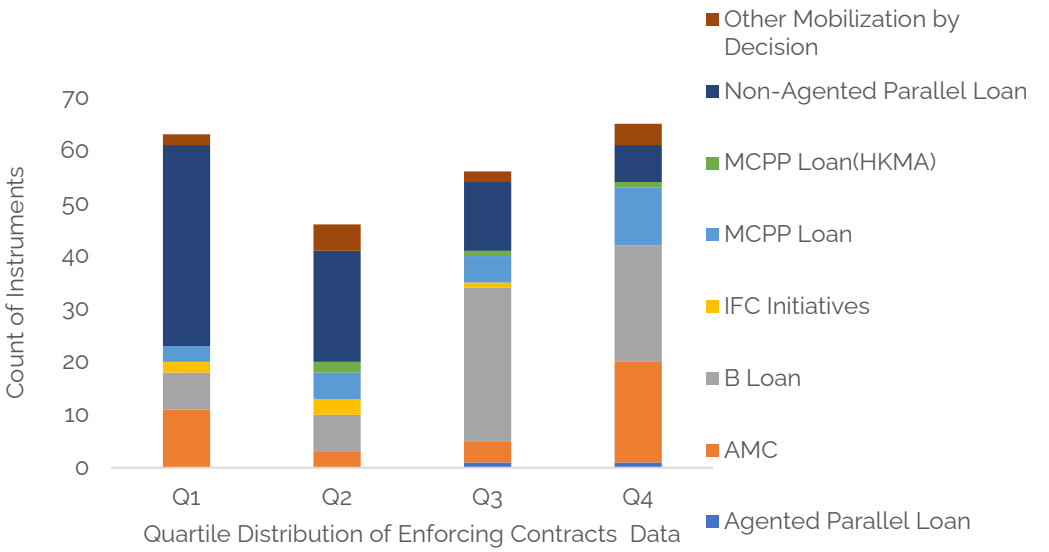
Table M.13. Overview of Size of Quartiles and Total Number of Instruments Used

Count of DB_Score Protecting Inv Qua	Agented Parallel Loan	AMC	B Loan	IFC Initiatives	MCPP Loan	MCPP Loan (HKMA)	Non-Agented Parallel Loan	Other Mobilization by Decision	Total
Q1	3	8	20	3	15		29	7	85
Q2	2	13	26	3	10	1	33	1	89
Q3	1	17	51		6	1	11	3	90
Q4	2	22	22	1	8	2	34	9	100
Total	8	60	119	7	39	4	107	20	364

Source: Independent Evaluation Group.

In figure M.14 we plot a pivot table for instrument used for investment with different levels of enforcing contracts:

Figure M.14. Quartile Distribution of Enforcing Contracts Scores on Instrument



Source: Independent Evaluation Group.

Note: AMC = Asset Management Company; HKMA = Hong Kong Monetary Authority; MCPP = Managed Co-Lending Platform Program.

As we move along the x-axis Enforcement of Contracts get stronger. In Q4, the use of AMC as a financing instrument is high relative to Q1, Q2, and Q3. The use of Non-Agented Parallel Loans as a financing instrument of steadily declines. In Q4, the use of the Managed Co-Lending Platform Program (MCPP) Loan as instrument of financing is high relative to Q1, Q2, and Q3.

Table M.14. Overview of Size of Quartile Scores and Total Number of Instruments Used

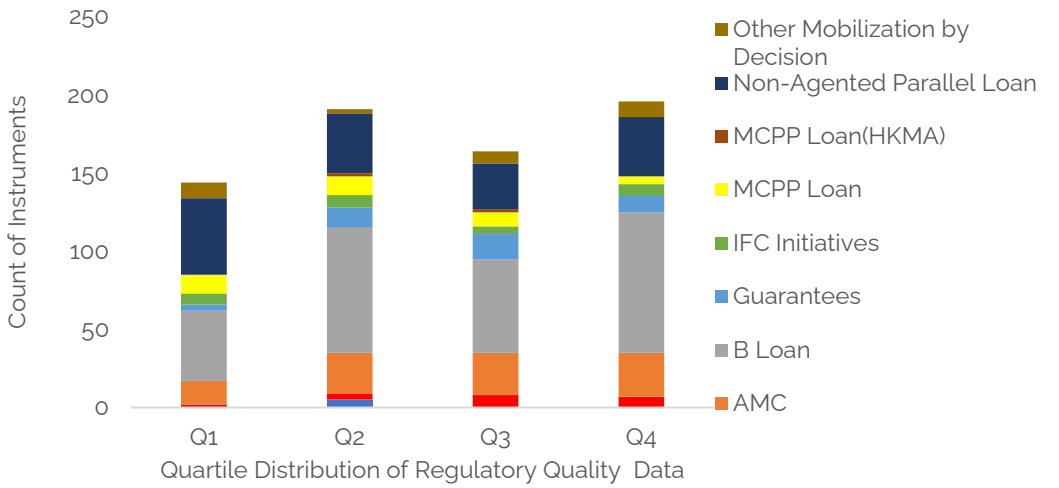
Count of DB_Score Enforcing Contracts Quartile	Agented Parallel Loan	AMC	B Loan	IFC Initiatives	MCPP Loan	MCPP Loan (HKMA)	Non-Agented Parallel Loan	Other Mobilization by Decision	Total
Q1		11	7	2	3		38	2	63
Q2		3	7	3	5	2	21	5	46
Q3	1	4	29	1	5	1	13	2	56
Q4	1	19	22		11	1	7	4	65
Total	2	37	65	6	24	4	79	13	230

Source: Independent Evaluation Group.

Note: AMC = Asset Management Company; HKMA = Hong Kong Monetary Authority; MCPP = Managed Co-Lending Platform Program.

In figure M.15 we plot a pivot table for instrument used for investment with different levels of regulatory quality.

Figure M.15. Quartile Distribution of Regulatory Quality Scores on Instrument



Source: Independent Evaluation Group.

Note: AMC = Asset Management Company; HKMA = Hong Kong Monetary Authority; MCPP = Managed Co-Lending Platform Program.

As we move along the x-axis regulatory quality gets stronger. In Q4, the use of AMC as instrument of financing is high relative to Q1, Q2, and Q3. The use of MCPP Loan as instrument of financing declines as we move from Q1 to Q4.

In table M.15 we give a detailed overview of size of quartiles and total number of instruments used.

Table M.15. Size of Quartiles and Total Number of Instruments Used

Count of Regulatory Quality_ Quartiles	A Loan Participation	Agented Parallel Loan	AMC	B Loan	Guarantees	IFC Initiatives	MCPP Loan	MCPP Loan (HKMA)	Non-Agented Parallel Loan	Other Mobilization by Decision	Total
Q1		2	15	45	4	7	12		49	10	144
Q2	5	4	26	80	13	8	12	2	38	3	191
Q3		8	27	60	16	5	9	2	29	8	164
Q4		7	28	90	11	7	5		38	10	196
Total	5	21	96	275	44	27	38	4	154	31	695

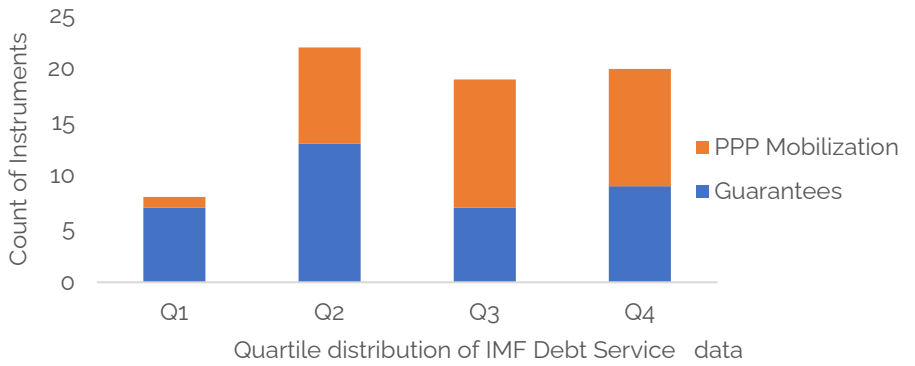
Source: Independent Evaluation Group.

Note: AMC = Asset Management Company; HKMA = Hong Kong Monetary Authority; MCPP = Managed Co-Lending Platform Program.

IFC-AS

We map IFC-AS–PPP mobilization with World Bank guarantees. In figure M.16 we plot a pivot table for PPP Advisory Projects used with different levels of total debt service.

Figure M.16. Quartile Distribution of IMF Debt Service on PPP Mobilization



Source: Independent Evaluation Group.

Note: AMC = Asset Management Company; HKMA = Hong Kong Monetary Authority; IMF = International Monetary Fund; MCPP = Managed Co-Lending Platform Program.

The ratio of PPP mobilization and guarantees is continuously increasing till Q3; it falls in Q4. In table M.16 we give a detailed overview of size of quartiles and total number of instruments used.

Table M.16. Overview of Size of Quartiles and Total Number of Instruments Used

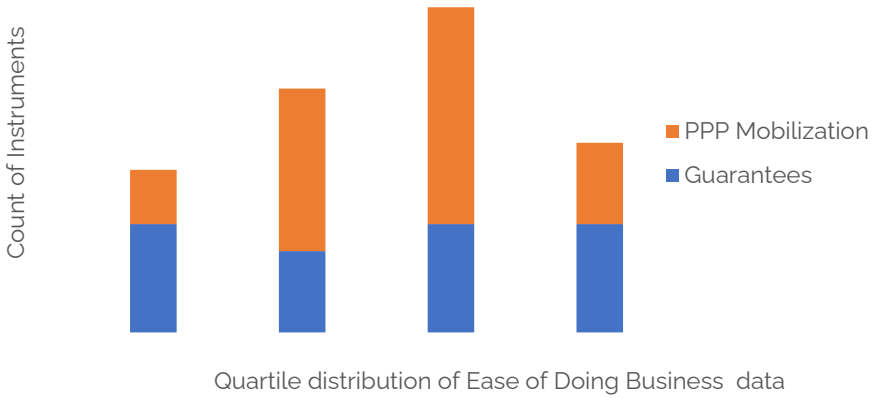
Count of IMF_Total Debt Service_Quartile	Guarantees	PPP Mobilization	Total
Q1	7	1	8
Q2	13	9	22
Q3	7	12	19
Q4	9	11	20
Total	36	33	69

Source: Independent Evaluation Group.

Note: AMC = Asset Management Company; HKMA = Hong Kong Monetary Authority; IMF = International Monetary Fund; MCPP = Managed Co-Lending Platform Program.

In figure M.17 we plot a pivot table for PPP Advisory Projects used with different levels of ease of doing business:

Figure M.17. Quartile Distribution of Ease of Doing Business Scores on PPP Mobilization



Source: Independent Evaluation Group.

As we move along the x-axis, the PPP mobilization steadily increases and then falls, forming an inverted U-shaped curve. In table M.17 we give a detailed overview of size of quartiles and total number of instruments used.

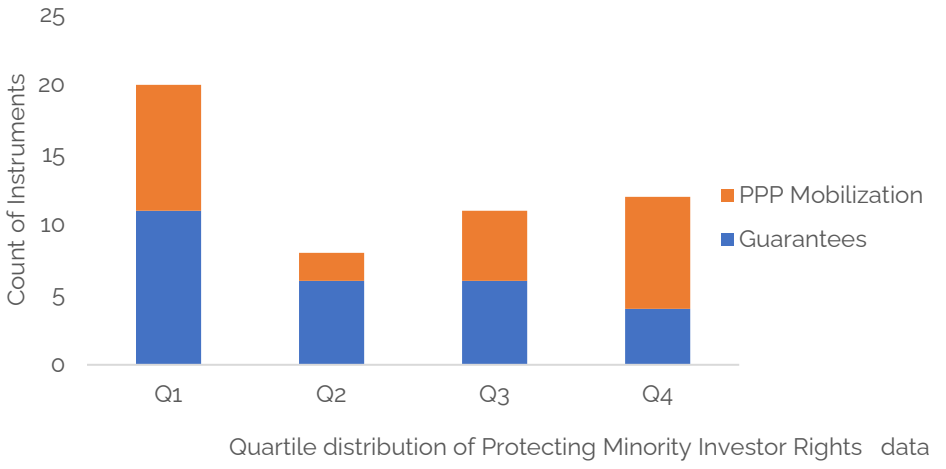
Table M.17. Size of Quartiles and Total Number of Instruments Used

Count of DB_Score_Ease of Doing Business	Guarantees	PPP Mobilization	Total
Q1	4	2	6
Q2	3	6	9
Q3	4	8	12
Q4	4	3	7
Total	15	19	34

Source: Independent Evaluation Group.

In figure M.18 we plot a pivot table for PPP Advisory Projects used with different levels of protecting minority investor rights.

Figure M.18. Quartile Distribution of Protecting Minority Investor Rights on PPP Mobilization



Source: Independent Evaluation Group.

In Q1, the PPP Advisory Projects are the highest where the score for protecting minority investor rights is lowest. In table M.18 we give a detailed overview of size of quartiles and total number of instruments used.

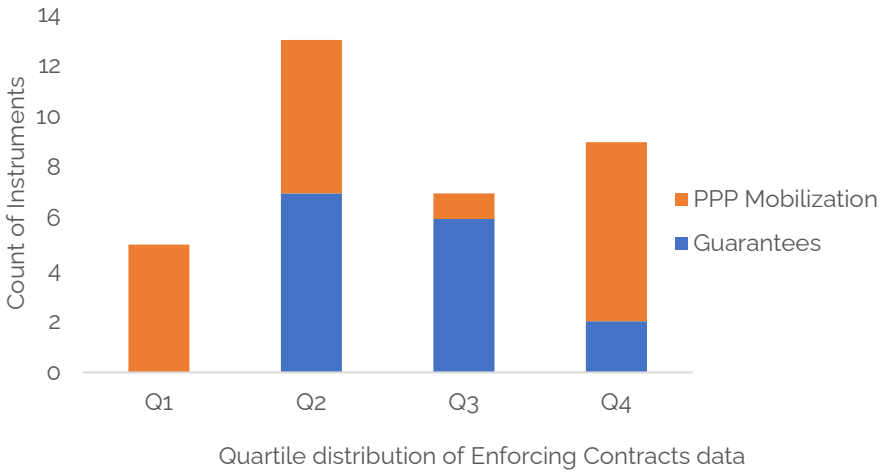
Table M.18. Size of Quartiles and Total Number of Instruments Used

Count of DB_Score Protecting Investor Quartile	Guarantees	PPP Mobilization	Total
Q1	11	9	20
Q2	6	2	8
Q3	6	5	11
Q4	4	8	12
Total	27	24	51

Source: Independent Evaluation Group.

In figure M.19 we plot a pivot table for PPP Advisory Projects used with different levels of enforcing contracts.

Figure M.19. Quartile Distribution of Enforcing Contracts on PPP Mobilization



Source: Independent Evaluation Group.

In Q4, the ratio of PPP Advisory Projects to guarantees is the highest. In table M.19 we give a detailed overview of size of quartiles and total number of instruments used.

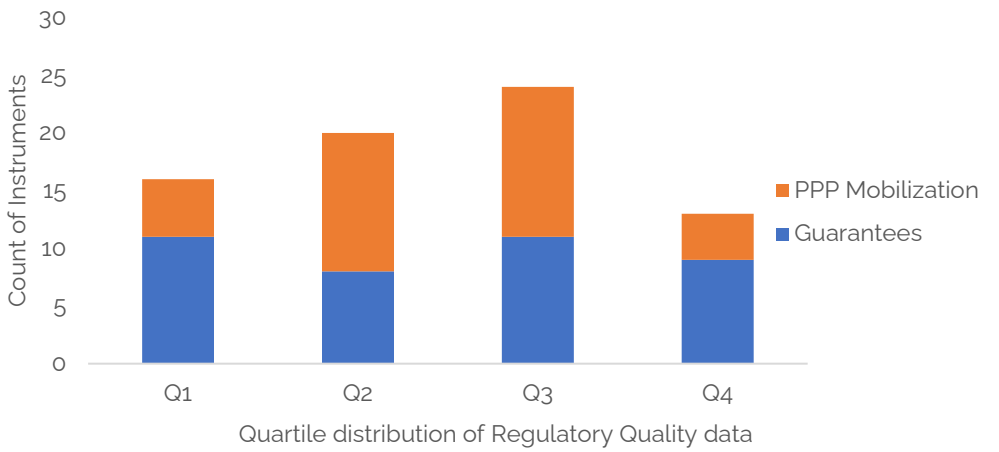
Table M.19. Size of Quartiles and Total Number of Instruments Used

Count of DB_Score Enforcing Contracts_Quartile	Guarantees	PPP Mobilization	Total
Q1		5	5
Q2	7	6	13
Q3	6	1	7
Q4	2	7	9
Total	15	19	34

Source: Independent Evaluation Group.

In figure M.20 we plot a pivot table for PPP Advisory Projects used with different levels of regulatory quality.

Figure M.20. Quartile Distribution of Regulatory Quality on PPP Mobilization



Source: Independent Evaluation Group.

As we move along the x-axis the PPP mobilization steadily increases and then falls, forming an inverted U-shaped curve.

Table M.20. Size of Quartiles and Total Number of Interventions

Count of Regulatory Quality_Quartiles	Guarantees	PPP Mobilization	Total
Q1	11	5	16
Q2	8	12	20
Q3	11	13	24
Q4	9	4	13
Total	39	34	73

Source: Independent Evaluation Group.

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The World Bank
1818 H Street NW
Washington, DC 20433