Occasional Paper 1

Innovative Financing for Infrastructure in Low Income Countries

How Might the G20 Help?

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PREFACE

With this publication, the African Center for Economic Transformation is launching its *Occasional Paper Series*. The papers in this series will analyze and make recommendations on specific issues relating to the key drivers of economic transformation in Africa—such as education and skills, domestic resource mobilization, the business environment, foreign direct investment, export promotion, and infrastructure development. They will draw on analytical work completed or in progress by our staff, our senior associates (nonresident fellows), or our network of collaborating think tanks in Africa. We will also invite eminent specialists or economists to contribute a piece responding to important developments in the international arena, with a major bearing on Africa's economic transformation.

This paper, *Innovative Financing for Infrastructure in Low Income Countries: How might the G20 Help?*, by Akbar Noman, Senior Fellow, Initiative for Policy Dialogue at Columbia University fits the last category. Prof. Noman also teaches at Columbia's School of International and Public Affairs and is a co-director of the Task Force on Africa convened by Nobel economics laureate Professor Joseph Stiglitz to focus on the special challenges facing economic development in Africa. In his paper Prof. Noman responds to the 2010 G20 Seoul Summit declaration on the importance of accelerated growth in low-income countries and on setting up an Independent High Level Panel for Infrastructure Investment to identify and recommend concrete measures and initiatives to attract affordable finance for the infrastructure needs of such countries, the majority of them in Africa.

I hope the recommendations in this paper—including one for a mechanism to direct part of the large and growing savings surpluses of some countries, particularly those of sovereign wealth funds, to low-income countries on appropriate concessional terms—will be useful to the High-Level Panel in producing its final report to the G20 leaders in November 2011. Those recommendations should also be useful to the multilateral development banks, particularly the African Development Bank and the World Bank, requested by the G20 leaders to review their policies and recommend measures to scale up financing and diversify the sources of " affordable" finance for infrastructure. More broadly, the approach recommended by Prof. Noman need not be confined to infrastructure: activities related to climate change also have many externalities, and thus require public goods with a significant infrastructure dimension.

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EXECUTIVE SUMMARY

Among the outcomes of the Group of 20 (G20) Seoul Summit in November 2010 was an enhanced focus on development, especially infrastructure in low-income countries (LICs). The comprehensive work program that emerged included the establishment of a High-Level Panel for Infrastructure Investment to report to the forthcoming summit in France.

The tasks of the panel include reviewing policies of multilateral development banks and recommending measures to do the following: scale up financing and diversify sources of affordable finance for infrastructure; proposing innovative ways to mitigate and intermediate risks to attract finance; and reviewing the action plans of multilateral development banks as set out at the Seoul Summit.

Many of the actions for infrastructure development will take time to bear fruit. The aims of this think-piece are to propose some ways of responding to the G20's initiative. One such response could comprise mobilizing innovative financing that uses the large and growing savings surpluses of some countries, often held in sovereign wealth funds (SWFs); providing those resources to LICs on appropriately concessional terms; using those resources to encourage private investments; and beginning to use the monies quickly while measures to scale up their use are taken.

This document is more of a think-piece than a blueprint, and as such does not address all details of design and implementation. It does, however, pay particular attention to the region of Sub-Saharan Africa, where most LICs are and where LICs generally have worse infrastructure than LICs elsewhere. Overcoming infrastructure shortfalls is expected to have a large impact on the region's economic growth, with significant implications for employment and poverty.

A substantial infrastructure financing gap for Sub-Saharan Africa still remains, even though China has emerged as an important source and other donors have stepped up their assistance in recent years. The shortfall is estimated to be nearly $10 billion a year for the region's LICs or roughly 15% of their gross domestic product. It is highly unlikely that efficiency gains and conventional financing can close the gap, and new sources of $5 billion–$6 billion a year are likely to be required to meet the shortfall. Part will come from the private sector, but given externalities and public goods considerations, a large role for the public sector is inevitable.

Valuable comments were gratefully received from K.Y. Amoako, Yaw Ansu, Ali Mansoor, Ato Newai Gebre-ab, and Shriti Vadera on the version of this paper presented at an ACET workshop in April 2011 on the theme "promoting economic transformation in Africa", in Bellagio, Italy.. Thanks are due to the workshop participants, especially Kwesi Botchwey, Hela Cheikhrouhou, and Michel Wormser who provided particularly useful comments. Needless to say, they are all absolved from any responsibility for the views and inadequacies of the paper.

While the prospects for conventional aid from Organisation for Economic Co-operation and Development (OECD) countries are clouded by their budget constraints, the growing savings surpluses in some countries (mainly in East Asia and the Middle East) are likely to maintain the recent huge growth of SWFs. At the end of 2010 total SWF assets were around $4,300 billion, and are projected to rise to some $10,000 billion by 2015.

These trends raise the question of whether and how official development assistance might be leveraged to mobilize SWF resources. The answer revolves around the basic ideas of providing insurance against risks and for financing a wedge between the terms on which the monies are raised from SWFs and the terms on which they are provided to LICs for sovereign borrowing. Our simulation suggests that official development assistance could be greatly leveraged if it is used for such subsidies. Donors would provide a guarantee for borrowings from SWFs and use aid monies to subsidize the interest payments for sovereign borrowing.

In this scenario, a Low Income Country Infrastructure Fund (LICIF) would be established to intermediate the transactions. It could be administered by multilateral development banks (as with some other funds). It would also lend to the private sector, particularly public–private partnerships, without an interest subsidy. The provision of term finance at reasonable interest rates should provide a big boost for private involvement in infrastructure, given the paucity of such financing in LICs. (Details are in section IV, the heart of this exercise.)

The budget cost of the guarantees and the leverage they will provide depend on the terms on which these contingent liabilities are accounted for. Accounting rules vary but typically only those guarantees "likely to be called" are put on the balance sheet, and these are unlikely to be in that category. Some countries could set up a reserve fund amounting to, say, 10%–20% of the guarantee. The simulation suggests that the costs could be accommodated easily even by existing aid budgets, even if we assume that all the financing is subsidized. It also suggests annual costs in the range of $1 billion–$2 billion for financing some $5 billion a year, which exaggerates subsidized-borrowing needs. Private participation is highly likely to greatly reduce these needs, such that on reasonable assumptions leverage could be as high as 15:1. Even the top end of the range of annual costs amounts to less than 2% of total official aid from OECD countries in 2009.

Most LICs can only scale up infrastructure gradually, but some could embark on major projects fairly quickly. These countries' economic management is of a high enough standard to let them leap ahead. There may also be some regional projects that could start in the near term.

The approach outlined here need not, of course be confined to infrastructure. Activities related to climate change in particular represent other big-ticket items that also have many externalities and public goods components.

For implementing the approach proposed here (or some variant), a task force or a high-level panel should be established by, say, November 2011. It would then follow up on the many details of design and implementation by about April–May 2012, aiming to make the approach operational by the G20 summit in late 2012.

I. INTRODUCTION

The Group of 20 (G20) summit meeting in Seoul in November 2010 broadened the focus of the G20 on development issues, especially for low-income countries (LICs). The summit's leaders' declaration speaks of the need to "ensure accelerated growth in low income countries." The summit yielded the Seoul Development Consensus for Shared Growth reflected in a multiyear action plan, which summarized the concrete measures proposed for accelerating growth in developing countries, notably LICs, "including, in particular, through the development of infrastructure."

The action plan delineates nine pillars of G20 support for LICs. It seems to place particular emphasis on the infrastructure pillar, which has a heavy bearing on some other pillars including trade facilitation; private investment and jobs creation; and food security.[1]

Many of the actions for infrastructure development will take time to bear fruit as they encompass a comprehensive array of measures (see below). The aims of this think-piece are to propose ways for:

- Mobilizing innovative financing that serves to use some countries' large and growing savings surpluses, often held in sovereign wealth funds (SWFs).
- Providing those resources to LICs on appropriately concessional terms.
- Using those resources to encourage private investments.
- Beginning to use the monies quickly while measures to scale up their use are taken.

The ideas and proposals advanced below are sketched in broad, conceptual terms. The details of design and implementation are for the most part outside the scope of this exercise—given that it is more in the nature of a think-piece to throw up ideas rather than to offer blueprints. The main proposals and recommendations are in section IV.

The G20 asked multilateral development banks (MDBs) to carry out tasks in the following five infrastructure areas:

- Information and needs assessment. This includes estimating funding requirements and delivering bankable growth-supporting regional connectivity projects.
- Internal practices.These relate to improving internal procedures and guidelines and assessing adequacy of internal resources for infrastructure development.
- Improving the domestic infrastructure investment climate in LICs.This entails easing institutional, regulatory policy, and public sector capacity constraints to remove bottlenecks, including adopting whole-life costing and planning for new infrastructure, enhancing operations and maintenance, and rehabilitating existing infrastructure; improving internal resource mobilization and increasing fiscal space; and increasing energy access, including a focus on sustainability, cost-effective of renewable energy, conservation, and increased efficiency.

[1] The other five pillars are human resource development, growth with resilience, financial inclusion, domestic resource mobilization,and knowledge sharing.

- Special measures for regional integration.
- Transparency and sustainability.

This represents an ambitious, comprehensive approach to overcoming the infrastructure shortfalls in LICs, and many of these tasks will take several years to yield results. But we do not have to wait long to start making a deep dent in LICs' infrastructure shortfalls. Suggestions for quick actions that can be embarked on in the near term are given below.

The Seoul Summit resulted in the establishment of a G20 High-Level Panel for Infrastructure Investment. The panel is to report to finance ministers and to the summit leaders in France.[2] It is tasked with, among other things, reviewing MDB policies and recommending measures to scale up financing and diversify sources of affordable finance; taking account of the risk-bearing capacity of private and semi-public finance, of lessons of successes and failures, of durability, of whole-life costing, and of innovative ways to mitigate and intermediate risks to attract finance; and reviewing the MDB action plans for the above tasks.

The focus of this paper is on infrastructure, but mobilizing SWF resources for LICs along the lines proposed below need not be confined to that sector. Notably, financing for mitigation and adaptation associated with climate change is another big ticket item, and one that has a significant infrastructure dimension that would be amenable to the approach proposed here.

The rest of this document is organized as follows. Section II sketches infrastructure and financing shortfalls in Sub-Saharan Africa.Section III looks at sources of innovative finance. Section IV—the heart of the exercise—outlines proposals for mobilizing sovereign surpluses to provide affordable financeto LICs. Section V raises issues of implementation and follow-up actions.

II. INFRASTRUCTURE SHORTFALLS

Defining and estimating infrastructure shortfalls have, of course, different approaches and hence produce a range of figures. But their broad magnitude can be seen. The focus of many exercises in this area has been on Africa, the region with the largest infrastructure deficit, as well as the most LICs.

Infrastructure shortfalls in African LICs generally greatly exceed those of LICs in other regions, and this paper pays those in Africa the most attention. The proposals outlined below are, however, equally relevant for LICs elsewhere.

[2] A preliminary report is to be submitted by June 2011 and the final one by November 2011.

Table 1. Utility outages
Infrastructure in Sub-Saharan Africa is far less developed on average than in other low-income countries around the world.

	Low-income countries	
	Sub-Saharan Africa	Rest of world
Road density[a]	137	211
Paved road density[a]	31	134
Power generation capacity[b]	37	326
Electricity access	16	41
Access to reliable water[c,d]	60	72
Access to sanitation[c,d]	34	51

a. Kilometers per square kilometer.
b. Megawatts per population in millions.
c. Percentage of population.
d. At or above a standard threshold of quality.
Source: IMF Survey at http://www.imf.org/external/pubs/ft/survey/so/2010/CAR072110B.htm.

A recent report of the Africa Infrastructure Country Diagnostic nicely summarized the upshot of the work on infrastructural deficits in Africa: "Africa's infrastructure is by far the most deficient and costly in the developing world. Inadequate infrastructure is holding back economic growth by two percentage points each year. Solving the problem will cost US$80 billion per year, about twice what is currently being spent. More money is desperately needed, particularly for the power sector. But money alone is not the answer. Prudent policies, wise management, and sound maintenance can make current resources go much farther, and contribute significantly to narrowing the infrastructure gap."[3]

The figure given of $80 billion a year is for all Sub-Saharan Africa ($93 billion for all Africa). For Africa's LICs, the financing requirement has been estimated at around $20 billion–$25 billion (and perhaps $5 billion–$10 billion for LICs elsewhere). This figure translates to about 15% of GDP a year for the next decade or so in African LICs.[4] Something in the order of $45 billion is spent annually in Africa, implying a shortfall of roughly $35 billion in Africa. For the LICs in Africa therefore the shortfall is likely to be around $9 billion–$10 billion a year; part of this can be filled by efficiency gains, including improved revenue collection.[5] Non-African LICs may account for another $1 billion–$2 billion, for a total of some $10 billion–$11 billion a year.

Despite recent attention from traditional, mainly Organisation for Economic Co-operation and Development, donors after some quarter century of neglect, prospects of increases in

[3]Africa Infrastructure Country Diagnostic, "Africa's Infrastructure: A Time for Transition", at www.infrastructureafrica.org.
[4]The African Development Bank estimates that about another $70 billion is the annual "need" in the middle-income countries of Africa (including North Africa).
[5] These efficiency gains for Africa as a whole are theoretically estimated at some $17 billion.They also include retrenching staff and raising utility prices. But given political sensitivities, a substantial chunk of these gains is not feasible.

official development assistance (ODA) from them do not suggest that ODA would be adequate to meet the shortfall in African LICs, given the general worsening of rich-country fiscal positions. China has emerged as by far the most important source of additional infrastructure financing in Africa, but that still leaves a large gap, especially in the region's LICs.

The recent attention includes a variety of initiatives. They have been launched, often in partnership, by the African Development Bank (ADB), the World Bank, and the umbrella of the African Union and the New Partnership for Africa's Development (NEPAD), as well as several bilateral donors, notably the Department for International Development of the United Kingdom. They focus not just on additional financing from conventional sources, but also on planning and implementing infrastructure projects and policies, especially multicountry regional projects.

Before turning to how to plug the financing gap, we emphasize an important indirect impact of such deficits not captured by cost-benefit analysis of individual projects, which magnifies the importance of addressing these deficits. This is the impact of infrastructure deficiencies on aggregate economic growth, and hence on employment and poverty.

Estimating new infrastructure's impact on economic growth is a complicated exercise that yields a range of estimates in different countries. But the broad thrust of various studies presented in capsule form (box 1) leaves little doubt that improved infrastructure can have a large impact on accelerating growth and reducing povertyin Africa. The above estimate for Africa of 2 percentage points a year slower growth due to infrastructural deficiencies[6] is broadly in line with another that suggests that annual growth would increase by 2.6 percentage points if infrastructure was to approximate the level of the Republic of Korea and by 2.2 percentage points to that in Mauritius, the highestranked country in Sub-Saharan Africa for infrastructure availability.

Box 1. What the research says

The study, its method'sscope and sector, and its conclusions are presented in that order in what follows on the links between infrastructure and growth

Easterly and Levine 1997 Multicountry Africa, Telecommunications, Power—Infrastructure is strongly and significantly correlated with growth.

Esfahani and Ramirez 2003 Multicountry Africa, Telecommunications, Power—Africa's growth per capita would be 0.9 points higher with East Asia's infrastructure.

Calderón and Servén 2008 Multicountry Africa, Telecommunications, power, roads—Africa's growth per capita would be 1.0 point higher with the Republic of Korea's infrastructure.

Estache, Speciale, and Veredas 2005 Multicountry Africa,various—Confirms earlier work and underscores equal relevance for coastal and landlocked countries.

[6] See, for example, Africa Infrastructure Country Diagnostic, "Africa's Infrastructure: A Time for Transition", at www.infrastructureafrica.org.

Calderón 2008 Multicountry Africa, Telecommunications, power, roads—Africa's growth per capita would be 2.3 points higher with Mauritius's infrastructure.

Calderón and Servén 2008 Multicountry Africa, Telecommunications, power, roads—Extends earlier results to show infrastructure also has a negative effect on inequality.

Fedderke and Bogetic 2006 Country study, South Africa,various—Finds long-term relationship between infrastructure and growth based on robust econometric techniques.

Ayogu 1999 Production function, Nigeria,various—Finds strong association between infrastructure and output in panel data.

Kamara 2008 Production function, Africa,various—Finds strong association between infrastructure and output in panel data.

Reinikka and Svensson 1999a Enterprise surveys, Uganda, Power—Unreliable power is a significant deterrent to private sector investment.

Escribano, Guasch, and Pena 2008 Enterprise surveys, Africa,various—Infrastructure has a substantial effect on total factor productivity.

Source: African Development Bank.

III. SOURCES OF INNOVATIVE FINANCE

Proposals abound for mobilizing innovative finance for development, particularly for mitigation and adaptation responses to climate change. These include taxes on foreign exchange transactions (the Tobin tax), on financial transactions, and on carbon emissions.

Other innovations are reflected in such initiatives as the Global Alliance for Vaccines and Immunisation; the Global Fund to Fight AIDS, Tuberculosis and Malaria; and the International Finance Facility for Immunization (IFFIm). These initiatives mobilize resources from a combination of public, nongovernmental organization, and private sources and include such innovations as (Product) RED under which some of the world's corporations create products with the logo (Product) RED and channel a portion of their profits from the sales of these products to health programs in Africa. UNITAID provides funding for treatment of HIV/AIDS by raising funds (around $1 billion since inception in 2006) mainly from a tax on airline tickets.

IFFIm is financed by bonds issued in the capital markets whose servicing is guaranteed by donor countries that make legally binding aid commitments. It was launched in 2006 at the initiative of the United Kingdom with support from France, Italy, the Netherlands, Norway, South Africa, and Spain. It aims to raise $4 billion over 10 years. The World Bank has acted as financial adviser and treasurer to IFFIm.

The World Bank Group's International Finance Corporation (IFC), oriented to the private sector, has very recently established the IFC Asset Management Company to catalyze private finance for infrastructure projects as fund manager of third-party capital.

Another initiative, the Policy Support Instrument of the International Monetary Fund (IMF), is mobilizing nontraditional financing sources for infrastructure in Africa in four countries: Mozambique, Rwanda, Tanzania, and Uganda. Policy programs allow for financing on nonconcessional terms from MDBs and export credit agencies; greater use of public–private partnerships (PPPs); and, potentially, sovereign bond issues. While the initiative of the IMF to reduce infrastructural deficits in LICs is welcome, the scale of such efforts is highly constrained in African LICs by the limited space for increasing external debt on even these terms before debt sustainability becomes an issue.

An interesting recent proposal was that of IMF staff for issuing special drawing rights (SDRs) to developing countries to help finance some of the costs of mitigation and adaptation to climate change. The informal negative reaction of the IMF's executive board prevented the proposal from being formally considered by the board, however. Still, some variant of the proposal deserves to be revived and the G20 can play a role in this. Such a mechanism need not be confined to climate change but could also include infrastructure, especially given the contribution that infrastructure investments, above all in energy, can make to environmental sustainability. The mechanism could well be more attractive if this paper's ideas (or some version) on leveraging resources from savings-rich countriesare implemented.

Of late there has been growing interest in mobilizing the savings of big-surplus countries in East Asia and the Middle East for LICs' infrastructure deficits. These surplus savings are manifested mainly in central banks' international reserves and SWFs. For long-term financing—not very liquid and entailing risk—the SWFs are more relevant. They have grown hugely, with total assets of all SWFs estimated at $4,256 billion at the end of 2010 (excluding three SWFs for which data were not available).[7]

Annex I lists the SWFs and the size of their assets in U.S. dollar terms. There are 50 SWFs in 39 countries, including one devoted to investments in Africa: the $5 billion China–Africa Development Fund established in 2007. The top 10, accounting for nearly three-quarters of SWF assets, are in seven economies: China (three), Singapore (two), UAE (Abu Dhabi), Norway, Saudi Arabia, Hong Kong (China), and Kuwait.[8] By one estimate, the assets of SWFs are expected to grow from $4.3 trillion in 2009/10 to $10 trillion by 2015.[9] The annual financing requirements for LICs amount to about 0.25% of the assets of the SWFs now and about 0.1% of the figure projected for 2015, which is around the time that infrastructure investment can be scaled up to anywhere near the level required.

[7]Namely, the SWFs of Oman and two smaller of the six SWFs in UAE, the Emirates Investment Authority and Abu Dhabi Investment Council.
[8]Data from www.swfinstitute.org/fund-rankings.
[9] Gijon, Jose. "SWF and Infrastructure Investment in Africa: Challenges and Perspectives", presentation at the NEPAD-OECD Africa Investment Initiative meeting in Entebbe, December 2008 (OECD).

The rest of this paper is devoted to providing input to the High-Level Panel, notably for its three tasks highlighted in the introduction. As said, the broad approach outlined below is also applicable for other sectors than infrastructure, and not just in LICs.

IV. SOVEREIGN SURPLUSES FOR INFRASTRUCTURE DEFICITS

The contrasting prospects of SWFs and ODA and the enormous needs for infrastructure financing in LICs give rise to the following questions: Whether, and how, might ODA resources be leveraged to mobilize SWF resources? The answer revolves around the basic idea of G20 (or G8) countries providing insurance against risks and financing a wedge between the terms on which monies are raised from the SWFs and the terms on which they are provided to LICs as sovereign debt. The allocation of ODA to such subsidies could leverage ODA resources substantially. We focus first on the resources to be raised for the public sector or sovereign debt before turning to what might be done to enhance private participation (which does not require a subsidy).

Risk mitigation and subsidization raise four sets of issues (summarized in figure 1): reducing the risks of providers of finance such as SWFs; mitigating risks of borrowers such as LIC governments; financing a subsidy to the cost of finance, that is, paying the spread between the cost of borrowing (interest payments to SWFs) and the return on lending (interest payments by LICs); and apportioning the role of the private sector in sharing risks and costs. The third of these—subsidizing interest payments—is probably the most challenging. These four sets of issues are now discussed in greater detail.

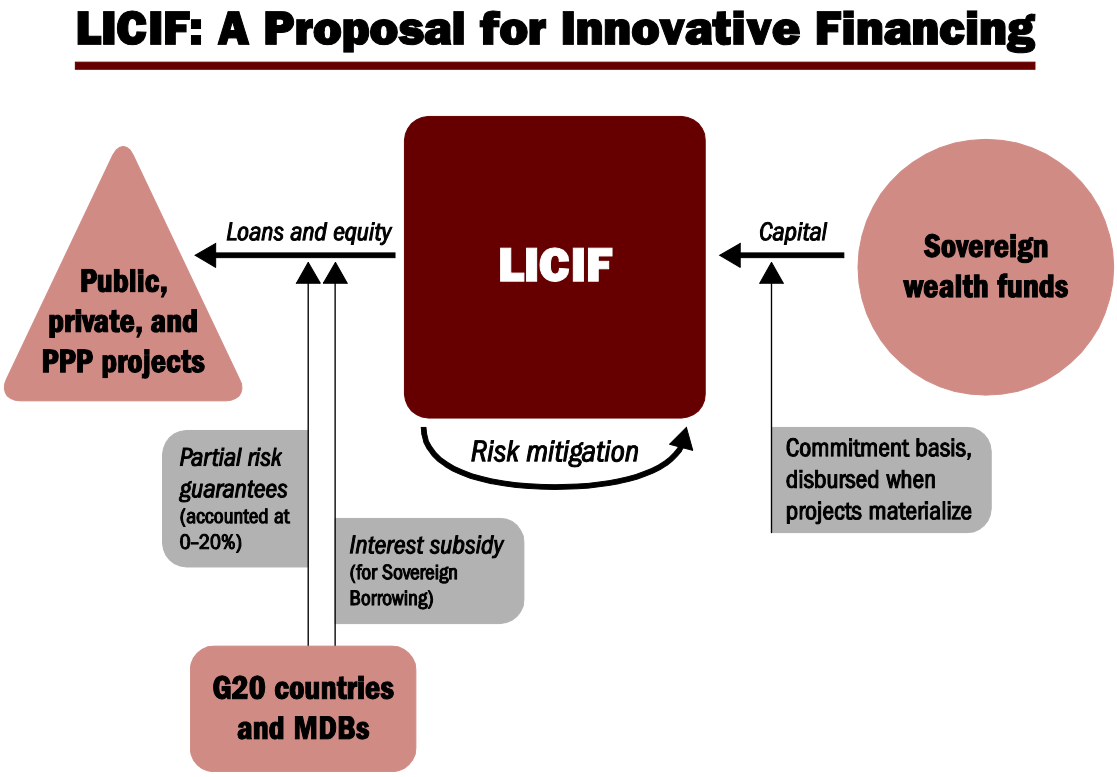
1. Attracting SWF Financing: Guarantees

One obvious way of mobilizing SWF resources is to make it attractive for SWFs to lend money at reasonable interest rates through provision of guarantees. A potentially very important form this could take would be to issue long-term (20–30year) bonds to be bought by SWFs, structured in such a way as to satisfy "typical" SWF prudential/risk-management considerations. The bonds would be guaranteed by some or all the G20 members. To avoid carrying costs, the bonds would be issued on a commitment basis to be disbursed when projects materialize.[10]

This in turn raises two questions: How will the balance sheets of countries issuing such guarantees treat the contingent liabilities arising (and with what implications)? And, what precisely will be the coverage of the guarantees?

[10] This very useful suggestion comes from Michel Wormser, who served as a discussant for a version of this paper presented at a conference organized by ACET at the Rockefeller Foundation Center,Bellagio.

Figure 1.Low Income Countries Infrastructure Fund



Note: The Low Income Country Infrastructure Fund could include a project preparation facility ($300 million–$500 million).

Guarantees in this context only make sense if they can be leveraged, that is, if the contingent liabilities to which they give rise are counted as less than the liabilities that are not contingent, such as loans. Although there is no uniform way in which guarantees are accounted for in countries' fiscal or national accounts, they invariably offer ample scope for leveraging (except the current practice of MDBs).[11] The most common method only records those guarantees on the balance sheet that are "likely to be called" (probability greater than 50%). For the other guarantees—"unlikely to be called"—nothing is recorded on the balance sheet when the guarantee is given and payments are only recorded when they are called.

The type of guarantees proposed here should fall in the "unlikely to be called" category (given, for example, that the World Bank estimates a default rate for International Development Association, IDA, countries of less than 5%).[12] Another method is to record the risk-adjusted net present value of a guarantee as a liability. Some governments have set up a guarantee redemption (or reserve) fund to which automatic payments are made periodically for discharging the obligations that arise. Precisely how much leverage

[11] ADB has just introduced a new partial risk guarantee facility for LICs eligible for its concessional window, African Development Fund, with only 25% of the value counting as a liability for 4:1 leverage.
[12] Salazar, Vander Caceres. "Taken for Granted? US Proposals to Reform the World Bank's IDA Examined." 2002, Breton Woods Project, http://www.brettonwoodsproject.org/topic/reform/takenforgranted.pdf.

guarantees will provide in mobilizing resources from SWFs will depend on how they are accounted for, but there seems to be considerable scope for such leveraging.

MDBs provide guarantees against some risks but are constrained by very conservative accounting for guarantees. The World Bank treats guarantees exactly as loans so that there is no leverage to be had from issuing guarantees.[13] ADB's capital adequacy and exposure framework treats guarantees as follows:

> As a contingent liability, a guarantee creates credit exposures similar to direct lending. The provisions of Article 15(1) and (3) of the Bank Agreement on maximum Bank exposure will therefore apply in respect of guarantees. For the purpose of measuring credit exposure, the loan equivalent of the guarantee would be computed. The loan equivalent is the present value, from the first callable date, of the outstanding guarantee amount, as increased or decreased by disbursements and repayments. The discount rate for calculating the present value shall be the applicable borrowing cost for the relevant maturity, in the currency in which the guarantee is denominated, as determined by the Bank on the date the present value is calculated.[14]

This overly conservative treatment of guarantees by MDBs presumably stems from concern over their credit rating. But there would seem to be some scope for increased leverage without compromising that. Indeed, ADB has just introduced a new partial risk guarantee facility for LICs eligible for its concessional window, African Development Fund (ADF), with only 25% of the value counting as a liability, or a leverage of 4:1. The scope for such leveraging for other types of guarantees by ADB and other MDBs, notably the World Bank, should be explored (including discussions with rating agencies) as part of the reforms to their procedures that the G20 has called for.

For G20 countries an alternative to relying on countries' accounting rules would be to set up a guarantee fund equivalent to, say, 10%–20% of the guaranteed amount. This fund would then serve as an insurance pool for paying out individual guarantees in full on the (undoubtedly safe) assumption that no more than 10%–20% of total guarantees will be called (given the sub-5% default rate for IDA countries).

The details of how the guarantee fund would work need to be clarified. It could be administered by MDBs in some combination with the World Bank and ADB being prominent, given the preponderance of LICs in Africa. Default risks could also be reduced by the selection criteria for recipient countries, which would rule out grossly mismanaged economies such as Eritrea or Zimbabwe. These criteria would be broad and minimal to avoid their transformation into policy conditionality.

The monies raised from the SWFs for onlending would constitute a Low Income Country Infrastructure Fund (LICIF) (see figure 1). This fund could be managed along the lines of IFFIm with some combination of MDBs performing the World Bank role of being the treasury and financial adviser to IFFIm.

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[13] Recently the World Bank moved to ease constraints for purposes of exposure to individual countries with a guarantee counting less than a loan, though the aggregate amount of guarantees count against its capital base just as loans do.
[14] ADB. "Bank Policy on Guarantees," available at www.afdb.org.

For multicountry regional projects, special-purpose vehicles could be created. They would borrow on terms similar to those for individual LICs. Such vehicles would face only one set of regulations and procedures, rather than having one for each country, which would enable better coordination and planning of projects, facilitate faster implementation, and provide comfort to financiers that they only have to deal with one entity on the project.

What should the guarantees cover? One option is to emulate the guarantee schemes offered by MDBs, which are broadly similar (Annexes II and III). They roughly correspond to Multilateral Investment Guarantee Agency's (MIGA) insurance of eligible projects against losses relating to five areas: currency transfer restrictions; expropriation; war and civil disturbance; breach of contract; and nonhonoring of sovereign financial obligations. If (and how) the guarantees for mobilizing SWF resources should differ need to be explored.

2. Mitigating Borrower Risks

MDBs offer several products to mitigate the borrowing country's risks. LICs borrowing from LICIF should be made eligible for these. Again, the risk-management products of various MDBs are broadly similar. They all largely reflect the range of such products introduced by ADB in 2002 to allow borrowers to better manage the financial risks associated with their ADB loans, to access market-based hedging tools using ADB as an intermediary, and to actively manage their ADB debt portfolio. These products include interest-rate and currency swaps, caps, collars, commodity hedges, and indexed loans.

Whether and how the financial products offered by the MDBs should be modified or supplemented, especially for foreign exchange risks, should be examined by the MDBs themselves or by a special task force.

3. Making Finance Affordable

The ability of LICs to service debts on the terms at which SWFs would wish to lend is severely constrained. Thus LICs will need some form of subsidy to finance the spread between borrowing and lending interest rates—as noted above, probably the most challenging of the tasks for mobilizing finance. The basic idea of leveraging ODA resources to transform a very small portion of the SWF surpluses into concessional finance raises rather more complex issues than those raised by guarantees.

Ideally, the terms on which the monies raised will be onlent will be similar to IDA or ADF terms. But there is a tradeoff between the extent of subsidy and the amount of resources that can be mobilized. A simulation to illustrate the magnitudes involved suggests that the budget costs of the subsidy will be quite modest relative to aid flows. Indeed, accommodating the costs even within existing aid budgets does not look difficult. The MDBs also ought to consider using their concessional window (such as IDA or ADF) for financing the interest subsidy.

What the subsidy amounts to will be a function of the stock of outstanding borrowings from SWFs and the difference between the borrowing and lending interest rates:

$$s = (r_b - r_l)\ \Sigma d$$

where r_b= interest rate paid to SWFs; r_l= interest rate charged to LICs; and Σd = stock of debt.

To the extent guarantees (g) entail budget costs, the additional cost will be:

$$g = a\ \Sigma d$$

where *a* is assumed to range between 10% and 20% on average.

Leverage (lv) is a function of stock of outstanding debt, the subsidy, and the costs of the guarantees:

$$lv = \Sigma d/(s+g)$$

(If the contingent liabilities that guarantees entail are not accounted for, *lv* is simply the ratio of debt to interest subsidy, that is, $lv = \Sigma d/s$.)

For the purposes of simulation we make the following conservative and plausible assumptions:

The weighted average interest rate on bonds issued by/for LICIF (r_b) is 6%. The monies are lent to LICs (r_l) at 1%. The debt stock, which equals disbursement (no repayments in the period), rises as follows:

Year 1: $0.5 billion; year 2: $2.5 billion; year 3: $5 billion; years 4–10: $6 billion every year, so that by the end of 10 years (or 2021 if LICIF is launched in 2012) the total stock of LICIF debt (Σd) would be $50 billion. (For ease of computation it is further assumed that the stock of debt remains constant throughout a year, that is, all borrowings take place on January 1).

This is an extremely conservative assumption about sovereign/subsidized financing needs, which are likely to be significantly lower on account of the private participation and equity investments by LICIF. Hence the following estimates considerably exaggerate the budget costs for the given spread between borrowing and lending rates. Put differently, the estimates allow a very comfortable cushion for other assumptions to have been too optimistic.

If guarantees are costless in budget terms then:

In 2021, the subsidy would amount to $2.5 billion. The accumulated subsidy for the entire 10 years would amount to $11.2 billion. The leverage would be around 4.5:1.

If guarantees are accounted for at 10% then:g = $5 billion; s+g = $16.2 billion; and lv = 3.1:1. If at 20% then: g = $10 billion; s+g = $22.2 billion; and lv = 2.3:1.

In an alternative scenario with a smaller spread between the two interest rates so that (r_b–r_l) = 3% then: s = $7.5 billion and if g = 0; lv = 6.6:1.

If g is accounted for at 10% then: s+g = $12.5 billion and lv = 4:1.

As said, these estimates substantially exaggerate the budget costs. They also understate the leverage by exaggerating needs for subsidized financing. They are tantamount to excluding, in effect, LICIF lending to the private sector without an interest subsidy as proposed below. (How LICIF might stimulate the private sector is discussed in the next subsection.) But if we assume that private investment with and without PPPs accounts for half the additional investments in infrastructure, the subsidy cost will be halved and the leverage doubled (if guarantees are costless to the budget).

Even in the worst scenario above where the accumulated budget costs over 10 years are $22.2 billion, the average of $2.2 billion a year amounts to no more than 1.8% of the flow of net official aid in 2009 (excluding aid from developing countries, notably China). This net flow to LICs in 2009 was $39.8 billion, so that the average annual costs amount to a little more than 5% of the net aid received by LICs (again excluding aid from developing countries).

The scenarios sketched above are plausible, except that they underestimate private investment. The assumed borrowing cost (r_b) of 6% compares with current yields of around 3%–4% on long-term U.S. Treasury bonds. Given the current uncertainty over interest rates, possible defaults, or higher cost of guarantees than assumed above, however, budget costs are cushioned by the exaggeration of subsidized finance and can be reduced further in the following ways.

For some projects (in energy, for example) and for some countries, the interest subsidy could be less than that implied by onlending on IDA/ADF terms, say, an interest rate of 2%–3%. The capacity of LICs to borrow on somewhat less favorable terms than those of IDA/ADF consistent with a prudent debt burden would vary from country to country. Eventually, it may be necessary to distinguish two groups of LICs: those that can and those that cannot borrow on somewhat harder terms.

This also raises the question of what alternatives there might be to ODA resources for financing the interest subsidy as it rises over time. Various proposals have been made. These mechanisms deserve further consideration especially in light of the leverage they can provide to mobilize surplus savings from SWFs. Thus very modest amounts of innovative finance, perhaps in the form of taxes on carbon, on some financial transactions, or on air travel, could serve to mobilize large flows for investment in infrastructure, especially of the kind closely allied with mitigation and adaptation to climate change (energy investments above all). As suggested above, the IMF staff proposal for issuing SDRs to finance investments related to climate change is well worth

revisiting. Even if confined to environmental sustainability, this could mobilize large resources for infrastructure along the lines proposed here. Perhaps consideration could also be given to more generally using SDR issuance to subsidize the borrowings of LICs from SWFs.

4. Apportioning the Role of the Private Sector

The limitations on the public sector's sustainable level of debt is one argument for encouraging private investment. But experience with PPPs has disappointed the very high hopes held when the fashion began. Annex IV provides an indication of past trends and future potential. Telecommunications are the most favored subsector, particularly in LICs. PPPs have been least used in Africa among regions and in LICs among the income groups.

Still, the trend is encouraging with investment as PPPs rising since the mid-2000s in Africa (especially in countries other than South Africa and Nigeria, which had been dominant in earlier years) and in LICs. These trends augur well for the private sector to make a significant contribution and share the risks. LICIF can also serve to catalyze private investments.

LICIF resources could be onlent to the private sector for participation in infrastructure projects at nonsubsidized interest rates. The availability of medium- to long-term finance at reasonable rates should be a powerful incentive in a region where such financing is especially scarce. The IFC, which has recently launched an initiative for stimulating private involvement in infrastructure, is an obvious candidate for helping design and carry out such a scheme.

In addition to fixed-income securities, SWFs ought to be encouraged to take equity positions with or without a PPP. The enhanced scope for guarantees could provide partial insurance to cover some of the risks of private investment, including direct investment by SWFs. The financing for the public sector would of course, include that for the public part of a PPP. Identifying and recommending measures for improving the domestic infrastructure investment climate in LICs is one of the tasks that the G20 has asked MDBs to undertake.

The private sector received a great deal of attention in a "brainstorming" session that ADB organized with a select group of prominent private sector experts in Paris in February 2011. The measures proposed included using "public finance to create risk mitigating financial products that give comfort to private sector investors: A combination of traditional finance, sourced mainly from bilateral agencies, multilateral development banks and private capital was seen as the most feasible way to raise sufficient capital for developing infrastructure in Africa."[15] This was very much in line with the approach proposed by this paper. So, too, was the proposal to "aggressively tap into Private Equity

[15] ADB. "Mobilizing Alternative Sources for Infrastructure Financing for Africa Brainstorming Session, Paris, France, February 28, 2011: Summary Note for the Record" (mimeo).

markets and Sovereign Wealth Funds," with DFIs considering "taking on a brokering role between private equity markets, sovereign wealth funds and sponsoring governments." [16]

V. IMPLEMENTATION

The tasks that the G20 has asked the MDBs and the High-Level Panel to undertake reflect the range of the measures needed for large scaling up of infrastructure investments in LICs. These preparatory steps themselves will take some time before their implementation starts. Scaling up at the magnitude envisaged by the Seoul Summit will be a medium-term process—probably 2–3 years to get going in a significant way in most LICs and regional projects.

Yet some countries could embark on major infrastructure projects fairly quickly. These are countries where the overall economic management and policies and procedures of substantial segments of infrastructure sectors are of a high enough standard to permit them to leap ahead, and include Ethiopia, Mozambique, and Rwanda. Some regional projects could possibly begin quite soon. Hence the proposals here can begin to have an impact in the near future. NEPAD has (with ADB) prepared a priority list of regional projects that could form the basis of early feasibility studies.

Financing should be provided for both new investment and rehabilitation. Whole-life financing ought also to be considered, and operations and maintenance expenditures would be funded on a sliding scale over time pari passu with sectoral and other reforms (including expanding fiscal space as the G20 has asked the MDBs to facilitate). For example, starting with 50% in the first year, funding for operations and maintenance would decline by perhaps 5 percentage points in each of the first six years and 10 percentage points in the next two years.

The reforms needed in sectoral and macroeconomic policies and institutions for sustainable and efficient use of infrastructure financing, as identified in the G20 Seoul meeting documents, envisage a vital role for MDBs. So do some of the proposals in this paper. For MDBs to perform these functions quickly and well, it is important that they are not unfunded mandates. The G20 countries should consider allocating resources for these tasks (perhaps $3 million–$5 million).

Project preparation also requires funds. A heavy constraint to expanding infrastructure investments is lack of bankable projects. Project preparation for many types of infrastructure projects is an expensive proposition that can run into several million dollars. A project preparation fund of, say, $300 million–$500 million for MDBs also deserves consideration.

If the approach proposed here (or some variant) is endorsed by the High-Level Panel, put on the Paris Summit agenda, and then approved by the leaders, a timetable of follow-up actions should be drawn up. The first task would be to establish a task force or a high-

[16] Ibid. The summary note does not go into much detail on how the various ideas thrown up in the brainstorming session might be designed and implemented.

level panel by November 2011 to follow up on the many details of design and implementation by about April–May 2012, aiming to make the approach operational by the following G20 summit late in 2012.

Annex I. Sovereign Wealth Fund Rankings

Largest Sovereign Wealth Funds by Assets under Management

Country	Fund name	Assets ($ billion)	Inception	Origin	*Linaburg-Transparency Index*
UAE–Abu Dhabi	Abu Dhabi Investment Authority	627	1976	Oil	3
Norway	Government Pension Fund–Global	556.8	1990	Oil	10
Saudi Arabia	SAMA Foreign Holdings	439.1	n/a	Oil	2
China	SAFE Investment Company	347.1[a]	1997	Noncommodity	2
China	China Investment Corporation	332.4	2007	Noncommodity	6
China–Hong Kong	Hong Kong Monetary Authority Investment Portfolio	292.3	1993	Noncommodity	8
Singapore	Government of Singapore Investment Corporation	247.5	1981	Noncommodity	6
Kuwait	Kuwait Investment Authority	202.8	1953	Oil	6
China	National Social Security Fund	146.5	2000	Noncommodity	5
Singapore	Temasek Holdings	145.3	1974	Noncommodity	10
Russia	National Welfare Fund	142.5[b]	2008	Oil	5
Qatar	Qatar Investment Authority	85	2005	Oil	5
Australia	Australian Future Fund	72.9	2004	Noncommodity	10
Libya	Libyan Investment Authority	70	2006	Oil	2
Algeria	Revenue Regulation Fund	56.7	2000	Oil	1
UAE–Abu Dhabi	International Petroleum Investment Company	48.2	1984	Oil	n/a
U.S.–Alaska	Alaska Permanent Fund	39.7	1976	Oil	10
Kazakhstan	Kazakhstan National Fund	38.6	2000	Oil	6
Korea, Rep.	Korea Investment	37	2005	Noncommodity	9

Country	Fund name	Assets ($ billion)	Inception	Origin	*Linaburg-Transparency Index*
	Corporation				
Malaysia	KhazanahNasional	36.8	1993	Noncommodity	4
Ireland	National Pensions Reserve Fund	33	2001	Noncommodity	10
Brunei	Brunei Investment Agency	30	1983	Oil	1
France	Strategic Investment Fund	28	2008	Noncommodity	n/a
Iran	Oil Stabilisation Fund	23	1999	Oil	1
Chile	Social and Economic Stabilization Fund	21.8	1985	Copper	10
Azerbaijan	State Oil Fund	21.7	1999	Oil	10
UAE–Dubai	Investment Corporation of Dubai	19.6	2006	Oil	4
Canada	Alberta's Heritage Fund	14.4	1976	Oil	9
U.S.–New Mexico	New Mexico State Investment Council	13.8	1958	Noncommodity	9
UAE–Abu Dhabi	Mubadala Development Company	13.3	2002	Oil	10
New Zealand	New Zealand Superannuation Fund	12.1	2003	Noncommodity	10
Bahrain	Mumtalakat Holding Company	9.1	2006	Oil	8
Brazil	Sovereign Fund of Brazil	8.6	2009	Noncommodity	TBA
Oman	State General Reserve Fund	8.2	1980	Oil andgas	1
Botswana	Pula Fund	6.9	1994	Diamonds andminerals	6
East Timor	Timor-Leste Petroleum Fund	6.3	2005	Oil andgas	6
Saudi Arabia	Public Investment Fund	5.3	2008	Oil	3
China	China-Africa Development Fund	5.0	2007	Noncommodity	4
U.S.–Wyoming	Permanent Wyoming Mineral Trust Fund	4.7	1974	Minerals	9
Trinidad and Tobago	Heritage and Stabilization Fund	2.9	2000	Oil	8
UAE–Ras Al Khaimah	RAK Investment Authority	1.2	2005	Oil	3
Venezuela	FEM	0.8	1998	Oil	1
Vietnam	State Capital	0.5	2006	Noncommodity	4

Country	Fund name	Assets ($ billion)	Inception	Origin	*Linaburg-Transparency Index*
	Investment Corporation				
Nigeria	Excess Crude Account	0.5	2004	Oil	1
Kiribati	Revenue Equalization Reserve Fund	0.4	1956	Phosphates	1
Indonesia	Government Investment Unit	0.3	2006	Noncommodity	TBA
Mauritania	National Fund for Hydrocarbon Reserves	0.3	2006	Oil andgas	1
UAE–Federal	Emirates Investment Authority	n/a	2007	Oil	2
Oman	Oman Investment Fund	n/a	2006	Oil	TBA
UAE–Abu Dhabi	Abu Dhabi Investment Council	n/a	2007	Oil	TBA
	Total oil andgas related	2,463.0			
	Total other	1,792.9			
	Total	**4,255.9**			

a. This number is a best-guess estimation.
b. This includes the oil stabilization fund of Russia.
*Note:*All figures quoted are from official sources, or, where the institutions concerned do not have issue statistics of their assets, from other publicly available sources. Some of these figures are best estimates as market values change day to day.Updated March 2011.
Source: Sovereign Wealth Fund Institute, available at http://www.swfinstitute.org/fund-rankings/.

Annex II. Coverage of MIGA Guarantees

Multilateral Investment Guarantee Agency (MIGA) insures against loses stemming from the following.

Currency inconvertibility and transfer restriction. Protects against losses arising from an investor's inability to legally convert local currency (capital, interest, principal, profits, royalties, and other remittances) into foreign exchange and transfer local currency or foreign exchange outside the country due to government action or failure to act. Currency depreciation is not covered. In the event of a claim, MIGA pays compensation in the currency specified in the contract of guarantee.

Expropriation. Protects against losses arising from government actions that may reduce or eliminate ownership of, control over, or rights to the insured investment. In addition to outright nationalization and confiscation, "creeping" expropriation—a series of acts that, over time, have an expropriatory effect—is also covered. Coverage is available on a limited basis for partial expropriation (for example, confiscation of funds or tangible assets).

In case of total expropriation of equity investments, compensation to the insured party is based on the net book value of the insured investment. For expropriation of funds, MIGA pays the insured portion of the blocked funds. For loans and loan guaranties, MIGA can insure the outstanding principal and any accrued and unpaid interest. Compensation will be paid upon assignment of the investor's interest in the expropriated investment (for example, equity shares or interest in a loan agreement) to MIGA.

War, terrorism, and civil disturbance. Protects against loss from, damage to, or the destruction or disappearance of, tangible assets or total business interruption (the total inability to conduct operations essential to a project's overall financial viability) caused by politically motivated acts of war or civil disturbance in the country, including revolution, insurrection, coup d'état, sabotage, and terrorism. The cover protects against losses directly attributable to the physical damage of assets and total business interruption. For total business interruption, compensation would be based on the net book value of the total insured equity investment or the insured portion of the principle and interest payment in default as a direct result of a covered war and civil disturbance event. For tangible asset losses, MIGA will pay the investor's share of the lesser of the book value of the project assets, their replacement cost, and the cost of repair of the damaged assets.

Temporary business interruption can also be included upon a request from the investor and would cover three sources of interruption: damage of assets, forced abandonment, and loss of use. For short-term business interruption, MIGA will pay unavoidable continuing expenses and extraordinary expenses to resume operations and lost business income or, in the case of loans, missed payments. This coverage encompasses not only

violence in the host country directed against a host country government, but also against foreign governments or foreign investments, including the investor's government or nationality.

Breach of contract.Protects against losses arising from the government's breach or repudiation of a contract with the investor. Breach of contract coverage may be extended to the contractual obligations of state-owned enterprises in certain circumstances. In the event of an alleged breach or repudiation, the investor should invoke a dispute resolution mechanism (such as arbitration) set out in the underlying contract. If, after a specified period of time, the investor has been unable to obtain an award due to the government's frustration of its efforts, or has obtained an award but the investor has not received payment under the award, MIGA will pay compensation. If certain conditions are met, MIGA may, at its discretion, make a provisional payment pending the outcome of the dispute. MIGA may also elect to pay compensation without an award if the investor does not have recourse to a dispute resolution forum or there is unreasonable government interference with the investor's pursuit of legal rights against the host government.

Nonhonoring of sovereign financial obligations. Protects against losses resulting from a government's failure to make a payment when due under an unconditional financial payment obligation or guarantee given in favor of a project that otherwise meets all of MIGA's normal requirements. It does not require the investor to obtain an arbitral award. This coverage is applicable in situations when a sovereign's financial payment obligation is unconditional and not subject to defenses.

Source: MIGA at http://www.miga.org/guarantees/index_sv.cfm.

Annex III. Comparison of Guarantees offered by MDBs

Features	ADB	World Bank	IaDB	AsDB
Type of guarantee offered	• Partial credit guarantee • Partial risk guarantee • Policy-based guarantee	• Partial credit guarantee • Partial risk guarantee • Policy-based guarantee	• Partial credit guarantee • Partial risk guarantee • Guarantee disbursement loans with sovereign guarantee (PBG)	• Partial credit guarantee • Partial risk guarantee • Guarantee under the Asian Currency Crisis Support Facility (PBG)
Currency	All lending currencies	All lending currencies	All lending currencies	All lending currencies and also local currencies
Eligibility: Borrowers	Eligible to ADB, private sector and enclave projects loans	Eligible to IBRD and enclave projects loans. IDA guarantee for IDA only countries (Partial Risk Guarantee–PRG-only). Private sector guarantees are covered by IFC. MIGA gives additional PRG	Borrowers eligible for Bank lending would also be eligible to use Bank guarantees for projects located in member countries territories	All borrowers eligible for Bank lending, including Asian Development Fund–only countries, are eligible for the use of Bank guarantees
Eligible: Instruments	The most appropriate lending instruments for the project: bond issues, commercial Bank loans, ADB, private placements. However equity is excluded	The most appropriate lending instruments for the project: bond issues, commercialBank loans, private placements, equity	Loans to mobilize finance for projects	Bank guarantees covers a wide variety of debt instruments, including loans from private,AsDB, financial institutions, and bond issues
Link to Bank loan	Not necessary	Not necessary	Not necessary	The Bank provides guarantee to projects where it has a stake in the project in the form of a direct loan (including subscription to a bond issue) or an equity investment

Features	ADB	World Bank	IaDB	AsDB
Guarantee charges	**Standby fee:** 75bp applicable to the undisbursed portion of the guarantee in the same condition as with loans commitment fee. A waiver of a portion of the standby fee is applicable on the same basis as for Bank loans commitment fee. Private sector and enclave projects will follow the pricing of similar loans. **Guarantee fee:** 50bp plus a risk premium per year on the guarantee exposure, as of the first callable date, determined on a present value basis. The guarantee fee is payable either according to a schedule approved by the Bank or as one up-front payment, in the currency of the guarantee. Private sector and enclave projects will follow the pricing of similar loans. **Front-end fee:** A front-end fee, as charged on Bank loans, would apply to the Bank maximum exposure. Other fees = legal and other expenses incurred by the Bank during the initiation, appraisal, underwriting and claim against the guarantee, other than the Bank's traditional operation expenses, would be charged to the borrower/lender and are due upon request by the Bank	**Standby fee:** 75bp applicable to the undisbursed portion of the guarantee in the same condition as with loans commitment fee. A waiver of a portion of the standby fee is applicable on the same basis as for Bank loans commitment fee. **Guarantee fee:** 75 to 100bp (for PRG) and 75bp (for PCG) on the guarantee exposure, as of the first callable date, determined on a present value basis. The Bank retains a guarantee fee equal to 50bp. The rest is awarded to the sovereign counter-guarantor. For enclave projects, IBRD charges up to 300 bp and retained from 50 to 100 bp. Private sector (IFC) projects will be priced as similar loans. **Front-end fee:** 100bp on the Bank maximum exposure. The fee is payable upon effectiveness of the guarantee	**Facility fee:** lending spread applicable for the current interest period and applied to the nominal value of the guarantee. **Guarantee fee:** a risk premium reflecting the coverage of the risk involved in each transaction, applicable to the outstanding callable amount covered by the guarantee. This fee ranges from 15 to 75bp. This guarantee fee is reimbursed to the government counter guaranteeing the transaction. **Other fees:** For partial risk guarantee, the Bank charges an appraisal fee	**Standby fee:** For partial risk guarantee, the Bank charges 20 bp. **Guarantee fee:** the lending spread on loan (currently 40bp) for guarantee for public sector borrower. For private sector borrowers the guarantee fee is market determined, however, if there were a government counter guarantee these fee would be divided between the Bank and the government where the Bank retains 40bp. This fee is applied to the present values of the future guarantee obligations from their callable dates. **Front-end fee:** For partial credit guarantee, the Bank charges 10–90 bp and for partial risk guarantees 100 bp

Features	ADB	World Bank	IaDB	AsDB
Payment of fees	Depending on the structure of the guarantee, up front or in installments for the standby fee and the guarantee fee. At request by the Bank for other fees	Depending on the structure of the guarantee, up front or in installments for the standby fee and the guarantee fee. The front-end fee is paid upon effectiveness	The fees are paid periodically	The fee may be collected periodically following loan-servicing schedule of the Bank loan involved or in one payment up front
Acceleration	At the discretion of the Bank	At the discretion of the Bank	At the discretion of the Bank	Not allowed
Counter-guarantee from the country government	Required for public sector projects and partial risk guarantees	Required for IBRD guarantee	A government counter guarantee is not necessary. However, a counter guarantee will provide a strong signal of the government's commitment to comply with the terms of its agreement and therefore will reduce the overall risk of the guarantee being called	Guarantee to public sector entities would necessitate a counter guarantee from the host country government and guarantee to private sector would not need a counter guarantee. For a partial risk guarantee a counter guarantee would be generally required from the government
Treatment of claim	If the guarantee is called, the Bank pays and activates the counter guarantee or indemnity agreement whereby the counter-guarantor/borrower owes the Bank the money paid out according to the guarantee agreement. The terms of the amount owed is stipulated in the guarantee agreement	If the guarantee is called, the IBRD pays and activates the counter guarantee agreement whereby the government owes the Bank the money paid out according to the guarantee agreement. The terms of the amount owed is stipulated in the guarantee agreement	If the guarantee were called the funds would be disbursed promptly, becoming at that point a loan to be repaid by the counter guarantor or the borrower within a period to be defined by the Bank but no longer than the remaining life of the guarantee, following the first call on the guarantee	If the guarantee is called, the Bank pays and would seek reimbursement from the borrower/counter guarantor

Features	ADB	World Bank	IaDB	AsDB
Procurement issues	The proceeds must be used according to the Bank procurement guidelines	The proceeds must be used according to the Bank procurement guidelines	The Bank requires procurement processes that are transparent and give proper consideration to the eligible nationality of contractors and origin of goods	The same procurement procedures applicable to the parallel loan would apply to the guaranteed loans
Implementation and supervision	Same criteria and standards as for direct loans	Same criteria and standards as investment loans	The Bank would use the same supervision requirement as for a direct loan, however in the case of a co-guaranteed project with multilateral institution, the Bank could rely on supervision by its partners if their procedures are acceptable to the Bank	Same supervision requirements as for the parallel loan would be applied to the guaranteed loan
Documentation	The project Appraisal Document, the guarantee ADBagreement between the Bank and the lender or the borrower, the counter guarantee agreement between the Bank and the government of the RMC if it is a public sector guarantee or a PRG, the indemnity agreement between the Bank and the counter/guarantor or the borrower. The loan agreement	The project Appraisal Document, the World Bankguarantee agreement, the indemnity agreement and the project agreement	The project report and legal documentation AsDBrelevant to a guarantee would be required. In addition, where there is a counter guarantee, the indemnity agreement would be required	Same supporting documents as for the parallel loan, in IaDBaddition to the legal documentation relevant to a guarantee

Features	ADB	World Bank	IaDB	AsDB
Environmental assessment	The Bank's environmental guidelines will be used for the EA study	The Bank's environmental guidelines will be used for the EA study	Compliance with the Bank's environmental policies and regulations, in addition to environmental conditionality of the recipient country	Same environmental requirements as applicable to the parallel loan
Management review and board approval	Guarantees are reviewed like direct lending operations	Guarantees are reviewed like investment operations	Procedures and requirements for appraisal and approval of a guarantee are identical to those used for loans	Same procedures and requirements for appraisal and approval of the parallel loan would apply to the guarantee
Example of projects	DBSA–South Africa (2000) US$ 330 million MTN–Cameroon (2000) €13 million	EGAT–Thailand (1988)US$ 300 million, Argentina (1999)US$ 250 million, Azito Power (1999)US$ 30 million	Trenes de Buenos Aires–Argentina (1998), Support railroad improvement, guarantee of US$ 75 million Compania de Electricidad–Dominican Republic (1999) US$ 150 million	National Power Corporation–Philippine (1995), JPY 12 billion Loan Thailand (1998)–US$ 950 million

AsDB = Asian Development Bank.
Source: African Development Bank, "Bank Policy on Guarantees".

Annex IV. Private Sector Participation in Infrastructure

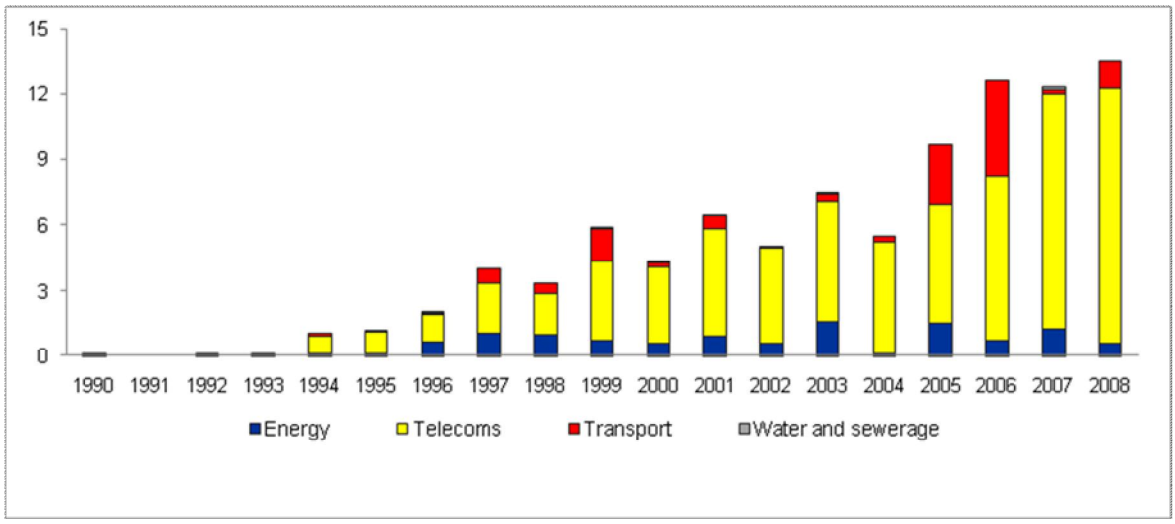
Investment commitments to infrastructure projects with private participation in developing countries, by sector or region, 1999–2009

2009 US$ billions

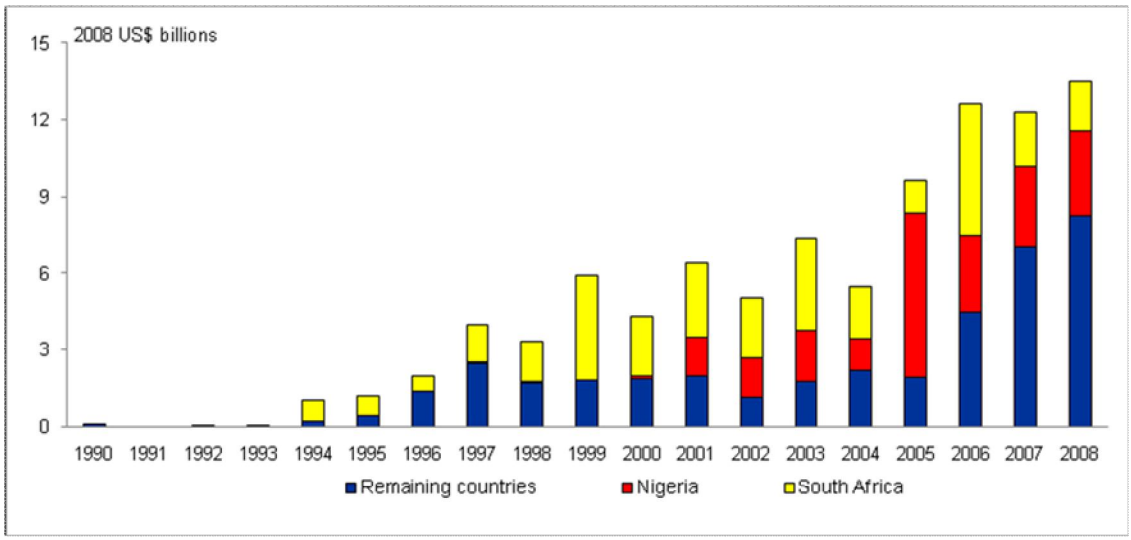
1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Sector										
Energy	26.2	31.4	20.1	16.4	24.1	15.7	20.4	26.4	50.7	55.4	68.7
Electricity	22.6	28.6	16.0	13.4	19.2	13.7	17.2	23.1	45.4	53.5	67.2
Natural gas	3.6	2.7	4.1	3.0	4.8	2.1	3.2	3.3	5.3	1.9	1.5
Telecoms	42.8	58.8	52.8	37.7	31.5	49.2	63.2	67.4	74.8	79.2	60.8
Transport	10.2	10.4	9.7	5.3	8.9	6.2	21.0	34.2	30.5	27.0	21.7
Airports	0.7	2.5	1.4	0.2	0.8	0.9	5.4	8.6	4.4	2.1	0.1
Railways	3.7	1.0	1.0	0.2	1.1	0.4	1.5	9.3	3.6	2.1	2.0
Roads	2.9	4.5	5.7	2.7	4.8	2.9	6.9	10.3	14.8	16.5	15.8
Seaports	2.9	2.3	1.6	2.2	2.2	2.0	7.2	6.0	7.7	6.3	3.8
Water and sewerage	8.3	9.1	2.3	1.9	1.8	5.3	2.7	2.8	3.6	2.9	2.0
Region										
East Asia and Pacific	15.7	22.4	15.6	13.7	22.2	15.8	20.6	20.8	22.7	16.5	15.3
Europe and Central Asia	6.8	26.2	12.2	9.5	11.9	14.0	31.2	22.5	41.5	46.7	28.0
Latin America and the Caribbean	49.5	47.8	40.8	23.9	18.1	19.6	23.8	33.4	41.9	48.1	52.0
Middle East and North Africa	3.5	5.1	4.1	1.6	2.2	8.5	6.7	12.6	12.0	6.0	6.1
South Asia	6.0	3.8	5.8	7.4	4.4	13.1	15.5	28.7	29.2	33.5	39.9
Sub-Saharan Africa	5.9	4.3	6.4	5.0	7.4	5.5	9.7	12.7	12.4	13.6	12.0
Total	**87.4**	**109.7**	**84.9**	**61.3**	**66.2**	**76.5**	**107.4**	**130.7**	**159.5**	**164.4**	**153.2**

Source: World Bank (PPIAF) Private Participation in Infrastructure, PPI Data Update Note 42, December 2010 http://ppi.worldbank.org/features/December2010/Global-update-note-2010.pdf.

Investment commitments to infrastructure projects with private participation in Sub-Saharan Africa, by sector, 1990–2008

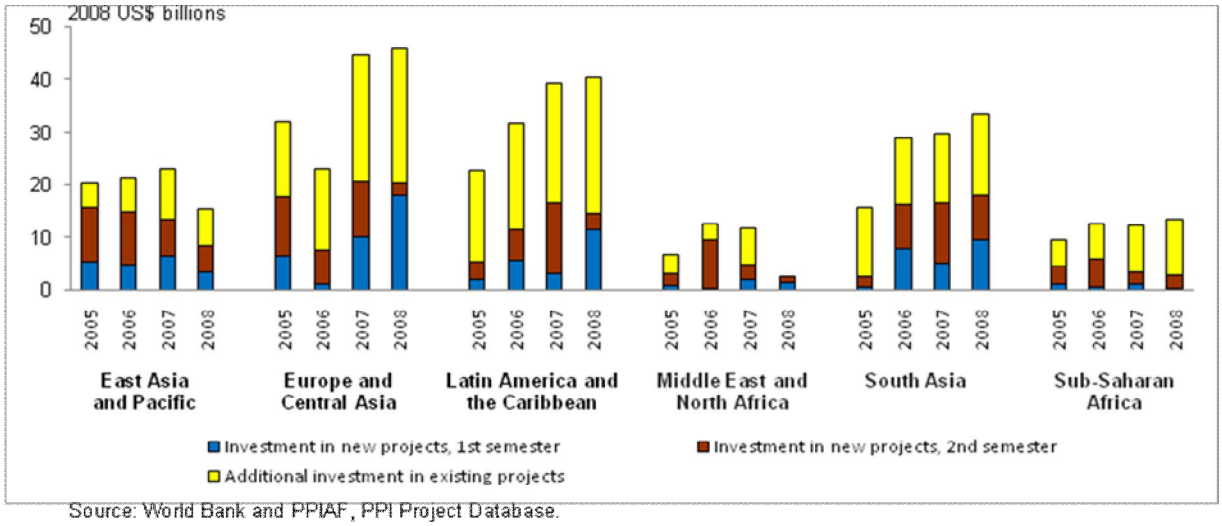


Investment commitments to infrastructure projects with private participation in main recipients and rest of countries in Sub-Saharan Africa, 1990–2008



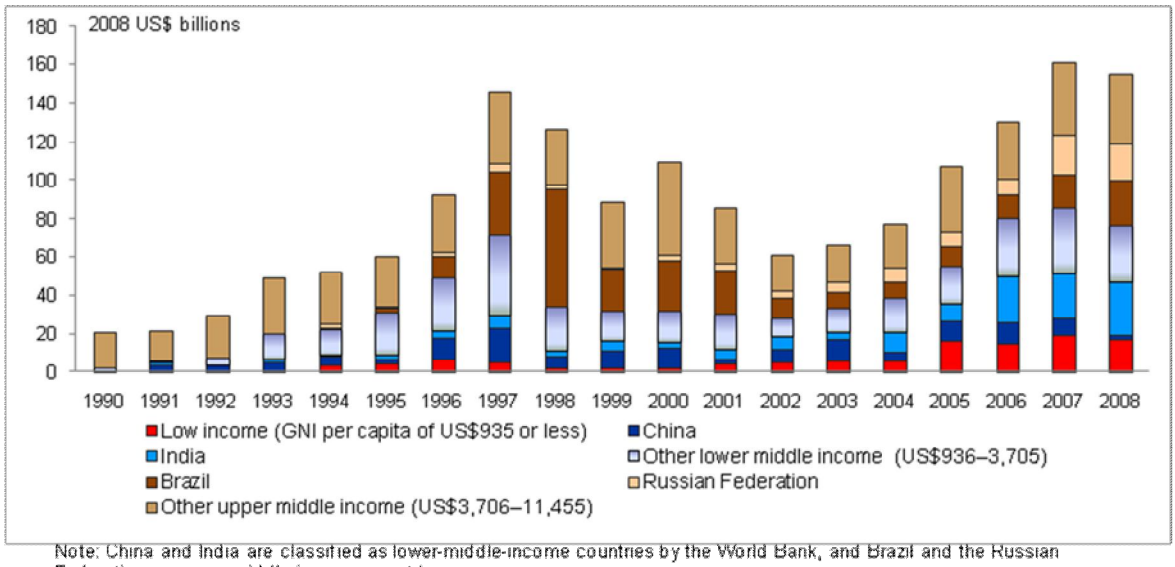
Source: World Bank and PPIAF, PPI Project Database.

Investment in infrastructure projects with private participation in developing countries, by region and implementation status, 2005–08



Source: World Bank and PPIAF, PPI Project Database.

Investment commitments to infrastructure projects with private participation, by country income group, 1990–2008



Note: China and India are classified as lower-middle-income countries by the World Bank, and Brazil and the Russian Federation as upper-middle-income countries.
Source: World Bank and PPIAF, PPI Project Database.