MOBILISING FINANCE FOR INFRASTRUCTURE

A STUDY FOR THE DEPARTMENT FOR INTERNATIONAL DEVELOPMENT (DFID)

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POLICY REPORT

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CONTENTS

ACRONYMS

ADF	African Development Fund
AFC	African Finance Corporation
AfDB	African Development Bank
BOAD	West African Development Bank
CDC	UK Development Finance Institution
CRIDF	Climate Resilient Infrastructure Development Facility
DBSA	Development Bank of South Africa
DEA	Department of Economic Affairs
DFI	Development Finance Institution
DFID	Department for International Development
EBID	ECOWAS Bank for Investment and Development
ECA	Export Credit Agencies
EDF	European Development Fund
EIAF	Ethiopian Infrastructure Advisory Facility
EIB	European Investment Bank
EU-AITF	EU-Africa Infrastructure Trust Fund
FIT	Feed-In-Tariffs
FX	Foreign Exchange
GIIF	Ghana Infrastructure Investment Fund
ICA	Infrastructure Consortium for Africa
IDA	International Development Association
IFC	International Finance Corporation
IFPPP	Infrastructure Finance/Public-Private Partnerships
IGB	Indian Government Bond
IIPDF	India infrastructure Project Development Fund
JDA	Joint Development Agreement
KPLC	Kenya Power and Lighting Company
MDB	Multi-lateral Development Bank
MIGA	Multilateral Investment Guarantee Agency
MW	Mega Watts
NHFO	Non-honouring of financial obligation
NIAF	Nigerian Infrastructure Advisory Facility
Norfund	Norwegian Investment Fund for Developing Countries
OBA	Output Based Aid
PCG	Partial Credit Guarantees
PDF	Project Development Funds

PIDG	Private Infrastructure Development Group
PPA	Power Purchase Agreement
PPI	Private Participation in Infrastructure
PPIAF	Public-Private Infrastructure Advisory Facility
PPP	Public Private Partnerships
PRG	Partial Risk Guarantee
SA	Sponsoring Authority
SIDA	Swedish International Development Cooperation
SME	Small- and Medium-sized Enterprises
SOE	State-Owned Enterprise
SSA	Sub Saharan Africa
SSNIT	Ghana's Social Security and National Insurance Fund
STRPP	Separately tradable redeemable principal parts
TCX	The Currency Exchange Fund
USP	Unsolicited Proposals
VGF	Viability Gap Funding

EXECUTIVE SUMMARY

This report is part of work carried out by Cambridge Economic Policy Associates (CEPA) for the UK Department for International Development (DFID) that examines the factors constraining the provision of private finance to support the implementation of infrastructure projects in DFID's focus countries.

This reports acts as a supplementary piece of research that provides more detail on the options that could be used to mobilise private finance for infrastructure that are summarised in the Draft Final Report for this research. The paper considers policy options for addressing upstream issues, including increasing government commitment to PPP, before turning to potential structures to improve bankability, and to mobilise international and local finance.

The objective of the analysis is to provide options for policy makers to consider that could in the long term enable private capital to flow to projects without support from either donors or governments, thus removing a major constraint to the supply of capital and where this is not possible, to mobilise private capital in a way that minimises risks to government as a result of any commitments that need to be made to investors and lenders.

Addressing barriers to infrastructure development

There needs to be much more public origination not only of projects, but of PPP programmes. Whilst, arguably, support to this process could be more focused in areas where it stands most chance of success, it is widely recognised that the quantum of project preparation resources needs to increase.

Early stage support remains critical not least in helping to build support for and to educate on PPP issues. With the exception of PPIAF and country specific initiatives such as NIAF which is country specific there are few, if any, other sources of immediate support. As found in CEPA's report for the ICA on PPFs, most support from global facilities is only available once a project is developed to at least the pre-feasibility stage.[1] This is a considerable gap given the limited experience in typical line ministries to identify potential PPP opportunities and undertake initial analysis. For example, the Kenyan PPP unit ministries for support to develop opportunities as they lack an understanding of what is required. Such support is ideally provided close at hand, one of the strengths of the NIAF approach. has had to reject many proposals from line

As regards downstream support, based on experience in South Asia, different forms of PDF appear to offer the most potential to support the development, packaging and transacting of projects. As with the South Asian models, there is a strong case for success fees to be charged to projects that reach financial close, with the PDF being reimbursed so that the PDF can be at least partially revolving. It is important that a combination of a PDF and any success fees allow for the procurement of appropriately skilled advisors.[2] As set out CEPA's work for the ICA, many donors do not have the ability (or sometimes the desire) to recycle their ODA. In the case of DFID, this may create opportunities for the deployment of Development Capital.

[1] ICA Assessment of Project Preparation Facilities for Africa (2012)

[2] The PDF could pay technical advisors such as engineers or lawyers in full for their service, whereas in the case of financial advisors this may just fund a retainer, with higher fees to be paid by projects in the event of a successful transaction.

NIAF and similar approaches can therefore be useful for developing capacity and support for PPPs in government and early stage development whereas PDFs are likely to be more suitable to support mid and later stage project development. Facilities like NIAF are less suitable for later stage project development, as there is often a need for specialised transaction support – support which is expensive. High quality transaction advisors have professional fee rates which fall outside of the de facto cap on fees that NIAF can pay.

Whereas the main focus of support should be on supporting public sector origination of PPP projects, PPP frameworks need to be developed so as to provide approaches for dealing with unsolicited proposals (USPs). In particular, these need to provide for donor-backed developer approaches which can bring innovation and risk capital to PPPs. Support to private sector origination is likely to be most valuable where more innovative, less standardised solutions are required.

As regards support to the project development process and the need for risk capital, there is a broader issue of who might be in a position to provide this. Whereas some specialist private equity firms and some DFIs such as Norfund and Globeleq are increasingly providing pre-financial close development capital, most others will only provide capital at private financial close (although IFC can potentially take such positions through InfraVentures). There is therefore a wider question of whether such an approach is more mainstreamed by them, not least if the need for their debt becomes less as a result of greater levels of provision by commercial banks. A much greater role for these vehicles in providing the initial finance for projects, not only to financial close, but also until the project is operational, could also create much more opportunity for both local and international institutional finance as discussed in the sections on such finance.

Implementing bankable structures

Whilst there are several approaches to reducing the costs of projects through utilising different forms of subsidy, the most effective way of mobilising private capital for PPPs would appear to be through the deployment of PRGs which have been used to back-stop projects which have been structured with a state owned entity as payee.

Although there may appear to be an inherent contradiction between this approach and freeing government from financing responsibilities, at the moment it appears to be the most viable way of mobilising private capital for projects at scale and is preferable to government providing guarantees direct to private lenders (the indemnification being to MDBs).

As such support eats into IDA and ADF allocations there is a case for other institutions such as the EIB to provide a similar product using European Development Fund (EDF) resources, which would extend the scale of resourcing available. Ways of boosting the guarantee capacity of IDA and ADF could also be explored. It is arguably preferable for concessional resources to be used to raise private capital on better terms than it would otherwise be (if at all), with a (4X) leverage of the funds, rather than the provision of public sector credits which can crowd out or displace private sector financing. The exception to this would be if the provision of the same amount of subsidy as first-loss capital was able to mobilise a similar amounts of capital on similar terms and without the need to provide any form of indemnification – a highly technical issue but one that would be worthy of further research in the context of deploying limited subsidies in the most efficient manner in different contexts.

In the longer term, however, as incomes in SSA continue to rise, it will be important to move to a position in which infrastructure pays for itself out of cost reflective tariffs, over time reducing the extent of credit enhancements required to mobilise private capital.

Mobilising international finance

A starting point for all debt investments is the mitigation of credit or default risk, arising from failures of project revenues to repay lenders. If this addressed, it opens up opportunities for the provision of fixed rate, long term FX debt. However, at present this can only work if exchange rate risks are borne by consumers and / or governments. This risk could, however, be mitigated through the availability of long term currency swaps. TCX is a foundation that can potentially be built on to reduce this risk.

Tapping into international institutional markets sounds attractive. It is, however, much more challenging than providing long term FX debt from banks and DFIs. It is possible, however, but not in the absence of significant credit enhancement for greenfield assets. The least challenging route of attracting investors into a project is through a rated portfolio of operational assets. However, such an approach could be considered if DFI balance sheets were to be recycled.

Going forwards, if institutional investment is to be sought for particularly larger projects, its requirements need to be built into financing approaches, which ideally will provide for a partial or full refinancing by institutional investors, once the project is operational. The potential for this could be enhanced if DFIs were able to adapt more of a recycling of capital approach rather than one of coming in at financial close and holding to term. This would be a more similar approach to project finance banks internationally, who routinely recycle their capital through refinancing to institutional investors. This could, however, represent a significant change to their current operational approach, the consequences of which would need to be explored fully.

Mobilising local currency financing

The most obvious ways for participation of institutional investment in equity is through the traded equity of private sector and state-owned companies (as illustrated by KenGen). As for international institutional investors the main route for greenfield investment is through specialist private equity funds.

Raising local currency debt financing is particularly challenging because of the greater supply side constraints that it faces, relative to FX financing. However, it can form a natural hedge against exchange rate depreciations; therefore the objectives of interventions are two-fold: first, to increase the range of opportunities open to local lenders and investors and second, to improve the ability of projects to manager exchange rate risks.

Local currency institutional debt investment relative to international does not require the same scale nor does it typically require credit ratings. However, as with creating greater opportunities for international institutional debt investors, approaches need to be developed that meet their specific additional non-credit requirements. In the case of local institutional debt investors, this is likely to involve both providing the types of instrument that support local debt issues, including from a liquidity perspective, but also which incorporate an element of local currency financing within financial structures, which may have cost implications.

1. INTRODUCTION

1.1. Reducing reliance on government balance sheets

At the highest levels, the key objective of private financing is to free infrastructure provision from constraints arising from the relatively limited financing capacity of government balance sheets and in doing so, transferring commercial (including performance) and financing risks away from government.[3] It is not necessarily about increasing the role of the private sector in service delivery per se, although this may be a necessary condition for raising private finance.

Irrespective of whether there is or not a role for the private sector in providing infrastructure services – which is often controversial – reducing the financing (as opposed to the funding obligations) of government allows both the freeing up of fiscal space for other commitments, which are less easily privately financed as well as removing a major constraint to the financing of infrastructure.[4]

1.1.1. Sovereign versus project risk

There are two main sources of sovereign borrowing through which institutional investors have traditionally provided finance to infrastructure. These local and international investors do so by taking risk on governments and Multilateral Development Banks (MDBs) and DFIs rather than being exposed directly to the risks of projects[5].

Governments borrow in local bond and Treasury bill markets whereas MDBs and DFIs, using their Triple A ratings borrow very efficiently (cheaply) in international markets.[6] The finance raised is then channelled to infrastructure. For instance, several governments in SSA have recently issued infrastructure bonds specifically for this purpose.[7] Shorter term finance raised in local markets through Treasury bill and bond issues, can also be used for these purposes.[8]

Investors are providing financing on a sovereign basis as it is either governments or the MDBs/DFIs who have responsibility for repaying them, rather than them taking direct *project risk*, in which they would be dependent on the cash flows of projects for repayments. However, it is only by getting

[3] Financing risks include risks associated with exchange rate and interest rate fluctuations.

[4] It is common to use the terms "funding" and "financing" interchangeably. However, strictly speaking the former refers to how infrastructure services are paid for; typically by either user charges or else government payments. Ultimately, financing is a way of spreading out the funding of infrastructure capital expenditure over many years, making infrastructure tariffs more affordable. In many instances, extending the tenors of financing can lower tariffs more than reducing the interest rate, as it is normally the repayment of principal which accounts for a greater proportion of the tariff than the interest rate.

[5] For purposes of the research, MDBs are defined as those institutions who lend on a sovereign basis to governments. DFIs, including the private operating arms of MDBs, invest and can lend to projects without the need for explicit host government support.

[6] However, in the poorest countries MDB finance is more likely to come from member country transfers to IDA and ADF than from the issue of bonds at market rates.

[7] State governments in Nigeria have issued a number of infrastructure bonds to support specific infrastructure projects since 2010. These are summarised in the Nigeria Country Case Study, Table 5.1, p23.

[8] Because of their sovereign share holdings, MDBs and DFIs can issue long term bonds very cheaply; the proceeds of which can be channelled, either directly to projects (in the case of DFIs), or else to governments who on-lend to projects.

investors to take full project risk that a government frees itself from any financing obligations, which is an ultimate objective of tapping private finance.[9]

1.1.2. Guarantees

Where private finance is raised, government may still be on the hook if it has to provide a guarantee. Whereas in an optimal risk allocation governments should be responsible for risks under their control, including the obligations of state owned and controlled entities, government can also be responsible for covering commercial risks where investors and lenders think that there is a significant risk of the project defaulting.

Removing the need for guarantees, through the development of robust bankable projects is a key ultimate aim of the PPP approach.[10] In such an approach, project investors and lenders bear the risks of a project not performing, rather than government (except, as set out, for risks which government should be responsible for such as government performance risks). Where this is achieved, the scale of infrastructure provision – at least where it is totally funded by user charges (rather than by payments from government budgets) – is not constrained by the government's balance sheet which can then be used to finance activities in which a high degree of financing risk cannot be transferred to private investors.[11]

1.1.3. Mature versus developing infrastructure markets

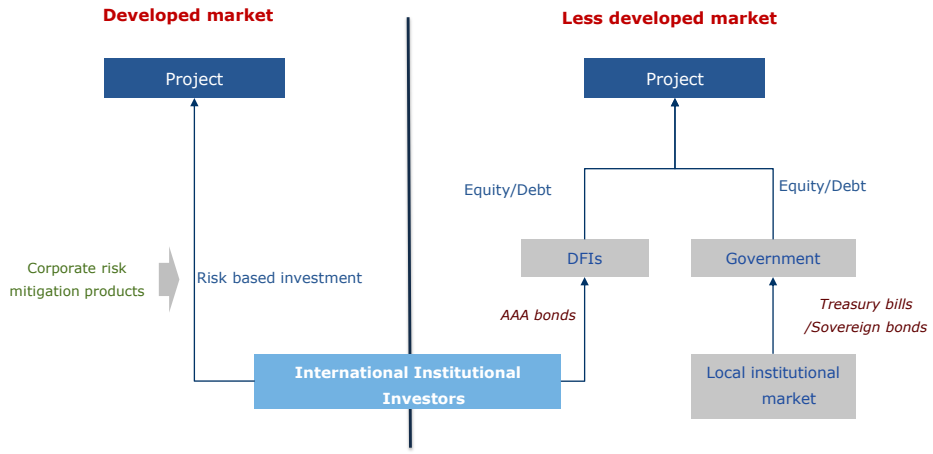
The key difference between developed and emerging markets is the ability of projects and companies to access the credit market and institutional finance (particularly bond markets) directly, relying where necessary on market-provided risk mitigation products, rather than through DFIs or obtaining an explicit government credit guarantee of the debt. This is illustrated in Figure 1.1.

[9] From the investor perspective, lending to projects is perceived as being riskier than lending to governments, which can always create money. Hence, it is difficult for a project ever to have a higher credit rating than the country in which it is based. Lending to or investing in MDBs/DFIs is seen as being the lowest risk.

[10] Often the role of private sector management – though technically separable from private sector financing – is critical in the transfer of risk from government, as it plays a vital role in risk management. In other words, investors and lenders look to the private sector to manage key risks; without this, they are more likely to look for continued government support in the form of guarantees.

[11] It should be noted that government may still be responsible for purchasing services from PPPs (that is, their funding) such as in the provision of school, hospital and prison services, but not for their financing.

Figure 1.1: Comparison of access to international institutional investors between developed and less developed infrastructure markets[12]



Source: CEPA analysis.

Whilst DFI financing of projects reduces the financing burden on government balance sheets as they will often take project risk without the need for sovereign guarantees, their capital is ultimately limited; therefore, the objective is for projects to be able to access local and international markets without investors having recourse to government in the event of a project failing.

Characteristics of developed private finance markets

In establishing a vision or end-point for what is being sought from PPPs and private financing of infrastructure it is useful to set out the characteristics of markets in which private finance plays a major role in the delivery of PPP infrastructure services and in which financing risks to a government's balance sheet are significantly reduced. This is illustrated in Figure 1.2.

Figure 1.2 : Characteristics of developed private finance markets in infrastructure

Market for infrastructure service provision			Financial Market Characteristics	
Regulatory & Institutional Framework	**Supportive Environment & Sector Reforms**	**Competition**	**Credit and Capital Markets**	**Basis of Infrastructure financing**
•Proactive government departments •Independent regulation •Standardised contracts for different models of PSP •Transparency (e.g. competitive bidding) •PPP legislation	•Sector programmes built around established models (e.g. UK PFI) •Cost reflective tariffs •Access to strong advisory support •Programme of PPP opportunities	•Large no. of developers •Availability of local and international expertise •Multiple bidders per transaction •Government solicitation	•Local currency financing •Highly liquid bond market •Capital recycling • Credit insurance •Insurance and pension fund investment •Specialist infrastructure funds •Recognised asset classes	•Mix of corporate and project financing •Developed / established RAB-based financing regime

Source: CEPA analysis

[12] Sources of institutional finance include: pension funds; insurance companies; private equity; mutual funds; foundations and endowments; and sovereign wealth funds. In this case international institutional investors refer to those from OECD markets investing in FX instruments. Local institutional investors refer to investors based in SSA markets; for simplicity it also includes off-shore investors in local currency instruments.

Of particular note compared to what is observed in SSA, in more developed markets:

- PPP opportunities will be most likely be procured on an open solicitation basis, rather than being sole-sourced. Where unsolicited approaches are permitted, there are prescribed approaches for dealing with them in order to protect the public interest.
- Whilst project financing is often used as a preferred financing model for many forms of infrastructure, typically there will be a mix of different models, including corporate financing, especially in the case of privatised network infrastructure.
- There will also be deep secondary markets, particularly for project debt, private and public, often with specialist securitisation vehicles being available to tailor risk profiles to meet the needs of institutional investors (although the use of such vehicles reduced drastically after the global financial crisis, given the role that such vehicles played in causing it).
- Different types of investors and lenders will be involved at different stages of the project cycle. Typically, institutional investors will not have much appetite for illiquid project development and construction risk, but will be more attracted to investment grade, long term operational assets, that have credit ratings.

1.2. What are policy interventions seeking to achieve?

Governments in DFID's focus countries are looking to provide increasingly higher levels of affordable infrastructure services, in order to underpin economic growth and provide much needed services. To do so, they are also looking to private sector financial markets to provide the finance for increased provision, as available amounts of government and donor provided finance (in whatever form) are recognised as being insufficient to finance the infrastructure gaps in developing countries. As such, where donors (and sometimes governments) provide funding or finance to infrastructure, the objective is increasingly either to make infrastructure more affordable (through different forms of subsidy) or else to mobilise private resources.

A long term aim is to enable private capital to flow to projects without support from either donors or governments, thus removing a major constraint to the supply of capital.[13] Where this is not possible, the objective is to mobilise private capital in a way that minimises risks to government as a result of any commitments that need to be made to investors and lenders. At a minimum there should be an aim to transfer performance risks to the private sector.[14]

A necessary and immediate policy objective is in **ensuring the bankability of projects**, which is a necessary condition for private finance to flow, with different forms of donor support, including the provision of long term, Foreign Exchange (FX) -based debt from Develpoment Finance Institutions (DFIs) and commercial banks. Increasing the flow of both international institutional capital and domestic local currency capital, represents a problem of a different order of magnitude and as a result, potentially new approaches and business models for the DFIs.

[13] The original rationale for the privatisation of British Telecom in the UK was to enable it to borrow freely on capital markets, rather than being constrained by government borrowing limits, which it would have been if it had remained a state-owned company.

[14] Performance risks can be seen as the risks associated with delivering on contractual commitments.

To a degree, the precise policy prescription depends upon what the final objectives are. Developing sustainable, domestic currency financed infrastructure requires more radical measures than focusing on the immediate but necessary objective of achieving project bankability.

1.3. Supporting the project financing model

Developing bankable projects remains the key policy challenge in DFID's focus countries, at least in SSA. The challenges to this are considerable, not least in terms of governments adopting and committing to the policies that will allow the potential of private financing to be fully realised.

Most of the private infrastructure financing observed in these countries, excluding India and South Africa, conforms to a model between two extremes of pure public financing, in which finance is raised on a sovereign basis and the model observed in highly developed private financing markets, where investors are largely exposed to full project risks.

This model is characterised by a mode of project financing in which equity capital from private sources is leveraged by either DFI debt or commercial bank debt and is subject to varying degrees of credit enhancement from governments and donors. Both sources of debt are provided in foreign exchange, largely US dollars, which do not appear to be subject to any form of supply constraint.

1.3.1. Improving bankability

At a minimum, achieving bankability, involves the project being able to produce a sufficient and reliable revenue stream which, after costs are taken into account, produces an appropriately high risk-reflective equity rate of return to investors and robust debt service cover ratios for lenders. Investors and lenders will also look for robust project legal documentation that identifies, allocates, and mitigates key risks.

The project financing model is attractive to the equity participants as it will typically ring-fence project risks; that is, the balance sheets of the parent companies of the investors are protected in the event that the project encounters difficulties as the lenders have no recourse to them in the event of a project default. The corollary to this is, of course, that because lenders do not have recourse to the balance sheets of the project sponsors' parent companies the bankability threshold required is higher than it would be in a corporate lending to the parent company scenario. This manifests in a need for much greater and comprehensive structuring as well as tighter and highly detailed loan documentation.

Moreover, as there is less ability for debt providers to exit unlisted project financings than in the case with investments in the traded debt of corporates (e.g. corporate bonds), there are liquidity as well as credit premium issues which increase the cost of finance.

The challenges of addressing the bankability constraint should not be underestimated. As is shown in the next sections, however, there are ways in which different types of donor intervention can help address this considerable challenge. However, this foreign exchange-based financing model cannot be seen as being a long term policy goal; it is an intermediate step at most. The Indian and South African models show what can be achieved in terms of increased private financing of infrastructure where long term local currency is available. Whilst being more costly than dollar-based financing (reflecting differentials in real interest rates), local currency financing has the benefit of reducing exposure to often volatile exchange rate movements (although there are other challenges where

interest rates cannot be fixed). Whereas constraints to US dollar based financing are largely around bankability of projects, addressing local currency constraints in local banking and institutional markets are even more complex.

1.4. Institutional and local currency financing

Thus, from a high level policy perspective the challenges of mobilising private finance can be seen as being in two stages:

The first is to achieve **bankability** whereby at a minimum, DFI debt is available, which African based commercial banks can also increasingly provide. Increasing long term debt finance from international institutional investors can also be seen as an objective of this stage. Hedging foreign exchange rate risks on FX debt is a further challenge.

The second, more challenging stage is to increase the "**localisation**" of finance in which it is possible to tap into domestic, local currency sources of financing, particularly institutional finance.

1.4.1. Specific requirements of institutional finance

Although the requirements of international and local institutional investors are different in terms of the scale and credit rating requirements of international investors, attracting both involves more than just mitigating credit risk. It also involves the creation of opportunities to invest in tradable operational assets rather than illiquid green-field ones. Not only is this likely to involve the creation of new instruments, it is also likely to require different operational approaches by market participants, particularly the DFIs, if this potential is to be realised.

1.4.2. Localisation of finance

Localisation of finance includes attracting more domestic equity financing through either direct placements or else public offerings by local sponsors in local stock-markets, through which local institutional investors can participate. Local institutional investors also need to be able to access private equity funds, which can provide additional opportunities to local institutional investors where existing ones exit through an SSA-based flotation of such funds.

Access to low priced, local currency debt is an even greater challenge, whether this is provided by banks in the form of loans or institutional investors investing in bonds.

To the extent that DFIs can play a role in facilitating the realisation of these objectives, it is likely to be a more involved market making role, including the use of their own balance sheets, as well as the provision of hedging products, rather than the traditional one of compensating for a lack of a private market through the provision of long term debt and equity, or risk mitigation and sharing through the provision of different guarantee products.

1.5. Report structure

The rest of this report comprises four sections:

- Section 2 considers how constraints associated with infrastructure development might be addressed, building on existing interventions.

- Section 3 looks at both immediate and longer term approaches to achieving bankability.
- Section 4 looks at approaches to mobilising international institutional capital.
- Section 5 considers mobilisation of domestic capital, including from institutional sources.

In each case, the key issues and challenges for policy are set out, with a summary of some of the key interventions currently observed, not just in SSA but also drawing on experience elsewhere. Where available, evidence is provided on the extent to which these approaches have been able to address challenges, together with ideas for other approaches and / or further research.

2. ADDRESSING BARRIERS TO INFRASTRUCTURE DEVELOPMENT

2.1. Introduction

Upstream barriers have been identified as the main blockage to the development of PPPs - addressing these therefore a priority. Whilst donors have little direct influence on governments' commitment to the PPP approach, they can help support such commitments through a range of interventions. The main donor backed initiatives aimed at addressing both upstream and downstream barriers to infrastructure project development have two key aspects.

- The first involves **support for the development of enabling environments** through the development of legal and regulatory frameworks, plus institutional capacity building. This includes how unsolicited proposals should be approached.
- The second involves **specific advisory support to different parts of the project cycle**. Such support is either provided by multi-country facilities or else specific national initiatives; the latter can arise as a result of work undertaken through the former.

This section summaries some of the key approaches currently being employed and seeks to extract any lessons from their experience to date, drawing on the evidence publicly available. It concludes by drawing out the main messages as regards future policies.

2.2. Key donor interventions supporting the development of an enabling environment

This section considers the commonly observed policy interventions, such as those led by the World Bank Group as well as the Infrastructure Advisory Approach (such as the Nigerian Infrastructure Advisory Facility - NIAF) pursued by DFID. [15]

2.2.1. The World Bank and PPIAF

PPIAF was established in 1999 to catalyse private sector participation in emerging markets. It provides technical assistance to governments to support the creation of a sound enabling environment for the provision of basic infrastructure services by the private sector.[16]

As with other multi-donor trust funds at the World Bank, the implementing entity responsible for determining how and to where technical assistance funds are deployed comprises a unit within the World Bank. Execution (that is management of individual PPIAF grants) is usually undertaken by World Bank task managers (and occasionally grant recipients).

PPIAF has been used by the World Bank to fund the design work for longer term PPP programmes in Ghana, Nigeria and Kenya, funded by IDA credits which have focused on creating legal and institutional frameworks for PPPs, including how countries should measure and manage any funded

[15] While both approaches have undergone extensive programmatic level evaluations, those evaluations have been funded by the same donors who are supporting them. An issue therefore is that there is a lack of fully independent evidence as to what works, what does not, under what circumstances, and the level of attribution that can be ascribed to the intervention.

[16] PPIAF website.

or contingent liabilities arising from PPPs. This approach has parallels with approaches that have been used successfully in South Asia.

The aim has also been to establish Project Development Funds (PDFs) which can take projects which have had initial preparation completed, through to financial close, including the funding of transaction advisors.

More recently, PPIAF has started to focus on how to develop a framework for how to manage unsolicited PPP proposals in infrastructure.

2.2.2. DFID and NIAF

Whilst being a major funder of PPIAF (as well as other multi-donor facilities housed at different MDBs), DFID's main bilateral support for developing an enabling environment for PPPs has been through programmes such as NIAF.

NIAF is a technical advisory facility funded by DFID in Nigeria which aims to enhance the management of infrastructure development at the federal level and in selected states. It was designed to provide access to rapid and flexible consulting expertise to help Nigeria improve its infrastructure through policy and strategy formulation, planning, project implementation, and private sector investment.[17]

The first phase of NIAF (2007 – 2011) focused its support on power, transport and PPPs. In its current phase, NIAF is designed to implement projects in power, transport, major infrastructure, climate change and cities (urban planning and development) and to support institutions relating to the development of PPPs. The first Phase of NIAF had a budget of ~£32 million with the second phase budgeted at ~£99 million through July 2017.

DFID has replicated this approach in Southern Africa, with the Climate Resilient Infrastructure Development Facility (CRIDF)[18] and is currently procuring a service provider to the deliver the Ethiopian Infrastructure Advisory Facility (EIAF) modelled on NIAF.

2.2.3. Evidence on the impact of the different approaches

In the DFID model, most of the support is provided by the consortium awarded the technical assistance contract. The World Bank approach involves a central fund (the PDF) that can be drawn on to fund support from different types of legal, technical and financial advisors.

NIAF

Evidence on NIAF2's impact is primarily documented in the Programme's Annual Reviews which monitors the Programme's impact against a logframe. The Programme also has a Strategic Review Panel and a Technical Review Panel. The latter assess the implementing entity against a set of contractual milestones on a six monthly basis.[19]

[17] NIAF website. Link: http://niafng.org/about-2/.
[18] CRIDF targets infrastructure development in transboundary water basins and aims to catalyse the development of projects that increase the ability of communities, policy makers and planners to cope with climate extremes.
[19] NIAF2 Annual Review 2014.

DFID Nigeria commissioned a VFM study in May 2014 which looked at NIAF2 (amongst other initiatives implemented by the country office). A Formative Evaluation, was also commissioned in September 2014 which found NIAF2 to be highly relevant to both Nigerian and DFID policies and priorities, and is addressing development obstacles. It also found that the NIAF "model" reflected an innovative programme design that is highly relevant to the Nigerian context. It noted that the different areas of work were experiencing varying degrees of success and workstreams such as Capital Projects (which is where the PPP work lies) and Effective Cities needing more time to fully embed institutional structures and technical procedures. Both studies concluded that overall, NIAF2 appears to be delivering strong VFM by using its resources economically, efficiently, and effectively and can be expected to provide a strong return on resources over time.[20]

In the 2014 NIAF2 review, the Capital Projects workstream received a score of A+ - moderately exceeding expectations. The workstream aims to improve the design, budgeting, and prioritisation of government capital projects. Some examples on work under this workstream include:

- Embedded support at the Federal Ministry of Water Resources to prepare four Outline Business Cases for PPP projects.
- Support to the Federal Ministry of Finance Apex PPP Unit to rewrite PPP regulations, draft procedures for dealing with the government's contingent liability in PPP projects, and prepare procedures for approving and disbursing "viability gap funding" for PPPs.

The NIAF model would therefore appear to work well in providing the type of enabling environment and very early stage project development support covered in the two bullets above. However, more targeted project development support, in particular support to latter stage transaction activities might be better provided by PDFs which are discussed in more detail below.

World Bank funded facilities

World Bank facilities have been introduced in recent years in Ghana, Kenya and Nigeria on a cross sector basis, whereas in Tanzania support has focused on the energy sector. As Table 2.1 shows, the World Bank's own initial evaluations of these programmes have typically not been satisfactory (although a more recent Kenyan one has shown better results).

Table 2.1: World Bank Projects Supporting PPP and/or infrastructure finance development

Country	Project Name	Approval year and Status	Project development objective(s) (PDO)	Latest score regarding the achievement of PDO
Kenya	Infrastructure Finance/ Public-Private Partnerships (IFPPP)	2012 Ongoing	Increase private investment in the Kenya infrastructure market across sectors and to sustain this participation over an extended period of time. This involved three key areas of development: i) enabling environment; ii) pipeline of	Moderately unsatisfactory – Following a lengthy process of establishing PPP nodes in various line ministries and building the central PPP unit's capacity, transactions advisors have recently been appointed for a number of pipeline projects.

[20]NIAF2 Annual Review 2014.

Country	Project Name	Approval year and Status	Project development objective(s) (PDO)	Latest score regarding the achievement of PDO
	Project		potential projects; and iii) financing.	
Ghana	PPP Project (Phase I)	2012 Ongoing	Improve the legislative, institutional, financial, fiduciary and technical framework to generate a pipeline of bankable PPP projects.	Moderately unsatisfactory – Legislation and regulations are currently being considered in government. Furthermore, institutional arrangements such as establishing a PPP committee have not yet been implemented, and full feasibility studies are yet to be completed.
Nigeria[21]	Public-Private Partnership Programme (Phase I)	2011 Ongoing	Increase private investment in Nigeria's PPP infrastructure market and specifically the core infrastructure sectors. For Phase I, the main objective is to establish effective institutional and technical mechanisms and instruments for origination and development of PPP projects.	Moderately satisfactory – A number of projects are likely to reach close over the course of the project. However, the process for identifying potential PPPs remains unclear and therefore will need addressing. The project is looking to provide more direct funding for infrastructure project preparation, leaving less funding for capacity development.
Tanzania	Energy Sector Capacity Building Project	2013 Ongoing	Strengthen the capacity of the Government of Tanzania to develop i) its natural gas sub-sector; and ii) PPPs for the power generation sector.	Satisfactory – While a strategy for PPPs in power generation is yet to be developed, a PPP pipeline of projects has been established and transaction advisors have been engaged.

It is difficult to know what the precise reasons for these results are, although all programmes are arguably highly ambitious relative to their budgets (which are much lower than NIAFs). Consultations with the Kenyan PPP unit set out the considerable range of activities that the programme was tasked with. A further reason for this may be a lack of focus on sectors where most activity is taking place. For instance, the Tanzanian programme is focused purely on energy has been rated as satisfactory (although this is arguably early days). Several of these programmes are being revised in the light of these evaluations.

2.2.4. Addressing unsolicited approaches

Whilst many interventions are focused on public sector origination of PPPs up until recently unsolicited proposals dominated. Notwithstanding concerns about the appropriateness and effectiveness of unsolicited proposals (USPs) they are an established part of the PPP landscape. However, robust workable approaches that recognise the reality of how projects are originated in SSA are yet to be fully developed and implemented. Indeed, there are examples of PPP frameworks

[21] Understanding why this and NIAF have received such different ratings would be interesting to explore.

prohibiting such approaches and being in conflict with even with donor-backed initiatives, such as in the case of Nairobi Commuter Rail in Kenya.[22]

USPs in infrastructure can be of two types. The first type involves opportunities being identified or originated by a private sector developer and which may then be developed on a sole-sourced basis by the same developer, rather than having been originated, packaged and competitively tendered by the public sector to multiple bidders. In others, the government has a USP framework which allows for a competitive dynamic to be introduced into procurement.

It is not so much the private sector identifying an opportunity that is the issue with USPs; indeed in some instances the private sector may be better at identifying investable and bankable opportunities than the public sector, rather it is the potential absence of a competitive dynamic that causes concern. At a minimum this can lead to poor value for money; at the other extreme the lack of transparency can offer greater opportunity for corruption. Even where corruption is not an issue, a lack of transparency regarding how project rights were acquired can reduce public confidence in PPPs, as well as making the provision of donor support to such projects more challenging.

In some instances, allowing more private sector origination of projects can have advantages. Where government lacks internal capacity and / or is without access to appropriate advisory support, this approach can mean that projects are designed and structured in a way that increases the likelihood of attracting private finance. While donors and development banks are typically more comfortable with publicly originated projects for reasons of competition, some countries can struggle to develop projects which are capable of attractive private finance.

The development of appropriate frameworks that can balance the reality of private origination with protecting the public interest is a major need in many developing countries. [23] In many countries in SSA the majority of PPP projects are unsolicited and are procured on a sole-sourced basis. Outside of South Africa explicit and workable mechanisms for dealing with unsolicited approaches are yet to be developed.

It is not entirely clear that the approaches developed in relatively developed contexts such as the so-called Swiss Challenge and Bonus System, created in relatively developed / sophisticated contexts, recognise the nature of some of the incentives that operate as regards USPs, not to mention the scale of financial resources that originating local developers have access to and how sole sourced project development works.[24] For example a typical USP in Africa may involve a local “entrepreneur”

[22] The Nairobi Commuter Rail project is currently being supported by InfraCo Africa, who signed a joint development agreement (JDA) with Kenya Railways Corporation in 2007, prior to the enactment of the PPP Law in 2013. According to stakeholders, the project has stalled since the law was passed due to the lack of clarity over how projects that were in development prior to this should be procured and who should be responsible for such activities.

[23] Many countries actively support USP and that a range of different approaches to progress this form of project origination are in operation. Some have introduced a competitive dynamic into procurement to address the risks identified above. For example in Colombia, the framework for USPs only allows sole-sourcing in restricted circumstances. In other examples, however, competitive procurement is the only approach allowed.

[24] In many countries the rules for USPs already impose some competitive elements, to ensure that if the proposal is taken forward, it is undertaken by the company that can provide best value for money. Standard approaches include the **Swiss Challenge** where a government agency which has received an unsolicited bid for a public project, publishes the bid and invites other parties to match it or bid lower. This is used in a number of Indian states including Karnataka, as well as the Philippines, and South Africa. In Chile and Colombia, a ‘**bonus system’** is used, where in a formal bidding process, the original bidder is awarded additional points. For any system of adding competition to USPs to be effective, enough information must be provided to allow other bidders to put together a fair bid or for the public to provide oversight, while

often with limited, if any resources identifying an attractive opportunity.[25] The entrepreneur will then try and negotiate a memorandum of understanding with government which provides a time window to successfully develop the project, typically with the resources of a large international developer, with whom the local partner forms a consortium. As the local partner may not have much financial capital available, the return sought will either be a development return at financial close (in which the interest is bought out by the international developer) or else a carry (that is, an equity participation going forwards). What is being brought to the project is therefore often not a new innovate approach per se, but rather the identification of an opportunity.

Approaches which say, reward local businesses for the identification of good opportunities through general solicitations for ideas within a sector framework, could be beneficial. [26] Upon acceptance, the local business would have a financial right – say through part of a development return or a carry – for projects which went on to be successfully developed. However, rather than in a typical sole-sourced approach, the local partner is responsible for bringing on board a more experienced developer, this would be achieved through open, competitive procurement. As such the local developer would in fact be playing the role that a government department would often be expected to do in terms of identifying and undertaking early stage project development; which is the usual entry point for advisory support.

2.3. Downstream preparation and development of projects

Donor support for the preparation of projects is widely accepted as being a key constraint facing infrastructure projects[27]. The main issues identified are the inability of governments to originate their own projects and a reliance on sole sourced arrangements. A major issue is support for very early stage project preparation.

2.3.1. Publicly originated projects

Support for publicly originated projects can be split between project preparation funds (PPFs), typically, but not universally housed at the MDBs which have either a regional or global focus, or else country specific initiatives based around a project development fund (PDF).[28]

Global / regional PPFs

Following a concern by the G20 in 2011 that the support provided by PPFs was too fragmented and diffuse amongst too many facilities, the Infrastructure Consortium for Africa commissioned CEPA to undertake a review of PPFs offering support to projects in Africa. This found that handful of facilities were responsible for most of the support to projects in Africa. Very few of the facilities provided

protecting the original bidder's intellectual property. International experience suggests that achieving this balance is not straightforward.

[25] In Kenya such persons are sometimes referred to as "brief-case" developers, reflecting their lack of development capital. They can often become aware of opportunities through political or other connections.

[26] Based say on the development of an initial concept design, backed by a prefeasibility study.

[27] G20 (2011). High level panel on infrastructure. Recommendations to G20 – Final report.

[28] Although DEVCo, a source of advisory / project development funds for feasibility studies and project structuring managed by the IFC is not termed a PDF as such, it shares many similarities. Receipts from projects, however, flow to the IFC rather than being recycled into the DEVCo fund.

support to very early stage support which was identified as a major gap. However, as of 2015, for various reasons, the key PFFs are no longer providing project specific project cycle support.

On the whole, there would appear to be some disillusionment with the traditional PPF approach. The trend now observed is for a consolidation of effort – at least consistent with the G20's views around several large facilities, such as a new European facility (which will replace the African Infrastructure Trust Fund) the World Bank's Global Infrastructure Facility, as well as the project development arm of Africa50, an initiative of the AfDB[29]. At the other extreme, smaller PPFs or equivalent approaches have been established to support specific initiatives, such as transport corridors and power pools.

As yet, it is difficult to see what the impact of these changes will be on the speed at which projects are advanced through the project development cycle and whether the existing average timescale of seven years can be reduced.

National PDFs

Progress on developing PDFs to support African PPPs has been relatively slow.

Table 2.2: DFID focus countries in SSA in the process of developing National PDFs.

Country	Progress towards creating a PDF	Description
Kenya	In development	A Project Facilitation Fund (PFF) is to be created as outlined in the PPP Act (2013). Part of the PFF will support contracting authorities during the preparation phase of projects, including the support provided by transaction advisors. This is being supported under the World Bank's IFPPP project. However, according to the latest Implementation Status and Results Report (ISRR), the PFF is yet to be established and has faced delays due to capacity limitations in the Debt Management Office and slow progress towards achieving desired outcomes regarding the development of capital markets.
Ghana	In development	The aim of the Ghana Infrastructure Investment Fund (GIIF) is to mobilize and provide financial resources to manage; coordinate and invest in a portfolio of infrastructure projects designed to support the achievement of Ghana's national development objectives. The World Bank and PPIAF is providing technical assistance to support the Government in establishing this Fund.
Tanzania	In development	Under the PPP (Amended) Act (2014), a PPP Facilitation Fund is to be established, which will be used to enable contracting authorities to financing preparation costs, including financing feasibility studies, costs of transaction advisors and procurement of PPP projects. Funds advanced from the facility will be recovered upon the success of the PPP transactions. The Act was recently sent to parliament for approval and it is expected to be passed into law in the near future (although it is likely the Fund will take some time to establish after the Act has been passed).

The creation and funding for these entities should ideally be advanced more quickly. DFID focus countries in South Asia have been more advanced at developing these models which are seen as

[29] It is, however, not clear the extent to which this will support publicly originated projects.

being successful at accelerating project development, although attribution as ever in such evaluations is a challenge. As set out in Table 2.3, a key element of these approaches is their ability to recycle their funds where transactions are successfully completed.

Table 2.3: DFID focus countries in South Asia with National PDFs.

Country	Details
India	The Government of India established the Infrastructure Project Development Fund (IPDF) in the 2007-08 budget with an initial Rs. 100 crore (US$16m) and was set up on a revolving fund basis. The IPDF was established in the Department of Economic Affairs within the Ministry of Finance to support credible and bankable PPP projects, and is expected to cover the costs of feasibility studies, environmental impact assessments, financial structuring, legal reviews and the development of project documentation. The IPDF supports government-originated projects for up to 75% of development costs and is funded by the success fees of projects, and will also be supplemented where necessary by government budgetary support and multilateral and bilateral agencies should they become interested in supporting it.
Bangladesh	The PPP Technical Assistance Fund (PPPTAF) was designed to fund pre-feasibility and feasibility projects, prepare RFQ and RFP documents for projects, prepare concession contracts and also funds awareness raising activities. The PPPTAF is managed by the PPP Office in consultation with various line ministries (depending on the nature of a specific project). The amount of technical assistance the Fund can provide is limited to 1% of projects with a total cost of US$500m and 2% for projects costing less than US$500m, and is recovered from the success fees of winning project bidders. As of July 2014, US$12m had been allocated to the PPPTAF.
Pakistan	The Project Development Fund (PDF) provides resources to support early-stage development of PPPs through feasibility studies and other assessments, across a range of sectors. It also funds project structuring, negotiation and other later stage development of PPP projects.

As set out in Box 2.1, the Indian example appears to have been particularly successful.

Box 2.1: India infrastructure Project Development Fund (IIPDF)

India infrastructure Project Development Fund (IIPDF)

In recent years India has made significant efforts to introduce PPPs and remove barriers to foreign direct investment. However, lack of credible projects continues to be an issue at both the state and federal level. Accordingly, in 2007 the Federal government set up a revolving fund to support project development.

Activities of IIPDF

The IIPDF supports a Sponsoring Authority (SA) to cover the costs of project preparation for specific project, from the Feasibility / Structuring phase. Funding can be used to procure: feasibility studies; environmental impact studies; financial structuring; legal reviews; and development of project documentation. The IIPDF will finance the costs of consultants and transaction advisers, provided these are procured in a transparent fashion or drawn from the Department of Economic Affair's pre-qualified panel.

To receive IIPDF funding, the SA must set up a PPP Cell to support project development issues and also address larger policy and regulatory issues.

Funding arrangements

The Ministry of Finance provided an initial capital to the IIPDF of Rs. 100 Crore (approximately US$18m), but it acknowledges that this may be supplemented in time, by the Ministry of Finance or by other donors- the initial guidelines provide some groundwork for how later funding could be provided, including requiring a

India infrastructure Project Development Fund (IIPDF)

minimum contribution of Rs. 15 crore (approximately US$3m).

Cost-recovery arrangements

The IIPDF does not provide grants, but will provide interest-free loans to the SA, up to the value of 75% of the project development costs. The SA must cover a minimum of 25% of the project development costs, and the IIPDF loan is only released after the SA funding is provided. In practice, the SA funding can take the form of initial Early Stage project development, such as a pre-feasibility study.

On the successful completion of the bidding process, the project development expenditure is recovered from the successful bidder, along with a success fee. There are three main types of projects funded by the IIPDF, which generate different levels of success fee:

- Revenue Generating Commercial Projects: commercial projects ran by the private sector are charged a success fee of 40%.
- Efficiency Enhancement Projects: where there is no or low private sector investment, the IIPDF charges a success fee of 25%.
- Non-revenue generating projects with high economic returns: in this case, IIPDF funding is repaid without any success fee, by the government.

However, if the bidding process fails, the IIPDF turns its loan into a grant to the SA. But, if for any reason the SA cancels the bidding process, it must repay IIPDF's loan. The IIPDF does not intend to recover all disbursed funds, and a non-recovery rate of 25% is assumed, to allow the fund to support innovative projects.

Managing arrangements

The IIPDF is housed in the Department of Economic Affairs (DEA) and the projects supported are approved by the 'Empowered Institution' set up in 2005 and includes civil servants from the DEA, the Planning Commission, and the relevant line ministries. The Secretariat for the IIPDF is provided by the PPP Cell within the DEA.

Progress so far

From the 'PPP in India' website, by 2011 the IIPDF had provided loans of Rs. 4567 lakhs (approximately US$8.3m) to forty projects.

2.4. Private origination

The alternative approach for donor intervention has been to support projects that have been originated by the private sector, rather than prepared and bid out by the public sector. A variant of the approach includes working with state-owned companies to develop commercial projects, such as in the case of Nairobi Commuter Rail.

This has involved creation of specialist vehicles. InfraCo Africa (a PIDG-backed venture) and InfraVentures (an IFC initiative) are two of the most established entities pursuing this approach. The process pursued typically involves the signing of a joint development agreement between these entities and a developer that has acquired the rights to develop a project. The donor entity then contributes to the funding of the development costs of the projects. Upon financial closure the donor either extracts a development fee and exits or else takes a carried interest in the project.

Key rationales for these approaches include the recognition of the fact that in SSA projects are often originated by the private sector. A stated advantage of the approach is that it can bring a higher degree of innovative development skills to bear on the project development approach, than can be the case where the public sector is responsible for progressing even PPP projects, which can be important where particular innovative approaches are required. In comparison to more standardised projects such as Independent Power Producers (IPPs), these projects may involve the development

of a bespoke approach, or new technologies (e.g. wind and solar) or projects linked to other private agricultural or industrial projects, but which have wider developmental impacts.

Table 2.4 provides examples of the types of projects which they have been co-developed by InfraCo Africa and InfraVentures (which also include more traditional IPPs, but in new contexts).

Table 2.4: Infraco Africa and InfraVentures projects.

Project name	Country	Sector	Key project information	PPP partners	Additional information
InfraCo Africa[30]					
Cabeolica Wind	Cape Verde	Energy	US$78m total investment, of which InfraCo provided US$7.9m.	AFC, Finnfund, Electra SARL, and the Government of Cape Verde	30 turbines across four wind farms are producing up to 25.5MW.
CenPower	Ghana	Energy	Total project cost US$904m, with InfraCo investing US$11m. Reached close in late 2014.	Cenpower and AFC worked with InfraCo to develop the project.	The 340MW plant won "Deal of the Year" by Thomson Reuters' Project Finance International magazine for 2014.
Geometrics Power Ltd Aba	Nigeria	Energy	Total investment US$420m, reached close in 2008. InfraCo committed US$0.5m.	Geometrics Power Ltd	140 MW natural gas-fired generation plant and associated transmission lines
Chiansi Irrigation	Zambia	Agriculture	InfraCo has committed US$6.4m in funding since the project's inception in 2006.	Government of Zambia	The concept has attracted attention from a number of other African markets.
Envalor agribusiness	Mozambique	Agriculture	$435m cost for ethanol and sugar elements	Not clear	Sugar and ethanol project producing approximately 32MW/h of electricity.
Kalangala Infrastructure Services	Uganda	Multi-sector initiative	Total project commitments US$29m. Development, construction, operating and maintenance of two roll-on, roll-off passenger and vehicle ferries; the upgrade of the island's main road; and a series of solar-powered water supply systems.	Government of Uganda	The project closed in 2011. However, InfraCo kept an interest in the project company, Kalangala Infrastructure Services Limited, which will own and operate the power generation and distribution system.
Lake Albert Infrastructure Project	Uganda	Multi-sector initiative	InfraCo has committed US$7.4m in funding since 2010, against an estimated total cost of US$105m. Project still in development.	Government of Uganda	Development of a dual fuel power plant of 50-95MW for the Ugandan national grid; rural electrification; and clean water systems for the local communities.

[30] Sources include: PIDG (2014) *Annual Report 2013*; Infracoafrica.com; eleQtra.com; *Ghana Country Study*

Project name	Country	Sector	Key project information	PPP partners	Additional information
Nairobi Commuter Rail Project	Kenya	Transport	US$3,250m total investment	Kenya Railways Corporation	18 months construction, 30-50 years operation
InfraVentures[31]					
Shuakhevi hydropower scheme	Georgia	Energy	Total cost US$420m. Reached close in May 2014. Will sell 433GWh of electricity to Georgia and Turkey.	Clean Energy Invest and Tata Power	First project to be structured on a limited recourse basis in Georgia.
Tobene Power HFO high-efficiency combined cycle power plant	Senegal	Energy	Total cost US$140m. Reached financial close in August 2014. Will sell power to the Senegal state utility under a 20 year PPA.	Melec PowerGen	96 MW combined cycle power plant.
Kipeto Wind power project	Kenya	Energy	Total cost US$320m. Will sell power to the Kenya state utility under a 20 year PPA. Close expected 2015.	GE, Craftskills and Kipeto Energy	100MW wind power project.
Upper Trishuli-1 hydropower scheme	Nepal	Energy	Total cost expected to be more than US$500m. Close expected 2015.	Korea South-East Power Co.	216 MW run of river project.
Jeneponto I wind farm[32]	Indonesia	Energy	JDA signed in May 2014.	Asia Green Capital Partners	65MW wind power project.
Two LNG regasification projects in Bangladesh	Bangladesh	Energy	Two projects on Moheshkhali Island in the Bay of Bengal.	Bangladesh Power Development Board	Both appear to be at the tendering/ negotiation stage.[33]
Upper Karnali Hydropower project and transmission line[34]	Nepal	Energy	Partnership agreed in Dec 2014. The total investment required is estimated to be US$1.7bn.	GMR Group	Project will develop the 900 MW Upper Karnali hydropower plant and two transmission lines to evacuate power from it and the Upper Marsyangdi hydropower plant.
Lamu Electrawinds	Kenya	Energy	Infraventures has committed US$4.0m to date.	Electrawinds of Belgium	100MW wind power plant

[31] InfraVentures (2014) *The IFC Global Infrastructure Project Development Fund; InfraVentures* (Jun 2014) *IFC Global Infrastructure Project Development Fund – presentation.* It is our understanding that InfraVentures is also developing a hydropower project in Fiji, a wind power project in Serbia and a wind power project in Moldova, but the information available on these to date is very limited.

[32] IFC Press release (May 2014) *IFC and Asia Green Capital Agree to Develop Wind Power in Indonesia, Supporting Sustainable Energy.*

[33] Interfax (May 2015) *Bangladesh inches ahead with two LNG terminals.*

[34] IFC Press release (Dec 2014) *IFC, GMR Group Partner for Power Projects in Nepal to Unlock Hydro Potential and Promote Growth.*

Project name	Country	Sector	Key project information	PPP partners	Additional information
Kenie Hydro	Mali	Energy	Infraventures has committed US$2.0m to date.	InfraVentures will be surrogate sponsor until government selects strategic partner.	40 MW hydropower plant. World Bank providing concessional financing and political/regulatory risk mitigation.
Scatec Solar	West Africa	Energy	A 60 MW PV project in Burkina Faso has received Cabinet approval in late May 2013. InfraVentures has invested US$1.5m.	Scatec Solar	Following a coup in Mali stopping development of a solar project there, InfraVentures and Scatec has expanded its partnership to cover projects in a range of West African countries.
Ewekoro power plant[35]	Nigeria	Energy	Partnership agreed September 2014.	Lafarge, and Wärtsilä	Involves freeing some of the plant's existing capacity and making it available to the national grid. It will also construct a new 220 MW engine power plant.

[35] IFC Press release (Sep 2014) *Lafarge, IFC and Wärtsilä Partner to Increase Electricity Supply in Nigeria.*

In addition to these two entities, BOAD the West African development bank, through its private sector arm, is setting up a specialist fund which will provide support to private developers in the late stages of project development. Whilst the details on Africa50's private development arm have not been finalised, it would appear to be along the lines of InfraCo and InfraVentures.

2.4.1. Key observations and conclusions

As set out, there needs to be much more public origination not only of projects, but of PPP programmes. Whilst, arguably, support to this process could be more focused in areas where it stands most chance of success, it is widely recognised that the quantum of project preparation resources needs to increase.

Early stage support remains critical not least in helping to build support for and to educate on PPP issues. With the exception of PPIAF and country specific initiatives such as NIAF which is country specific there are few, if any, other sources of immediate support. As found in CEPA's report for the ICA on PPFs, most support from global facilities is only available once a project is developed to at least the pre-feasibility stage.[36] This is a considerable gap given the limited experience in typical line ministries to identify potential PPP opportunities and undertake initial analysis. For example, the Kenyan PPP unit has had to reject many proposals from line ministries for support to develop opportunities as they lack an understanding of what is required. Such support is ideally provided close at hand, one of the strengths of the NIAF approach.[37]

As regards downstream support, based on experience in South Asia, different forms of PDF appear to offer the most potential to support the development, packaging and transacting of projects. As with the South Asian models, there is a strong case for success fees to be charged to projects that reach financial close, with the PDF being reimbursed so that the PDF can be at least partially revolving. It is important that a combination of a PDF and any success fees allow for the procurement of appropriately skilled advisors.[38] As set out CEPA's work for the ICA, many donors do not have the ability (or sometimes the desire) to recycle their ODA. In the case of DFID, this may create opportunities for the deployment of Development Capital.

NIAF and similar approaches can therefore be useful for developing capacity and support for PPPs in government and early stage development whereas PDFs are likely to be more suitable to support mid and later stage project development. Facilities like NIAF are less suitable for later stage project development, as there is often a need for specialised transaction support – support which is expensive. High quality transaction advisors have professional fee rates which fall outside of the de facto cap on fees that NIAF can pay.[39]

Whereas the main focus of support should be on supporting public sector origination of PPP projects, PPP frameworks need to be developed so as to provide approaches for dealing with unsolicited proposals (USPs). In particular, these need to provide for donor-backed developer

[36] ICA Assessment of Project Preparation Facilities for Africa (2012)

[37] PPIAF previously had a more developed regional network which helped it to provide a similar service, although its resources were more limited than those of NIAF.

[38] The PDF could pay technical advisors such as engineers or lawyers in full for their service, whereas in the case of financial advisors this may just fund a retainer, with higher fees to be paid by projects in the event of a successful transaction.

[39] [A buy-side financial advisor criticised the poor quality of the financial "package" offered on a project which it is understood is being supported by NIAF.]

approaches which can bring innovation and risk capital to PPPs. Support to private sector origination is likely to be most valuable where more innovative, less standardised solutions are required.

As regards support to the project development process and the need for risk capital, there is a broader issue of who might be in a position to provide this. Whereas some specialist private equity firms and some DFIs such as Norfund and Globeleq[40] are increasingly providing pre-financial close development capital, most others will only provide capital at private financial close (although IFC can potentially take such positions through InfraVentures). There is therefore a wider question of whether such an approach is more mainstreamed by them, not least if the need for their debt becomes less as a result of greater levels of provision by commercial banks. A much greater role for these vehicles in providing the initial finance for projects, not only to financial close, but also until the project is operational, could also create much more opportunity for both local and international institutional finance as discussed in the sections on such finance.

[40] Norfund and the CDC have formed a partnership through a Joint Venture (JV) to take direct ownership and control of Globeleq.

3. IMPLEMENTING BANKABLE STRUCTURES

3.1. Introduction

Whilst lenders and DFIs have access to long-term financial resources for infrastructure projects the key challenge they face is that of projects not being bankable because of uncertainty over their revenue streams. There are typically two forms of revenue model. The first is where there is off-take by a single purchaser, such as by a state-owned power utility through a PPA. The second model is where the provider of the service is exposed directly to demand risk; that is, the project is dependent on multiple customer payments, such as in the case of a toll road. Both contexts can give rise to a need for government guarantees of projects, particularly to lenders.

The solutions to these issues involve, to the extent possible, addressing some of the underlying problems, such as why state utilities have an inability to pay, the other is to structure mechanisms that enable projects to make use of the risk mitigation tools that exist. There is a role for donors in helping governments address the underlying problems as well as in providing risk mitigation tools, particularly those that backstop government commitments. Indeed, deploying donor subsidies as a way of mitigating risk is something that should be more actively considered as a solution, rather than just using them to address affordability constraints.

3.2. Approaches and policies for addressing key bankability issues

Whilst there can be many reasons why a project is not bankable, the primary concern of investors and lenders is that projects lack stable and predictable revenue streams. These will typically relate to problems of poor quality off-take or else high market risk. In the absence of full sovereign credit guarantees the observed solutions to these involve a combination of longer term structural and regulatory reform, together with the deployment of guarantee and insurance instruments from DFIs and development banks that mitigate government performance risks associated with their role in mitigating such risks.

3.2.1. Off-take contexts

A problem with infrastructure is that it is difficult to remove and relocate elsewhere in the event of non-payment. Temporary electricity generation is an exception to this, hence the number of temporary (and expensive) PPAs in Africa. Table 3.1 below summarises recent Aggreko transactions that have taken place in DFID focus countries; whilst these solutions can address temporary power shortages, the tariffs involved are typically very high cost.[41]

[41] Aggreko is Scottish-based major provider of temporary power solutions.

Figure 3.1: Aggreko power projects in DFID focus countries (2005-14)

Country	Number of Aggreko contracts	Total Capacity (MW)
Kenya	3	300
Mozambique	1	232
Bangladesh	2	200
Uganda	3	150
Tanzania	2	140
Ethiopia	1	30
Rwanda	1	10

Source: PPI Database; Aggreko.

The long term solution to poor quality offtake is to ensure that tariffs are cost reflective, but this is extremely politically challenging. An observed solution to this problem is to mitigate the risk of exposure to a single uncreditworthy off-taker by structuring transactions so that there are other off-takers available to purchase the power. This will typically involve a direct PPA with a large anchor customer – that is large creditworthy typically private customers whose demand drives the economics of the project, rather than being reliant on a state utility. The local state utility essentially purchases a either a smaller share or the available off-take.[42] In situations of none, or more likely delayed, payments the project receives a large proportion of its payments from the more creditworthy off-taker(s).

In these arrangements, it is not clear at what point power supply can be switched away from the defaulting party to other performing parties, although if a PPA is in default, it might be expected that the power producer is not obliged to supply. The constraint will typically be one of being able to transmit the power to other customers.[43] It should, however, be in the interests of both parties to be able to transmit power elsewhere – as the host country avoids the potential costs of contract termination payments. Indeed, a longer term solution to this problem, once the physical transmission infrastructure is in place, is the development of more liquid power pools. This will provide for both surplus energy sales (over and above PPA commitments) as well as, possibly, being a route for power to be sold in the event that a PPA is breached. However, the operation of power pools can be complex, and most power are still at the stage of establishing the physical transmission links which allows them to operate, with little power traded outside of PPAs.

3.2.2. Market risk

Without track records it can be particularly difficult for investors and lenders to understand what demand for some infrastructure services will be. This is a specific issue in many transport projects, although is essentially applicable to any form of user charging where network utilisation; that is, demand risk, is a key issue, including pipes and wires.

[42] Mozambique provides examples of where the off-taker is private, such as in the case of the Moatize IPP or else public where the largest off-taker is South Africa's Eskom. In each case, the multiple party PPA involves EdM, the Mozambican utility. Kenya provides an example of Kwale sugar cogeneration project, a sugar refinery that sells excess power to KPLC, but with most of the output dedicated to the factory.

[43] An interesting area for further research would be on the extent to which PPAs allow for this.

Market risk is understandably greatest where there is a competing free – or at least low cost – alternative. In the case of roads and bridges there may be old, non-tolled roads or bridges versus new tolled ones. Particularly where the new service does not offer a clear benefit to customers, the existence of the alternative can undermine the viability of the new investment. The immediate way to address this is either to ensure that the quality of the new infrastructure service has such significant benefits over the existing one – e.g. reduced travel times – that customers will pay, or alternatively, to remove the option, through for instance joint tolling and / or wrapping the older asset into the new one.

However, more generally, reliance on tolling (or other user charging) revenues is an issue, where it is not clear that there is sufficient effective demand to fund the required revenues, particularly over long periods where there are assumptions on growth in demand (which can for instance, be reduced by economic recession). At a minimum this pushes up the cost of capital and therefore costs to users, or in the extreme can make a project unbankable.

Particularly in the case of transport projects, different approaches have been used to address the concerns of investors and lenders. In some instances it has been possible to compensate for this risk by increasing the potential[44] upside to investors, through for instance, the provision of property development rights along the transport route.[45] However, whilst equity investors may be willing to take such risk, because of the potential upside, the debt holders are likely to be more conservative in a traditional non-recourse project financing.

Another approach to deal with such revenue uncertainty is to provide more open-ended concessions, in which in one way or another, the length of a concession is extended so that the concessionaire is more likely to achieve its return. Again, however, whilst this may work for the equity, there will be a default if the project does not meet its debt covenants.[46] This may require a more direct form of support for the project which ensures that projects meet their lender covenants such as debt service cover ratios. This can involve either minimum revenue guarantees, or else "cap and collar" approaches, in which the provider of the guarantees receives payment when revenues are higher than expected. Chile is arguably the country which has been most successful in applying variable concession lengths as well as providing revenue support.[47]

An alternative approach to addressing the concerns of lenders is to apply a different form of PPP structure, in which the concessionaire is remunerated on the basis of making an asset available to a contracted level of performance, rather than a revenue model that is based solely on traffic revenues (and therefore involves transfer of market risk). These are termed *availability structures* and have been used in the Private Finance Initiative (PFI) model in the UK for many years and involve the providers of services bearing more controllable performance risk rather than less controllable market risk.

[44] In fact, availability models are being used increasing to de-risk PPPs by exposing the project to controllable performance risks rather than less controllable market ones.

[45] One of the first toll roads between Hong Kong and Shenzen was rumoured to have made all its money out of ancillary property development rights.

[46] This issue illustrates the fact that equity and debt may be treated differently in a project, in terms of the protections offered.

[47] See Traffic Risk Mitigation in Highway Concession Projects. The Experience of Chile. Jose M Vasallo. Journal of Transport Economics and Policy, September 2006.

In both cases, the project is not totally dependent on tolling revenues and involves some form of government commitment to pay the concessionaire when toll revenues are insufficient. This could involve the creation of a new government entity that is responsible for ensuring such contracted payments are made on a time basis. In turn this government commitment does not necessarily need to be funded out of general taxation. There are options to fund through more related sources of income.[48] This can also involve the taxation of, say, increases in land values (a positive externality) resulting from the introduction of the transport asset.

In the absence of such mechanisms, lenders are most likely to require direct credit guarantees from government which do not provide for the same degree of risk transfer to the private sector, which is a particular feature of the credit guarantee approach. Moreover, they eat up a considerable degree of a government's borrowing capacity and may in some instances be prohibited by the IMF, where governments are under its supervision.

3.2.3. Underpinning government's ability to pay

Where a government is committing to back-stop a given contractual arrangement by a state agency or corporation, this essentially creates a defined political risk for which different private sector and public sector insurance policies are available.

MIGA non-honouring of a financial obligation

A product that has been applied in many contexts to support government commitments is a MIGA's non-honouring of a sovereign obligation.

Box 3.1: MIGA non-honouring of financial obligation

MIGA non-honouring of financial obligation (NHFO)
MIGA's NHFO cover provides credit enhancement in transactions that involve sovereign and sub-sovereign entities, as well as state-owned enterprises (SOEs). Coverage for transactions involving sovereign and sub-sovereign entities were first introduced in 2009, while MIGA expanded the coverage to SOEs in 2013 in response to demands from the market. The primary beneficiaries of this type of cover are commercial entities that provide loans to public infrastructure and other productive investments. NHFO protects lenders against losses resulting from a failure to make a payment when due under an unconditional financial payment obligation or guarantee. One of the attractive features of NHFO cover is that investors are not required to obtain an arbitral award in order to claim MIGA compensation, meaning that court proceedings against the public entity in favour of the investor do not need to occur in order to claim the cover. Another advantage of the product is that it is compliant with Basel II, which means that banks may receive capital relief, which will allow them to continue lending to a MIGA member country. MIGA NHFO support can be provided to projects where there is a direct payment obligation or unconditional government, SOE or PPP joint venture guarantee, meaning it can enhance the risk profile of a number of structures.

Source: MIGA (2013)

Research shows that some 24 projects that either received or else have been appraised by MIGA for NHFO cover, including cover against sovereign and sub-sovereign cover. However, outside of South Africa, the only project in DFID's focus countries to qualify for cover is Takoradi 3 Power Plant, an IPP

[48] TradeMark East Africa's (TMEA) Surface Transport Funding Strategy in Kenya.

in Ghana. In such countries, whilst MIGA has been found to provide a breach of contract cover for contract termination, there is much more evidence of Partial Risk Guarantees (PRGs) being used to back-stop government commitments for IPPs/PPAs. This may reflect the fact that the product has only become available relatively recently, but also the fact that MIGA products cannot be used as widely as PRGs. These instruments are typically provided by the World Bank and AfDB and can be provided on a concessional basis out of IDA and ADF funds, which makes them much cheaper than MIGA products which are charged at market rates. A given amount of IDA/ADF support can be leverage four times.

Partial Risk Guarantees PRGs

PRGs are *arrangements or mechanisms* in which a government's commitments to do (or not to do) certain things are backed by the MDB, in which the latter will pay out if such a commitment is not honoured. As set out, the PRG is either backed by the MDB's own capital – and charged at more of a market rate - or else utilises concessional funding. As these are forms of sovereign support, the MDB will typically only provide them if the host government fully indemnifies the MDB through a counter-guarantee[49]. Thus, in the event of a guarantee being called, the MDB will seek to recover the funds from the host government. Non-payment of such an indemnity is seen as a cross-default on all MDB lending, which would lead a cessation of any future lending. As such, the non-honouring of commitment risk sits fairly and squarely with government which provides strong alignment through the powerful deterrence provisions of the arrangements as well as an appropriate allocation of risk to those who are best placed to manage it.

These arrangements are typically structured so that the entity being defaulted on in the first instance is a bank which can then draw on the guarantee – unlike in the case of political risk insurance (PRI), which is focused on protecting cross-border investment and lending flows, this can be a domestic lender. As the default is clearly specified, there is a much clearer trigger for a payout than in the case of traditional breach of contract cover. Moreover, the guarantee arrangement can be structured around any government obligation /commitment, contractual or otherwise, including regulatory decisions and potentially commitments to feed in tariff (FIT) payments. As such they are a way of providing the policy change protections desired. Of course, given the strength of commitment required on government's part, the less ready a government is likely to be a party to such an arrangement.

It is important to understand that such insurances and guarantees are not *substitutes* for a PPA, as is sometimes suggested, but a further protection in the event that government non-payment events or other contracted obligations are not honoured.[50] Their role is therefore to back-stop projects that are otherwise viable – indeed, providers of such protections are less likely to provide them, the poorer the underlying fundamentals.

Put another way, whilst there are a few examples of projects without guarantees and there are examples of projects availing themselves of PRI cover from Export Credit Agencies (ECAs), most IPPs

[49] There are instances where other sources of funding for guarantees are employed – such as the Climate Technology Trust Fund – in which a sovereign guarantee is not required.

[50] A PPA covers many more things than simply policy change – such as access to the grid, volume of energy purchased and so on. Without it, a project faces many other – and larger – risks than a change in government policy.

have involved the deployment of a PRG in different structures depending upon the extent of the support required.[51]

The main exception to this rule would appear to be the case of renewables generation where there is much less evidence on the need for PRGs to back the state payment commitments of state-owned off-takers. This is the case in Kenya[52] where even Lake Turkana Wind project did not in the end require a PRG to back KPLC's off-take commitments.[53] It is unclear why this is the case: it may be linked to KPLC's good payments track-record; alternatively there may be renewables specific factors, such as availability of softer finance to reduce risks to equity, and the potential to remove and recycle renewables equipment.

As an event specific and flexible form of protection, PRGs can be used to protect both debt and equity from government non-performance, such as a non-or delayed payments under a PPA. Whilst to date deployment in SSA has been largely in support of electricity generation, they can also be applied to transport. The Rift Valley Railway in Kenya and Uganda has had two PRGs in place, to back payment obligations from each government and the Nairobi Urban Toll Road project was to utilise a PRG although the project was ultimately abandoned.[54]

Some of the main benefits of utilizing PRGs, claimed by the World Bank include: more bidders ("halo" effect of the Bank); increased upfront investment commitments; increased sales value for the privatization; lower tariffs (as a result of more attractive financing terms in terms of tenor and pricing); and it can be used to mobilise both local and foreign investment.[55]

Whilst all these uses may place obligations on government and national balance sheets, they will likely be less onerous than government full faith credit guarantees on the borrowings of public entities.[56,57] As well as enabling the transfer of performance and other risks to the private sector, governments become an obligor to international institutions rather than the private sector. They may also be treated favourably from a regulatory perspective.

3.3. Role for donor subsidies to mobilise finance

There are several ways in which subsidies could be deployed to improve the bankability of individual projects. The first of these two mechanisms involve reducing the cost of projects to make them more affordable, involving either buying down project costs through output based aid (OBA) and viability

[51] Most recent PRGs have been to back letters of credit, which tend to address delays in payments rather than non-payment per se, as in the case of the Thika IPP.

[52] Cross reference to table in Kenya country study on different IPPs.

[53] The current AfDB PRG only covers commitments on timings of the provision of the transmission line.

[54] More widely a PRG could be used to back-stop government commitments under so-called availability structures in which the PPP service provider is remunerated by governments on the basis of the provision of an infrastructure service to a given standard, rather than on the basis of user charges.

[55] Catalyzing private finance: The relevance of World Bank Guarantees at time of risk aversion

[56] In the case of Kenya, government has been providing letters of comfort to lenders rather than full credit guarantees, which is a weaker commitment, but deemed sufficient by lenders. As set out, the PRG backs a letter of credit, which provides liquidity support to a project. This is combined with MIGA cover to protect any termination rights arising from non-payment.

[57] "The host government's indemnity of the World Bank does **not** increase the government's liabilities when the government is already directly obligated to the private sector on the same liabilities.", IMF. "Involving the Private Sector in Forestalling and Resolving Financial Crises – Private Project Finance Flows to Developing Countries," IMF Board Paper SM/99/211, August 20, 1999, page 21.

gap funding (VGF) approaches or else reducing financing costs through blending approaches. An alternative approach to consider, which does not seem to be under consideration, is to increase the resources available for the deployment of PRGs.

3.3.1. OBA/VGF

The aim of these approaches is essentially to buy-down the costs of infrastructure projects, especially PPPs. OBA is more targeted at say, individual infrastructure connections – such as the extension of a network to peri-urban areas; whereas VGF is used at more of a project or network level, although typically also focused on reducing costs for the poorest consumers.[58] The advantages of both approaches is that the subsidy can be performance-based in that it is only paid out when the infrastructure provision is verified; the project sponsor needs to pre-fund the subsidy payments.

Both VGF and OBA can be used at the margin in improve the viability of projects which are challenged from an affordability perspective. Where such support is targeted specifically on poorer customers it can be seen as extending the reach of a project that was already viable. Examples of successful deployment of VGF in India include the Hyderabad Metro Rail PPP, one of the country's largest private investments with a total project cost of ~US$2bn (Rs 12,132 crore). The federal government provided VGF of US$239m, with the concessionaire expected to cover the balance.[59]

3.3.2. Blending

An alternative approach is to reduce the costs of financing through so-called "blending" approaches. This approach is favoured by the European Commission. Historically, the approach has been based around the provision of interest rate subsidies, more recently there has been a shift in emphasis to first loss capital.[60]

Interest rates subsidies

The provision of interest rate subsidies (IRS) reduces financing costs for the project overall (although more complex forms of blending approaches can also be applied). In turn lower financing costs can allow a project to be "paid-off" more quickly or else repaid over the same period but at a lower tariff level.

Table 3.3 below summarises the blended financing support that has been provided to EU-Africa Infrastructure Trust Fund (EU-AITF) supported projects that have PPP arrangements in place.

[58] http://www.pidg.org/resource-library/other-documents/taf-viability-gap-funding-vgf.pdf

[59] Planning Commission (2013), Twelfth Five Year Plan (2012–2017) Faster, More Inclusive and Sustainable Growth.

[60] First loss capital is subordinated to other capital in financing structure; it is the last to make a return and to be paid out.

Table 3.3: EU-AITF PPP projects receiving IRS support

Project name and status	Financiers	IRS amount	Comment
Zambia: Itezhi-Tetzhi Hydropower and Transmission Line project (transmission line component) [construction]	**Hydropower:** €173.6m Equity: TATA, ZESCO (mainly financed through ADF and EIB loans) Debt: FMO, Proparco, AfDB, DBSA Sub-debt: India EXIM **Transmission:** €80.87m Equity: ZESCO (financed through concessional loans from EIB and AfDB) Debt: EIB, AfDB, AFD	€17.6m	Note that the IRS was provided to EIB and AFD loans for financing the transmission line. Therefore, the financial support provided by the IRS is not supporting the PPP element of the project.
Mauritania submarine cable [operational]	Debt: EIB €8m (through Government of Mauritania) Equity: shareholders in International Mauritania Telecom €12m	€1.62m	IRS provided to EIB loan to the government.
Republic of the Congo: Port de Pointe Noire [construction]	AFD and EIB €58.5m Central African Development Bank: €9.1m (grant) Private concessionaire: €42m Public sector: €54.6m	€6.6m	IRS provided on concessional loan provided by AFD to the Government and on-lent to the ports authority.
Mozambique: Beira Corridor project [construction]	Rail: €142.64m – EIB, World Bank IDA, Equity and shareholder loans from private concessionaire. Port: €45.87m – EIB, CFM (state-owned rail operator), DANIDA, ORET (Dutch government development department grant)	€29m	The IRS covers EIB's loans to the government. Note that the private concessionaires are no longer operating the railway line, and are expected to launch legal proceedings against the government.

Source: EU-AITF (2014); CEPA Analysis.

However, rather than mobilising capital for PPPs, IRS support has been used as a subsidy to sovereign-based loans to public sector projects, from non-concessional sources. This has allowed countries to borrow from non-concessional capital providers whilst meeting HIPC borrowing criteria. However, even in PPP projects such as Itezhi-Tetzhi project, IRS support has been provided to the transmission line, which is a public sector project rather than to the generation project which is a PPP.[61]

First loss capital

A newer approach which is being turned to by several donor agencies is the provision of first loss capital on a project specific basis, including by the EU-AITF.[62] In this approach, the donor capital provides a "risk cushion" to the other financing participants: it is subordinated to others in terms of payment and takes the first hit if a project runs into problems. DFID's new Development Capital approach is a variant of this approach.[63] First loss capital is effectively a form of subsidy as it is not priced at the level of risk that it is assuming. As such, it can only be provided at scale by development agencies, not DFIs which need a risk-adjusted return on their capital.

3.3.3. Enhancing PRG underwriting capacity

The advantages of PRGs are that they mobilise private capital (not just DFI capital) and they can be targeted on specific risks. It is typically the MDBs who are in a position to issue PRGs and normally, the route for funding any guarantee commitments is through IDA.

In IDA/ADF countries, the problem with issuing PRGs is that they can use up scare resources / headroom (that is, the country's overall IDA/ADF allocation). Whilst they account for only 25% of the headroom that a credit would do, this can still be considerable on a large project or infrastructure programmes.

A particular area for donors to explore with the large MDBs is the extent to which additional donor subsidies could be provided to enhance existing IDA/ADF resources.

This can be a cost effective way of mobilising private capital. It is on a concessional basis. Finding a way of enhancing the IDA mechanism – or that of the AfDB – for such an approach could be very catalytic. Given the nature of the risks faced by projects in SSA, it is likely that enhancing the concessional resources available to MDBs to provide PRGs could mobilise more capital than using it in first loss fund structures (such as the Emerging Africa Infrastructure Fund) or in blending approaches. However, this is a complex area and would be an interesting area for further research.

Rather than providing first loss capital through provision of funded instruments (such as equity), some donors such as Sida potentially have the ability to provide co-guarantees to IDA, but this has

[61] EU-AITF (2014).

[62] As regards EU-AITF support overall, IRS support has not been provided to any projects since 2012 (and was last provided to the Lake Victoria WATSAN MWANZA project). Instead, recent support for projects has come in the form of investment grants and first-loss capital facilities (although technical assistance grants have continued to be provided).

[63] CEPA previously worked with the PIDG to develop the "Water Window" concept. Although never implemented it was a form of first loss capital that would have been made available to water projects.

not happened yet.[64]

3.4. Conclusions

Whilst there are several approaches to reducing the costs of projects through utilising different forms of subsidy, the most effective way of mobilising private capital for PPPs would appear to be through the deployment of PRGs which have been used to back-stop projects which have been structured with a state owned entity as payee.

Although there may appear to be an inherent contradiction between this approach and freeing government from financing responsibilities, at the moment it appears to be the most viable way of mobilising private capital for projects at scale and is preferable to government providing guarantees direct to private lenders (the indemnification being to MDBs).[65]

As such support eats into IDA and ADF allocations there is a case for other institutions such as the EIB to provide a similar product using European Development Fund (EDF) resources, which would extend the scale of resourcing available. Ways of boosting the guarantee capacity of IDA and ADF could also be explored. It is arguably preferable for concessional resources to be used to raise private capital on better terms than it would otherwise be (if at all), with a (4X) leverage of the funds, rather than the provision of public sector credits which can crowd out or displace private sector financing.[66] The exception to this would be if the provision of the same amount of subsidy as first-loss capital was able to mobilise a similar amounts of capital on similar terms and without the need to provide any form of indemnification – a highly technical issue but one that would be worthy of further research in the context of deploying limited subsidies in the most efficient manner in different contexts.

In the longer term, however, as incomes in SSA continue to rise, it will be important to move to a position in which infrastructure pays for itself out of cost reflective tariffs, over time reducing the extent of credit enhancements required to mobilise private capital.

[64] A discussion of the potential for this can be found in the forthcoming Orgut "Gap-analysis on new finance instruments or original instruments in new contexts, innovative or up-to-date finance in development cooperation for Sida, to which CEPA contributed.

[65] It should be noted that there are several financiers who believe that PRGs are used more than they need to be and that the presence of a DFI in a project can provide the necessary level of protection against political risks, including that of payment. One interviewee suggested that on a project one DFI withdrew because a PRG was not available; however, its financing was quickly replaced and ECA PRI was used instead. As a result, the government in question did not have to indemnify the World Bank. One large commercial lender appears more willing than most to lend without PRI protection.

[66] For instance, government can borrow from IDA and then on-lend to projects at market rate. However, the quantum of this finance would only be a quarter of the private finance that could be raised through a PRG.

4. MOBILISING INTERNATIONAL FINANCE

Whereas the intervention options outlined in previous sections have either been focused on addressing issues related to projects, or context specific risks related to the environment in which projects operate, this section turns to addressing the barriers faced in mobilising longer term FX financing on affordable terms. Whereas addressing credit risk resulting from the risk profile of projects needs to be addressed, there are other barriers that also need attention that are linked more to the different types of financial institutions themselves, rather than the projects and companies seeking finance per se. As such, addressing credit risk can be seen as a necessary, but not a sufficient condition to mobilising finance.

The benefit in raising FX financing is that it is typically cheaper than local currency financing at least in nominal terms, is longer term, and can be fixed, through wide availability of hedging products; although exchange rate risks arise as a result of its use. The requirements of institutional lenders are, however, different from those of banks, which pose additional challenges and need to be addressed through additional measures and approaches if institutional finance is to be provided at scale, whether to individual projects or else through specialist vehicles. Availability of more comprehensive risk mitigation, as well as more tailored packaging need to be considered, not least to address the liquidity requirements of institutional investors and their desire for investment in operational rather than greenfield assets.

This section considers some of the solutions currently being implemented to mobilise these different forms of international finance. It seeks to draw lessons on what measures might be appropriate in different contexts and as a result, which approaches might be scaled up by donors to increase mobilisation of such financing.

4.1. Mitigating credit and other risks for banks

The challenges facing international banks are largely those of mitigating credit risk. However, such risks will typically not be totally removed as this can create risks of moral hazard, in which debt providers behave recklessly in the knowledge that they can pass on the risk to others. The risk sharing approach with donor institutions can either be on an equal or pari-passu sharing of all risks, the full mitigation of particular type of risk, or else an unequal sharing in which donors take a first loss.

Whereas the first approaches can be priced at either subsidised or market rates, the latter approach tends to involve a subsidy and is typically provided by donors, rather than MDBs or DFIs in order to mobilise private capital provision.

When first loss capital is charged at a submarket rate which is not commensurate with the risks it faces (that is, at a subsidised rate) it can be catalytic in mobilising private capital and can also help reduce the cost of DFI capital, because of the reduced risk. DFID's new Development Capital approach is consistent with the provision of first loss capital. It should be noted, that it is not necessarily expected that first loss capital will experience a loss, it is just that it is prepared to do so in the interests of catalysing the provision of other capital.

Donors can provide first loss capital either to individual projects or else in structured funds and vehicles. It can be provided in either a funded (for instance, a grant) or contingent (a guarantee) form.

It can also be "blended" with MDB and DFI finance to increase their reach in terms of allowing their deployment either at lower cost or in contexts in which they would otherwise not be deployed. This has been done in the case of funded structured vehicles, but not so much in the case of guarantees.[67] Such an application of "innovative financing" could potentially increase the reach of the existing guarantee products of the MDBs/DFIs, who cannot enter exposures that unduly risks their own capital.[68]

In the first sub-section below the use of first loss capital in structured funds is considered; in the second, the main donor guarantee products are explored and how first loss capital could potentially improve their deployment.

4.1.1. Structured funds and vehicles and first loss capital

EAIF was an early example of how donor first loss capital in a financing structure can be used to mitigate credit risk, within a tiered structure that also includes DFI subordinated debt and commercial bank-provided senior debt. EAIF provides a mix of largely senior debt to projects. EAIF's first loss capital has been provided in the form of patient equity by the PIDG donors.[69]

In recent years this structured approach has been used by development agencies such as BMZ and the European Commission in several fund structures. Such approaches help DFIs to reduce and ring-fence their exposures; it also allows their resources to be managed by commercial fund managers.

In principle, the approach could be used more widely within infrastructure, for instance, through securitisation approaches in which the balance sheets of the DFIs were freed up through securitisation of their portfolios. This point is returned to in the discussion of institutional finance.

4.1.2. Guarantees

The two main forms of guarantee support are PRGs and partial credit guarantees (PCGs). Both can be used to address to share credit risks with commercial providers. Greater provision of first loss capital could improve the terms of such guarantees and potentially help their deployment.

[67] First loss capital provided to Trust funds established at MIGA have helped it to provide its political risk guarantees in high risk contexts such as the West Bank.

[68] MDBs mitigate risks to their own capital by providing it on a sovereign basis. DFIs charge on a risk their products on a risk reflective basis, but sometimes this is prohibitively high. In other situations proposals do not pass their investment and lending approval mechanisms as the level of risk is judged to be unacceptable. First loss capital can potentially help in both instances. The wider issue of what level of risk DFIs should be taking in a given transaction is a more involved issue, although as with commercial banks, different DFIs would appear to have different attitudes to risk.

[69] Patient capital is long term capital. The investor forgoes an immediate return in anticipation of more substantial returns in the future, whether these are financial and / or developmental in nature. Patient capital typically aims to mobilise other forms of capital. First loss capital is a form of patient capital.

PRGs

The previous section showed the role of PRGs in back-stopping government commitments. They can be more narrowly focused on support to lenders, if the host government is willing to indemnify the international institution providing them.

However, IDA and ADF resources are limited. Possible approaches to be explored to address this could involve providing additional funds, potentially through the establishment of supplemental Trust Funds at the MDBs, or else potentially through the provision of first loss capital to "market-priced" PRGs, backed by the MDB's own capital.

PCGs

A PCG works by providing cover to a portion of the exposure faced by lenders providing credit. The cover can be for a percentage of principal or else it can be targeted on the later years of a loan so as to increase its maturity; all of which can assist credit provision and its pricing (back-ended guarantees can for instance address regulatory barriers arising from the need to provide more for longer term exposures).

There are three main types of PCG providers, all of whom can support the mobilisation of private capital: the MDBs, the DFIs and development agencies such as Sida and USAID. However, the nature of these products differ between the three groups, in large part reflecting their own financing and funding, return targets and fiduciary requirements, which dictate what they can and cannot do and the basis on which they do so.

MDBs

The main MDBs provide PCGs, but on a sovereign basis and are used to back support the capital-raising of publicly-owned entities.[70] Historically these have involved the use of the MDBs own capital, rather than concessional funds, as such they are more relevant products to non-IDA countries, or where there is a so-called enclave project.[71] Moreover, they are priced on a loan equivalent basis (that is, as if a full credit was being provided) which can make them relatively expensive. However, if these guarantees could be "blended" with grant money from, say, a development agency, this could reduce the pricing of the guarantee.[72]

DFIs

Most of the main DFIs, particularly FMO and IFC also provide PCGs to private providers of credit. There has, however, been relatively limited take-up of DFI PCGs in the infrastructure sector. Again pricing may be an issue in this due to the return on capital requirements of the DFIs. Moreover, whilst such guarantees can be potentially catalytic from the perspective of mobilising private capital, other than from a pure developmental perspective, it is not clear that there is a strong financial

[70] As such they can offer a similar form of support to MIGAs' non-honouring of a sovereign obligation.
[71] An enclave project is typically a project that is export focused, earning FX revenues, even though it is in an IDA country.
[72] For instance, in the case of Dar Es Salaam Port, DFID is currently looking at blending a US$136m grant with a US$400m IBRD loan; that is an enclave project in an IDA country. Whilst this is a funded rather than contingent arrangement, in most ways it is equivalent, although the precise mechanism would need to be tailored.

incentive from the perspective of the DFIs to offer PCGs rather than their own debt; in other words, they can deploy more of their own capital – thus generating a return - than they can through issuing PCGs.

In theory, greater use of PCGs by the DFIs should crowd in more private capital, leveraging their capital to a greater degree.[73] However, this needs to be balanced against the requirements of their own business economics as self-standing entities whose shareholders require them to make a return on their equity. Again it may be possible to soften pricing through the use of blending approaches, for instance, through the provision of first loss capital, either on a funded or (counter) guarantee basis.[74]

Sida and USAID

Sida and USAID have a different approach. Their guarantees are not priced at market rates, as there is no element of a return requirement, which reduces their pricing and makes them more attractive to commercial lenders.[75] USAID is looking to issue guarantees to individual power projects as part of the US government's Power Africa initiative (which is also being supported by Sweden).

In the case of Sida, guarantees are priced at a level calculated to enable Sida to break-even across its guarantee portfolio, once administration costs have been taken into account. In addition, Sida can provided additional subsidies to reduce the guarantee fee and hence the cost of all-in finance. Sida has also been able to provide a "first loss" guarantee.[76]

This allows Sida and USAID to be more concessional and therefore flexible than those of other providers. Indeed, the role of such instruments is not necessarily limited to addressing credit risks; they can also be used to address the type of liquidity issues, which face institutional investors, which is discussed in Section 4.1.3 below.

Policy implications

Although Sida and USAID guarantees are usually provided directly to lenders, it is possible that they could also be useful in enabling the DFIs to provide more PCGs, rather than providing their own loans. This would, in effect, be a form of blending that could help with pricing of guarantee products.

In the absence of being able to provide such guarantees, which requires greater financing competencies than exist within most donors, other development agencies could use donor subsidies to blend the guarantee products of MDBs and DFIs. This could help mobilise more private debt finance by assisting the MDBs and DFIs to increase the reach of their own products.

This is, however, part of a wider question of the optimal role of DFIs in the provision of long term debt and whether the emphasis should be on its direct provision, or the mobilisation of private capital, through a move towards provision of guarantees. In the case of the latter, any implications for the economics of the DFIs, including their potential exposures, will need to be considered

[73] One DFI mentioned that they were providing back-end guarantees to lenders which has this effect.
[74] In other words, risk is reduced to the provider of the PCG either through the provision of a grant, or guarantee, which observes the first loss.
[75] Their capital is provided out of development budgets, rather than being raised on a commercial basis in the markets.
[76] Although, at present to a health fund, rather than infrastructure.

carefully. However, appropriate blending of development agency subsidies, plus DFI risk capital has the potential to help mobilise private capital.

4.1.3. Addressing other constraints

There has been a degree of concern regarding Basel III, which has introduced more stringent capital requirements[77] for international banks, in addition to imposing capital buffers[78], a minimum leverage ratio[79] and stricter liquidity and funding requirements.[80] As discussed in Section 3.2.3, key issues around the impact of Basel III on long-term lending, including infrastructure financing in developing countries, centre on (i) increased cost of lending and/ or reduced supply and tenor by reinforcing risk-averse behaviour of banks; (ii) dis-incentivised allocation towards project bonds in developing countries, as highly rated government bonds and cash are favoured; and (iii) an over-reliance on global credit-ratings, as local borrowers cannot be given a higher rating than that of its sovereign under global ratings.

In the interviews conducted with South Africans based banks who are providing an increasing amount of debt to projects this did not, however, arise as a major constraint. It is possible that the need for donor provided credit enhancements, including through MIGA, which provides a degree of relief on capital provisioning may be helping to address this issue, at least for loan tenors of up to twelve years. It would also appear that DFIs are providing back-end support to lenders through PCGs and other instruments, which again may be reducing this potential impediment.

A bigger issue is that with the exception of banks with an African presence, SSA opportunities outside of traditional project finance sectors such as mining are just not on the radar screens of international banks, given the additional challenges of such business. Since the financial crisis and the deleveraging of the balance sheets of banks, this may also have driven a much more strategic focus on supporting key clients, rather than chasing business on a more opportunistic basis. However, the scale of South Africa's renewables programme has caught the attention of several international lenders.

Although not lenders, it should be noted that the international specialist institutional infrastructure investors approached for interview had no interest in such opportunities.

4.1.4. Hedging exchange rate risk

Currency mismatches can either make projects unbankable or at a minimum, lead to significant increases to project costs (and therefore to either customers and /or governments) in the event of

[77] Banks are required to hold 4.5% of common equity (up from 2% in Basel II) and 6% of Tier I capital (up from 4% in Basel II) of risk-weighted assets.

[78] These include a mandatory capital conservation buffer of 2.5%; and a discretionary counter-cyclical buffer, to allow national regulators to require up to another 2.5% of capital during periods of high credit growth

[79] Banks are expected to maintain a leverage ratio exceeding 3%, with this ratio calculated by dividing Tier 1 capital by the bank's average total consolidated assets. In the US, the Fed has announced a minimum Basel III leverage ratio of 6% for eight Systemically Important Financial Institutions (SIFIs), and 5% for their bank holding companies.

[80] Two liquidity ratios have been introduced: Liquidity Coverage Ratio (LCR), which requires banks to hold sufficient High-Quality Liquid Assets (HQLA) to cover total net cash outflows over 30 days; and a Net Stable Funding Ratio (NSFR), a longer-term structural ratio to address liquidity mismatches and provide incentives for banks to use stable sources to finance their activities. Under the NSFR requirement, the available amount of stable funding must exceed the required amount of stable funding, over a one-year period of extended stress.

significant exchange rate devaluations. Local financing addresses these risks, but it typically neither has the tenor nor the ability to be fixed for any meaningful term (outside of South Africa such terms being limited to seven years).

One way of assisting projects to access long term, fixed rate debt, is through the provision of exchange rate hedging products and in particular, exchange rate swaps. However, these are difficult to provide in the absence of deep and liquid markets; especially for long-term finance.

An innovative solution to this has been the creation of the Currency Exchange Fund (TCX) which has enabled the DFIs to provide long term debt in hard currencies, whilst allowing borrowing projects to hedge their exchange rate risk. To date, however, as set out in Box 4.1, whilst close to a third of TCX's exposure has been in SSA, the focus has been on shorter term SME finance, rather than the much longer tenors typically needed by infrastructure projects.

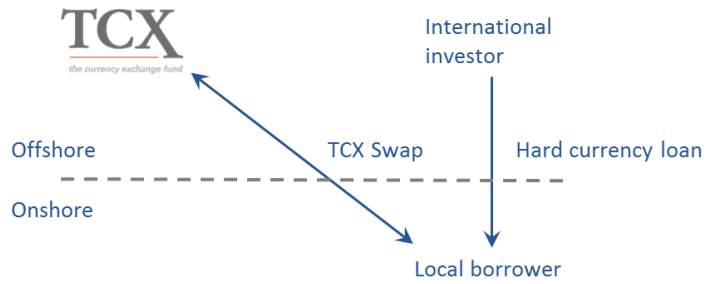
Box 4.1: Overview of TCX and its operations

Overview of the Currency Exchange Fund (TCX)

The financing of infrastructure projects in developing countries and DFID-focus countries in particular has typically been provided in international "hard" currencies. Financial markets in developing countries are often not deep enough for long-term financing to be available on reasonable terms in local currency, whilst long term hedging products not available. Consequently, long-term financing required for infrastructure projects often carries an element of currency mismatch between borrower's obligations to FX lenders and revenue streams which are largely denominated in local currency.

To overcome this constraint, TCX was established to provide unique financial products that ensure international investors' revenue from debt provided to borrowers is denominated in hard currency (matching their own funding sources) whilst keeping borrowers' liabilities in local currency. Such products reflect TCX's shareholders aim to facilitate the development of long-term local currency financing in emerging markets. These shareholders comprise mainly DFIs, donor government departments and regional development banks. An example of a TCX cross-currency swaps are outlined in the figure below.

TCX swaps to borrowers



Source: TCX

The structure in the figure shows how TCX products can also be provided to local borrowers. In such structures, the lender provides a hard currency loan to the borrower, who then hedges the obligation with TCX, transforming its hard currency obligation into a local currency liability. These currency swaps are separated from the loan and therefore allow for greater flexibility in applying the hedge, meaning that borrowers can specify the timing, size and tenor of the transaction to suit their needs..

However, TCX has rarely supported transactions of this nature. As outlined in the TCX Annual Report 2014, only 4% of its portfolio was supporting private infrastructure projects. Furthermore, only 3% of products have maturities longer than seven years. Most of TCX's support has been to microfinance and SME finance projects, which accounted for 84% of its portfolio collectively.

It is not clear whether the lack of exposure to infrastructure is due to a lack of demand or whether there are issues in supply. It should be noted, however, that TCX is only set up to take demand currency risk and not the counter-party risk from of the user of the swap, therefore this risk needs to

be taken by another party in a transaction, for instance through the provision of a credit guarantee. In any event, expanding the role of TCX to increase its penetration of infrastructure markets and in doing so, addressing the exchange rate risk issues is something that could potentially be built on.

4.1.5. Improving access to long term foreign exchange by local banks

Whilst many networked banks are able to access long term FX, it is more difficult for national banks. If they wish to borrow from banks with such access they need to post collateral. However, these banks ascribe little value to local currency denominated assets. A new initiative to address this hurdle is the Frontier Clearing Fund.[81] This Fund provides dollar guarantees on behalf of the borrowing banks so as to improve their access to liquidity. DFID is already a provider of first loss capital to this facility, which alongside TCX has the potential to increase fixed rate debt to projects, although it does not address FX risk in the same way.

4.2. International institutional finance

Whilst international institutional investors are concerned about credit risk, they also face additional hurdles in providing capital. These include:

- **Investment scale** – institutional investors look at investments of minimum US$50m due to the need to allocate large amounts of capital given the appraisal costs of each allocation.
- **Investment grade credit ratings** – as regards debt investments, international investors will look for a credit rating for in the instrument in which they are investing.
- **Liquidity** requirements –many institutional investors and particularly pension funds - need liquidity – to meet their prudential regulatory requirements.
- They also need a means of being able to **originate financing opportunities** (the search costs of which can be considerable for one off transactions).
- This means that in addition to mitigating credit risk, it is also important to address the above issues if international institutional investment is to be attracted to markets such as those in SSA.

From the perspective of considering how more international institutional finance could be attracted to infrastructure it is useful to look at the options on both a portfolio basis and also for stand-alone projects.

4.2.1. Portfolio basis capital raising

Investing on a portfolio basis through funds or else specialist securitisation vehicles is the most logical route for institutional investors, who do not have the expertise to appraise individual investments by themselves and rely on issues that in the case of debt, can be rated.

[81] Both TCX and the Frontier Clearing Fund are run by Cardano.

Equity funds

There are several international infrastructure funds which on a global basis are direct investors, acting on behalf of their institutional investors such as pension funds. However, they have limited exposure to assets in developing countries and tend to be reluctant to expose themselves to greenfield risk.[82]

Because of the nature of investment opportunities in SSA, including a lack of operational equity assets, private equity funds offer the most opportunity for equity risk exposure, particularly in terms of greenfield infrastructure. This will typically form part of the Alternative Asset Allocation of a pension fund.

There are several of such private equity funds active in SSA. Table 4.1 provides information on those which have been active in SSA's private infrastructure markets, many of which have been established in recent years. The analysis shows their scale, managers, investors as well as examples of their investments.

[82] There are direct specialist infrastructure investors who are used by pension funds to invest in the equity of infrastructure companies, such as Borealis who invest on behalf of Canadian pension funds. Whilst the infrastructure companies can be unlisted – they are often taken private at the time of acquisition – they are typically large and operational with existing cashflows.

Figure 4.1: Private equity funds active in SSA

Fund, scale and year of establishment	Manager	DFI Investors	Private investors	Focus countries and sectors	Examples of investments
Africa Infrastructure Investment Fund (AIIF)1 US$186m 2004	Africa Infrastructure Investment Managers (AIIM)	**DFIs (c. 35%):** • Norfund; • CDC	Life insurers (c.35.7%) , public pension funds (15.1%), corporate entities (8.4%) and others.[83]	Africa, with a bias towards South Africa (Energy and Transport)	• Trans African Concessions Pty Ltd (Toll road between RSA and Mozambique) • N3 Toll Concession (RSA) • Umoya Energy 67MW Wind Farm (RSA)
AIIF2 US$500m 2011	AIIM	**DFIs (c. 35%):** • IFC (US$100m); • Proparco (US$30m); • CDC (US$30m); • Norfund	Life insurers (c.35.7%) , public pension funds (15.1%),	SSA (Energy and Transport)	• Kpone (Cenpower) IPP (Ghana) • Kinangop Wind Park (Kenya) • Azura Edo IPP (Nigeria) *Pipeline* • Kipeto Wind Park (Kenya)
Africa Renewable Energy Fund US$200m 2014	Berkeley Energy	• AfDB (US$65m) • CDC (US$20m) • FMO (US$10m) • BOAD • EBID • EIB (US$20m) • African Biofuel and Renewable Energy Company (ABREC)	Potential investors include U.S.-based fund of funds, Stanlib, Ghanaian pension fund and the Public Investment Corporation (PIC) in South Africa	Various SSA countries excluding South Africa (Energy)	N/A

[83] AIIM do not disclose which individual institutions have invested in their funds, but details of investors in their entire portfolio can be found here: http://www.aiimafrica.com/our-investors/

Fund, scale and year of establishment	Manager	DFI Investors	Private investors	Focus countries and sectors	Examples of investments
Stanlib Infrastructure Private Equity Fund US$85m 2013	Stanlib Infrastructure GP1 (Pty) Ltd		• Liberty Life Insurance; STANLIB • Standard Bank	SSA, with a focus on South Africa (All infrastructure, with focus on renewables)	• 80MW Kouga Wind Farm (South Africa)
Pan-African Infrastructure Development Fund 1 US$625m 2007	Harith General Partners	• AfDB (US$50m) • DBSA (US$100m)	• PIC on behalf of Government Employees Pension Fund (US$250m) • Ghana's Social Security and National Insurance Fund (SSNIT) US$5m[84] • Liberty Life • Metropolitan Financial Services (US$10m) • ABSA Bank • Old Mutual • Standard Bank	SSA (All infrastructure)	• Investor in Aldywch International • Essar Telecom Kenya

[84] This figure is an approximation.

Debt

As regards debt, it is easiest for institutional investors to invest in operational assets, which are rated and ideally listed on international exchanges. However, few African companies access international debt markets on such a basis, certainly outside of banks and mining companies. Two recent sizeable issues in this respect were though for two Nigerian companies, Helios Towers and Seven Energy; however, in part the capital raised was for the refinancing of operational assets.[85] These issues were successful despite the fact that their credit ratings were sub-investment grade, but with yields that reflected this level of risk. IFC was an investor which also helped the acceptability of the issues.

The majority of debt in project financings in SSA is still provided by the DFIs who hold such debt from financial close to term. Pricing is the same over its life and there are refinancing penalties. However, these assets arguably represent potentially the most suitable target for institutional debt investment as they are operational. Institutional investors would only be able to access such projects if, however, there were to be a series of refinancings involving the securitisation of the existing debt into specialist vehicles which would raise finance from investors and then on-lend it to projects. As investors would be investing in the instruments provided by such securitisation vehicles new tradable instruments would be created providing more liquid investment opportunities. Moreover these instruments could be tiered in terms of their risk profiles, providing investors with a range of different opportunities.[86]

In pursuing such an approach, however, an initial question is the implications of off-loading performing assets for the DFIs themselves. Although selling off assets would recycle their capital it would also weaken their balance sheets as they would be reducing future "annuity" receipts. If their best assets were used to seed the securitisation vehicles, the weighted average risk of their portfolios would be poorer which may have implications for their own borrowing costs and at the extreme, their creditworthiness.

Even if the shareholders of the DFIs were willing to allow them to do so, it is not clear that several other problems could be addressed, including the level of pricing, the ability to build portfolios of sufficient scale and diversification and whose resulting instruments fitted with the requirements of the different investment "buckets" of different types of institutional investor.

As regards pricing, the all in cost (Libor plus spread) on DFI senior loans in SSA is likely to be in the range of approximately 4% - to 5.5%, compared to much higher coupons on the bonds identified (8%-10.5%). As such, this would tend to undermine the rationale for refinancing as the cost of debt would go up, not down. To work, the cost of institutional debt would need to be brought down by portfolio benefits, tiering in structures[87] and credit enhancements such as guarantees by highly rated entities.

[85] Exceptions this in infrastructure include Helios Towers (telecoms) and Seven Energy in Nigeria; the former successfully achieved a US$250m B rated, 8.375% issue and the latter a US$300m B- rated 10.25% issue. The IFC was an anchor investor in both of these issues. The Seven Energy bond was a partial refinancing.

[86] Collateralised debt obligations (CDOs) are examples of such vehicles. Whilst these structures came into question during the global financial crisis, it was arguably how they were used, rather than the concept per se, that was the issue.

[87] In which the most senior tranches in the securitisation vehicle had a much lower risk profile than that for the bonds in question.

As regards scale and ability to diversify risk, the available existing potential supply of recent DFI SSA assets of several billion dollars as identified in the research is not large in institutional investment terms. This raises the question of whether there would be an SSA specific vehicle(s), or whether such assets would be mixed with other global assets (which would include a broad range of infrastructure assets and not just the largely generation assets that could be acquired from the DFIs' existing portfolios). Moreover, providing guarantees or other forms of credit enhancement to a more mixed portfolio rather than an SSA specific one, is likely to be problematic to development agencies who typically focus on poorer developing countries and who might be most able to provide such support on a low cost basis.[88]

Finally, there is the question of whether the investment opportunities offered by these portfolios would match investor requirements. Although there is a range of types of institutional investors, all of which are regulated differently. As shown by the Helios Towers and Seven Energy examples, some investors will invest in sub-investment grade assets, if the returns are sufficient. However, most pension funds are reported to only be able to invest in investment grade rated assets, other than through their Alternative Investment Allocations.

The case for this would be easier if it allowed a needed recycling of DFI balance sheets, which amongst other things would help push up their own pricing. At the moment it is not clear that there is as much potential in securitising existing DFI portfolios as would first appear, given the range of challenges, some of which relate to the DFIs, whereas others are more linked to the general challenges of marrying the needs of infrastructure and institutional debt providers. That is not, to say, however, that it is not worth at least trying to pilot an approach, in a manner that is workable, if nothing else to test the potential market interest in such assets. However, this is not straightforward and would require quite a concerted effort on behalf of stakeholders.

IFC

An alternative approach being pursued by the IFC is to attract institutional investors to invest in new projects on a pari-passu basis alongside the IFC. The idea is to leverage IFC's considerable global origination capability as well as its membership in the World Bank Group from a risk mitigation perspective.

This is, however, based on the creation of new assets and therefore greenfield risk, to which most investors are risk averse. It remains to be seen whether IFC, either alone, or with the support of others can address the needs of institutional investors.

Swedish model

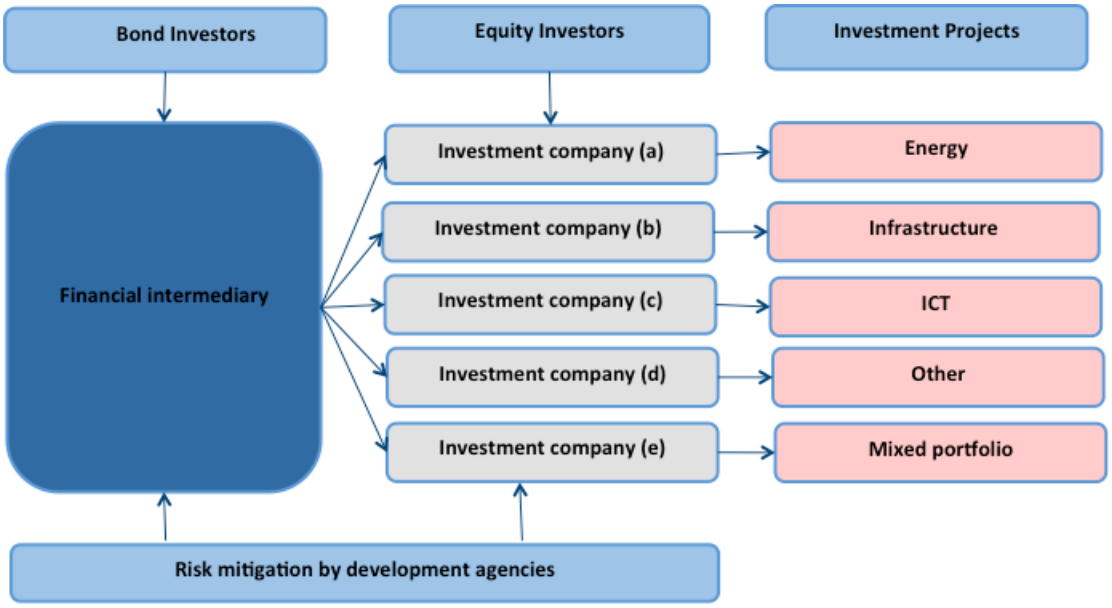
Sida and Swedish institutional investors (Third AP fund, SPP/Storebrand and Folksam) have proposed a model aimed at mobilising Nordic institutional capital for sustainable infrastructure investments. The model centres on a dual approach, allowing for both fixed-income and equity investments, and also involves a role for donors to mitigate financial, political, and sustainability risks. Further details are provided in Box 4.2 below.

[88] In addition, support from such donors is easier to provide to new greenfield assets and not existing ones.

Box 4.2: Mobilising Nordic institutional capital for sustainable infrastructure investments.

Mobilising Nordic institutional capital for sustainable infrastructure investments

Pre-requisites. The starting point of the investment model is an understanding of the key aspects required to attract institutional investors; in particular, the need for the model to be safe, simple and standardised but sustainable and sufficiently flexible to address different requirements and risk/ return profiles of different investors.



One part of the model offers standardised investment grade bonds issued by a financial intermediary; the other facilitates equity investments through investment companies, adapted to specific needs and regulatory requirements of each investor. These investment companies also receive financing from the financial intermediary.

Development agencies or DFIs have a role in mitigating financial, political and sustainability risks for both the financial intermediary and investment companies. For instance, guarantees or warranties would raise the bonds to investment grade, thus ensuring tradability and liquidity. While, liquidity is less of an issue for equity investors seeking higher returns, and thus willing to accept higher risks, there is still scope for public organisations such as Sida to reduce sustainability and political risks in order to catalyse investments.

Alignment with investors' needs

A study commissioned by SIDA indicates that model satisfies most needs of Swedish investors, including: (i) sufficient investment size; (ii) compliance with different regulatory environments; (iii) compliance with standard investment policies and process; (iv) bond investments on the risk/ return curve; (iv) bond investments that are rated and of investment grade; (iv) opportunities for equity investments; and (v) liquidity of assets. Criteria in terms of tax efficiency and secure investment policies and process (including sustainability) can be met, depending on the set-up.

Source: USAID (2014). Report from the meeting: Mobilising Institutional Investment in Africa; KPMG (2014)

The Swedish model remains a work-in-progress and is still subject to detailed design. It is clear, however, that this represents a high level of ambition, not least in being able to build up a portfolio of investment opportunities and would most likely need to operate on a global basis. As such, origination of opportunities remains a major challenge.

4.2.2. Capital raising for stand-alone projects

The alternative to raising international institutional finance on a portfolio basis is to seek to do so on an individual project one. As with portfolio investments, in theory this can be done on either a greenfield or else refinancing basis. In both instances, however, transaction costs will be greater than for credit market based financing, meaning that it is only suitable for larger transactions.

An immediate challenge of the refinancing approach is therefore to identify an existing project of sufficient scale to justify this. Possible candidates might be large IPPs where there is a very creditworthy anchor customer such as a mine, which have been operational for several years with a robust payments history. These are, however, few and far between at the moment, large hydropower enclave projects selling power to South Africa, coming on stream over the next decade may provide most potential. Again, the issue of incentives for existing lenders to exit performing assets may need to be considered.

Large greenfield capital raisings are even more challenging to finance institutionally, given investor aversion to greenfield risk.[89] Even in developed markets these have been difficult to execute without on-demand credit guarantees from monoline insurers, who were looked to by institutional investors to evaluate the credit risk of projects[90]. Since the global financial crisis many of these have left the market. Where bond issues have been used to finance greenfield infrastructure such as in Chile, they have strong government guarantees.[91]

It is possible that guarantee providers such as USAID may be able to support the bond issues of greenfield projects. It is not clear, however, that any donor product is currently capable of providing the type of on-demand protection that investors have historically sought.[92]

As such the challenge of raising international institutional finance in the SSA context is challenging other than in relatively narrow instances. As a result credit markets remain the most obvious immediate source of long term FX finance. If institutional finance is to be brought to bear it needs to be for large scale financing, involving liquid instruments and ideally of operational assets with a proven track record of performance. Greenfield assets will require very high levels of credit enhancement, most likely by on demand credit guarantees. Even in more developed countries it is only highly specialised investors that are interested in greenfield risks. It is more usual for institutional capital to be introduced through refinancings in which the project finance banks that have financed construction and early operations exit the project to focus on new transactions where they can deploy their specialist skills, their participations being taken up by cheaper institutional capital.

[89] Credit market financing is much more flexible for greenfield infrastructure than bond issues. The latter are lumpy, with capital being raised ahead of need on which interest has to be paid. In comparison, credit facilities can be drawn down on as needed, with only a commitment fee payable on the undrawn amounts.

[90] Only Assured Guarantee and MBIA survived the global financial crisis. Historically, these institutions supported the debt issuance of PFI projects and were an important component of it. See: http://www.ft.com/cms/s/0/9790c5c2-d27b-11e1-8700-00144feabdc0.html#axzz3cfFtUOQY

[91] Mbeng Mezui, Cedric Achille; Hundal, Bim (2013), Structured Finance. Conditions for Infrastructure Project Bonds in African Markets. NEPAD.

[92] On demand credit guarantees are callable immediately in the event of default offering a high level of protection. In comparison the PCGs of most donors only guarantee a proportion of the realised loss.

The creation of new operational assets in which institutional investors can invest, could be enhanced if the DFIs, who are still major financiers of projects, potentially with some support from development agencies to mitigate the incremental risks involved, revised their financing approach to better accommodate the requirements of institutional investors.

4.2.3. Different DFI operational models

This implies a different operational model. For purposes of illustration discussion, this sub-section provides that outline of a model that might be investigated and developed further.

Given that operational assets are likely to be more attractive to institutional investors, together with the fact that there may be an unwillingness on the part of DFIs to liquidate their existing portfolios to any major degree, there is a question of whether a new operational model is required to open up opportunities for institutional investors. It could help address the origination problem and could also be more targeted geographically which might make additional softer support from development agencies more accessible.

This would involve DFIs concentrating their activities in the construction and possibly late stage development phases of the project life cycle, in which they would look to reduce their exposure post operations and in doing so, opening up opportunities for institutional debt investment. In such an approach, DFIs would come into a transaction pre-financial close, contributing to the later stages of the project development cycle; finance a significant share of the construction phase of the project and then seek to exit through a refinancing once the asset is operational.

Pricing would need to be risk reflective during these phases helping to create an incentive for refinancing. This would be much more of a recycling of capital model than a hold to term one and arguably one that is more catalytic, especially if there was more late stage development support.

This approach would involve much more risk for the DFIs, but could help accelerate project development by leveraging their influence to make things happen (as well as opening up opportunities for institutional investment). Rather than annuitizing their returns over the life of the project, the return would be front end-loaded, in part compensating for the additional risk. There could be a role for development agency first loss capital to help mitigate the additional risks that DFIs may face, for instance, to help mitigate late stage development risk. To work operationally, DFIs may also need to have their single project exposure limits increased, although project sponsors would also need to be at risk, most likely through a joint development agreement.[93]

Depending upon the scale of the opportunity investors could invest either directly or potentially through one or more specially established vehicles, whose scale could be built up over time. However, these could potentially be kick started if they were indeed partially seeded with existing DFI assets, which would also help diversify portfolios and help to mitigate risk (such an approach may also provide a greater incentive for the DFIs to divest some existing assets). Institutional investors will also be likely to require credit enhancement to reduce risk. Again, first loss capital could be used to reduce risk and / or reduce pricing.

[93] Joint Development Agreement partners could also include commercially orientated state utilities.

Establishing what would be required for the DFIs to play a more catalytic role, including the precise institutional and operational barriers, is a key area for further research / investigation, but one which arguably goes to the heart of the role of DFIs and the scope of their activities.

4.3. Conclusions

A starting point for all debt investments is the mitigation of credit or default risk, arising from failures of project revenues to repay lenders. If this addressed, it opens up opportunities for the provision of fixed rate, long term FX debt. However, at present this can only work if exchange rate risks are borne by consumers and / or governments. This risk could, however, be mitigated through the availability of long term currency swaps. TCX is a foundation that can potentially be built on to reduce this risk.

Tapping into international institutional markets sounds attractive. It is, however, much more challenging than providing long term FX debt from banks and DFIs. It is possible, however, but not in the absence of significant credit enhancement for greenfield assets. The least challenging route of attracting investors into a project is through a rated portfolio of operational assets. However, such an approach could be considered if DFI balance sheets were to be recycled.

Going forwards, if institutional investment is to be sought for particularly larger projects, its requirements need to be built into financing approaches, which ideally will provide for a a partial or full refinancing by institutional investors, once the project is operational. The potential for this could be enhanced if DFIs were able to adapt more of a recycling of capital approach rather than one of coming in at financial close and holding to term. This would be a more similar approach to project finance banks internationally, who routinely recycle their capital through refinancing to institutional investors. This could, however, represent a significant change to their current operational approach, the consequences of which would need to be explored fully.

5. MOBILISING LOCAL CURRENCY FINANCING

5.1. Introduction

From a supply side perspective, local currency financing faces many more challenges than FX-based financing. It is difficult to provide the required tenors and it is much more difficult to hedge interest rate risks for any period of time, as such, finance is provided on a variable rather than fixed rate basis. As a result, local currency financing is much less competitive than FX financing as a source of long-term financing for infrastructure. In DFID focus countries - outside of India and South Africa - all substantive infrastructure project financing is FX-based.

So why is local currency financing so important? Although FX financing is currently much cheaper, projects financed in such a way face significant currency mismatch risks, which would be crystallised in the event of a significant devaluation of the local currency. This was a major, if not the major contributor to the Asian crisis in the late 1990s when South East Asian currencies collapsed against the US dollar, with governments who had guaranteed financing facing large deficits. As then, such risks either have to be borne by customers or else host governments. It is therefore desirable that, in the absence of being able to hedge such risks, local currency financing plays a more significant role as a source of financing. In time, this would also create another 'asset class' for local institutional investors.

As with international institutional finance, there is a mismatch between how infrastructure is looking to finance itself and what different forms of finance are looking for, over and above the need for infrastructure to be bankable from a credit perspective. On the positive side, there is not so much of a need for scale as local funds are much smaller than international ones; neither would it seem that formal ratings are such a requirement. However, liquidity requirements are potentially greater. This may, in part, reflect the desire of fund managers to switch their funds more frequently between asset classes to maximise returns as much as being liability driven.

In this section, equity and debt are considered separately as they face different constraints, although the latter faces much greater issues because of being both more expensive as well as being very difficult to fix.

5.2. Equity

As discussed, a main challenge for local equity is finding opportunities to invest, given the typical project financing approach adopted by sponsors. Institutional equity can take risk – in the right circumstances – but it is typically "uninformed" – apart from where managed by managers who understand infrastructure investments and it prefers liquidity.

On the whole, local institutional equity, most of which comes from pension funds, is looking for listed operational assets. As with international institutional investors the most obvious entry points are through investments in the stock of infrastructure / utility companies (with a trading history). Exposure to greenfield risk is best through specialist intermediary private equity funds.

The attractions of financing with local equity for investees is that it is likely to be cheaper than international equity finance; for instance, there should not be the same country risk premium attached to it. Liquid listed equity also seeks a lower return than illiquid unlisted equity.

In looking at opportunities for local institutional equity participation it is useful to consider opportunities for expanding both routes. The main policy implication for governments and donors is to ensure that opportunities exist for local equity investment to access project opportunities.

5.2.1. Listed companies

There are two main types of companies who could benefit from more institutional equity investment, these are state-owned companies that in the right circumstances can issue equity in local markets and privately listed infrastructure companies.

State-owned companies

Whilst full divestiture of state assets may be politically unacceptable in many instances, this may not be necessary to attract equity financing. Kenya provides a good example of where the equity of state owned utilities has been partially divested through a listing on the Kenyan Stock Exchange, as discussed in Box 5.1.

Box 5.1: 30% divestiture of KenGen

Partial divestiture of Kenya Electricity Generating Company (KenGen)
During the early 2000s the energy sector in Kenya faced several problems in the widespread supply of reliable power, which was harming both households and businesses which in turn was reducing annual GDP growth by 1.5%.[94] In response to this, Government introduced widespread reforms to improve the delivery of services in the sector through increased private sector participation. This included the restructuring of Kenya's state-owned utility companies KenGen and Kenya Power and Lighting Company (KPLC). To support these reforms, the government obtained support from PPIAF that funded a study analysing potential structures for the utilities going forward. Following this study, Kenya's energy sector stakeholders agreed on how KenGen would be restructured. Following PPIAF's support, an initial public offering (IPO) of a 30% equity stake in KenGen took place, during which 659.51m shares were issued to 245,000 shareholders. The IPO raised US$109m in total and was heavily oversubscribed, and was the largest in Kenya's history.

Another potential option, yet to be tested in SSA, would be for state-owned entities to set-up specialist ring-fenced vehicles that could potentially be floated. These could more easily operate on a full commercial basis than their parent utilities. Such ventures might be based around single large projects or else a series of projects. These could be opened up to private investment once a track record was established with the proceeds of the float being either reimbursed to owners or else used to finance new investment.

There are examples of such ventures that exist but which are still publicly owned. For instance, Motraco is a special purpose company, which owns the high voltage transmission link between South Africa, Swaziland and Mozambique and which is owned by their state-owned utilities. Arguably if say, capacity on the line ever needed to be increased, an option to float could be considered as a way of increasing it capital resources.[95]

[94] PPIAF (2013).

[95] To a degree, Eskom Enterprises, a subsidiary of Eskom in South Africa is an example of a separate more commercial venture set up to hold Eskom's unregulated activities, which could potentially be listed separately to the publicly-owned Eskom. Many years ago, the potential for it to be listed was considered although it never came to anything: http://www.petroleum-economist.com/Article/2826221/ESKOM-Enterprises-may-seek-listing.html. Eskom itself issues bonds in both South African and international markets, although these are guaranteed by the South African government.

Local infrastructure companies

In several countries in SSA there are now local companies that are developing much greater operating and financing capacity.[96] These companies are listed and therefore in a position to increase their equity base through investment by local institutional investors.

Such companies are therefore potentially able to join consortia bidding for projects financed on a project financing basis. In these contexts, they are more likely to be a junior partner in a consortium. As competencies increase, there will be an increasing range of opportunities where there is not such a need for international involvement, increasing the opportunities for such companies and indirectly, for local institutional investors who can provide the expansion capital for such companies.

5.2.2. Unlisted investments

The analysis in Section 4 showed the types of private equity funds that have raised capital from both international and local sources. As for most international institutional investment, specialist private equity funds remain the main way for local institutional investors to gain exposure to greenfield investments.

5.2.3. Donor interventions

The donor interventions to create more opportunity for local equity investment do not necessarily involve subsidy. However, they do involve donor financial institutions operating in a manner that recognises the needs of local investors and seeks to crowd them in more. To date a significant DFI focus has been on co-investment in private equity funds to attract local as well as international investors. As local capacities increase, there are likely to be increasing opportunities for local participation, especially from local companies. To facilitate this, donors can structure projects or operate funds in such a way that it facilitates local investment.

Projects

In the case of projects, options could be explored in which local institutional equity was brought into the project alongside sponsor and DFI capital. This could happen at either financial close or else once the project was operational, for reasons discussed already, the latter would be a more natural entry point. Although DFIs do not necessarily have large equity positions, these could be sold to local investors either through private placements, or potentially public offers once the project was operational.

Funds

It is usual for private equity funds to have an investment period in which funds are committed, followed by an exit period in which the investments made are sold on – or exited. The returns of the fund, net of any losses are then returned to the investors (with the manager taking a proportion of any net profits made). However, there is no reason why funds investors cannot exit – and therefore realise a profit – through a listing of the fund, which may have only partially exited the underlying

[96] Examples in Kenya include Transcentury and Centum Investment, both of which are listed on the Nairobi Stock Exchange.

investments. As such, DFI finance would be replaced by local institutional finance (assuming a listing in, say, Johannesburg or Nairobi). As more open-ended entities, these could operate as specialist infrastructure funds, providing a tradable asset class for local investors.[97]

5.3. Debt

As set out, the mismatch between the debt financing requirements of projects and what local credit and capital markets can provide is much more challenging than for equity. The costs of local currency debt are higher than for FX both in nominal and real terms (the latter reflecting the relative risk of holding developing country assets); even if the other challenges of tenor and fixing of rates are addressed, this will still be a challenge. Therefore, opportunities need to be created in which at least a portion of local currency financing is provided for. For instance, projects need to be able to pass through this real premium to customers if the playing field is to be levelled: in turn, this can be seen as an insurance premium against real exchange rate depreciation. If allowance is not made for these additional costs, it is difficult to see how the different financial interventions outlined below will have any meaningful uptake.

As with mobilising FX-debt, the first challenge in raising local currency debt is to address credit risk, thereafter there are other challenges that need to be addressed, depending upon which type of institution is providing the debt.

There are several existing donor interventions that seek to address the credit risk faced by local debt providers through the provision of PCGs on local currency debt. The most significant providers are USAID and Sida – as bilateral agencies, although without a specific infrastructure focus, as well as GuarantCo, vehicle of PIDG. DFIs such as the IFC and FMO have also sought to provide PCGs. [98]

All of these tend to focus on bringing in capital at financial close, with products that are focused most on credit risk which is not the only issue; liquidity can also be a challenge, especially for institutional investors. In part this can reflect their liabilities, but they also want to have the ability to optimise their portfolios through trading of assets, whether the debt instruments are project specific or participations in a fund. The easiest way to create liquidity is for debt instruments to be traded in public markets. Where this is not possible liquidity options such as put options can fill the gap.[99] In theory, those institutions that provide PCGs should also be able to provide these, although there is not much evidence of this happening. This may, however, be more the result of a lack of debt instruments in the first place.

A particular role for such instruments could be in helping local debt providers participate in longer term financing through addressing refinancing risks that projects would face if they were to rely on shorter tenor financings.

Whilst this discussion has focused on general approaches there are also specific credit and capital market interventions that are required to address specific challenges.

[97] At least one private equity fund is considering this as a means of eventual exit.
[98] For instance, the IFC provided a PCG to a cellular telephony project in Cameroon in the early 2000s. See ifcext.ifc.org
[99] A put option is financial option that allows an investor to offload a performing asset to the provider of the option in return for a fee.

5.3.1. Local credit markets

The main structural supply-side constraints facing lenders seeking to provide long term fixed rate local currency debt is their limited access to their own longer term financing which plays a significant role in determining the length of tenor that they are able to provide. In other words, if they were able to access long term, fixed rate, local currency financing, this would enhance their own abilities to provide longer tenor fixed rate financing for infrastructure projects (assuming other lending criteria are met).

In addition, local lenders need to develop greater experience in evaluating infrastructure project credit risks. It is, however, unlikely that they will invest time and money in doing so, unless they are in a position to participate in such markets. The immediate supply-side priority is therefore to enhance the capacity of local banks to provide long term finance.

Supporting bank bond issuance

Banks are already beginning to address this problem to a degree by issuing their own longer term bonds. Although these are already relatively liquid, there are questions as to whether the risk profile and therefore pricing of these instruments could be improved by additional credit enhancement in the form of different types of PCGs. Lower pricing would feed through into lower lending costs by banks. However, it is possible that institutional investors would not be interested in lower yielding assets, despite the reduced risk (see below).

Wholesale rather than project level finance

A potential alternative is for the DFIs to provide wholesale finance to banks. DFIs have the ability to raise finance at lower cost than most host country financial institutions. They also have much higher credit ratings than local governments, so in theory should be able to borrow much more cheaply. Well capitalised local banks, with a portfolio of assets, should be a lower credit risk than an individual project. If the margins are sufficient, a DFI should be able to issue paper in a local market, on lend it wholesale to local banks, who can then on lend at a higher margin to projects. This would also require a degree of project financing capability on the part of local financing institutions to assess project risks, but such a model would address the challenges faced by local banks raising tenor finance at fixed rates.

As discussed in Box 5.2, the IFC has already used its AAA credit rating to raise rupee financing which has either been on-lent directly to projects or else used to invest in infrastructure bonds issued by a bank. A question is whether this approach and under what conditions can be extended elsewhere.

Box 5.2: The IFC's rupee capital raising

The IFC's rupee capital raising

The IFC has played a catalytic role in supporting the infrastructure sector in India by using the strength of its balance sheet to raise local currency financing to on-lend to the private sector for the financing of infrastructure projects.

Recent initiatives include a US$2.5bn on-shore "Maharaja" rupee bond programme aimed at deepening the country's US$880bn domestic debt market, which has traditionally been dominated by government-issued bonds, in addition to a US$2bn offshore rupee programme, based on a combination of rupee-denominated bonds and swaps to raise local currency financing over the next five years.

On-shore rupee bond programme

The Maharaja bond issuances aim to attract investments from global funds in rupee-denominated assets utilising the IFC's investment grade credit rating. The debut tranche involved four separate bonds worth ~US$100m, with the proceeds directed at financing a number of renewable energy projects.

In particular, the issuance comprised a five-year bullet bond of US$25m with a fixed rate coupon of 8%; and a 10-year bullet bond of US$25m with coupon of 7.97%. Both were subscribed by foreign institutional investors at yields approximately 50 basis points lower than the Indian Government Bond (IGB) benchmarks. In addition, the issuance extended the AAA yield curve by including two separately tradable redeemable principal parts (STRPPs) with maturities ranging from 13 to 20 years, thus helping to align financing with long-term horizon of infrastructure projects. The STRPPs were priced 20-30 basis points above the relevant maturity IGB benchmark yields, with coupons of 8.88% (for maturities of 13 to 18 years) and 9% (for maturities of 19 to 20 years).

Offshore rupee bond programme

The IFC's AAA rating has also supported issuance of offshore "Masala" bonds. The US$163m rupee bond issuance in November 2014 offered a yield of 6.3%, almost two percentage points lower than the rate at which the Government of India can raise financing, and attracted investments from European insurance companies. Part of the proceeds were invested in infrastructure bonds issued by Axis Bank, one of India's largest private sector lenders.

In addition, the IFC indicated commitment to support first-time Masala bond issuers following the Reserve Bank of India's approval for Indian corporates to issue Masala Debt. For instance, the Indian Railways Finance Corporation has reportedly planned to raise US$1bn in the offshore rupee markets.

Source: IFC (2015); Financial Times (2014) IFC (2014)[100]

One of the key challenges in acting as a wholesale capital provider is whether the margins to all the participants are sufficient to make it workable; in other words, can the DFIs raise capital cheaply enough such that it provides for a sufficient margin for them and the on-lending institution. A potential problem identified in Kenya is that institutional investors are not interested in assets with a lower risk than government debt if this means a commensurate reduction in the yields achieved.

5.3.2. Local institutional finance

There are three main ways in which local institutional finance can access infrastructure investment opportunities. The first involves increasing the role for local companies to participate in infrastructure financing opportunities, including a greater role for corporate rather than project financing. The second involves undertaking project financings in a way that makes it easier for local currency institutional debt finance to participate. Finally, there may be different debt-based mutual fund models that could be adopted, following approaches employed elsewhere.

Greater local company participation

As with equity, the commercial paper of listed local infrastructure companies is an obvious way for local institutional investors to gain exposure to infrastructure investments. The listing provides liquidity and the underlying portfolio of investments risk diversification. The challenge is finding ways through which local companies can gain more participation in projects.

This approach, of course, requires that local companies are in positions to have meaningful participations in projects which, as discussed, can be challenging. To some degree there is evidence

[100] http://www.ft.com/cms/s/0/c19ba334-42cf-11e4-847d-00144feabdc0.html#axzz3bzhSbMvP
http://www.ft.com/cms/s/0/cf99c52c-68ec-11e4-9eeb-00144feabdc0.html#axzz3bzhSbMvP

of this happening where DFIs are currently not involved; for instance, where DFIs are prohibited from, or disinclined to invest, for instance in the case of coal generation projects, there has been greater participation by local companies.[101]

A move towards greater corporate, rather than project financing approaches, could also improve opportunities for local companies. This would involve lower debt leverage, which would tend to increase cost of capital; however, transaction costs would be much lower as a result of less need for extensive legal documentation.

This can be seen as a localisation of infrastructure financing, potentially beginning with smaller projects where project financing is less appropriate.

A further area for research is on the practical steps that can be taken to improve localisation of projects, including how the need for project financing approaches might be reduced.

Pre-allocations of local currency debt

As for FX-based institutional finance, there needs to be a better match to what local institutional debt investors are looking for. Whereas formal credit ratings are less of an issue, credit risk needs to be addressed as well as liquidity requirements. Again, as with FX-based financing, there is a need for the financing approaches to build in the requirements of local institutional investors. DFIs could play a role in terms of selling down their participation, once projects have become operational to local institutions seeking to invest in local currency debt instruments.

For the economics to be workable, it is likely that a part of the initial financing of the project would be in some form of local currency denominated paper. This could be offered to local debt investors at financial close or could be 'warehoused' by a DFI. This would then be sold to institutional investors once the project was operational – the warehousing DFI could be able to sell the debt for a premium for which it was acquired, given the reduced risk profile of the project once operational. It may be, however, that there would need to be a PCG on the debt sold to institutional investors.

As the costs of this would likely be greater than for straight FX financing, the context in which the project operates would need to be conducive to these higher costs with, for instance, a pass through of the costs into tariffs. Of course, in the event of an exchange rate devaluation, the local currency tranche of financing would form a hedge against these costs. This emphasises the need for regulatory regimes to provide for any additional costs associated with local currency financing.

Not for profit distribution companies

One of the problems facing typical project financing is that the equity is expensive, even where this is listed and domestically sourced, as opposed to being provided from international investors. A possible way to reduce this cost, is to look for financing models in which the amount of equity is reduced: these can be seen as being more like "mutual" rather than typical "for profit" distribution

[101] An example of this is the 1050MW Lamu coal plant project in Kenya, which is currently being developed by locally listed companies in a consortium with Chinese partners. The financing for this project is likely to come from commercial and Chinese sources as opposed to DFIs. This is partly a result of commercial and Chinese institutions' investment policies giving more freedom to participate in non-renewable generation transactions, whereas several DFIs are required to focus more on renewable projects.

companies. Such not-for-profit-distribution companies would operate on a commercial basis, but in which earnings are retained for future investment, rather than distributed to shareholders. Their financing is all debt; however, retained earnings are built up over time to provide a buffer against any unforeseen shocks (which in any event are passed through to customers). Welsh Water, the water utility serving Wales is an example of this debt-based, mutualised model.[102] Such mutualised structures are also currently being considered in the Republic of Ireland for electricity transmission.

Some form of first loss capital or guarantee could help such companies raise debt, at least in the short term, whilst retained earnings accumulate. Advantages include lower pricing because of the need for a full equity return is diminished. However, this approach is predicated on full cost reflective pricing. Such models could also help with network rollout, although they may require additional capital subsidies.

This would be a radically different approach, but could also form a politically acceptable model for network infrastructure in SSA, which does not involve divestiture to full private sector parties, but in which existing assets were mutualised, competent private sector management introduced to address performance risk issues, and capital raised in local debt markets.

5.4. Conclusions

The most obvious ways for participation of institutional investment in equity is through the traded equity of private sector and state-owned companies (as illustrated by KenGen). As for international institutional investors the main route for greenfield investment is through specialist private equity funds.

Raising local currency debt financing is particularly challenging because of the greater supply side constraints that it faces, relative to FX financing. However, it can form a natural hedge against exchange rate depreciations; therefore the objectives of interventions are two-fold: first, to increase the range of opportunities open to local lenders and investors and second, to improve the ability of projects to manager exchange rate risks.

Local currency institutional debt investment relative to international does not require the same scale nor does it typically require credit ratings[103]. However, as with creating greater opportunities for international institutional debt investors, approaches need to be developed that meet their specific additional non-credit requirements. In the case of local institutional debt investors, this is likely to involve both providing the types of instrument that support local debt issues, including from a liquidity perspective, but also which incorporate an element of local currency financing within financial structures, which may have cost implications.

[102] http://www.dwrcymru.com/en/Company-Information.aspx

[103] Interviews in Kenya suggested that local managers preferred to undertake their own analysis. Even if it were to these would be local ratings which are not as exacting as international ones, where the problem of piercing the sovereign ceiling is an issue.