MOBILISING FINANCE FOR INFRASTRUCTURE
A STUDY FOR THE DEPARTMENT FOR INTERNATIONAL DEVELOPMENT (DFID)

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FINAL REPORT

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The views expressed within it are those of CEPA and do not represent DFID's own policies or views. Any discussion of the content should therefore be addressed to the authors and not to DFID.

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Contents

ACRONYMS

ADF	African Development Fund
AfDB	African Development Bank
AIIF	Africa Infrastructure Investment Fund
AIIM	Africa Infrastructure Investment Managers
BOAD	The West African Development Bank
BOO	Build-Own-Operate
BOT	Build-Operate-Transfer
CDC	The UK's Development Finance Institution
CDO	Collateralised Debt Obligations
CEPA	Cambridge Economic Policy Associates
DAC	Development Assistance Committee of the OECD
DBSA	Development Bank of Southern Africa
DEG	The German Development Finance Institution
DevCo	The Infrastructure Development Collaboration Partnership Fund, a PIDG vehicle hosted by the IFC
DFI	Development Finance Institution
DFID	Department for International Development
DISCO	Distribution Company
DRC	Democratic Republic of Congo
EAC	East African Community
EAIF	Emerging Africa Infrastructure Fund
EBA	European Banking Authority
EBID	ECOWAS Bank for Investment and Development
EC	European Commission
ECA	Export Credit Agencies
ECB	External Commercial Borrowing
ECIC	Export Credit Insurance Corporation of South Africa
EDF	European Development Fund
EIB	European Investment Bank
EU-AITF	European Union - Africa Infrastructure Trust Fund
EXIM Bank	Export-Import Bank of China
FEC	Federal Executive Council of Nigeria
FMO	The Dutch Development Finance Institution
FSB	Financial Stability Board
FSD	Financial Sector Deepening
FX	Foreign Exchange
G-SIFIs	Globally Systemically Important Financial Institutions
G20	The Group of twenty
GDP	Gross Domestic Product
GENCO	Generation Company

GIF	Global Infrastructure Fund
GIIF	Ghana Infrastructure Investment Fund
GIZ	German Technical Assistance Agency
HFO	Heavy Fuel Oil
HIPC	Highly-indebted Poor Country
IBRD	International Bank for Reconstruction and Development
ICA	Infrastructure Consortium for Africa
ICRC	Infrastructure Concession Regulatory Commission
IDA	International Development Association
IFC	International Finance Corporation
IFPPP	Kenyan Infrastructure Finance/Public-Private Partnerships
IGB	Indian Government Bond
IIPDF	India Infrastructure Project Development Fund
IMF	International Monetary Fund
IPO	Initial Public Offering
IPP	Independent Power Producer
IPSD	Ugandan Investment and Private Sector Department
JKIA	Jomo Kenyatta International Airport
KenGen	Kenya Electricity Generating Company
KfW	The German Development Bank
KPLC	Kenya Power and Lighting Company
LIBOR	London Interbank Offered Rate
MDA	Municipal and District Assemblies
MDB	Multi-lateral Development Bank
MFPED	Ugandan Ministry of Finance, Planning and Economic Development
MIGA	Multilateral Investment Guarantee Agency
MoU	Memorandum of Understanding
MW	Megawatts
MYTO	Multi-Year Tariff Order
NBET	Nigerian Bulk Electricity Trading
NEPAD	New Partnership for Africa's Development
NERC	Nigerian Electricity Regulatory Commission
NIAF	Nigerian Infrastructure Advisory Facility
Norfund	The Norwegian Development Finance Institution
OBA	Output-Based Aid
ODA	Overseas Development Assistance
OECD	Organisations for Economic Co-operation and Development
OTC	Over-The-Counter
PCG	Partial Credit Guarantees
PDF	Project Development Fund
PFI	Project Finance Initiative
PIBO	Public Infrastructure Bond Offer

PIC	Public Investment Corporation in South Africa
PIDA	Programme for Infrastructure Development in Africa
PIDG	Private Infrastructure Development Group
PPA	Power Purchase Agreement
PPF	Project Preparation Facility
PPI	Private Participation in Infrastructure
PPIAF	Public-Private Infrastructure Advisory Facility
PPP	Public Private Partnership
PPPTAF	Bangladesh PPP Technical Assistance Fund
PRG	Partial Risk Guarantee
PRI	Political Risk Insurance
Proparco	The French Development Finance Institution
PV	Photovoltaics
REIPPP	Renewable Energy Independent Power Producer Procurement Programme
RFP	Request for Proposal
RFQ	Request for Quotation
Sida	Swedish International Development co-operation Agency
SME	Small- and Medium-sized Enterprises
SPV	Special Purpose Vehicle
SSA	Sub Saharan Africa
STRPPs	Separately Tradable Redeemable Principal Parts
SWF	Sovereign Wealth Fund
TCX	The Currency Exchange Fund
UN	United Nations
UNDP	United Nations Development Programme
USAID	US Agency for International Development
USPs	Unsolicited Proposals
VGF	Viability Gap Fund

EXECUTIVE SUMMARY

THE RESEARCH QUESTION

This synthesis report summarises findings from a research programme on private finance for infrastructure investment. The aim of the programme was to understand the main constraints on the flow of private capital to infrastructure projects in DFID's focus countries in Sub-Saharan Africa (SSA), excluding South Africa. Such constraints could result from a lack of availability of either:

- *Bankable project opportunities*, in which projects meet the financing requirements of lenders and investors at different points of the project life cycle.

Or

- *Private capital* from domestic and international credit and capital markets to finance such projects, linked to issues in these markets rather than the quality of the available projects.

This research is focused on two components. The first is articulating, and to the extent possible quantifying, the nature of the problem. The second involves research into potential solutions to developing bankable projects and to improving access to finance (particularly as regards deployment of donor funding interventions).[1] The emphasis is on the provision of a robust evidence base, taking into account limitations in the information available in the public domain, to shed light on both the nature of the problem and the potential solutions.

The ultimate objective of the research is to improve the evidence base for donors, Multilateral Development Banks (MDBs) and partner governments, which will help with planning and programming in the areas of developing and financing infrastructure projects.

In addition to this synthesis report, there are a series of research products developed during 2014 - 2015, in support of this work including:

- A **literature review** examining existing evidence on the barriers to increasing private finance in infrastructure investment in SSA and South Asia. It specifically considers the constraints on the supply of projects able to attract private finance, and the barriers in the financial markets preventing projects from acquiring private finance.
- An **extension of the World Bank Private Participation in Infrastructure (PPI) database** covering financing information on all projects reaching financial close in the period 2010-14, in DFID focus countries in SSA.
- **Detailed country case studies** for Ghana, Kenya, Mozambique and Nigeria. These are based on country visits to conduct face-to-face consultations with stakeholders, telephone consultations, and desk research on the constraints to the private provision of infrastructure finance in each country.
- **Comparative country case studies** on the use of private finance in infrastructure in South Africa and India to provide lessons learned from developing countries that have successfully attracted some private finance to infrastructure.

[1] Initiatives related to financial market reforms are excluded from the research.

- An examination of the specific additional barriers facing **regional infrastructure** projects and the policy options to address them.
- A report on **financial flows of capital from OECD countries** to infrastructure projects in SSA which identifies specific constraints by source of finance, with a focus on commercial banks and institutional investors.
- A **policy options** paper which explores options to address the problems identified.

THE MARKET OVERVIEW

PPP infrastructure in DFID focus countries

Whereas initial public-private partnerships (PPP) in DFID's focus countries in SSA[2] were largely in cellular telephony, there is now more of a spread across sectors, particularly in energy and transport. However, the overall current annual ten year average volume of financing, at just over US$4bn, albeit for just DFID's focus countries in SSA (including South Africa), is still well short of the amounts required to underpin current and future economic growth.

Looking behind the headline figures, most recent activity has been concentrated in relatively few countries and sectors. For example, South Africa accounted for the greatest share with 56%, followed by Kenya (11%), Ghana (10%), and Nigeria (7%). The energy sector most open to PPP is electricity generation; here the most common PPP model is an Independent Power Producer (IPP) with off-take through a Power Purchase Agreement (PPA) with a state-owned power-purchaser. There is, however, only limited penetration of PPP in the transmission and distribution sub-sectors, and little evidence of success in transport outside of seaports and airports. Roads are a particular challenge outside of South Africa due to the uncertainty over revenue generation potential. There has been minimal progress in the water sector in DFID focus countries with Ghana being the only country where investment has taken place in the water and sanitation sector over the time frame considered in this study (2010-14). Detail on the breakdown of PPP activity in DFID focus countries is provided in Section 2.1.1.

Most PPP projects are originated by the private sector. But it would appear that public sector solicitation has resulted in more PPPs reaching financial close. Government solicited programmes, such as South Africa's renewables programme and to a lesser degree Kenya's IPP programme, have shown the best results in attracting private finance.

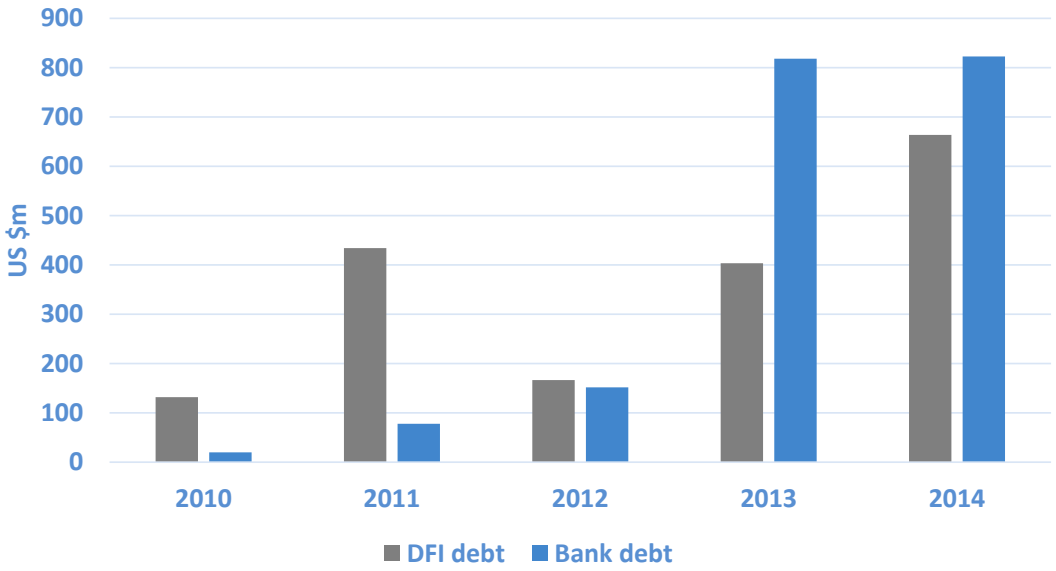
Analysis of financing patterns

Observed financing approaches typically take the form of project financing structures rather than corporate finance. These are generally PPPs – such as Build, Own, Operate (BOO) or Build, Own, Transfer (BOT) – rather than divestiture of network assets.

Until very recently, outside the more mature telecoms sector the main source of long term debt finance was provided by Development Finance Institutions (DFIs) in foreign exchange (FX). In the past couple of years, as shown in Figure 1, commitments from commercial banks have complemented (and even exceeded) DFI finance.

[2] All figures are for DFID focus-countries in SSA excluding South Africa, specifically: the Democratic Republic of the Congo (DRC), Ethiopia, Ghana, Kenya, Liberia, Malawi, Mozambique, Nigeria, Rwanda, Sierra Leone, Somalia, Sudan, South Sudan, Tanzania, Uganda, Zambia and Zimbabwe. CEPA also undertook more detailed fieldwork in Ghana, Kenya, Mozambique and Nigeria.

Figure 1: Trend of DFI debt and Bank debt between 2010-2014

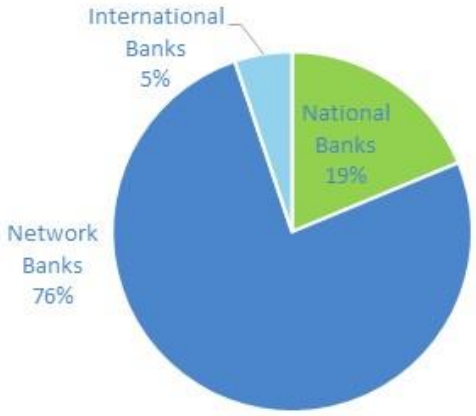


Note: Data excludes cancelled, South Africa and telecoms sector projects. It also excludes projects where information on financing sources totalled less than 20% of the total project cost; very limited financing information were available for 2010.

Source: IJGlobal; World Bank PPI Database; CEPA analysis.

As shown in Figure 2, 95% of this commercial debt finance has been provided by banks based in SSA. This includes banks with operations in one country (national banks), and those with multi-country operations (network banks). International banks, that is, those without a presence in SSA, have only had minimal involvement in the provision of capital.

Figure 2: Project debt by bank types in DFID focus countries in SSA (excluding South Africa and telecoms) 2010 - 14



Source: IJGlobal; World Bank PPI Database; CEPA analysis.

In general, those institutions that can access foreign currency such as US dollars are best placed to provide long term, lower cost finance to infrastructure projects. Foreign currency markets are much deeper, providing longer term, efficiently priced capital and allowing greater potential for longer term hedging (for instance, to enable fixing of interest rates). In comparison, institutions typically access

local currency through short term deposits, although as discussed below, local banks in countries such as Kenya and Nigeria with more developed capital markets are beginning to raise up to seven year funds, through bond issues in local capital markets.

Most of the few examples of debt finance provided by institutional investors (that is, institutional debt finance) are in the telecoms sector which includes both international and local capital raisings. KenGen in Kenya was also able to raise Kenyan shilling institutional finance from local and off-shore markets without an explicit government guarantee, despite being a majority-owned government entity. In all cases, however, the capital was raised to either refinance existing debt or to finance the expansion of infrastructure assets, rather than to finance greenfield infrastructure. It was also typically, although not exclusively, raised on a corporate financing basis.

Most private sector finance of greenfield infrastructure in recent years – most of which has been for electricity generation – has involved varying degrees of support from government and donors, to back the payment commitments of state owned power off-takers (as evidenced in Table 3-2 in Section 3.3). The extent of the support required is largely dependent on the creditworthiness of project companies, which in turn is driven by the quality of their customer bases and their ability to provide the necessary level of revenues to projects so that they do not default on their borrowing covenants. Where payment track records have been established – such as in Kenya – the extent of this support has diminished. It should be noted that renewables generation projects have required less support than other forms of generation, although it is not clear why this is the case.

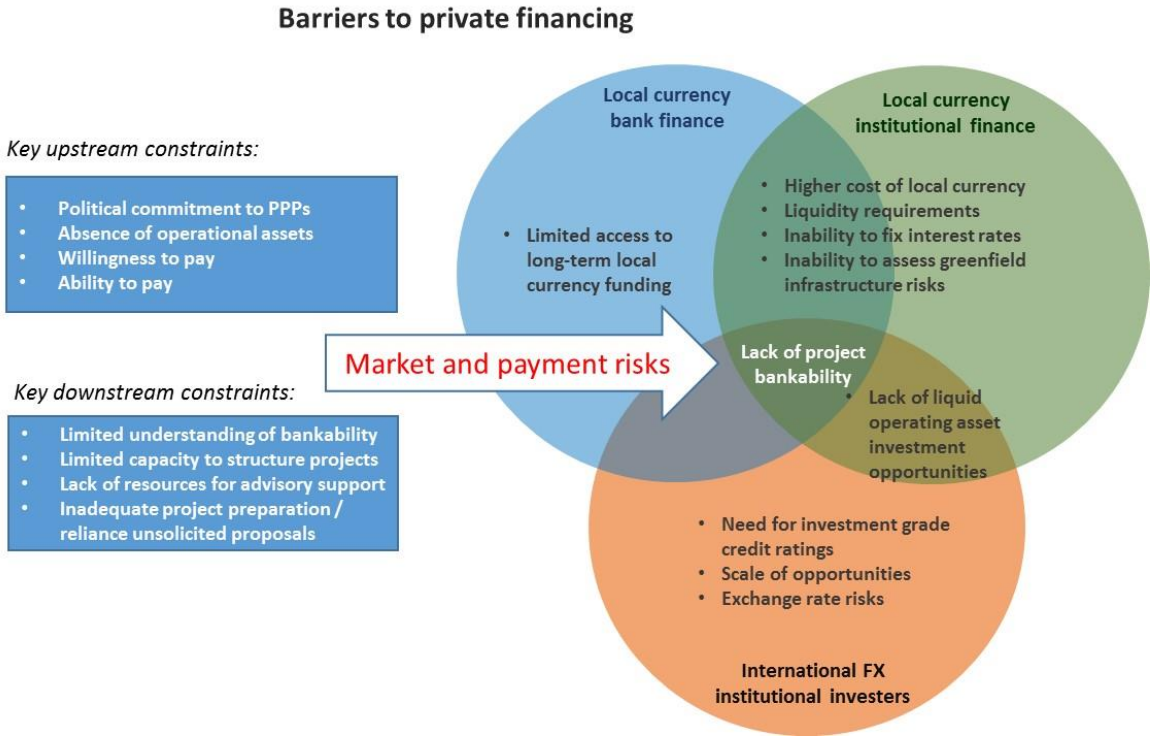
Projects in both South Africa and India, which were used as comparators to the main focus countries, are largely financed by long term local currency debt, provided by commercial banks. In other DFID focus countries in SSA, long term debt for project financing is typically in FX and US dollar denominated. This implies that exchange rate risks are significant and growing, in line with the scale of PPPs coming on stream. Typically these risks are passed through to off-takers, for instance through PPAs. In Kenya, for instance, they are ultimately borne by customers with the costs of exchange rate driven price changes being set out in customer bills.

As such, financing norms in DFID's SSA-focus countries remain well behind those in India and South Africa, in terms of what local credit markets can provide, leaving projects less able to rely on domestic sources of financing. The notable exception is the telecoms sector, where refinancing has taken place using a combination of local currency and FX denominated commercial bank loans. Not only does this leave projects more exposed to exchange rate risk, but it reduces the range of domestic business opportunities open to local financiers.

CONSTRAINTS

In overview, there are a number of both upstream and downstream constraints which combine to create market and payment risks, which render individual projects unbankable. This lack of bankability is the key barrier to the flow of private finance to projects. Further barriers are imposed as a result of availability of certain sources of private finance. Whilst it is possible to raise long term FX bank debt, raising local currency denominated or institutional debt finance is more challenging. These main barriers are summarised in Figure 3 below.

Figure 3: Barriers to private financing of infrastructure in DFID focus countries



Source: CEPA analysis.

Upstream constraints

Although the lack of an "enabling environment" has long been recognised as a constraint to PPPs and private investment, the focus has often been on objective factors such as the lack of appropriate legislation and capable institutions. Whilst these problems have certainly contributed, they are amenable to tangible donor interventions. However, some of the real challenges lie even further upstream. They involve a lack of a broad based recognition of the need to pay for infrastructure services – irrespective of who provides them – and to overcome different interest groups that can work against PPPs succeeding. Addressing these challenges demands a very high degree of ongoing political commitment that can survive political cycles. These challenges require just as much focus as the more technical issues such as developing a legal and regulatory framework, project preparation and modes of financing.

In spite of these challenges, there now appears to be a greater momentum for change, created by a realisation of what is required to finance much-needed infrastructure. This may help to overcome the headwinds that PPP approaches have historically faced. Moreover, the success of South Africa's renewables programme is helping to demonstrate what private finance can achieve. Providing potential champions of PPP with examples of success will be important in building the case for and commitment to the approach.

Downstream constraints

The public sector partner must either package projects in order to attract private sector interest or else be able to respond to unsolicited approaches. Downstream constraints relate to the more objective challenge of improving its ability to do so successfully. Interviews with key government and

private sector stakeholders suggest that the public sector would appear to have a more narrowly defined interpretation of bankability, in which projects clearing a given financial hurdle rate are considered so. Bidders, however, are looking to see a more comprehensive risk mitigation package, which sets out how risks are to be allocated and managed, as well as the composition of any required security.

A key constraint is the lack of availability of appropriate technical, legal, and financial skills, both inside and external to government, to support the necessary processes and activities. Although there are donor-backed transaction advisory facilities such as DEVCo, these are typically only available to support the mid and later stages of the project development cycle, not its early stages.[3]

The impacts of problems in these areas are principally long delays in projects reaching financial close and significantly higher costs to both public and private participants, which contributes to more expensive infrastructure provision. Currently it takes projects in Africa on average seven years to advance through the project development cycle.[4]

A 'top-down' approach to supporting PPPs – providing support for every sector – is frequently used. The research found that this is extremely resource intensive, and does not seem to align with those sectors where PPP has most potential. Effort has been expended in, for instance, establishing PPP nodes in multiple ministries, whereas in most countries PPP activity and potential seems highly concentrated (for example in electricity generation). An alternative approach would be to pilot more focused approaches restricted to sectors with the greatest immediate potential.

However, the key challenges remain how to deal objectively and systematically with unsolicited approaches, whilst developing capacity in government to originate and progress project opportunities. Unsolicited approaches are often opaque arrangements, not least in terms of how project rights – often worth millions of dollars – are acquired. This lack of transparency makes it more challenging for different DFIs to participate in their financing and for donors to provide any required subsidies. This tends to delay project timelines and whereas, at best, the approach can produce one-off successes, government-led programmes show the best outcomes in terms of volumes of transactions concluded. Indeed, Africa's main success stories involve these programmes:

- Since 2005, Nigeria has attracted a total of US$7.2bn of investment in its ports[5] following the ports concession programme and the government has raised approximately US$2.5bn through the sale of electricity assets[6] through two separate programmes and has led the way in terms of asset divestment.
- Kenya's power utility KPLC has gained market credibility through a successful IPP programme which has included 10 closed transactions worth nearly US$2.2bn since 2008.
- South Africa has recently attracted US$14bn to its renewables programme.

Constraints to bank finance

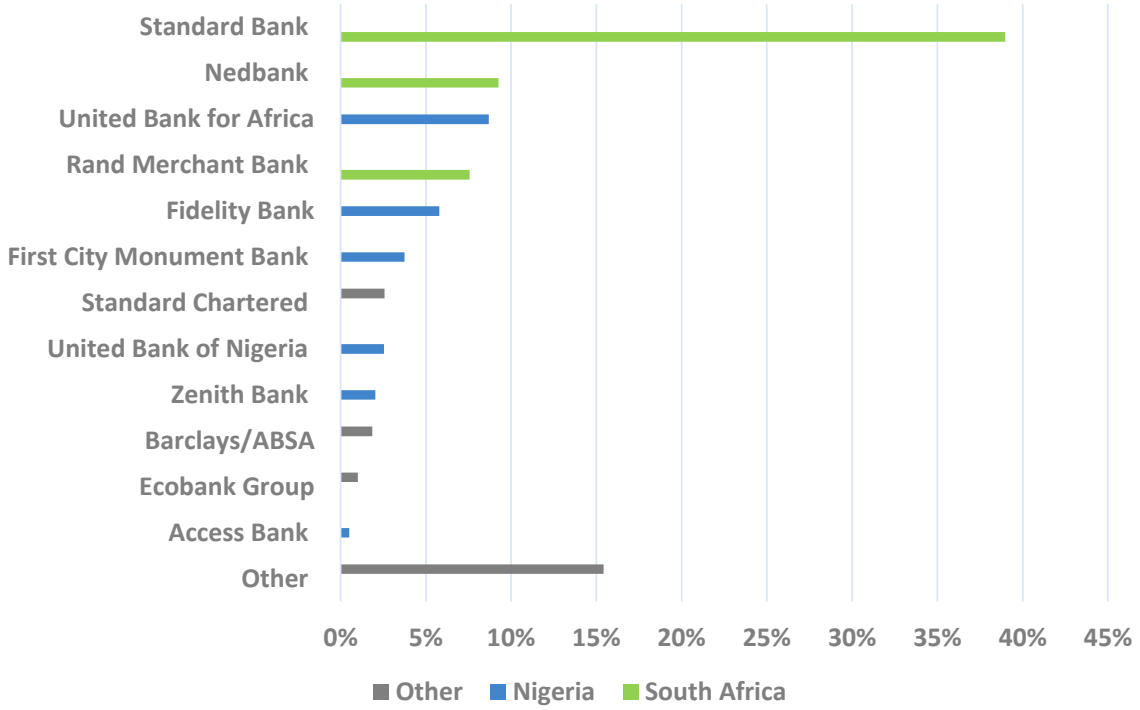
Financing constraints in this context relate to the problems facing financial institutions, rather than issues related to the projects themselves. Such potential issues can be upstream or downstream in

[3] DEVco is funded largely by the PIDG and managed by IFC Advisory Services.
[4] African Development Bank website on Africa50.
[5] World Bank PPI database.
[6] The Nigeria Bureau of Public Enterprises (BPE).

nature, including regulatory barriers, human resource-driven capacity constraints as well as competition from opportunities other than infrastructure that reduce financiers' interest in infrastructure opportunities.

We draw a distinction between two categories of finance provider: banking institutions[7], that is, credit markets; and sources of institutional finance[8], such as pension funds, life assurance funds, sovereign wealth investors, and any other institution that invests in financial instruments, such as debt and equity, issued by listed and unlisted companies. Given the ability of many banks in Africa to access long term US dollar finance, plus the considerable resources of the DFIs relative to the flow of project opportunities, there is no evidence that access to long term foreign finance is a problem. As shown in Figure 4, Nigerian and South African institutions are particularly active.

Figure 4: Commercial debt providers 2010-14 in DFID focus countries in SSA (excl. South Africa and telecoms)



Source: IJGlobal; World Bank PPI Database; CEPA analysis.

Long term fixed rate US dollar financing is extremely attractive at the moment for infrastructure projects because of its low cost. However, this creates significant currency mismatches in projects, and the associated risk needs to be borne by customers or governments. This is due to an absence of longer term currency swap markets.

[7] Banks include purely 'national banks', typically formerly state-owned deposit taking institutions that have been privatised as well as 'networked banks'; that is those with a presence in several countries and international banks, whose operations are based outside of DFID target countries, but who are capable of providing finance on a case-by-case basis.

[8] The key sources of institutional finance in SSA, include national pension and insurance funds as well as private equity funds. The latter includes specialist infrastructure funds, such as Berkeley Energy and African Infrastructure Investment Manager (Pty) Limited, a joint venture between Macquarie and Old Mutual, two major sources of institutional capital with a strong interest in infrastructure.

Long-term local currency cannot be provided to projects in most instances because it is more expensive than FX and the available tenors are too short. Moreover due to an absence of longer term interest rate swap markets it is not possible to fix interest rates. Shorter tenors arise principally due to problems that local banks have in raising their own long term financing with which to support their long term exposures. A reliance on deposits and limited long-term liquidity in wholesale markets creates asset-liability mismatches and refinancing risks.

Constraints to institutional investment

Local institutional investors have some limited equity exposure to infrastructure, but they will typically look for more liquid instruments and will normally look for local currency investments to match their liabilities.

A considerable constraint for both local and international debt institutional investors is the mismatch between what they are looking for and the project financing opportunities on offer. Apart from in the case of highly specialised investors, institutional investors such as pension funds require *operational* and *liquid* assets, not *greenfield, illiquid* ones. This is not just the case in DFID focus countries, but also in developed countries. In these countries, most debt institutional investors will seek opportunities for investment when a project is refinanced, once construction and other implementation risks have been successfully managed. Historically, institutional debt financing of greenfield projects was only achieved with the support of monoline credit insurers, most of whom have withdrawn from the market following the global financial crisis.

POLICY OPTIONS

Addressing barriers to infrastructure development

The policy options outlined are based on extensive research to understand relevant barriers, and identifying what has worked in other countries such as South Africa and India – both of which have successfully attracted private finance to their infrastructure programmes. There are also some recommendations that suggest ideas for piloting as they have yet to be trialled but could prove to be useful measures in specific circumstances. However, there is no panacea and each policy option needs to be considered carefully in the context in which it is applied.

There needs to be much more public origination not only of projects, but of PPP programmes.[9] Whilst 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.

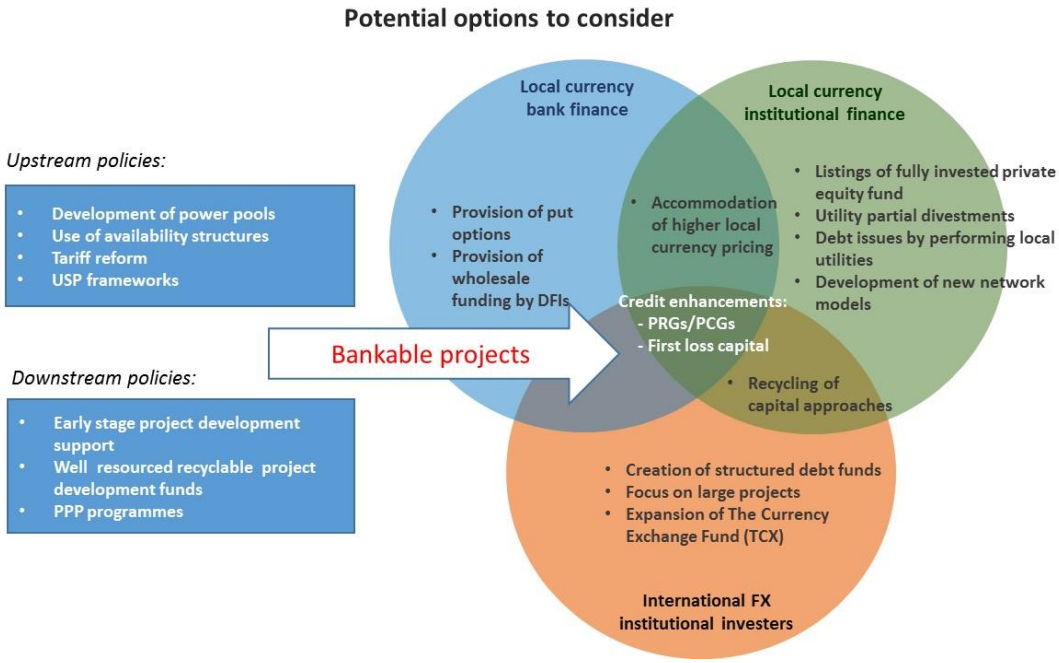
Early stage support remains critical, not least in helping to build support for and to educate on PPP issues. With the exception of Public-Private Infrastructure Advisory Facility (PPIAF) and initiatives such as the Nigerian Infrastructure Advisory Facility (NIAF), which is country specific, there are few other sources of immediate support.[10] As found in CEPA's report for the Infrastructure Consortium for Africa

[9] A programmatic approach to competitive tendering (rather than focusing on a single transaction) for private investment involves a series of projects such as in the case of the South Africa Renewable Energy IPP. It is frequently led by the government, often in collaboration with a development bank which provides the necessary funding at the sectoral or national level. Funds can be provided in the form of revolving Project Development Funds.

[10] The World Bank's Global Infrastructure Facility may also help address this gap, but at the moment precise details on how it will operate are unclear.

(ICA) on Project Preparation Facilities (PPFs), most support from global facilities is only available once a project is developed to at least the pre-feasibility stage.[11] This is a considerable gap given typical line ministries have limited experience of identifying potential PPP opportunities and undertaking 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.

Figure 5: Potential policy options to increase private finance to infrastructure in DFID focus countries.



Source: CEPA analysis.

As regards downstream support, based on experience in South Asia, different forms of Project Development Funds (PDFs)[12] 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.[13] As set out in CEPA's work for the ICA, many donors do not have the ability (or sometimes the desire) to recycle their Overseas Development Assistance (ODA). In the case of DFID, this may create opportunities for the deployment of Development Capital.

NIAF and other 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, which is expensive.

[11] ICA Assessment of Project Preparation Facilities for Africa (2012).
[12] PDFs are funds that support public authorities - regions, cities, municipalities or groupings of those - and public bodies in developing bankable sustainable infrastructure projects at different points in the project lifecycle. PDFs are also generally partially revolving, which means fees charged to successful projects are recycled to support future ones.
[13] 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.

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 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). These also need to provide for donor-backed developer approaches which can bring innovation and risk capital to PPP; private sector origination is likely to be most valuable where more innovative, less standardised solutions are required. It is hoped that Africa50 will add to the resources already being provided by entities such as InfraCo Africa and the International Finance Corporation's (IFC) InfraVentures. It is clear that resource flows from donors and government budgets to develop capacity to prepare, negotiate, and transact projects need to be increased.

There is a broader issue of who might be in a position to provide support to the project development process and risk capital, given the scale of resource required. Most DFIs will only provide capital at financial close, although the IFC can potentially take such positions through InfraVentures. Although some specialist vehicles increasingly provide pre-financial close development capital – such as the aforementioned InfraCo Africa, a few donor-backed specialist private equity firms, as well as some DFIs such as Norfund and Globeleq – these are the exceptions. At this time, it is not clear what scale of project development resource Africa50 is capable of raising.

Rather than creating new vehicles for project development, there is a wider question of whether late-stage project cycle support should be more mainstreamed by the DFIs to optimise their role, thus increasing their overall additionality. For instance, if the need for their debt becomes less over time as a result of greater levels of provision by commercial banks, this would seem to raise the issue of how they otherwise maximise their development impact. One aspect of this would be for them to focus more on the provision of financial instruments which push the frontiers of what private sector financiers can do, such as helping banks increase their tenors. As regards project development specifically, a more radical approach would be for them to focus more on those parts of the project cycle which the private sector finds more challenging. In addition to the DFIs providing late-stage project development financing, it could also involve taking more construction risk and then exiting once a project is proven operationally in which instance a greater range of commercial finance is available, as discussed below.

Achieving bankability

Excluding telecoms – which are now financed on a full stand-alone basis – the evidence suggests that the vast majority of greenfield PPPs that have successfully raised commercial bank finance, have done so with the support of partial risk guarantees (PRGs) provided by the main MDBs. Similar support can also be sought from export credit agencies (ECA) from an investor's country of origin. For instance, outside of South Africa, Kenya and Nigeria have the highest levels of private investment in their power sectors – as such, they can be seen as being at the frontier of private financing. In Kenya, five out of

seven IPPs closed in the period 2010-15 have required PRG support across a range of government commitments.[14] In Nigeria, four out of four projects have also required PRG support.[15]

Unlike credit guarantees[16], PRGs allow the allocation of different risks to different stakeholders. Commercial performance risks can be transferred to the private sector, whereas governments are required to stand behind their own obligations, such as the responsibility of state-owned off-takers to pay for contracted services. As governments have to indemnify the providers of PRGs such as the World Bank, they help to align interests, given that governments strongly influence the level of retail prices which create the need for guarantees in the first place. Though possibly onerous to governments, they are less so than the commonly used alternative of full faith guarantees in which government is on the hook to lenders irrespective of why a project defaults.

The extent of the coverage of PRGs can be reduced over time as investors and lenders gain confidence in the sustainability of PPP approaches. They have been shown to increase the tenors of finance provided as well as reducing its pricing. There is potential to utilise them more in the case of transport availability structures, in which governments need to stand behind their commitments.[17]

Although political risk insurance (PRI) cover from the Multilateral Investment Guarantee Agency (MIGA) and from national ECAs can also be used without the need for host governments to indemnify the provider, PRGs tend to be available in situations where alternative approaches are not. For instance, ECA finance requires a national company to be involved and MIGA cover is less likely to be available in poorer countries. Both are also more expensive than PRGs.

This is because PRGs are often provided using concessional International Development Association (IDA) and African Development Fund (ADF) resources (which makes them cheaper than MIGA products). The availability of such funding is, however, limited. PRGs can support financing commitments of four times the IDA or ADF resource used – which makes them a relatively efficient means of using subsidy to mobilise private finance. Given this, and the many competing claims made on IDA and ADF resources, there is a case for providing more concessional resources to fund IDA and ADF guarantee reserves.[18]

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 is addressed, it opens up opportunities for the provision of fixed rate, long term FX debt. However, at present this can only be done if exchange rate risk is borne by consumers or governments. This risk could, however, be mitigated through the availability of long term currency swaps.[19] The Currency Exchange Fund (TCX) is a foundation that could potentially work to reduce this risk.

[14] This includes the Triumph HFO Plant, the Thika Power Plant, Gulf Power Plant, the Olkaria III expansion and Lake Turkana Wind Farm.

[15] This refers to the Azura Edo and Que Iboe IPPs (both likely to reach financial close in 2015), and the privatisation of Ughelli Power Plant and the Abuja Electricity Distribution Company as part of the World Bank's PRG support for the privatisation of GENCOs and DISCOs in Nigeria.

[16] Credit guarantees can be called in the event of a payment default, irrespective of the reason for it.

[17] In availability structures, infrastructure providers are paid for providing assets to a particular standard, rather than by how much they are used or utilised; thus removing demand uncertainty, a particular challenge for the financing of greenfield assets.

[18] Guarantee reserves provide the cash that can be drawn on in the event that a guarantee is called.

[19] A currency swap involves the exchange of principal and interest in one currency for the same in another currency.

Tapping into international institutional debt markets sounds attractive. It is, however, much more challenging than sourcing long term FX debt from banks and DFIs, especially for greenfield assets. It is possible only with significant credit enhancement. A more attractive approach for such investors would be for them to invest in an investment grade portfolio of operational assets.

Going forwards, if institutional investment is to be sought, particularly for larger projects, its specific requirements need to be built into financing approaches. These ideally will provide for a partial or full refinancing by institutional investors, once the project is operational. The potential for institutional investment could be enhanced if DFIs were able to adopt more of a recycling of capital approach rather than one of coming in at financial close and holding to term (as they do now). This would be a similar approach to that of project finance banks internationally, who often 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. For example, the profile of the risks they face would change, with implications for pricing and risk management policies.

Mobilising local currency financing

The most obvious way to increase the participation of local institutional investment in equity is through the traded equity of private sector and state-owned companies (as illustrated by KenGen and discussed in detail in Section 11). 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, relative to FX financing. However, even its partial provision within a financing structure can form a natural hedge against the exchange rate depreciation risk associated with the accompanying FX debt financing in the structure. Therefore the objectives of an intervention to promote local currency financing are twofold: first, to improve the ability of projects to manage exchange rate risks; and second, to increase the range of opportunities open to local lenders and investors.

Unlike international institutional debt, which requires a large investment and investment grade credit ratings, local currency institutional debt investment typically requires neither. However, local currency institutional debt has specific additional non-credit requirements, which need to be addressed if it is to be mobilised. The first of these is the fact that local currency debt will be more expensive than FX as its pricing is driven by local interest rates, which will typically be higher than FX (especially given the current historically low interest rates in most OECD economies). Charges for infrastructure services need to reflect these additional costs. Second, institutional investors will want to be in a position where they can sell down their positions at short notice in the event that they need cash. The best way to achieve this is for the debt to be publicly listed.

REGIONAL PROJECTS

Regional projects have received a significant amount of attention from policy makers, with the Programme for Infrastructure Development in Africa (PIDA) established to take forward regional development plans in SSA. Despite the investment in regional development programmes, progress has been slow. According to information available in the public domain, regional infrastructure projects have received a *total* investment of around US$9.4bn in the period 2004 - 2014, of which the Nigerian seaports projects account for US$7.2bn. In the same period, just eight multi-country regional

projects have reached financial close – yet there are 51 projects on the PIDA Priority Action Plan (PAP) list.

The slow progress in part reflects the fact that there is a limit to the ability of the private sector to finance regional infrastructure projects. Many regional projects are, by design, not amenable to PPPs. For instance, large electricity transmission projects are not commonly developed as PPPs (unless power is being wheeled[20] to highly creditworthy customers), nor can large international road corridors be funded by tolls alone. This emphasises the need for more effective prioritisation of regional projects with a focus on projects with the potential to attract private interest. Private sector involvement can be obtained, even in cases where the legal and regulatory framework are not fully in place – as demonstrated by examples such as Ruzizi III, Inga III and the Nacala Corridor – as long as there are credible solutions to market and payment risks.

Regional projects are distinct from national projects primarily because of the direct involvement of or interest from a number of different countries. The costs and benefits for such projects are rarely the same for all participants. This adds significant complexity to the process of taking a regional project to financial close, given the need for a private investor to manage multiple government institutions, regulations and laws, which can cut across different Regional Economic Communities (RECs); not to mention dealing with stakeholder groups in different areas for multi-country projects.

To address this constraint it is important that more political and financial investment is made up-front to support the development of the prioritised projects. The experience of the case study projects highlights the importance of creating a single lead institution with a mandate to develop the regional project on behalf of the different countries involved. Without this, there is a lack of clarity in determining with whom the private party should be negotiating when trying to develop a regional project, leading to costly delays or even acting as a limiting factor on private sector interest in the project.

CONCLUSIONS AND RECOMMENDATIONS

Mobilising private capital to finance infrastructure not only creates a new resource, it also reduces the burden on the balance sheets of governments who would otherwise have to finance it. Where finance is raised without the need for government support (such as in the form of a full credit guarantee) it reduces a major constraint to the provision of infrastructure – which is ultimately the objective of bringing in private capital.

A shortage of bankable projects is the major constraint to mobilising private capital, more significant than the lack of availability of finance on suitable terms. That said, the extent to which the latter is a problem depends upon what source of finance is being referred to: FX, local currency bank or institutional finance.

There are many reasons as to why there is a shortage of bankable projects. Whilst there is indeed a lack of resourcing for project preparation and development, upstream constraints appear to be more of a problem according to stakeholders consulted. In particular, where governments are not fully committed to PPP approaches because of understandable political challenges, results are poorer than where governments have more fully embraced and committed to them. Public origination of PPPs has been most successful when governments have committed to full programmes of opportunities, in

[20] Wheeling is the transportation of electric power over transmission lines only.

which procurement has been well resourced, enabling high quality transaction advisors to be engaged. This has been particularly well evidenced by South Africa's renewable generation programme.

As regards financing, African banks, most of which can access long term FX, are increasingly able to finance projects such as IPPs, with the proportionate share of DFI financing falling as it did previously in telecoms transactions. Local currency participation is also increasing, alongside FX, particularly for telecoms transactions, although tenors are still relatively short save for a few isolated examples. The more limited involvement of long term local currency credit remains a key difference with the more developed markets of South Africa and India.

Outside of telecoms, incorporating institutional debt finance into transactions is the most challenging of all. This is mainly due to the prevalence of a project financing approach, which typically precludes opportunities for investments in operational assets by institutional investors. The types of infrastructure sub-sectors open to private investment, such as electricity generation, tend to lend themselves more to project financing approaches. The model observed is one in which the project remains unlisted (reducing its liquidity for both debt and equity), with lenders coming into the transaction at financial close and then typically holding the asset to term. The lack of liquidity of unlisted equity makes it more expensive, with equity internal rates of return being typically over 20%.

The project financing approach therefore essentially locks out opportunities for most equity and debt institutional investors. Apart from in the case of highly specialised investors, institutional investors such as pension funds require *operational* and *liquid* assets, not *greenfield, illiquid* ones.

Box 1: Summary of policy recommendations

Summary of policy recommendations

Policy recommendations need to be tailored to address the specifics of a given situation. All contexts will be different in terms of the particular manifestation of problems as well as the precise policy prescription required. Moreover, the objectives of interventions also need to be taken into account, not least, for instance, whether the objective is to mobilise private FX debt or local currency debt, or institutional capital, all of which will have a significant bearing on what policies should be pursued.

There are therefore no short-cuts in terms of the need to examine each situation on its own merits. That said, there will be minimum requirements that need to be in place in order that projects are brought to market in a bankable state. Where gaps are identified, several key policy interventions should form an immediate initial focus:

Project preparation	This requires very early stage support to ensure that projects with commercial potential are chosen. Middle and later-stage support requires funding for expert advisors. Whilst in some instances, support for one or more of these types of activity can be drawn on from global facilities (such as PPIAF, DevCo, and the EU-Africa Infrastructure Trust Fund (EU-AITF)), where the objective is to create PPP programmes, more dedicated country resource will likely be required. NIAF is an example of country-specific dedicated support that can be drawn on to help create an enabling environment, as well as for early stage project screening and identification purposes. Revolving project development funds have been used successfully in several countries in South Asia to fund downstream transaction support.

Summary of policy recommendations

In order to achieve both *bankability from a project risk perspective*, as well as *addressing any separate finance supply-side constraints*, the following should be considered as starting points for policy development:

Projects with government payment risks	Unless government has a track record of successful payments, credit enhancements will almost certainly be required. At a minimum, this will involve breach of contract support from PRI providers such as MIGA (particularly non-honouring of a sovereign obligation) or possibly ECA cover. In many instances, the need for PRGs should also be considered at an early stage, particularly for PPPs in new countries or sectors.
Projects with significant market risk	Where market price and volume risks are key factors, interventions such as first loss capital, either at a fund or individual project level should be considered to help insulate private capital from these risks. Availability structures which focus on performance risk transfer rather than market risk transfer to the private sector, supported by PRGs, are another potential solution to consider.
Projects incorporating local currency financing solutions	In addition to addressing project risks, local currency financing requirements need to be accommodated in project design. The main features include shorter tenors, and more variable and higher interest rate costs. Local lenders are likely to require support to address the liquidity constraints that they face.
Projects seeking institutional finance	Operational assets have the best chance of attracting institutional finance and in most cases should be targeted first. New diversified portfolio funds currently being established, such as by the IFC, may offer finance for greenfield projects. A further alternative is to finance projects with bank and DFI debt and then refinance with institutional finance once a project is operational.

PART A: APPROACH AND METHODOLOGY

Part A sets out the approach and methodology undertaken to examine the factors constraining the provision of private finance to support the implementation of infrastructure projects in DFID focus countries in SSA.

The objective of this section is to provide detail on the study brief, the methodology and sources used, and to summarise the other research products developed in conjunction with this report.

1. INTRODUCTION

This study examines the factors constraining the provision of private finance to support the implementation of infrastructure projects in DFID focus countries in SSA. It summarises findings from a series of research reports produced during 2014 -2015, including:

- A **literature review** examining existing evidence on the barriers to increasing private finance in infrastructure investment in SSA and South Asia, specifically looking at the constraints in the supply of projects able to attract private finance and the barriers in the financial markets preventing projects from acquiring private finance.
- An **extension of the World Bank PPI database** covering financing information on all projects reaching financial close in the period 2010-14, in DFID focus countries in SSA.
- **Detailed country case studies** for Ghana, Kenya, Mozambique and Nigeria based on country visits to conduct face-to-face consultations with stakeholders, telephone-based consultations, and desk-based research on the private provision of infrastructure finance in each country.
- **Comparative country case studies** on the use of private finance in infrastructure in South Africa and India to provide lessons learned from developing countries that have successfully attracted some private finance to infrastructure.
- An examination of the specific additional barriers facing **regional infrastructure** projects and the policy options to address them.
- A report on **financial flows of capital from OECD countries** to infrastructure projects in SSA which identifies specific constraints by source of finance, with a focus on commercial banks and institutional investors.
- A **policy options** paper which explores some of the current interventions that have been deployed to address the problems identified as well as identifying further ones that could be explored.

1.1. Research objectives

The high level research question for this study is the extent to which the flow of private capital to infrastructure projects in developing countries in SSA and South Asia is constrained as a result of a lack of availability of either:

- *Bankable project opportunities*, in which projects meet the financing requirements of lenders and investors at different points of the project life cycle.[21]

  Or

- *Private capital* from domestic and international credit and capital markets to finance such projects, linked to issues in these markets rather than the quality of the available projects.

[21] Project life cycle involves the identification of an opportunity, its development, financing, construction and operationalisation.

In addressing this question the research has two components. The first is articulating, and to the extent possible quantifying, the nature of the problem. The second involves research into potential solutions as they relate to developing bankable projects and to improving access to finance (particularly as regards deployment of donor financial interventions).[22] The emphasis is on the provision of a robust evidence basis, taking into account limitations in the information available in the public domain, to shed light on both the nature of the problem and the potential solutions.

The ultimate objective of the research is to improve the evidence base for donors, MDBs and partner governments, which will help with planning and programming in the areas of developing and financing infrastructure projects.

1.2. Defining bankability

Because bankability is such a key aspect of this research project it is worth outlining what is meant by it in this context. "Bankability" is a measure of a project's creditworthiness. This refers to the willingness of credit providers to extend credit to a project.[23] This is determined by project returns, the allocation of risk to different parties and stakeholders and the quality of the security offered in the event of a default. As such, bankability is not necessarily a purely objective concept, it depends upon the subjective views of those undertaking a credit assessment (in a bank this would be a credit committee, or a ratings agency in the case of institutional investors, whose rating will depend upon their view of the likelihood of the project defaulting). It may also depend on the quality of the sponsor of the project, and whether or not the sponsor is credible based on its experience and/or its financial standing.

A project's bankability will naturally be affected by the environment in which it takes place. For instance, risks created by macroeconomic factors such exchange or interest rate volatility which cannot be effectively hedged will impact upon bankability – that is, the same project may be bankable in one country but not in another. The bankability hurdle is therefore greater the more challenging the context, going well beyond specific aspects of the project's own design, with that design having to be adapted to deal with increased risks; for instance, through having a greater proportion of equity relative to debt in a project's structure. The net effect of this is typically to increase a project's costs, reducing its affordability in the process (for instance, in order to cover higher equity costs).

In the case of ratings, it is difficult for a project to "pierce the sovereign ceiling"; that is, have a higher rating than the country in which it is based. Strictly speaking, a project is either bankable or not, there is not really a concept of "theoretically bankable" other than a situation in which there are informational failures which means that it cannot be assessed properly from a credit perspective.

1.3. Scope and focus

A number of questions define the scope of what is covered in addressing the main research question. These include:

[22] Detailed initiatives related to financial market reforms are excluded from the research.

[23] The EPEC PPP Guide notes: 'Put simply, a PPP project is considered bankable if lenders are willing to finance it.' - http://www.eib.org/epec/g2g/i-project-identification/12/123/index.htm

- *What are the blockages to the supply of projects arising from both "upstream" and "downstream" pre-financial close problems, the policy interventions required to address them, and the role of donors and development banks in this?*
- *What is the nature of the financing requirements of projects and the potential for, and barriers to, local and international lenders and institutional investors providing such finance, plus the potential role for public subsidies in overcoming these?*
- *How would the responses to these questions change when the focus is on regional infrastructure, designed to increase cross border trade? In recent years, this has become a key issue for donors and national governments particularly in SSA.*

The primary focus for both the national and regional research is on:

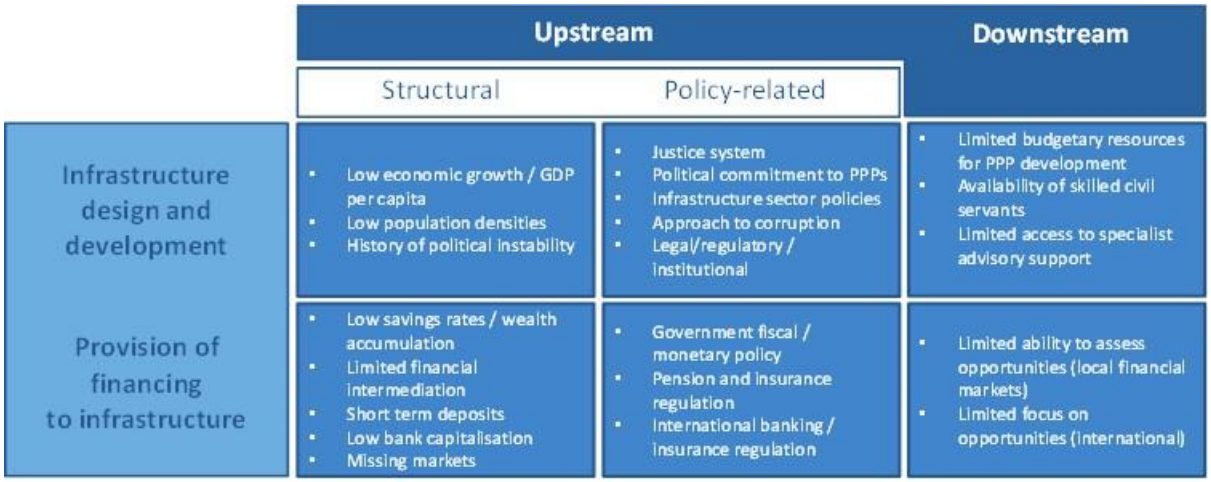
- The **role of the private sector in financing projects** (although the role of development funding and finance in supporting this is also important) through the establishment of PPPs which include at least some private sector equity finance. Publicly financed projects have largely been excluded from the research, including those where the asset is operated by the private sector through a management contract.
- Most detailed research has been conducted on **DFID-focus countries in SSA** and with the exception of India, a very limited focus on South Asia. India and South Africa were used as more developed financial market comparators to DFID's SSA focus countries, with detailed country case studies conducted for Ghana, Kenya, Mozambique and Nigeria.
- **Traditional economic infrastructure sectors** – energy (electricity and gas); telecoms (fixed telephone lines, mobile telephony and data transmission); transportation (roads, bridges, rail, ports and airports); and water and sanitation. Agricultural infrastructure (such as irrigation) or industrial infrastructure (for instance, private provision of industrial estates) or pure private service infrastructure (such as private energy supplies or private railways dedicated to industrial or resource extraction operations) have also been excluded. Private sector projects which provide a public service (for example, where spare generating capacity from a private project is sold to the grid) have, however, been included.
- Projects of a **reasonable scale** - small local community infrastructure such as off-grid generation and rural water and sanitation systems have been excluded.

1.4. Framework for analysing barriers and policy options

Issues related to the development of projects have been analysed separately to the challenges related to their private financing. Similarly policy interventions relevant to supporting project development are addressed separately to those focused on improving the availability of commercial finance. Incremental issues relating to regional infrastructure projects are also dealt with separately.

The framework for analysing the project development barriers is presented in Figure 1-1.

Figure 1-1: Framework for project development barriers



Source: CEPA analysis.

The policy options developed follow the same broad categorisation. These are summarised below:

- *Infrastructure design and development*, including policies to:
    - Increase government commitment to PPP, support the development of enabling environments through the development of legal and regulatory frameworks, and institutional capacity building.
    - Provide specific advisory support to different parts of the project development cycle (aimed at making the project bankable) which is currently either provided by multi-country facilities or else specific national initiatives.
- *Provision of financing to infrastructure*, including the use of public subsidies to mobilise:
    - Equity finance from both local and international institutional investors.
    - International debt finance, particularly from institutional investors.
    - Local currency-denominated debt finance from both banks and institutional investors.

The objective of the analysis is to provide options for policy makers to consider what 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. Where this is not possible, the aim 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.

It should be noted from the outset that there is no "magic bullet" that can resolve all of these problems. Moreover, any policy prescriptions will need to take into account the specifics of the context in which they are being applied.

1.5. Overview of approach and methodology

The high level research approach applied can be broadly described as follows:

- First, start with what is *observed*; in other words to expend effort in developing a data set which provides baseline evidence.

- Second, to *interrogate* what is observed to understand it, by looking at individual project and other data, as well as other secondary research into the issues.
- Third, to identify and to *assess* potential solutions which are relevant to the contexts in question.

An overview of the methodology is summarised below. Detailed methodologies are also provided in the individual reports which are referenced throughout this synthesis paper.

- **Literature review**. A systematic literature review was undertaken covering both general and academic sources to ascertain to what extent the main blockage to increased infrastructure investment (including by private investors) in SSA and South Asia is attributable to the lack of a pipeline of bankable projects and/or a lack of available finance on the terms / tenors required. In total 292 reports were identified; the majority of the papers collected were commissioned by international organisations, such as the World Bank, DFIs, and United Nations organisations.
- **Data collection**. The World Bank PPI database was extended to provide, as far as possible, financing information on all projects reaching financial close in the period 2010-14, in DFID focus countries in SSA (excluding South Africa). Selected data on projects in South Africa and India were also collected.
- **Country case studies**. Detailed country studies were developed for four focus countries: Ghana, Kenya, Mozambique and Nigeria. For each country the research team carried out a visit to meet with stakeholders and discuss their views on the issues constraining the provision of private finance. Additional telephone-based consultations and desk-based research was also carried out.
- **Comparator case studies.** Working papers were developed for South Africa and India, based largely on desk research, but with some in country interviews. Interviews in South Africa were with some of the main financial institutions based there who have a focus on both South Africa and SSA more generally.
- **Regional study.** The policy context for the development of regional projects in Africa was examined. An overview of the main transactions that took place across the different infrastructure sectors and analysis of the main financing constraints facing these projects and how these differ from those faced by national projects were documented and analysed. Detailed case studies were prepared on three regional infrastructure projects: Ruzizi III, the Nacala Rail project, and Inga III. This was done based on desk research and telephone-based consultations with selected stakeholders.
- **International financial flows study.** Research was conducted into the constraints facing financial flows from OECD markets to SSA and South Asia. The research identifies specific constraints by source of finance, with a focus on international commercial banks and institutional investors including insurance funds, pension funds, and Sovereign Wealth Funds (SWF). The findings are primarily based on extensive desk-based research.
- **Policy options report.** Options were developed for how constraints associated with infrastructure development might be addressed, building on existing interventions and

looking at recommendations for both immediate and longer term approaches to achieving bankability. Approaches to mobilising international institutional capital and domestic capital, including from institutional sources are proposed. However, many of the options identified require further development and consideration.

1.6. Structure of this report

This rest of this report is structured as follows:

PART B: MARKET OVERVIEW

- Section 2 examines activity related to the private financing of infrastructure in DFID focus countries in SSA.
- Section 3 looks in more detail at financing patterns of the different infrastructure sectors open to private sector participation in the DFID focus countries in SSA.

PART C: CONSTRAINTS

- Section 4 provides an analysis of upstream barriers to the development of infrastructure markets, drawing on what was found in the focus countries.
- Section 5 considers the downstream barriers encountered in developing and transacting infrastructure projects.
- Section 6 analyses the constraints facing domestic and international investors looking to finance infrastructure projects in SSA.

PART D: POLICY OPTIONS

- Section 7 examines the objectives of policy interventions.
- Section 8 recommends options to address the upstream and downstream constraints to infrastructure development.
- Section 9 offers potential solutions to address bankability.
- Section 10 proposes options to support the mobilisation of international finance.
- Section 11 presents options to support the mobilisation of local currency finance.

PART E: Regional infrastructure

- Section 12 summarises the specific constraints facing regional projects.
- Section 13 presents policy options for regional projects.

PART F: Conclusions

- Section 14 summarise the conclusions of the study.

PART B: MARKET OVERVIEW

The first of these sections presents an overview of private finance in infrastructure in the DFID focus countries based on the collection of financing data developed as an extension of the existing World Bank PPI database, together with other information provided from commercial infrastructure databases as well as desk research and additional insights from the interview programme.

The second section analyses financing patterns for infrastructure in the focus countries including looking at project versus corporate financing, sources and nature of debt finance, the use of credit enhancements, and the use of local currency bank finance and institutional debt finance.

The objective of Part B is to provide background and context to the more detailed analyses of constraints which is provided in Part C that follows.

2. PPP INFRASTRUCTURE IN DFID-FOCUS COUNTRIES IN SSA

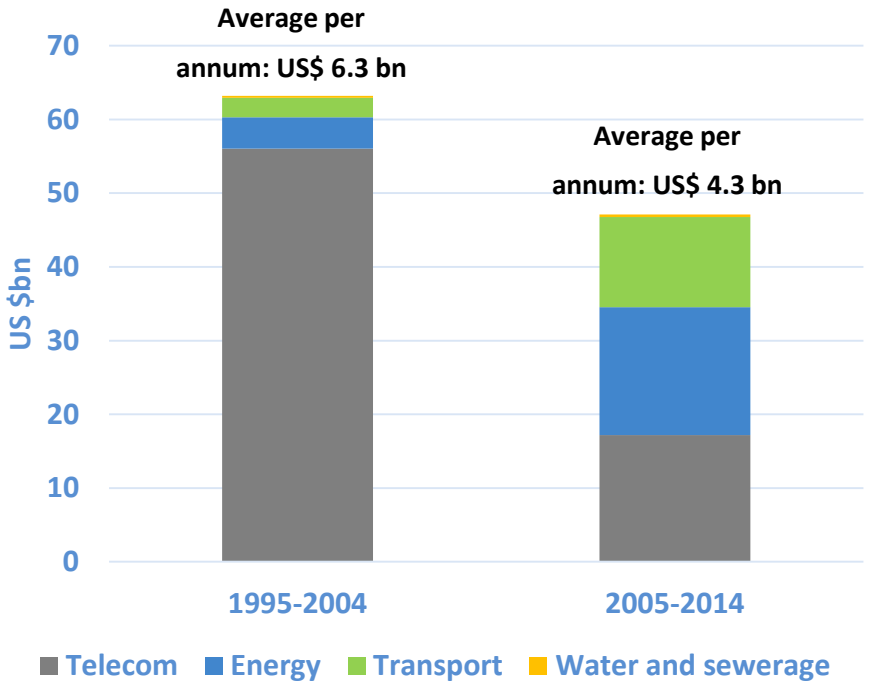
This section provides an overview of what has recently been observed in PPP infrastructure markets in DFID focus countries in SSA. It covers recent sector investment activity and pipeline projects, the nature of solicitation of projects as well as financing patterns.

The analysis is largely based on the collection of financing data developed as an extension of the existing World Bank PPI database, together with other information provided from commercial infrastructure databases, desk research and additional insights from the interview programme.

2.1. Sector analysis of PPP activity

Taking the DFID focus countries in SSA, up until about 2005 as SSA countries began to turn to PPPs as a way of addressing infrastructure gaps, the bulk of what was achieved in terms of attracting finance to infrastructure was in telecoms, mainly cellular telephony. Since then, there has been more of a balance between sectors, with more progress in both energy and transport. Figure 2-1 below provides an analysis of the PPP projects taken from World Bank PPI Database and CEPA research on sources of funding and shows that more than 90% of PPP investments took place in the telecoms sector in the ten years prior to 2005, but since then investment in other sectors has increased. Overall, however, annual flows have decreased, with the tail-off in telecoms investment.

Figure 2-1: Comparison of PPP project financing (by value) in DFID focus SSA countries



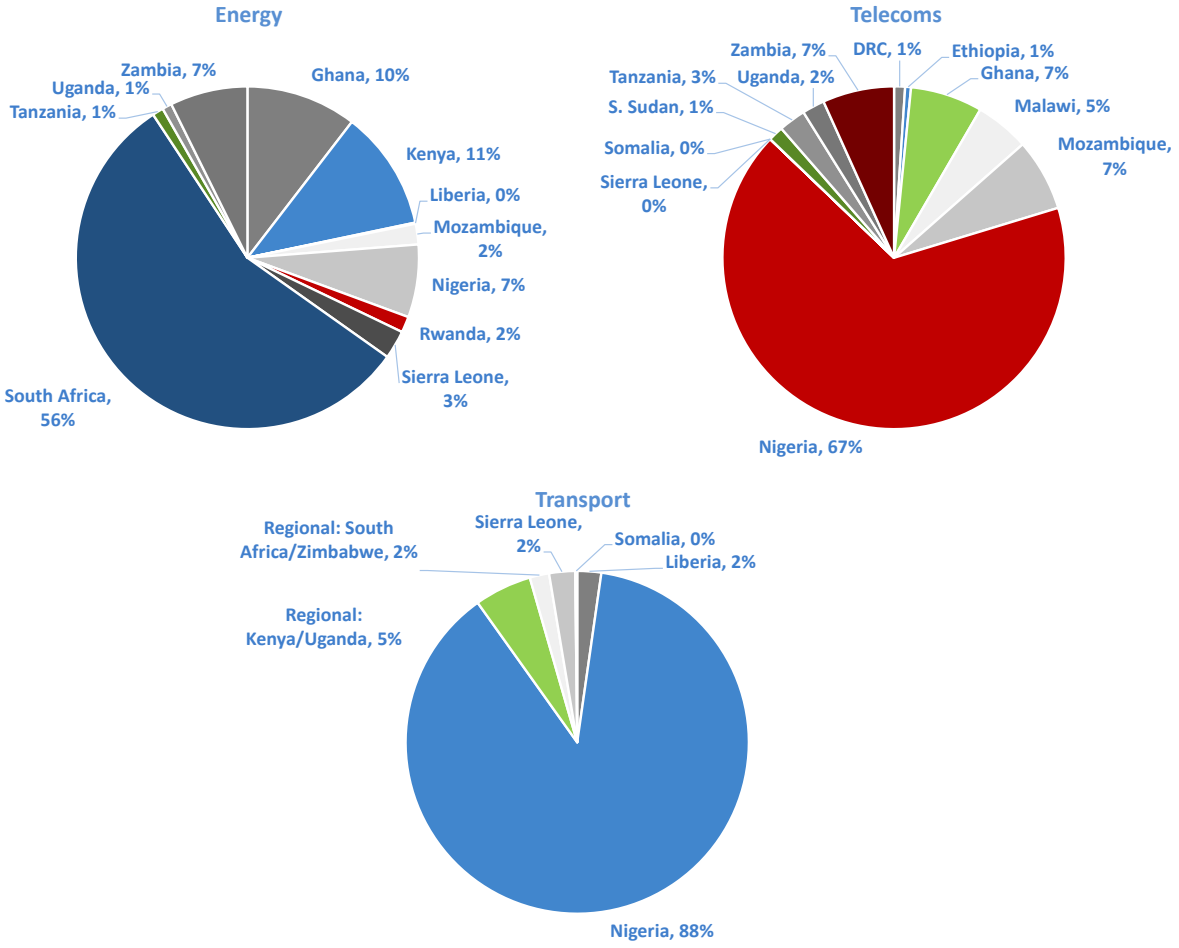
Note: Based on data from the World Bank PPI database and CEPA research on sources of finance. Excludes cancelled projects and projects with limited or no information. The analysis includes projects in South Africa.

2.1.1. Sector analysis by DFID focus countries (2010-14)

A sector analysis of PPP activity by value in DFID focus countries in SSA over the period 2010-14 shows that in the energy sector, South Africa accounted for the greatest share with 56%, followed by Kenya (11%), Ghana (10%), and Nigeria (7%).

Telecoms investment was highest in Nigeria[24] (67%) followed by Zambia (7%) and Mozambique (7%), and Malawi (5%) while transport was dominated by Nigeria (88%), all of which originated from three seaports concessions. Ghana is the only country where investment has taken place in the water and sanitation sector in this time frame. These observations are set out in Figure 2-2.

Figure 2-2: Sector split (by value) of PPP investments in infrastructure in DFID focus countries between 2010-14



Source: PPI database and CEPA research on sources of finance.

Within energy, electricity generation has accounted for 98% of all energy PPP investments; even as a proportion of total PPP investment over the period it accounted for close to 50%. Most, if not all of these projects have involved the project financing of IPPs, based on a PPA between the IPP and the power off-taker. Such off-takers are typically state owned, monopsony power purchasers; that is, there is little evidence of merchant generation contracts.[25]

[24] This includes the MTN Nigeria refinancing in 2013 having a total deal value of approximately US$3bn.

[25] It should be noted, however, that there are a large number of smaller scale temporary power supply contracts in operation.

Around 67% of PPP investment in power generation for all of the SSA focus countries has been in the renewables sub-sector with South Africa having the largest share at approximately 72%. This can be mainly attributed to the wide-ranging and robustly structured tender programme (the Renewable Energy Independent Power Producer Procurement Programme – see Box 2-1) for renewables in South Africa that has successfully attracted many developers, investors, and lenders.

Box 2-1: South African Renewable Energy Independent Power Producer Procurement Programme

The Renewable Energy Independent Power Producer Procurement Programme
The Renewable Energy Independent Power Producer Procurement Programme (REIPPP) demonstrates a clear and transparent procurement process, representing one of the few cases in Africa where private sector bidders took the lead in project preparation (they did so at the mid to late stages). Issues around bankability have been addressed by the provision of long-term rand-denominated PPAs from Eskom to the awarded projects. In total, 64 projects were awarded across the first three rounds (R1-3), involving the participation of more than 100 different shareholder entities. Private sector commitments for R1-3 are estimated at US$14bn, with these projects expected to generate 3,922MW of renewable energy. Increased competition in R2 and R3 contributed in part to a decline in average bid prices over the three phases with a nominal decrease of 68% for average solar photovoltaic tariffs, and 42% for wind. Other factors included lower transaction costs, as project sponsors and lenders became more familiar with the tender specifications and requirements. Project financing has been sought for 56 of the 64 projects. Debt accounted for approximately two-thirds of overall financing across the three rounds, mainly from commercial banks (64%), with the balance provided by DFIs (31%) and to a lesser extent life funds (5%). Local sources of financing held a particularly significant role, contributing to 86% of overall debt.

Source: G20 (2014), Comprehensive Growth Strategy: South Africa; ICA (2014), Effective Project Preparation for Africa's Infrastructure Development; PPIAF (2014), South Africa's Renewable Energy IPP Procurement Programme: Success Factors and Lessons; Mbeng Mezui, Cedric Achille; Hundal, Bim (2013), Structured Finance. Conditions for Infrastructure Project Bonds in African Markets. NEPAD.

The only PPP in electricity transmission was the Itezhi-Tezhi Power Corporation Transmission line project in Zambia[26], which illustrates the very limited penetration of PPP in this sub-sector. Similarly with electricity distribution, Umeme Ltd, jointly owned by Globeleq and Eskom Enterprises, is the only example of a PPP distribution company raising new finance. Umeme began operating the electricity distribution system in Uganda under a concession agreement with the Government in 2005.

Seaports had the highest share of PPP investments (98%) in transport with roads contributing only 2%. Two greenfield projects in Nigeria accounted for most of this investment, while the only road sector project was a cross-border highway project between South Africa and Zimbabwe.[27] Recent telecoms investments have largely been in cellular telephony.

2.2. Solicitation of projects

With the exceptions of South Africa, and to a lesser extent Nigeria and Kenya, there has been relatively limited public solicitation of projects as opposed to the unsolicited approaches by private sector developers observed elsewhere. Typical reasons cited for competitive tendering not taking place include time constraints and the absence of suitable policy and regulatory regimes.

[26] Zambia Development Agency (2014), Public-Private-Partnerships in Infrastructure Development in Zambia.

[27] The two seaport projects are the Lekki Deep Seaport and the Onne Port expansion. The PPI database includes these projects as having reached financial close, but there is some evidence that the projects are still seeking to attract some additional private finance.

Table 2-1 below provides an overview of solicitation processes used in several DFID focus countries in SSA. The extent to which public solicitation has been used in recent years varies considerably, with Mozambique and Ghana having limited experience of competitively procuring infrastructure projects compared to Kenya and Nigeria. However, a number of high-profile IPP transactions in these countries such as Lake Turkana and Azura Edo have not been subject to competitive procurement.

Table 2-1: Solicitation of projects in select countries

	Mozambique	Ghana	Kenya	Nigeria
Characteristics of project origination	Largely initiated by private developers, with some of the earlier rail concessions being originated by the government.	Private developer identifies project opportunity.	Projects have historically been both privately and publicly originated.	Most projects originated from large government programmes, particularly in the ports and electricity sectors.
Project procurement	Time-based development rights issued to developers who approach government with project proposals.	Project rights have often been determined by direct negotiations, and limited progress has been made on formulating a policy for unsolicited proposals.	Mix of energy projects procured on competitive basis by central government and direct negotiation. Tariffs are either guided by feed-in tariff policy (in renewables) or bidders are invited to submit tariffs based on different financing scenarios (non-renewables).	Majority of projects have been competitively procured through the BPE, which has often been supported by external consultants.
Examples of competitively procured projects (date of financial close)	No recent examples. Previous transport concessions include: • Sena-Machipanda Railroad concession (2004) • Maputo port (2003)	No recent examples found, although the Public Investment Division is looking to launch the procurement of pipeline projects (as part of the World Bank support being provided).	• Thika thermal power plant (2012) • Triumph HFO power plant (2012) • Gulf Power plant (2012) These projects all received support from various World Bank institutions.	• Ughelli Power Plant (2013), as part of the government's privatisation process • Nigerian ports concessions (2005)
Examples of transactions with direct negotiation (date of financial close)	• Gigawatt power plant (2014) • Kuvaninga Energia power plant (2013)	• Kpone IPP (2014) • TICO II expansion (2013)	• Lake Turkana wind farm (2014) • Kinangop wind farm (2013)	• Azura Edo IPP (financial close likely to be reached in 2015)

Source: CEPA analysis.

There would appear to be a reasonably strong correlation between the degree of success and possibly speed in closing PPP projects and the solicitation approach adopted. Whereas government procurement of full PPP programmes is associated with relatively high success for mobilising capital for PPPs, such as in the case of power generation in Kenya and South Africa and to a degree, seaports in Nigeria, individual PPPs typically resulting from sole sourced procurements have seen less success at "jump-starting" PPP activity. Successful implementations of a few IPP projects have not necessarily opened up the market for private investment at scale.[28]

2.3. Funding of project development cycle activities

There are differences in sources of funding for project development between publicly and privately originated projects. Publicly originated projects are largely dependent on public money, with budgetary resources being used to undertake initial project identification and screening. Once transaction advisors are appointed to take viable projects to market, the funding of technical feasibility studies as well as later stage financial and legal structuring are often be funded by specialist project preparation facilities (PPFs).[29] This is largely provided in the form of grant support.

Evidence from the stakeholder consultations in Mozambique, in particular, suggest that privately originated projects are often identified by local businesses who seek to enter into a Memorandum of Understanding (MoU) with the government in order to develop the project further. However, to be credible, such businesses - that often have limited financial (as well as technical capacity) to develop the project - will bring in international partners with stronger balance sheets to fund project development activities.

The main donor sources of such support for private sector originated projects include the Private Infrastructure Development Group (PIDG)'s InfraCo Africa and IFC's InfraVentures.

International sponsors will use a variety of sources of funding for project development. Where the project involves a large equipment provision component, such as power generation, vendor financing can be used to support project development.[30] In such circumstances, such exposures may be backed by domestic ECAs. Vendor financing has been drawn on in the renewables sector (for example, Vestas the wind turbine supplier is an equity participant in the Lake Turkana project in Kenya).

At later stages of the project development cycle, evidence from the consultations indicate that equity investors looking for equity participation as a project nears financial close, can provide project developers with additional capital to help cover the late-stage project development costs.[31]

2.4. Project pipelines

Excluding South Africa, the future pipeline of projects in DFID focus countries in SSA, is shown in Figure 2-3. The pipeline is largely focused on energy and transport projects.

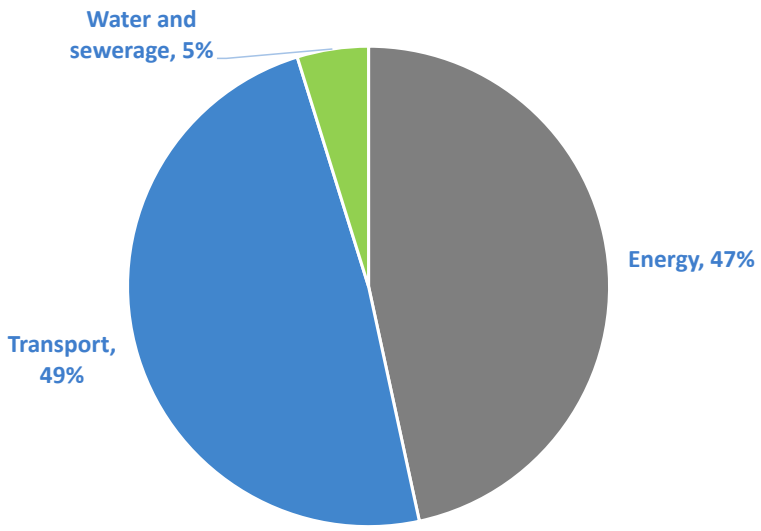
[28] Independent Power Projects in Sub-Saharan Africa: Determinants of Success. Anton Eberhard and Katharine Nawal Gratwick.

[29] For instance, IFC uses DEVCo – PIDG vehicle - to fund technical, legal and commercial advisors on projects for which it signs a mandate with government. It will seek a success fee at financial close to pay its own cost. World Bank funded transaction advisors will typically follow a similar model.

[30] Examples of this include wind farm developments in Kenya.

[31] At least two private equity funds have been providing such capital.

Figure 2-3: Sector split of pipeline PPP infrastructure projects by transaction value in focus SSA countries (excl. South Africa)



Source: CEPA analysis based on IJOnline data.

Closer analysis of the transport sub-sectors, shows that the majority of projects are in rail (~68%) rather than seaports (~14%) where there has been the most recent activity, with only very few roads projects (~12%).

Analysis by country, shows pipelines in the Democratic Republic of the Congo (DRC), Nigeria, and Rwanda being most focused on electricity generation which are a mix of renewables and non-renewables; the DRC pipeline contains the Inga hydro PPP, whereas projects in Nigeria and Rwanda are focused more on thermal generation. In transport, Nigeria and Kenya have the highest shares, followed by Ghana and Tanzania. Water and sewerage projects are mainly concentrated in Nigeria, Ghana and Rwanda.[32] In comparison, all the pipeline projects reported for South Africa are in the transport sector, of which ~91% are in rail with the remaining 9% comprising road projects.

2.5. PPP models

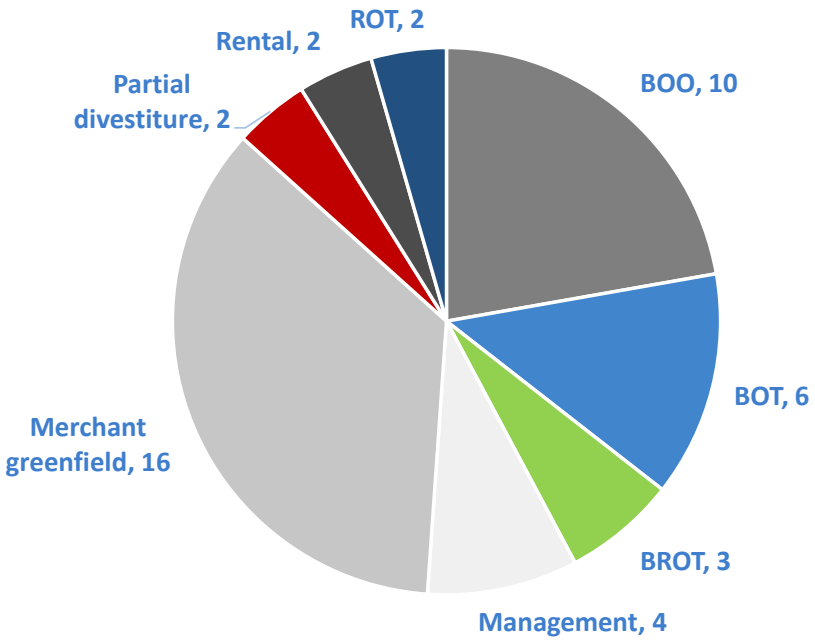
PPP models vary by sector, reflecting different sector characteristics. Analysis of PPP models of closed, under construction, or operational projects in the period 2010-14 show that the highest number of projects are what the PPI Database terms merchant greenfield[33], most of which are in the telecoms sector, demonstrating the market risk transfer affected in this sector. This followed by BOO and BOT models which are the preferred model in the electricity generation segment. The "rental" model is also evident in the power generation sub-sector as a result of solicitation of emergency energy power by countries such as Mozambique and Tanzania (but which are out of scope). Management contracts are more common in network sectors of electricity distribution and telecoms and airports in the

[32] Ghana: Asutsuare Water Treatment Plant PPP; Nigeria: Kuje Water Supply PPP, Jalingo Urban Water Supply and Sanitation Project PPP; and Rwanda: Kigali Bulk Water Project PPP.

[33] Source PPI glossary: A private sponsor builds a new facility in a liberalized market in which the government provides no revenue guarantees. The private developer assumes construction, operating, and market risk for the project (for example, a merchant power plant).

transport sector, (although these do not involve any form of private investment and are also out of scope). Figure 2-4 below provides the distribution of projects by the different PPP modes.

Figure 2-4: Breakdown of number of projects by their PPP modes between 2010-14



BROT: Build-Rehabilitate-Operate-Transfer; ROT: Rehabilitate-Operate-Transfer; Management: Management Contract.

Source: PPI database (only includes projects where information was available). Excludes South Africa.

2.6. Summary

Whereas the first traditional economic sector to attract private sector finance was cellular telephony, more energy projects are now coming to market. Countries that were slower to liberalise their cellular telephony sectors such as Malawi, Mozambique and Zambia have accounted for the most private investment in telecoms post 2005. These models involve significant transfer of market risk to investors and lenders.

The energy sector most open to PPP is electricity generation, which accounted for 98% of all energy PPPs by value during the period 2010-14.[34] The most common model is an IPP with off-take through a PPA with a state-owned power-purchaser, utilising BOO and BOT PPP models. In this model, investors and lenders face payment risk from state-owned off-takers rather than market risk from private customers. There is, however, only limited penetration of the electricity transmission and distribution sub-sectors. Nor is there much evidence of success in transport outside of seaports and airports. Roads are a particular challenge and there has been minimal progress in the water sector.

Most PPP projects are originated by the private sector. But public sector solicitation would appear to have resulted in more PPPs reaching financial close. Government solicited programmes as opposed to individual projects, such as South Africa's renewables programme and to a lesser degree, Kenya's IPP programme, have shown the best results.

[34] In DFID focus countries in SSA, including South Africa.

3. DETAILED ANALYSIS OF FINANCING PATTERNS

This section provides analysis of recent financings of infrastructure in DFID-focus countries in SSA particularly as regards the provision of long term debt.[35] It shows how over the 2010-14 period, debt finance previously dominated by FX loans from DFIs, has been usurped by commercial bank loans. In part, because of the significant focus on electricity generation, this has been largely provided through project financing approaches. On the whole such transactions have also involved significant donor support, particularly in the form of PRGs provided by the World Bank.

Shorter term local currency finance has been provided by commercial banks, alongside FX, typically in corporate financings of cellular telephony companies to support refinancing and network expansion. Often, these are companies who were previously financed by the DFIs, with the DFIs subsequently refinanced out of the transactions.[36]

Institutional debt financing has been very limited in infrastructure. International FX capital raising by private infrastructure companies has been limited to a couple of Nigerian companies. However, a Kenyan utility had a successful local currency capital-raising and a Ghanaian telecoms company was also successful at raising local currency financing through a local bond offer, both being for operational, as opposed to greenfield assets. This illustrates the importance of operational assets in raising institutional finance.

3.1. Corporate versus project financing

Where financing for a project is secured on the balance sheets of parent companies it is known as corporate finance and where it is provided to specialist project companies, secured only by the cash-flows of such companies, it is known as project financing. Whereas both publicly listed and private companies invest on a corporate finance basis, these specialist project financing vehicles, termed special purpose vehicles (SPVs) are usually unlisted, private entities. In some cases, large international sponsors have financed projects on balance sheets (but have looked to refinance on a project finance basis once the project is operational).[37,38]

The typical participants in project financing include equity investors, who are either the project sponsor or financial investor; senior debt providers and sometimes providers of mezzanine finance (different hybrid forms of equity and debt finance).[39] Senior debt can be provided by institutional investors, commercial banks and / or DFIs (who can also provide equity and mezzanine finance).[40] Private equity funds are also often equity and mezzanine investors.

[35] Most greenfield infrastructure projects require debt tenors of a minimum of twelve years.

[36] Very few examples of long term local currency bank financing can be found in other sectors; however, the Lekki- Epe express toll road, was able to obtain long-term loans for the project. This financing was in receipt of a full federal guarantee for the project.

[37] Such as Vale, the main developer of a coal-fired IPP in Mozambique, linked to the Moatize coal field.

[38] Project financing is a particularly suitable option for generation projects, where there are one off raisings of capital. Corporate financing tends to lend itself more to incremental network expansion.

[39] Senior debt has the first call on project revenues both operationally and in the event of a liquidation.

[40] In this study, DFIs are defined as publicly owned financial institutions who provide capital on a full risk basis – that is they do not require a sovereign guarantee from the host country. Capital is typically provided at market rates – or at least rates reflecting the DFI's own costs of borrowing and return requirements; in all cases it as at risk of the project failing to repay the finance. This is different from sovereign-based finance where the sovereign is ultimately responsible for repayment. DFIs include the European bilateral DFIs such as DEG, FMO and Proparco, the IFC as well as the private sector (non-sovereign) finance windows of the MDBs such as the AfDB.

3.2. Sources, nature and trends in debt finance

Commercial banks (or credit markets) provide debt in the form of loans. Investment in corporate bonds and commercial paper, issued though public and private capital markets, is the way in which institutional investors participate in debt financings. Institutional investors include pension and insurance funds, mutual funds, and SWFs. Banks are also considered to be institutional investors where they invest in bonds issued by companies. Debt can be provided either in local currency or in FX.

3.2.1. Long term FX debt from DFIs and commercial banks

Excluding projects in India and South Africa, most infrastructure projects in the case study countries have sought and continue to seek long term FX debt from DFIs and increasingly commercial banks. This provides longer tenor (typically up to twelve years for commercial banks, but longer for DFIs rather than a typical maximum of five to seven years for local currency), more competitive pricing given historically low wholesale rates (both dollar and euro Libor, plus US Treasury bills), and greater ability to fix rates through interest rate swaps than in most local currencies (typically limited to up to a year).[41]

In comparison, in India and South Africa practically all the debt sourced for project financing has come from Rupee and Rand markets respectively, where credit markets are able to extend long tenors.[42] Projects in both countries are also beginning to access institutional debt markets, South Africa more so than the India.[43]

3.2.2. Breakdown of sources of finance for DFID focus countries

The research examined the financing patterns in all DFID focus countries in SSA (excluding South Africa and the telecoms sector) for projects in the PPI database, for the period 2010-14. Whilst it was not possible to identify all sources of finance for the projects, it was for a substantive number. The results of this research are provided in Table 3-1.

Table 3-1: Sources of financing of infrastructure PPP projects in DFID focus countries in SSA (excluding telecoms projects and projects in South Africa) between 2010-2014

Finance category	Total (US$m)	Share of financing category	Share of total financing identified
Debt			
DFI	1,800	47%	
Banks	1,892	49%	
Other	146	4%	
Sub-total	***3,838***		***70%***
Equity			

[41] In comparison, five year nominal yields on government bonds were c20.5% for Ghana, c12% for Kenya and c11.5% for Nigeria, as of October 2014 (Standard Chartered, 2014)

[42] Findings indicate that the average tenor for bank loans in India is 15 years, while a tenor of 20 years is common in South Africa.

[43] Approximately 5% of finance for South Africa's renewables programme was sourced from institutional sources (PPIAF, 2014).

Finance category	Total (US$m)	Share of financing category	Share of total financing identified
DFI	199	14%	
Private Equity	1,255	86%	
Sub-total	***1,454***		***27%***
Mezzanine			
DFI	107	65%	
Other	58	35%	
Sub-total	***165***		***3%***

Note: Data excludes cancelled projects, telecoms projects, projects in South Africa and projects where information on financing sources totalled less than 20% of the total project cost.

**Includes equity from all other sources such as government and public corporations.*

Source: IJGlobal; World Bank PPI Database; CEPA analysis.

The breakdown between debt and equity finance is roughly as would be expected, with the majority of projects being financed by debt. Although sponsor equity is the dominant source of capital for the equity portion of financing, the analysis confirms a significant proportion of the debt financing is still provided by the DFIs in all sectors other than telecoms. This was 47% over the period, with debt from banks constituting around 49%. DFIs were the main source of mezzanine finance in this time frame, all of which was provided in 2014 to power generation projects.

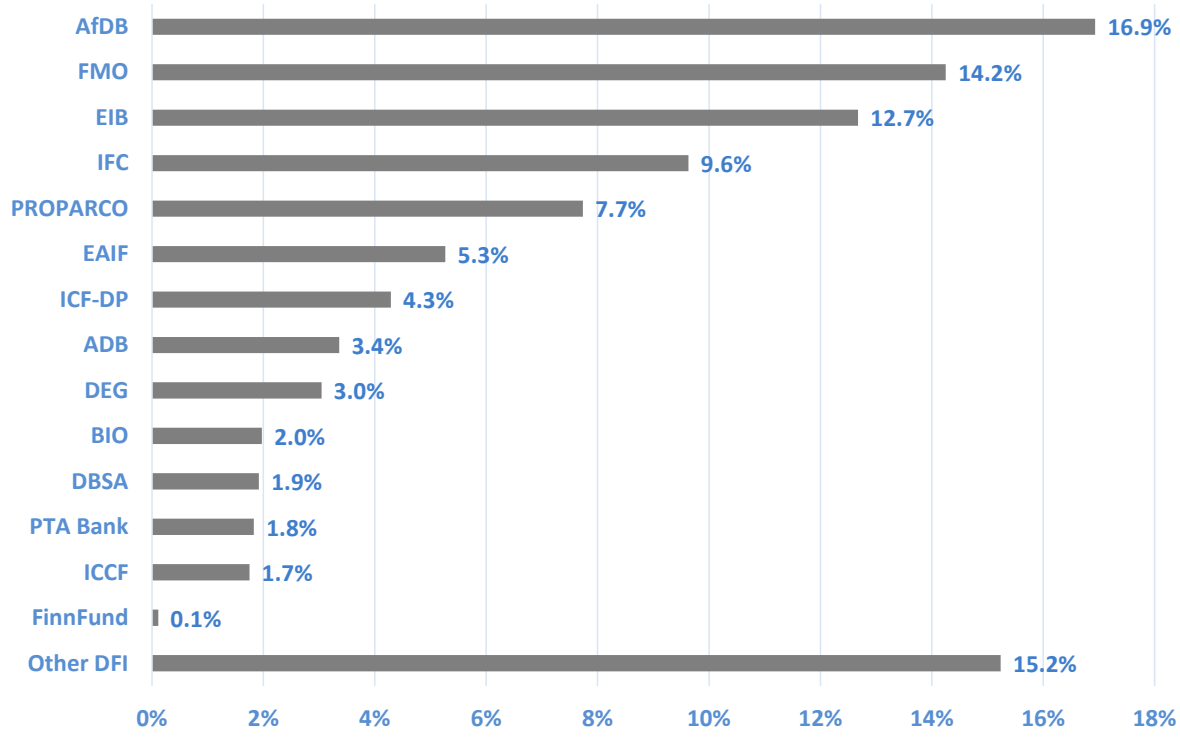
Provision of equity finance from a local corporate sponsor is an increasing feature of some countries in SSA, particularly in Kenya and Nigeria.[44]

In terms of total DFI debt to projects over the period, the leading DFIs in terms of scale of activity were AfDB, IFC, FMO and EIB as shown in Figure 3-1.[45]

[44] In Mozambique it is a government requirement that local investors have the opportunity to invest.

[45] In some cases it is not totally clear whether the institution in question such as EIB and KfW are financing on sovereign or non-sovereign bases. However, this does not dilute the overall messages from the analysis.

Figure 3-1: Breakdown of DFI debt between 2010-14 in DFID focus countries (excl. South Africa and Telecoms)



Note: Data excludes cancelled projects, projects in South Africa, telecoms sector and projects where information on financing sources totalled less than 20% of the total project cost.

Source: IJGlobal; World Bank PPI Database; CEPA analysis.

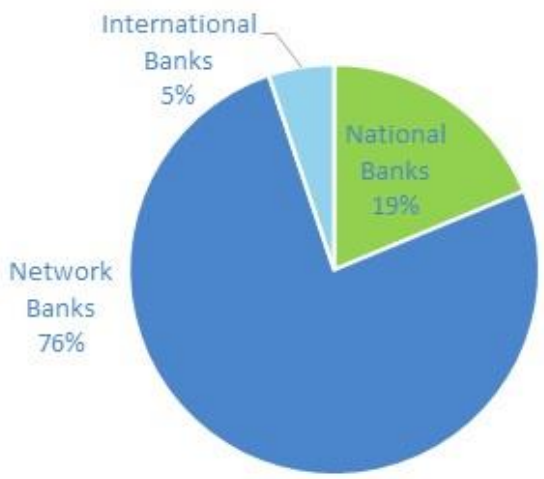
Bank debt

The sources of bank finance were also analysed. Locally-based deposit takers, with operations largely limited to their country of origin and with limited access to international markets, have been termed 'National banks'.[46] At the other extreme 'International banks' are those with no significant operations in SSA, but who still participate in transactions. The other category identified is SSA Network banks whose operations span the continent, either through a branch network or else through significant cross-border operations.[47] Figure 3-2 shows how this latter category has recently accounted for the bulk of private finance provided, for sectors outside of telecoms, with the International banks providing very little.

[46] Typically state-owned institutions that have been privatised.

[47] Banks with retail operations outside of South Africa include the 'Big 4', Barclays, Citibank Stanbic / Standard Bank and Standard Chartered, as well as Nigerian banks such as Ecobank. Those without, include investment banks such as Investec and Rand Merchant Bank.

Figure 3-2: Project debt by bank types in DFID focus countries in SSA (excluding South Africa and telecoms) 2010 – 14.

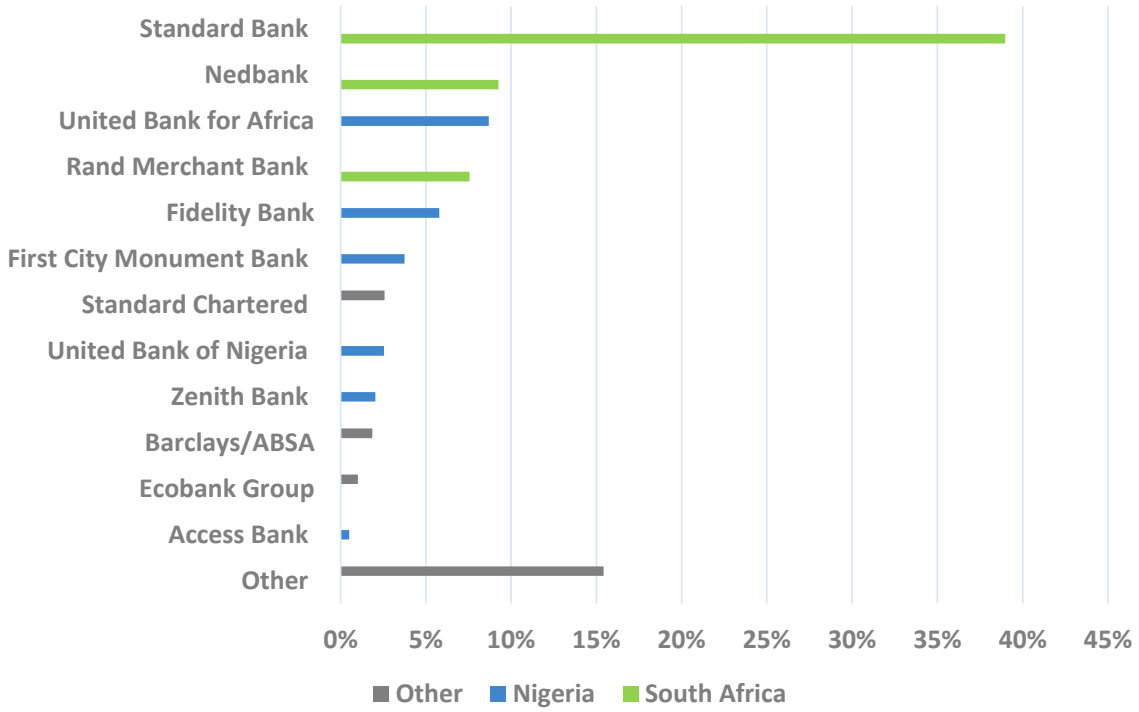


Source: IJGlobal; World Bank PPI Database; CEPA analysis.

National banks have also participated, with roughly twenty percent of financing for all PPP projects being provided by them. The share of national banks' financing reduces once telecoms is removed from the analysis, which is primarily a result of national banks in Nigeria playing a key role in some recent telecoms transactions (see section 3.5).

Figures 3-3 provides a breakdown of the private banks that have been most active, demonstrating the particular role of South African and Nigerian banks.

Figure 3-3: Commercial debt providers 2010-14 in DFID focus countries in SSA (excl. South Africa and telecoms)



Source: IJGlobal; World Bank PPI Database; CEPA analysis.

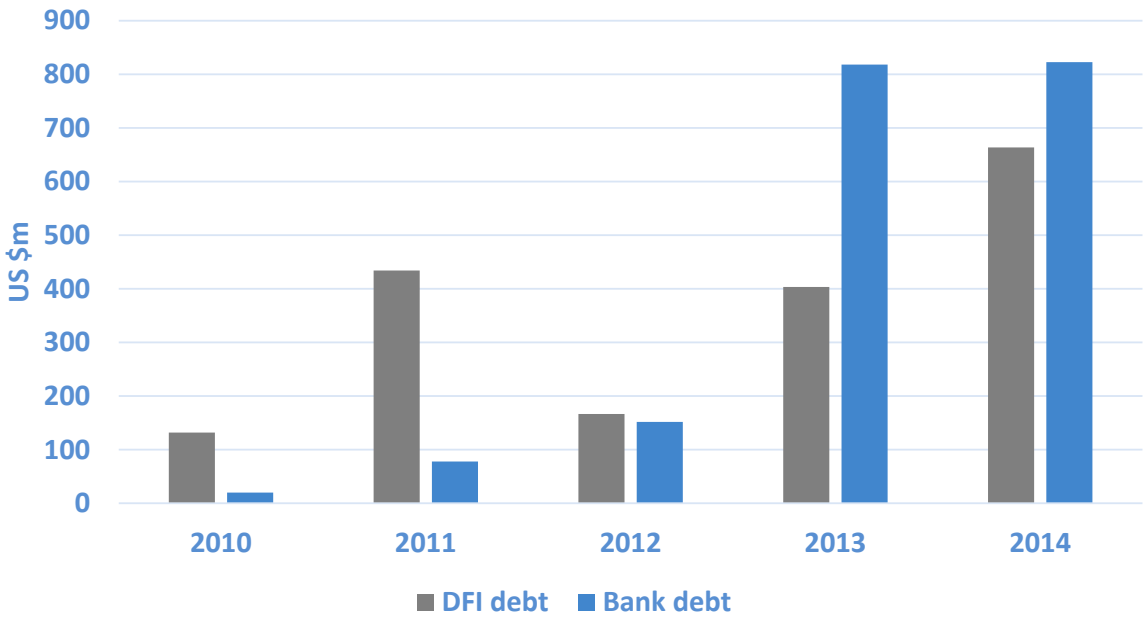
As shown, Standard Bank has been the dominant provider of debt finance for infrastructure projects in DFID focus countries in SSA in recent years, particularly for projects outside of telecoms.[48] Standard Bank has also participated as a debt provider in more transactions than any other commercial lender. Other South African lenders aside include Nedbank and Rand Merchant Bank, who have financed a number of key IPP transactions in recent years.

3.2.3. Trends in debt finance

Trends in both the volume and source of debt finance were also analysed, in order to see whether lending has been increasing, declining, or stagnant in DFID-focus countries in SSA.

Again, for those projects for which detailed financing information was available, debt commitments were split between commercial banks and DFIs. Although not a complete data set, the results show how both have grown (commercial bank debt in particular) over the 2010-2014 period as set out Figure 3-4.[49]

Figure 3-4: Trend of DFI debt and Bank debt between 2010-2014



Note: Data excludes cancelled, South Africa and telecoms sector projects. It also excludes projects where information on financing sources totalled less than 20% of the total project cost; very limited financing information were available for 2010.

Source: CEPA analysis.

Growth in bank debt appears to be most marked, suggesting that despite concerns over Basel III and other prudential regulation, at least as yet, this does not seem to have had a negative impact on lending patterns, at least for African-based lenders.

[48] This includes investments from all of Standard Bank's subsidiaries, such as CfC Stanbic.

[49] Whilst it was not been possible to collect full financing information on all projects in the database, an assumed debt to equity ratio of 70:30 was used to test the robustness of what was available.

However, as discussed in the next sub-section, outside of telecoms, bank debt has largely been mobilised with the support of different credit enhancements, particularly MDB provided PRGs.

3.3. Credit enhancement

Commercial banks need various types of credit enhancements due to the lack of creditworthiness of traditional infrastructure.[50] The main example of banks providing long term finance uncovered – that is, without any form of direct support - is where they have essentially provided debt through the Emerging Africa Infrastructure Facility (EAIF), where they are protected by an equity cushion of donor first loss capital.[51,52]

Historically, many lenders have sought direct credit guarantees from governments, essentially making the loan a sovereign one rather than relying on a project's ability to pay. With such guarantees, there is no performance risk transfer to the banks; they can call on the guarantees irrespective of the reason for the default.[53] National ECAs can also provide insurance to their national lenders and equipment suppliers, either against specifically defined risks such as war, expropriation and currency transfer – PRI – or on a more comprehensive basis.

More recently, the MDBs have been deploying PRGs. These are flexible instruments and can be tailored to cover specific events, such as non-payment by a state-owned entity. They can also provide support to the project company rather than just the credit providers (thus protecting equity as well as debt), but can only be called upon in the event of a specified risk crystallising. As such, they enable meaningful transfer of risk to investors and lenders.[54] As most of the transactions in question typically involve public sector off-takers such as power utilities, PRGs have been increasingly used to back stop payment commitments. Where recent PRGs have been used, financing structures also often include PRI cover from the MIGA – essentially a multilateral DFI providing PRI - to ensure contract termination provisions are honoured.[55]

Overall, excluding telecoms – which are now financed on a full stand-alone basis - the evidence suggests that the vast majority of greenfield PPPs that have successfully raised commercial bank finance, have done so with the support of PRGs provided by the main MDBs. For instance, outside of South Africa, Kenya and Nigeria have the highest levels of private investment in their power sectors – as such, they can be seen as being at the frontier of private financing. In Kenya, five out of seven IPPs closed in the period 2010-15 have required PRG support across a range of government commitments. In Nigeria, four out of four projects have also required PRG support.

[50] Where there is a high quality private off-taker, the support is limited to PRI. Kwale a US$200m combined sugar plantation, refinery and power plant was financed by a consortium of Mauritian and Kenyan based commercial banks, who collectively provided roughly US$100m, without either a PPA or any form of guarantee. This is because it is only the excess power that is sold to KPLC when it is available, with most of the output dedicated to the refinery which provides a high quality off-take.
[51] Emerging Africa Fund website. Link: http://www.emergingafricafund.com/about-us/fund-structure.aspx
[52] Standard Bank is regarded by many in the industry as being willing to take more risk than other banks.
[53] The risk they face is sovereign risk; that is, the risk that the guarantor government does not honour the guarantee.
[54] That is, if there is a default arising from a risk which is not specified, such as poor operation performance, the guarantee cannot be called.
[55] PRGs can either be backed by the MDB's own capital, such as IBRD, or else using concessional resources such as IDA and ADF. The latter have very low guarantee fees.

For example, the Kenyan Government has relied on this approach to mobilise financing for developing its thermal IPPs.[56] In Nigeria, a PRG has been used to back the obligations of a newly created bulk power off-taker. Table 3-2 provides examples of this drawn from the case study countries. The specific instruments are described in detail later on in the report.

Table 3-2: Nature of donor intervention in infrastructure projects (2010 – 2015)

Project name	Country	Credit enhancement	Rationale for intervention
Triumph HFO Power Plant Thika Power Plant Gulf Power Plant	Kenya	IDA PRG /MIGA PRI	Investors and lenders required security regarding ongoing PPA payments and contract termination in each of these transactions. The government did not provide a direct sovereign guarantee to the project; however, it did provide a letter of comfort in each case. The MIGA cover protected investors and lenders in the event of a termination of the project, ensuring that the relevant contractual clauses would be honoured in such an event. Thika involved the first provision of senior debt from a commercial bank to an IPP in Kenya.
Olkaria III Expansion	Kenya	IDA PRG /MIGA PRI	Commercial lenders required security regarding ongoing PPA payments and contract termination. The World Bank support ensured that the government did not have to provide a direct sovereign guarantee to the project.
Lake Turkana Wind Farm	Kenya	AfDB PRG (through ADF) / B loans / ECA	Commercial lenders unwilling to take risk on state-owned enterprise delivering the transmission facility on time (the AfDB PRG has been used to mitigate this risk). AfDB and EIB B loans in which lenders share in the preferred creditor status of the international financial institutions were also used extensively to support private lenders, as well as ECA support. However, there were no direct sovereign guarantees to lenders.
Azura Edo IPP Qua Iboe IPP	Nigeria	IBRD PRG/MIGA PRI	The PRG was used to backstop payment obligations made by a Nigerian government agency - the Nigerian Bulk Electricity Trader (NBET), a relatively new institution with an unproven track record. Therefore, commercial lenders were unwilling to finance the projects without some form of credit enhancement. The MIGA PRI cover comprises breach of contract (for Qua Igboe) and breach of contract, transfer restriction, expropriation, and other civil disturbances (for Azura Edo).
GENCO privatisations	Nigeria	IBRD PRGs	Used to backstop payment obligations taken by the Nigerian government agencies such as NBET, which are relatively new institutions with an unproven track record of meeting payment obligations. Therefore, commercial lenders were unwilling to finance the projects without some form of credit enhancement.
DISCO privatisations	Nigeria	IBRD PRGs (proposed)	Commercial lenders were unwilling to take regulatory risk due to the lack of experience of the Nigerian Electricity Regulatory Commission (NERC) regulating a market with both private and public sector participants. Lenders were also uncomfortable with the risks associated with the Multi-Year Tariff Order (MYTO) due to its relative infancy. The PRGs are being used to attract the capex required to implement the investment plans

[56] In the Kenyan case, KPLC has built up a strong payments record; the PRG has therefore been structured to back stop commercial banks providing liquidity support through letters of credit.

Project name	Country	Credit enhancement	Rationale for intervention
			of the new DISCOs, and cover risk of government non-payment of subsidies to DISCOs, risks associated with MYTO implementation and risk of reversal against reforms.
Kpone IPP	Ghana	Export Credit Insurance Corporation of South Africa (ECIC) political risk and commercial cover	This project was the first IPP in Ghana, therefore commercial lenders were unwilling to take extensive risks on this project (particularly risk of non-payment by the state-owned off-taker) due to the unproven track record in the country.

Source: World Bank (2012; 2014); African Development Bank (2014); IJGlobal (2015).

A further interesting observation from this analysis is that renewable power projects seem to require less credit enhancement than other projects, at least in Kenya where there have been several projects that have reached financial close. Although, a PRG has been used to protect against delays to completion of the transmission link, commercial senior lenders to Lake Turkana, have largely participated in the 'B' loan tranches of the DFIs; these are pari-passu arrangements with the DFI provided 'A' loan which rely solely on the preferred creditor status of the DFI. Several other wind farms in Kenya have also been closed without the need for a PRG. This may be a function of lenders becoming increasingly comfortable with Kenya Power and Lighting Company's (KPLC) payment record.

3.4. Local currency bank finance

Outside of South Africa there is little evidence of banks providing long term debt finance in local currency, with the Lekki - Epe express toll road in Lagos being the exception to the rule.

However, as regards shorter term financing, local currency tenors of five to seven years have been provided to corporately financed transactions and unlike Lekki, without guarantees. These are shown in Table 3-3 (which also includes a local currency bond issue) which is discussed presently.

Table 3-3: Summary of recent telecoms transactions

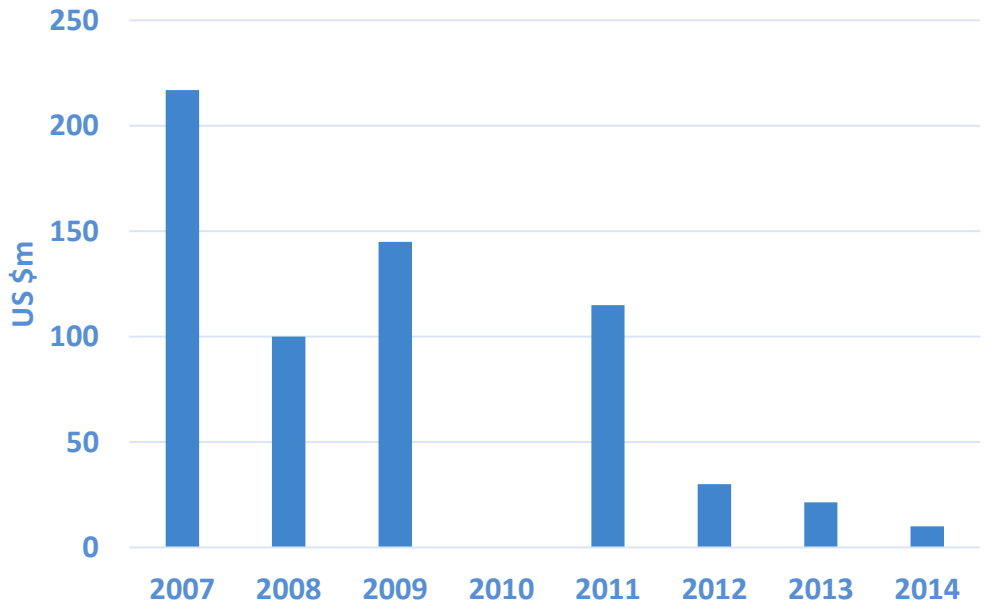
Transaction name (country)	Local listing	Nature of financing	Total size (US$m)	Local currency tranche (US$m)	US$m tranche	Tenor (years)	Nature of debt	Financial close	Lead arranger	Lenders
MTN refinancing (Nigeria)	No	Corporate finance	3,000	2,100	900	7	Loan	2013	Zenith Bank	Consortium of Nigerian and international banks, as well as Chinese development banks, and KfW.
Etisalat refinancing (Nigeria)	No	Corporate finance	1,200	965	235	7	Loan	2013	Zenith Bank	Consortium of 13 Nigerian-based banks (including subsidiaries of international banks such as Stanbic).
Econet Wireless Refinancing (Zimbabwe)	Yes	Corporate finance	362	0	362	5	Loan	2012	Afeximbank	Lenders comprised a number of DFIs, ECAs and Chinese development banks. The lack of commercial debt is likely to be a result of the country in which the investment was taking place.
MTN Network expansion (Ghana)	No	Project finance	278	218	60	5	Bond issue	2012	Standard Bank and Stanbic Bank Ghana	Predominantly locally-based commercial banks, but also included South African Banks RMB and Nedbank (alongside Standard Bank). ECA - Export Development Canada also provided some of the debt.
Etisalat expansion (Nigeria)	No	Corporate finance	650	550	100	7	Loan	2011	First Bank of Nigeria	Consortium of Nigerian-based banks (some of which have operations outside of the country).

Source: IJGlobal; Telegeography; Bloomberg.

Although other sectors may not follow because of their particular features (such as less attractive tariffs, weaker project sponsors, and need for longer tenors), the cellular telephony sector does provide some interesting insights in terms of how financing has evolved within it. Whereas many initial cellular telephony projects were financed by DFIs, they were typically refinanced out of transactions, with expansion capital subsequently provided by commercial banks on a corporate finance basis and without the need for guarantees.

Figure 3-5 below shows the declining trend in DFI debt financings in the telecoms sector.

Figure 3-5: Trend of DFI debt financing in telecoms sector between 2007-2014.



Source: CEPA analysis using PPI database, IJ Online and independent research (Note: based on available information only). Data excludes cancelled projects. No information was available for 2010.

Box 3-1 below describes the example of MTN Nigeria and how after initial DFI project debt financing, it has been able to refinance itself with significant amounts of private capital.

Box 3-1: MTN financing case study

MTN financing case study
The experience of MTN Nigeria provides a good example of the way in which the sector has evolved from relying on finance from DFIs to support the initial investments in the sector to making use of corporate finance to support expansion. MTN Nigeria is part of MTN Group, Africa's largest telecoms company which is based in South Africa. After entering the Nigerian market in 2001, MTN Nigeria has established itself as the leading telecoms provider in the market, claiming a 49.3% market share as of 2013. During its first few years of operating in Nigeria, DFIs played a considerable role in the financing of MTN Nigeria's investment alongside both international and local banks. For example, in 2003 MTN benefited from a US$395m financing package which included a US$75m senior loan and US$25m equity investment by IFC and US$20m senior loan financed by both FMO and DEG. This investment was one of IFC's largest investments in telecoms and its second largest investment in SSA at the time, and was awarded the "Arica Telecoms Deal of the Year" award by *Project Finance Magazine* for the catalytic role it played in mobilising private financing from international banks such as Standard Chartered, alongside a range of local banks. MTN Nigeria also benefited from a US$200m financing package led by Standard Bank the following year, which included a US$10m senior loan from the EAIF (half of which was repaid after only two years).

MTN financing case study
Despite this DFI involvement in earlier MTN Nigeria financing deals, recent transactions have been on a much larger scale and tended to be dominated by commercial bank investment, suggesting that the company's risk profile has developed to such an extent that DFI involvement is no longer required. For example, in 2013 the company secured a US$3bn loan facility from a consortium led by Zenith Bank, and stated that it was looking to invest this amount in its network expansion over the coming three years. MTN Nigeria's financing experience illustrates the progress made in the telecoms sector in terms of attracting private investment, and shows that DFI financing can play an important role initially in developing sectors before allowing commercial financing to take a more central role. While MTN Nigeria is a leading player in the market and therefore has been able to attract extensive financing, other companies on the continent have followed a similar pattern in attracting DFI investment initially before receiving significant financing from commercial banks.

Sources: IFC (2003;2004); IJGlobal (2006); IT News Africa (2014); MTN Nigeria (2014); PIDG (2014); Punch Nigeria (2013); TeleGeography (2014).

3.5. Evidence of institutional debt finance provision

As can be seen in Table 3-3, Ghana has had a successful local currency participation in a telecoms' project financing; although this was for a network expansion of an already operational asset. In 2009, KenGen in Kenya was also successful in issuing a shilling denominated bond that attracted both substantial local and international interest. Similarly, in South Africa parastals such as Eskom have accessed local currency institutional debt markets, although the issues have been government guaranteed.[57]

Box 3-2: KenGen bond issue

KenGen bond issue
In 2009, KenGen initiated the Public Infrastructure Bond Offer (PIBO) to fund an additional 500MW of generating capacity, particularly in geothermal energy. The PIBO was issued in Kenyan shillings and received widespread support from both local and international institutional investors and did not require a government guarantee. The bond provided a fixed net interest rate of 12.5% with a ten year tenor. Interest was to be paid in the first two years of the bond and the principal amount would be redeemed every six months over the following eight years in equal instalments. Standard Chartered were lead arrangers, while KPMG acted as financial advisor and Standard Investment Bank was the leading sponsoring broker.[58] Initially, the bond had a nominal value of Ksh15bn (US$197m) and investors were allowed to make minimum investments of Ksh.100, 000 (US$1,300).[59] However, the bond was oversubscribed by 70%, and as a result KenGen exercised its option to increase the size of the offer to Ksh25bn (US$335m), allowing for more extensive capital investments to be made.[60] The PIBO demonstrated that private sector finance can be attracted to infrastructure investments that are well structured and bankable. As the shilling offer was also subscribed to by international investors,[61] it shows that in the right circumstances there is also a willingness to take exchange rate risk and on bonds without a government guarantee.

[57] See CEPA's South Africa comparative case study – working paper.
[58] Standard Investment Bank is a financial services firm based in Kenya, and should not be confused with Standard Bank, the South African-based financial institution.
[59] KenGen (2009) *Kenya Electricity Generating Company Limited - Abridged Information Memorandum*.
[60] Reuters (Oct 2009) *KenGen bond oversubscribed by over 68 pct-banker.*
[61] Reuters (Oct 2009) *Financial crisis spurs Kenya corporate bond market.*

Access to international debt markets has taken two forms. The first has been sovereign offers by several SSA countries. However, whilst these have been termed infrastructure bonds, they are really just sovereign borrowings, as they have not been ring-fenced. Bond issues for corporate bonds have been limited to two specific project examples in Nigeria: Helios Towers and Seven Energy where in part the capital raised was for the refinancing of operational assets.[62] 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.

3.6. Summary

Project financing rather than corporate financing is the dominant form of financing structure observed outside of the telecoms sector, in large part reflecting the mode of PPP, such as BOO and BOT, rather than divestiture of network assets.

Outside of the more mature telecoms sector, the greatest source of long term debt finance in the last couple of years has been from commercial banks, surpassing DFI debt. Local institutional investors have been able to participate in corporately financed telecoms transactions. Most of the few examples of institutional debt finance being raised are in the telecoms sector which includes both international and local capital raisings. KenGen in Kenya was also able to raise shilling institutional finance from local and off-shore markets and without an explicit government guarantee, despite being a majority owned government entity. In all of these cases, however, the capital was raised to either refinance existing debt and / or to finance the expansion of infrastructure assets, rather than to finance new ones and typically, although not exclusively, on a corporate financing basis.

Most private sector finance of greenfield infrastructure in recent years - a considerable amount of which (50%) – has been for electricity generation - has involved varying degrees of support from government and donors, to back the payment commitments of state owned power off-takers. PRGs have been involved in many such transactions. The extent of the support required is largely dependent on the creditworthiness of project companies, which in turn is driven by the quality of their customer bases and their ability to provide the necessary level of revenues to projects so that they do not default on their borrowing covenants. Where payment track records have been established – such as in Kenya – the extent of this support has diminished (it should be noted that renewables generation projects have required less support than other forms of generation).

Whereas projects in both South Africa and India are largely financed by long term local currency debt, provided by commercial banks; in DFID focus countries in SSA, long term debt for project financings is typically in FX and US dollar denominated. This implies that exchange rate risks are significant and growing, in line with the scale of PPPs coming on stream. Typically these risks are passed through to off-takers, for instance through PPAs. In Kenya, for example, they are ultimately borne by customers with the costs of exchange rate driven price changes being set out in customer bills.

As such, with the notable exception of telecoms, financing norms in DFID's focus countries in SSA remain well behind those in India and South Africa.

[62] 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.

PART C: CONSTRAINTS

These sections present an overview of the upstream, downstream and financing constraints to private finance to infrastructure in the DFID focus countries in SSA. For upstream constraints it examines affordability, policy, and government commitment constraints. For downstream constraints it looks at project selection, bankability, project development resources, the scope and focus of existing support, public sector expertise, and access to PPFs.

The financing constraints section looks at the asset-liability mismatch facing potential investors and the risks facing different types of institutions (banks and institutional investors – local and international).

The objective of PART C is to identify the extent to which the different types of constraints have contributed to what is observed in the previous sections; in particular, the limited penetration of private finance sector-wise (outside of telecoms and electricity generation).

4. INFRASTRUCTURE DEVELOPMENT - UPSTREAM CONSTRAINTS

The aim of analysing upstream constraints associated with the development of infrastructure assets is to identify the extent to which they have contributed to what is observed in the previous sections. In particular, the limited penetration of private finance sector-wise (outside of telecoms and electricity generation) and where this has happened the need for PRGs.

What is observed is consistent with the concerns expressed by lenders regarding the lack of creditworthiness of projects. Upstream constraints play a considerable role in this, both in terms of structural issues facing many economies as well as the policy choices made by governments, both of which can undermine the viability of projects, not least the absence of cost reflective tariffs.

Whilst traditionally (and still to a degree) inherent barriers such as limited ability to pay for infrastructure services have created considerable challenges to the flow of private investment for infrastructure, a decade or so of higher economic growth is beginning to alleviate such constraints with, arguably, policy-induced constraints becoming relatively more important. Growth in telecoms demonstrates both ability and willingness to pay for infrastructure services.

In particular, this section seeks to identify and understand some of the reasons why policy choices are impeding the mobilisation of private finance, based largely on the views of interviewees, as well as additional desk research. As this covers issues of political economy, it is more difficult to substantiate the views expressed, although they are consistent with what is observed.

4.1. Affordability as a barrier

Limited affordability can result in revenues being insufficient to cover the costs of infrastructure provision through both price and volume effects:

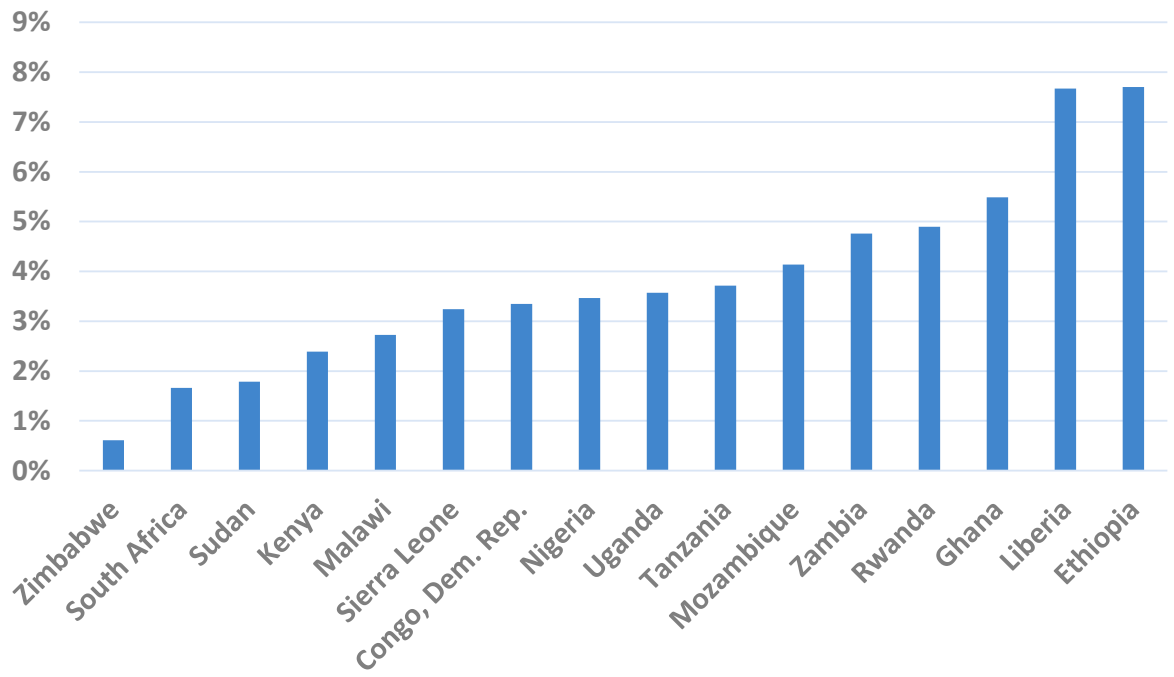
- Infrastructure service providers cannot charge sufficiently high tariffs – such as in the case of electricity and water tariffs.
- In addition, low volumes and growth in volumes impede asset utilisation, such as in case of transport assets. These will often require high uptake to cover costs and generate profits.

These problems are compounded by the geography of SSA which is a major cost driver of infrastructure services, particularly for infrastructure networks, such as transmission links, roads and railways; such issues being particularly pertinent for land-locked countries.

Taken together, these factors undermine the commercial viability of many infrastructure investments. The greater the required scale of the asset, the greater the problem. Large scale regional transport infrastructure, for instance, has not been able to attract private financing and to date has had to largely depend on public financing (such as in the case of the North-South Corridor).

Historically low income levels have been seen as a major structural barrier to the uptake of infrastructure services. However, recent years have witnessed increasing rates of economic growth across SSA which may be starting to reduce the impact of this as shown in Figure 4-1 below.

Figure 4-1: Average annual per capita real GDP (at 2005 prices) growth rates of DFID focus countries between 2005 and 2013.



Data source: World Bank (excludes Somalia and South Sudan)
Source: *CEPA analysis.*

This is not to say that ability to pay is not a problem. It is, however, arguably becoming less of a barrier (although clearly not for the poorest consumers).

Ability to pay, though, is only part of the story; willingness to pay is another challenge, which along with other issues embedded in the political economies of the countries in question, creates significant barriers to the introduction of PPPs and private finance.

4.2. Policy-related barriers

Policy related barriers represent some of the most significant barriers to PPP. Whilst on one level they can be seen as being purely technical issues, such as the need to increase tariffs, the reality is that implementing such solutions are as much political challenges as economic ones. In the sub-sections below, the most commonly observed policy barriers are set out, together with an analysis of many of the contributing factors that have been raised in different country contexts. These are principally:

- The reluctance of governments to increase tariff levels so as to reduce payment risks and to fund a greater quantum of infrastructure provision, irrespective of whether this is on a public-financing or PPP basis.
- The reticence to open up more infrastructure sub-sectors to PPP and private finance, particularly infrastructure networks, and where this involves a loss of direct control.
- The need to address gaps in the enabling environment particularly as they relate to treatment of unsolicited proposals, which remains the dominant form of project origination (note that building government side capacity to support project development and transacting is covered in Section 8.1).

- The Chinese model which is a state-to-state financing model which as an alternative to PPP has several attractions and is one which is frequently turned to by governments instead of PPP as it is perceived to be easier.

4.2.1. Lack of tariff reform

This is a key political economy constraint, particularly when government intervenes to reduce tariff levels, or prevent planned increases, often as part of the political cycle, or to protect particular groups.[63]

As noted by several interviewees, many people including politicians still see infrastructure services as being public goods – to be made available free of charge – even where such services are not readily available. As such, the expectation is that they are funded out of public resources, rather than by user charges for the service. Attitudes to water charging lie at the extreme of the spectrum of infrastructure services, whereas at the other, it is rare to see protests regarding levels of cellular telephony charges.[64] Charges for energy lie between these two extremes – even when tariffs for households are at levels well below the costs of alternative supplies such as batteries, or diesel generation.

Key infrastructure services may be viewed in this way because of a combination of public expectations, politicisation of prices, as well the role of powerful groups in resisting any move to more cost reflective pricing – who argue against price rises by using public good arguments.[65] This may also be reinforced by the recent history of socialist policies in many countries in Africa including Ghana and Mozambique in which the state is seen as being the provider of infrastructure services.[66] However, in many of the countries under consideration it is the relatively better off who have, say, household power connections – not the rural poor – and there are many examples of businesses, rather than households leading resistance to higher tariff levels.[67] Another dimension to this can be a geographical aspect to the introduction of charging as seen in Kenya where there is currently a lively debate on the introduction of road charging. The introduction of charging in one geographic locality, whereas another area receives a similar service for free – can aggravate existing societal cleavages.[68] Similar issues have arisen in Ghana on a private planned toll road at Legon University; the Lekki road concession in Lagos has also been taken back into public hands after opposition to tolling.[69]

A lack of tariff reform of retail prices contributes to the payment risks faced by PPPs, particularly IPPs. Where retail prices are not cost recovering, it places the finances of utilities under strain which are caught between what they are being charged by generators and what customers are paying them. The

[63] In Ghana, increases in retail electricity prices were recommended by the regulator but the government intervened, partly because of the election cycle. Similarly, in Mozambique, increasing the tariff level was seen to be unacceptable before the Presidential elections at the end of 2014, although interviewees are now expecting an increase.
[64] Sewerage and access to improved toilets seem a similar issue but there are major public health issues in both cases; people seem to tolerate private water tanker service charges – so it more about perception and rights. Once government provides a service it is seen as being a public good which does not need to be fully paid for.
[65] Alex M. Kroeger. Patronage Politics and Public Goods Provision in Africa, University of Nebraska-Lincoln, 2012.
[66] Asfaw Kumssa and John F. Jones. Post-independence African Policy: African Socialism and the Organization of African Unity. Public Administration Research; Vol. 4, No. 1; 2015 ISSN 1927-517x E-ISSN 1927-5188. Published by Canadian Center of Science and Education.
[67] The concession for a privately financed, isolated grid in Mozambique, was terminated following strong opposition from the local business community in particular, who objected to paying a retail tariff above the national grid connected one.
[68] According to stakeholders consulted for the Kenya country case study.
[69] See Ghana and Nigeria country case studies for more detail.

AfDB has estimated that the average cost of producing electricity in Africa is 18 US cents per kWh, but that it is sold for, on average, 14 cents per kWh.[70] It is therefore not uncommon for utilities to be on the verge of bankruptcy.

Whether it is government / taxpayers or users who fund (that is, pay for) infrastructure services, the revenues need to be sufficient to cover full operating, capital, and financing costs, with such payments being made in a timely manner.[71] If customer tariff levels and / or government subsidies are insufficient, projects will either fail, or not be financed in the first place. Similarly if government customers do not pay their bills, this will have the same impact. For instance, in Ghana government ministries have a poor history of paying the local power utility.[72] Across sectors, a lack of political willingness to increase tariffs was identified by the vast majority of interviewees as being the key constraint facing the provision of finance.

As pointed out by the lenders interviewed, where such risks arise, finance will only be provided if there is full sovereign support – that is, with credit guarantees from government who essentially become responsible for payment, rather than projects being reliant on the revenues that they generate from customers.[73]

4.2.2. Limited penetration of PPP

As demonstrated in Part B, there are relatively few sectors which have been opened up to the private sector. Outside of telecoms this has been largely electricity generation, with reluctance in most countries to open up transmission and distribution infrastructure, especially through asset divestiture. The exception to this has been Nigeria where electricity distribution has sought private sector investment.

Again with the exception of cellular telephony, those sectors open to private investment with associated user charging tend to be wholesale services (e.g. power production) or else those targeted on the industrial and commercial sectors. As far as possible, direct user-charging to households and small business customers by private sector infrastructure companies would seem to be avoided by policy makers.[74]

Relative to the highly subsidised finance often made available to public projects, private finance will be more expensive (and it is not clear that this is always fully offset by any improvements in efficiency,

[70] Source: African Development Bank, http://www.afdb.org/en/blogs/afdb-championing-inclusive-growth-across-africa/post/the-high-cost-of-electricity-generation-in-africa-11496/

[71] The role of financing in any infrastructure project is principally to alter the profile of payments. Thus, projects with high upfront investment costs can have these costs spread over a much longer time-period, the precise period being determined by the term / tenor of the financing provided.

[72] See Ghana Country Case Study, page 22.

[73] Different banks appear to take different views on the extent of credit enhancements required, driven by several factors, including meeting Basel III requirements. PRI cover will be required as a minimum, but this is much less onerous for government than full credit guarantees.

[74] The issue of who pays is seldom addressed holistically when infrastructure funding polices are put in place – that is, whether it is the users of particular assets are charged, or whether the responsibility for payment is socialised, as part of a national policy across users. Normally, the issue is approached on a project by project basis, in terms of the revenue required to fund a specific opportunity. This tends typically not to be an issue in the case of IPPs, where in single buyer models, the final charge to customers is driven by the blended costs of different sources of power; it is much more of an issue in locational projects such as transport.

although efficiency improvements will often be observed with private sector service delivery).[75] Often, the introduction of the private sector into a sector happens at the same time as increased charging (and as service improvements are not necessarily immediate), this can increase resentment towards PPPs, which can be used by those who oppose them. Whatever the sequencing, there is often a communication gap in setting appropriate expectations which can lead to strong opposition.

Popular resistance to private and / or foreign ownership

Private ownership and control can also result in job losses as new owners seek to improve efficiency.[76] This can lead to conflicts which governments may understandably wish to avoid. In addition, the higher profitability which can accompany such efficiency gains, can be seen as flowing to private sector investors, rather than being recycled into further investment and / or lower prices, which creates further problems.

Some groups in society do not accept any role for private profit in the delivery of public services even where it is a choice between a good (privately-provided) and a very poor / non-existent (publicly-provided) one.[77] In certain sectors which are highly unionised, for instance ports, there can be considerable resistance to PPP for the reasons cited.[78] As in the UK, politicians can often express differing levels of support for the approach whether they are in government or opposition.[79] With increasing decentralisation in countries such as Ghana and Nigeria, however, there is some evidence of growing support for PPP where centralised policies are seen as having failed to deliver.[80]

Foreign ownership of "national assets" can also create another political problem, especially if local businesses are perceived to be excluded, either as developers and / or as minority equity participants.[81] Localisation of projects can therefore help address such political opposition although local companies can be owned by individuals with significant political connections, which creates another set of problems. For instance, confidence in the PPP approach can also be reduced where local elites are seen to be unfairly benefiting from such opportunities at the expense of their fellow citizens;[82] such issues can also create problems for donor support (see below).

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[75] Clive Harris. Private Sector Advisory Services Private Participation in Infrastructure in Developing Countries: Trends, Impacts, and Policy Lessons. March 2003.

[76] Andres, Guasch; Haven, Foster (2008). The Impact of Private Sector Participation in Infrastructure.

[77] This is particularly the case in the water sector where there has been long-running opposition to private engagement. See for example, World Development Movement (WDM) (2005) *Dirty Aid, Dirty Water Campaign,* and waterjustice.org (2007) *Top 10: Why Water Privatisation Fails.*

[78] A current example is Mombasa Port, see www.standardmedia.co.ke (Aug 2014) *Dock workers oppose port's privatization.* A recent summary of trade unions' views on the role of the private sector in service provision is given here: www.csopartnership.org (March 2014) *The Private Sector and Its Role in Development: A Trade Union Perspective.*

[79] For example, it was perceived that the NPP in Ghana had a change of heart on its approach to PPPs in the water sector when it took power in the early 2000s. See for example discussions here: www.modernghana.com (Oct 2002) *CPP Denounces NPP and Al-hassan Adam (August 2004) Ghana Water: Strategic Investors Turn Strategic Managers.*

[80] In Ghana the municipalities have been taking forward some small PPPs, such as public toilets, with the support of PPIAF. (See Ghana Country Case Study), while in Nigeria some State Governments, particularly Lagos, has been active in gaining private participation in infrastructure (See Nigeria Country Case Study).

[81] See for example, World Development Movement (WDM) (2005) *Dirty Aid, Dirty Water Campaign.*

[82] For example, World Bank (2008) *The Political Economy of Policy Reforms* gives a summary of how local elites battled for control of local toilet concessions in Ghana in the 2000s.

Government desire to retain control

Governments themselves may see PPP as a loss of control and patronage, even where privatisation is not on the agenda.[83] Interviewees pointed to several airport projects which arguably have the potential for full PPPs, such as Accra. Even in Kenya, where the government is recognised as being more committed to PPPs, the publicly owned JKIA remains the sponsor of the new airport terminal. This suggests that where state owned enterprises have strong cash flows they can avoid the PPP route.[84]

Utilities may also wish to have a participation in projects, not only from an ownership perspective, but they can also see it as being a good investment – the returns from which can help plug losses on other activities. In some structures, the private sector partner effectively finances the state utility's participation as part of acquiring the rights to participate in the transaction. However, in other cases, this involves the utility / state corporation having to borrow to provide the required equity for investment purposes.[85]

A point related to control of infrastructure assets, is the nature of the regulatory regimes in place in most countries. The seeming absence of an inability in contractual / regulatory models to sell directly to large alternative creditworthy customers in the event of a state-off taker's contractual default is a key risk faced by investors in and lenders to IPPs.[86] Governments would appear to prefer to offer the full credit guarantees that then become a requirement for private financing, rather than allowing such contractual / licence provisions, which can become more realistic as physical transmission infrastructure improves in, say, regional power pools.

4.2.3. Legal and institutional framework constraints

Much donor support has been channelled into helping countries develop legal and institutional frameworks to support PPP. Summaries of these for different DFID focus countries are presented in Annex A. As a result, most countries under consideration now have legal frameworks and often specialist institutions such as PPP units, even though their introduction / establishment have been relatively recent.

The research suggests, however, that these still require time to bed down, although they would not seem to present the greatest impediments to PPP. For instance, there are instances of PPP laws clashing with either sector legislation (Mozambique) or with existing procurement practices (Kenya and Mozambique). As mentioned, in Nigeria however, there are examples of government ignoring legal judgements against it. As will be discussed in Section 5.2 there is also a question of sufficient funding for PPP institutions and government capacity to manage them.

[83] Kovacs (2006). *The Political Economy of PPPs.*
[84] It should be noted that JKIA is treated as if it were a private entity in terms of receiving non-sovereign finance from AfDB.
[85] For instance, in Mozambique, state-owned electricity and transport companies with limited own financial resources have borrowed from donors to fund their participation in ring-fenced IPPs, transmission investments, and transport projects.
[86] Should an off-taker default on payments the owner of the infrastructure asset is contractually prohibited from selling to an alternative buyer – making credit guarantees necessary - where they might not be if there was a contractual allowance to sell elsewhere in such an event.

Reliance on unsolicited project origination

The fact that a very high proportion of projects are unsolicited, rather than being implemented through competitive tendering, is not a barrier in the same way, as say tariff levels are, but they still create challenges which can severely slow down the delivery of projects and increase costs for participants. A reliance on unsolicited approaches is also a symptom of a lack of clear sector strategies through which governments set out well-articulated policies for their infrastructure sectors, including PPP opportunities. In turn these can signal to and raise awareness within the private sector as regards likely future opportunities. The ideal would be for government solicitation of private sector interest in clear, well thought through sector programmes, rather than ad-hoc projects.

Whilst stated approaches to PPPs and even PPP laws emphasise public origination of projects, the reality is that until recently unsolicited approaches have dominated. Countries often adopt such approaches in the belief that it will speed up transactions or where they lack the capacity to originate and package projects for private sector investment.

If countries are to negotiate successfully to their advantage with private sector promoters, it is important that they have the right advisory support. Full project financing can be extremely complex and governments often do not have the requisite quality of in-house resource to negotiate successfully. National governments and donors can play an important role in funding advisory support throughout the project development cycle.

Whilst this is possible in unsolicited contexts, it is certainly more challenging. For instance, funding may be available only for later stage project cycle activities. Funding for feasibility studies is much more widely available from donors in contexts where there is public solicitation because donors have transparency requirements and procurement rules that need to be followed which are often absent in unsolicited contexts. Such funding may be more widely available from the private sector in more attractive transactions, but less so in more challenging ones.

From a financing perspective, both commercial lenders and DFIs have a preference for tendered opportunities both for ethical and practical reasons; the less transparent the transaction the greater the likelihood that problems arise which delay the project.[87] This creates a considerable cost to all parties – a point raised by several market participants. A recent Botswana coal power project was cited by several of the banks consulted as being a good example of a government initiated procurement which attracted a good range of international sponsors.[88]

Further benefits of major public sector-originated programmes, is that they can be larger scale, as was the case with the recent South African renewables programme. They are also likely to be better prepared, with learning being incorporated into later tenders, as well as offering economies of scale and scope. The presence of a MDB and other support in them can provide confidence, encouraging a much greater pool of bidders for such projects. Together these factors can lead to more competitive pricing.

[87] PPIAF. Unsolicited Proposals – An Exception to Public Initiation of Infrastructure PPPs: An Analysis of Global Trends and Lessons Learned. August 2014. This view was also shared by the stakeholders consulted.
[88] Twelve firms bid for the Morupule B IPP. See www.mmegi.bw (Sep 2014). *Asian giants dominate race for 300MW tender.*

4.2.4. Attractiveness of the Chinese model

Rather than pursuing PPP approaches, governments have often opted to pursue the "Chinese model." Whilst there is a degree of opacity as to how this operates, the approach will often have several of the following characteristics:[89]

- Deals will be negotiated at the government to government (state-to-state) level, rather than being procured competitively (with very limited transparency).
- Projects are public sector ones, not PPPs, with the host country in one way or another underwriting the project (through guarantees or sometimes pledging of assets such as mineral rights).
- Services are turnkey in nature and typically involving the construction of assets that are then handed over to government.[90]
- The Chinese construction company will supply its services often backed by different forms of Chinese export credit (Chinese EXIM Bank) or resources from the Chinese Development Bank.

From a government perspective, it is not difficult to see how such deals can be seen as being attractive relative to a PPP. It is less complex and onerous on the part of host governments – the many requirements of western donors are avoided, which are often perceived as delaying project timescales; moreover, there is less scrutiny of public policy concerns as there would be with traditional donor support. Government retains ownership and has a project relatively quickly compared to other approaches. A combination of cheap export finance and cheap Chinese labour increases affordability.[91]

This is not to say that there are not some costs to such arrangements, but the evidence suggest that they remain popular and not just in situations where it would be challenging to attract private sector investment.[92] Whereas the Government of Mozambique brought in the Chinese on the Maputo airport upgrade (which would have been more difficult to finance privately) it also brought a Chinese developer in at a late stage in the process on the Mepandu Nkura dam and backbone transmission infrastructure project, which already had a private Brazilian developer.[93] The Kenyan Government has negotiated a state-to-state agreement on the Standard Gauge Railway linking Nairobi and Mombasa, much of the detail of which is not in the public domain.

Irrespective of the benefits, such projects can in certain circumstances preclude PPP opportunities, including investment opportunities for local equity and debt investment (although this is not to say

[89] Deborah Brautigam (2011). "Aid with Chinese characteristics: Chinese foreign aid and development finance meet the OECD-DAC Aid Regime." Journal of International Development.

[90] Although as the Standard Gauge Railway in Kenya and the Mepanda Nkura hydro project in Mozambique show, Chinese companies are also seeking more operational opportunities as well as just construction.

[91] As China is not an OECD country it does not face the same restrictions on subsidising export credit as most competitor countries do. See Export Finance Activities by the Chinese Government, Policy paper by EU Directorate-General for external policies of the Union (2011).

[92] Concerns raised regard the quality of some of the infrastructure produced, avoidance of social and environmental obligations, limited opportunities for local inputs (including labour), increasing external financial obligations to foreign countries that have only recently managed to extract themselves from the Highly Indebted Poor Countries (HIPC) programme, as well as popular distrust of undocumented aspects of deals conducted at high political levels.

[93] Whereas the Chinese model has typically involved just the provision of infrastructure, this project could see the Chinese developer continuing as an operator of the project. As with many such projects, its current status remains shrouded in mystery, a working assumption is that it will remain a PPP.

that Chinese companies cannot undertake PPPs on the same basis as companies from other countries). Whilst the overall direct project costs may be lower, they may offer fewer opportunities to shift risk from the balance sheets of governments where the arrangements involve obligations to the Chinese state, the precise nature of which may not be transparent.

4.3. Government commitment to PPP policies

The above challenges are both considerable and complex, requiring a significant investment of political capital on the part of governments if they are to be overcome. The extent of government commitment will determine the extent of PPP opportunities in terms of sectors and sub-sectors open to it, its scale versus alternatives, as well as the speed at which projects are executed, not least in terms of lining up the available donor support.

Several interviewees pointed out that it is difficult to find any government in DFID focus countries in SSA that has enthusiastically endorsed PPPs and has been willing to meet its requirements. Often it is seen as a last resort, once all other options, such as borrowing from donors, have been exhausted. At this point PPP – based around developed country models – becomes one, but not the only option; the Chinese model being a major alternative.

Many African governments are, however, increasingly turning to PPPs as a way of providing the power supply and transport connectivity, that are required to underpin recent high rates of growth. For example, Ethiopia is now considering IPPs as a way of developing its geothermal potential, whereas historically it has avoided this route.[94]

But even where this increased commitment is apparent, it needs to be both *strong* and *consistent* in terms of, for instance, surviving the political cycle. Furthermore, there are still challenges for governments in understanding what is required of them in order to attract private sector investment. For instance, it may involve a loss of control of valued key state assets and powers of patronage and possibly, conflicts with wider development policies. It also requires a strict adherence to the rule of law, which can be inconsistent even in countries which have embarked on relatively more ambitious programmes.[95]

4.3.1. Donor requirements

Governments also need to commit to meeting donor requirements, such as those of transparency. It is often necessary to receive donor support – either in the development and / or the financing of projects. All such international entities are under public scrutiny and it is therefore essential that the awarding of opportunities to the private sector meets their exacting transparency, social and environmental standards, as well as their financial requirements. For instance, where there is opacity in the award of development rights and contracts, apparent conflicts of interest, and a greater potential for corruption, this can make it difficult for donors who wish to support PPP solutions.

[94] Ethiopia being another country which has previously pursued socialist policies.
[95] Evidence collected from Nigeria suggests that on several occasions the government has failed to honour legal judgements against it on cases brought by private sector investors and lenders.

4.3.2. Absence of PPP champions

Finally, given the considerable challenge of overcoming these different issues, there is a major need for government champions who can provide a combination of political sponsorship and technical understanding of the requirements of PPPs to do what is required. Several interviewees with experience of financing PPPs across SSA pointed out the typical absence of such sponsors.[96] However, the reality is that PPPs remain a relatively complex approach, often without a straightforward simple political narrative which increases the challenge of finding such champions.

4.4. Summary

Although the lack of an "enabling environment" has long been recognised as a constraint to PPPs and private investment, the focus has often been on objective factors such as the lack of appropriate legislation and capable institutions. Whilst these problems have certainly contributed, they are amenable to tangible donor interventions. However, as this section has sought to demonstrate, some of the real challenges lie even further upstream. They involve a broad based recognition of the need to pay for infrastructure services – irrespective of who provides them – and to overcome other different interests which can work against successful PPPs. This involves a very high degree of ongoing political commitment that can survive political cycles and which therefore remains extremely challenging. These challenges require just as much focus as the more technical issues of the legal and regulatory framework, project preparation and modes of financing, although ways of addressing them may need to be different.

In spite of such issues, there now appears to be a greater momentum for change, created by a realisation of what is required to finance much needed infrastructure, which may assist in helping to overcome the headwinds that PPP approaches have historically experienced. Moreover, the success of South Africa's renewables programme is helping to demonstrate what private finance can achieve. Providing potential champions of PPP with examples of success will be important in building the case for and commitment to the approach.

[96] It was noted that the success of the South African renewables programme was due in no small part to its championing by a senior Treasury civil servant.

5. INFRASTRUCTURE DEVELOPMENT - DOWNSTREAM CONSTRAINTS

Downstream barriers relate to the more objective challenge of improving the ability of the public sector partner to either package projects in order to attract private sector interest or else be able to respond to unsolicited approaches. Whilst these are more technical as opposed to political challenges, the issues identified in the previous section can still permeate these processes.

A key constraint is the lack of availability of appropriate technical, legal, and financial skills both inside and external to government to support the necessary processes and activities. The impacts of problems in these areas are principally, long delays in projects reaching financial close and significantly higher costs to both public and private participants, which contributes to more expensive infrastructure provision.

5.1. Focus of donor support

In this context, project preparation refers to the ability to package an opportunity in such a way that it is seen as being bankable by investors and lenders. Ensuring bankability is not just about ensuring technical and economic feasibility, but also that the opportunity allocates risk in a way that is acceptable to private partners.

As illustrated in Table 5-1, the project cycle typically begins with the identification of project opportunities and progresses through various stages, involving ever increasing and detailed development of technical legal and financial aspects.

Table 5-1: Project cycle processes, activities, and key outputs

Project cycle phases	Processes	Detailed activities	Examples of required outputs
Phase I: Early stage concept development	Project identification and concept development	• Sector planning, project identification, and screening	• Sector policy papers • Project concept note • Prefeasibility reports
Phase II: Feasibility and structuring	Due diligence	• Detailed financial, legal, engineering, environmental and social appraisals	• Reports that validate and develop concept further
	Project structuring	• Detailed financial, and legal structuring, including allocation of risks • Development of a security package	• Financial models • Legal documentation
Phase III: Execution	Marketing	• Promotion of the project and assessment of private sector interest	• Detailed project description / information memorandum • Road-shows / conferences
	Transacting	• Procuring and negotiating project documentation	• Bid documentation • Signed, negotiated project documentation

Source: CEPA analysis.

To support these processes, Ghana, Kenya and Nigeria all have donor funded central PPP units, although they are tasked with a much broader range of responsibilities, including developing frameworks for addressing both direct (committed funding and financing of projects) and contingent liabilities (such as guarantees) entered into by the government. Other aspects involve establishing 'PPP nodes' – points of responsibility – within different contracting authorities (that is the different parts of central and local government) who are the contractual counterparties within government to private sector partners. Increasing devolution of powers to sub-national entities in countries such as Ghana and Kenya has increased this challenge further.

5.2. Constraints

Whilst many of the upstream issues identified can permeate downstream project cycle processes and activities, the main downstream constraints are associated with progressing projects through the project cycle. As regards unsolicited approaches, most of the activities are focused on negotiating a final transaction. Both forms of origination can also be led by line ministries; for instance, ministries of energy in the case of IPPs, rather than a central unit (although any need for guarantees will require the involvement of the finance ministry, within which many PPP units are based). The main challenges typically encountered are discussed below.

5.2.1. Project selection

A key downstream challenge is that of governments understanding which sectors and types of projects have the most potential for PPP. PPP is not a solution that can be applied to all situations, especially if the intention is for private capital to take full risks. In addition to the politically driven choice of not offering the most attractive projects for PPP, several commentators have pointed to wish lists of projects presented to PPP units for development with limited potential. One unit commented on the extensive need to educate line ministries as to what projects have potential for PPP and which do not. At this very early stage in the project cycle this is typically about ensuring that a project meets the bare essentials of commerciality rather than more complex financing requirements.

5.2.2. Understanding bankability

Different additional requirements emerge as the project progresses through the cycle. A leading financial advisor on the buy-side side of projects – that is, an advisor to bidders rather than governments, pointed out that there is not a shared understanding of bankability. The public sector would appear to have a more narrowly defined interpretation, in which projects clearing a given financial hurdle rate are considered so, whereas bidders are looking to see a more comprehensive risk mitigation package, which sets out how different risks are to be allocated and managed, as well as the composition of any required security. For instance, the approach to government support such as the provision of guarantees would appear to be one of the last things to be negotiated (understandably reluctantly) by government, rather than being something for which the need is anticipated. In more developed approaches, the composition of the full package would be assessed prior to soliciting interest from the market. Poorly prepared packages undermine bidders' confidence in governments as a partner.

A reason for this observation may be that at least early stage project preparation is being undertaken in isolation from the question of financing. There is a strong argument for these wider requirements

being considered upfront following soundings from likely project financiers. For instance, where say MDB-provided PRGs are likely to be required, the need should be identified at an early stage.

Some of this may relate to most procurement expertise being based on public sector tenders. Other constraints may involve a lack of "joined-up" support amongst different advisors and their funding donors, with different providers of support focusing just on issues within their domain, rather considering the problem more comprehensively.

5.2.3. Limited resources for project development

Project development involves considerable financial outlay and is often insufficient to fund the development of a full pipeline of projects (although India provides a useful example of where such a funding mechanism has been put in place). In Kenya, for instance, the current donor funding provided has largely been expended on framework and institutional components rather than support for specific projects. There is a need for a well-funded PDF that can be drawn on by transaction advisors to finance different aspects of project development, such as feasibility studies and legal support.

5.2.4. Scope and focus of support

There are two key issues in terms of the scope and focus of support. As regards scope, the fact is that much support is focused on public sector origination of projects, whereas the balance of activity, at least historically, has been unsolicited in nature. As regards focus, support has been spread across many sectors, whereas activity has typically been more narrowly focused. As regards both, this reflects a sound policy of seeking to develop longer term robust frameworks and approaches to public solicitation of projects. In the case of scope, it is not clear what else could be done in the absence of the line ministries concerned not seeking support. As regards focus, given limited resources, a lesson may be to concentrate on those sectors where most solicited activity is either taking place or where there is the most potential. This issue is linked to the one of governments not necessarily pursuing PPP where it has the most potential, but rather pursuing significantly more challenging opportunities.

5.2.5. Retaining expertise in the public sector

A major problem is that of retaining scarce skills within public sector institutions responsible for preparing projects. Once individuals have gained experience on transactions they can become attractive targets for the private sector developers and banks to hire, on much more competitive financial packages than the public sector can offer. Unless ways of capturing experience gained are institutionalised, all learning and knowledge will also depart with the individuals concerned.

5.2.6. Accessing PPFs

As set out in the ICA's research into PPFs[97], there are several facilities that are available to support project preparation. However, such resources are typically tied to the institution in which they are hosted; that is, there is little direct access and there may not be complete alignment between the interests of the beneficiary government and the hosting institution. However, such facilities can still offer valuable assistance which can be accessed relatively quickly. DEVCo, a PIDG-funded transaction advisory facility managed by the IFC, is an example of a 'global' facility that can be drawn on to support

[97] Assessment of Project Preparation Facilities for Africa. ICA 2012.

the mid and later stages of the project development cycle. The World Bank's Global Infrastructure Facility (GIF) is also being designed to support project preparation, although its precise mandate and operational policies are still being formulated.

Another feature of 'global PPFs' is that they are not dedicated to a particular country and are less suited to supporting a programme or series of PPP projects in a given country, which will likely require more bespoke resources.

5.3. Summary

The 'top-down' ambition of providing support for every sector is extremely resource intensive and does not seem to align with those sectors where PPP has most potential. However, the key challenges remain how to deal objectively and systematically with unsolicited approaches, whilst developing capacity in government to originate and progress project opportunities. This involves moving from a model based around the awarding of development rights very early on in the project cycle, whether at government's instigation or else in response to a private sector approach, to one which is more public sector originated and led – in sectors with high PPP potential rather than ones with the least.

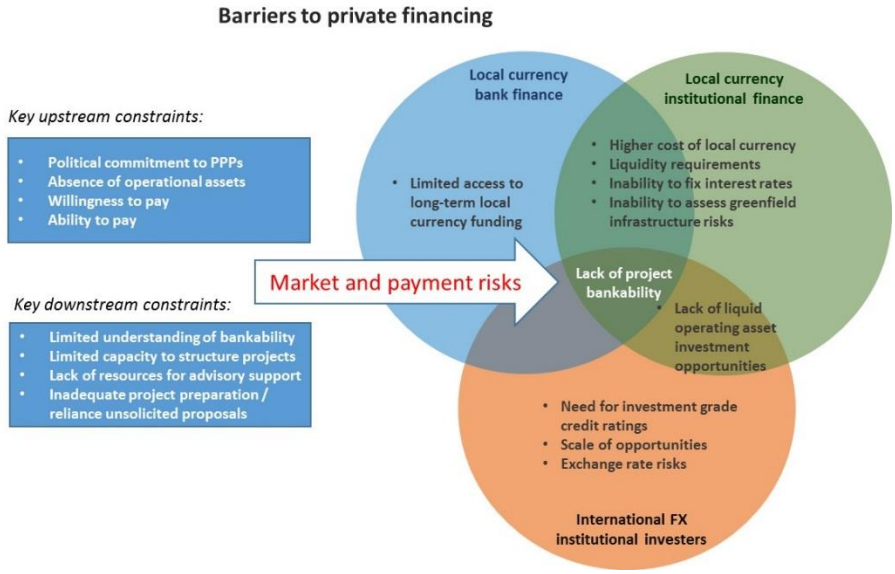
6. FINANCING CONSTRAINTS

Financing constraints in this context relate to the problems facing financial institutions, rather than issues related to the projects themselves. Such potential issues can be upstream or downstream in nature, including regulatory barriers, human resource-driven capacity constraints as well as competition from opportunities other than infrastructure that reduce financiers' interest in infrastructure opportunities.

Providers of finance include banking[98] institutions – that is, credit markets - as well as sources of institutional finance[99], such as pension funds, life assurance funds, sovereign wealth investors; indeed any institution that invests in the financial instruments such as debt and equity, issued by listed and unlisted companies.

As discussed below, the specific nature of financing constraints is driven by the type of finance being provided. Debt faces different challenges to equity. In FX credit markets, the potential constraints facing different types of SSA-based lender are different from those facing international ones. Institutional providers of debt finance face different challenges to banks. The provision of long-term local currency finance is much more challenging than the provision of FX. As shown in Figure 6-1, there are overlaps in the nature of the constraints faced by different groups; for example, some are common between providers of institutional finance, others between providers of local currency financing.

Figure 6-1: Barriers to private financing of infrastructure in DFID focus countries



Source: CEPA analysis.

The analysis provided below looks at both credit markets and institutional markets, for both foreign and local currency financing for infrastructure.

[98] Banks include purely 'national banks', typically formerly state-owned deposit taking institutions that have been privatised as well as 'networked banks'; that is those with a presence in several countries and international banks, whose operations are based outside of DFID focus countries in SSA, but who are capable of providing finance on a case-by-case basis.

[99] The key sources of institutional finance in SSA, include national pension and insurance funds as well as private equity funds. The latter includes specialist infrastructure funds, such as Berkeley Energy and African Infrastructure Investment Manager (Pty) Limited, a joint venture between Macquarie and Old Mutual, two major sources of institutional capital with a strong interest in infrastructure.

6.1. Banking market constraints

Banking market constraints refer to the constraints facing different types of banking institutions.

6.1.1. Different types of asset-liability mismatch

Ultimately, the potential of any institution to provide a particular type of finance, in terms of cost, tenor, and currency, is related to its own access to finance. Separate to risks associated with the content of their asset portfolios, financial institutions are also at risk of failure where they face large asset-liability mismatches, such as between loan tenors and own financing, currency, or pricing. Certain mismatches can be addressed where liquid hedging markets exist, in which interest and currency (exchange) rates can be fixed. Tenor mismatches which give rise to refinancing risks for financial institutions can be addressed where the institution can easily access liquidity, (although differences in the cost of finance are challenging to address) or where institutions can 'put' exposures to a third party.

6.1.2. Risks faced by different types of institutions

Not all financial institutions face the same extent of risk in this respect, which is determined by their differing degrees of access to different types of financial markets. In general, those institutions that can access foreign currency are much better placed to provide long term, lower cost finance, as such markets are much deeper providing longer term, efficiently priced capital and allowing more potential for longer term hedging; for instance, to enable fixing of interest rates. In comparison, access to local currency has typically been limited to short term deposits, although as discussed below, local banks in some countries are beginning to raise up to seven year funds, through bond issues in local capital markets.

Given that liquid foreign currency offers more potential for longer term financing of infrastructure, access to such capital by local banking institutions could be a way of channelling finance to infrastructure projects. There are, however, several barriers that hinder such access, including their own credit ratings / creditworthiness as institutions; any providers of wholesale financing to them will charge a premium to cover counterparty risks. Where local institutions cannot access foreign currency through international wholesale / interbank markets, they remain dependent on their own domestic sources, either through export based activities or possibly, Central Bank, resources.

By considering the different types of lending institutions active in SSA, it is possible to analyse the constraints they face in providing longer term finance for infrastructure projects (as opposed to constraints arising directly from the projects themselves).

6.1.3. Different types of bank

For the purpose of analysing the types of constraints outlined above, it is useful to consider the different types of banks identified.

Network banks

These are principally South African and Nigerian institutions, the former including commercial banks such as Standard Bank and Nedbank, as well as Investec and Rand Merchant Bank. Nigerian banks

include Ecobank. Networked banks also include the large international banks such as Barclays, Citibank and Standard Chartered, all of which have extensive African networks.

The South African network banks interviewed were all categorical that they do not have a problem accessing US dollars, which is borne out by their three-quarters market share shown in Figure 3-2. Some banks have ready access to US dollars through their day-to-day operations, whereas others need to raise them externally. Depending upon the bank, their borrowing cost will differ (for instance, in terms of what they might be charged for counterparty risks), but in effect this just determines the lending margin to infrastructure projects rather than their appetite to lend.

SSA is very much a target market for these institutions to deploy both capital and their infrastructure financing skills; there are therefore no downstream constraints that they face in terms of either focus or skills. Such institutions do not face constraints on capital and operate in both local Rand markets as well as external markets where they will typically operate in US dollars. The main constraint faced is availability of opportunities. As with DFIs, they will also look to come in at financial close and hold the debt to term.

National banks

National banks are of differing scales, although most are growing. Some institutions are highly dependent on their own deposit base, limiting their ability to provide longer term tenor loans. However, in both Kenya and Nigeria such banks are beginning to issue bonds of up to seven years which is starting to reduce this dependency.

National banks have less access to foreign currency, although they will have some, which can be deployed for the right deal, as shown by the analysis in Section 3. For instance, local banks are interested in financing a new coal project in Kenya.[100] Given that most projects are seeking to raise US dollar finance, given its lower cost and the inability to provide longer term local currency finance, the main constraint faced by local institutions is therefore limited access to foreign currency.

International banks

Continued global deleveraging pressures on banks (particularly European banks) have pushed them to reduce their asset (such as loans) to liability (their capital) ratios, which have subdued net commercial bank flows to developing countries. The research identified several pressures to deleverage their balance sheets, including:

- **The economic slowdown,** which has reduced the number of loans that banks can provide.
- **Financial drivers**, as banks subject to a combination of risky sovereign exposures, excessive leverage, and a high reliance on wholesale funding, have been pressured by investors and funding counterparties to strengthen their balance sheets.
- **Regulatory drivers**, particularly Basel III, the European Banking Authority's (EBA) short-term recapitalization directive and other national measures, that have caused banks to deleverage on both sides of the balance sheet. Other regulatory pressures stem from the policy measures

[100] Fewer DFIs will now lend to coal projects.

introduced for globally systemically important financial institutions (G-SIFIs)[101] and Over-The-Counter (OTC)[102] derivatives market reforms.

These pressures do seem to have had an impact on their interest in pursuing non-core activities, including in SSA.[103] Although there is little tangible evidence to indicate that the financial regulatory reforms have caused a significant shortage in the supply of long-term financing investment, it is recognised that they may affect incentives underlying how financial institutions participate in the market for long-term finance, as well as costs of the different types of transactions.

Regional Consultative Groups under the Financial Stability Board (FSB) have highlighted that as banks have been the main source of long-term financing for developing countries in the past, it will be particularly important to monitor the impact of Basel III on the availability and lending tenors provided by banks. The analysis indicates the following key concerns around the Basel III framework in particular:

- **Increased cost of lending and/ or reduced supply and tenor**, by reinforcing risk-averse behaviour. Capital adequacy rules under Basel III have increased capital charges against infrastructure loans, while the Basel III liquidity framework may incentivise banks to hold shorter-term assets to better match asset and liability maturities.
- **Dis-incentivised allocation towards project bonds in developing countries**, as the liquidity framework favours highly rated bonds, which require a relatively low proportion of stable funding under the Net Stable Funding Ratio, and can also be used as short-term liquidity cover under the Liquidity Coverage Ratio.
- **Over-reliance on global credit ratings**, as local borrowers cannot be given a higher rating than that of their sovereign under global ratings.

Other constraints to international bank lending stem from the collapse of monoline insurers. While project finance banks could free up regulatory capital before the credit crisis, using synthetic Collateralized Debt Obligations (CDOs) which shifted credit risk from their balance sheets, it has since become more difficult to do so given the disappearance of mono-line insurers and the fall in investors' appetite for CDOs.[104] Monoline insurers traditionally insured the senior tranche of CDOs, providing them with a high credit rating.

6.2. Institutional investors

Institutional investors include pension funds, life insurance funds, SWFs, unit trusts; in fact, any investor that holds financial instruments such as shares and bonds issued by companies and projects

[101] The FSB (2011) defines SIFIs as financial institutions whose distress or disorderly failure, because of their size, complexity and systemic interconnectedness, would cause significant disruption to the wider financial system and economic activity. The global SIFIs are those institutions who could cause significant disruption to the international financial system.

[102]The FSB defines OTC derivatives as financial instruments typically negotiated bilaterally between counterparties rather than highly standardised and traded on traditional exchanges.

[103] Key channels through which the impact of the deleveraging has been transmitted include: (i) reduced cross-border claims of European banks on public, private, and banking sectors of developing economies; (ii) sales or downscaling of noncore, non-domestic businesses in host economies; (iii) deleveraging by subsidiaries and branches of foreign banks; and (iv) increased borrowing costs for subsidiaries, due to either deteriorating financing conditions or investor concerns about the overall health of banking groups.

[104] A CDO is a structured financial product that pools together cash flow-generating assets and repackages this asset pool into discrete tranches that can be sold to investors.

(including banks). Such instruments can cover equity and debt, as well as either being privately held or else traded on public exchanges.

Over and above the need for investability and bankability – the latter in terms of the need to mitigate credit risk, international and local/domestic institutional investors have additional requirements. As set out below, even where issues of creditworthiness are addressed, there is still not a good fit between the financing requirements of projects utilising project financing approaches in which debt is held to term from financial close onwards and the need of institutional investors for lower risk and more liquid investments for either group of investor. However, both groups then have different types of barrier that they face.

6.2.1. Local institutional investors

Save for the examples cited in Section 3, there is limited evidence of local institutional investors investing directly in infrastructure projects, unless they are operational. Greenfield interest has been confined to intermediary private equity funds, such as in the case of the Social Security and National Insurance Trust in Ghana. In turn, such private equity funds are beginning to invest in the equity of projects, not only in South Africa, but across SSA, particularly in Nigeria.

The local debt institutional investors interviewed were typically most constrained by the creditworthiness of the infrastructure projects. Whilst they will invest in government paper, there is more concern with government payment risks, where they are back-stopping projects. Most interviewees stated that they wanted to see a track record of government payments before taking such a risk.

Interviewees noted that on the whole, as most pension and insurance funds have liabilities in local currency, they have little interest in much foreign exchange exposure, especially long term ones which cannot be hedged and which involve making a call on long term currency movements.

They also want liquidity and do not want their capital tied up for long periods of time, even in local currency. For instance, in Kenya when employees change jobs they can access a portion of their pension savings, which increases liquidity requirements.

Most pension funds will face regulatory restrictions on the amount that they can invest in unlisted and / or foreign[105] instruments. It is not, however, clear that the unlisted restriction of, for example, 5% in Kenya actually bites. In Kenya, pension funds can approach the regulator for a waiver of this restriction.

Such a desire for liquidity is unlikely to be driven just by prudential requirements. Fund managers also want to be able to switch quickly between investments to capture high yielding opportunities.[106] On the whole, the debt of infrastructure projects would need to be able to trade at a premium to similar dated government paper to be attractive. Where investors are happy with the risk of the sovereign, even higher rated paper is not particularly attractive if it involves a lower yield. In Kenya, a major DFI has been exploring the potential to issue its own paper in local markets, which would have a higher rating than the Government of Kenya, and therefore should have a lower coupon attached to it.

[105] In Kenya East Africa Community (EAC) investments are viewed as being domestic.
[106] An element of their remuneration is linked to the performance of their investment portfolios.

However, there would appear to be very little interest in the market for this, as fund managers are happy with the existing risk profile of the Government of Kenya investments.[107]

Downstream constraints

Even if attractive yields could be achieved, institutional investors would be cautious over taking on risks that they do not understand, particularly construction risk. Operational assets with a track record of performance would be a more obvious entry point for such investors. However, the main US dollar-based, debt project financing model of DFIs and commercial banks, does not readily facilitate such investment by local institutional investors.

At the moment, infrastructure is not a recognised asset class. There are not many opportunities to invest in listed securities, whether equities or corporate bonds, which remain the preferred target of most funds.

6.2.2. International institutional investors

Long-term institutional investors (including life insurance funds, pension funds, SWFs) are estimated to hold between US$75 trillion and US$85 trillion in assets under management.[108] While they have been increasingly attracted to infrastructure, driven by factors such as increased diversification potential, inflation and interest rate protection and private/ public cooperation,[109] these allocations are still relatively limited. Globally, overall infrastructure investment by long-term investors is estimated at just US$2.2tn.[110] These investments are estimated to account for just 3% of pension fund assets, with allocations to infrastructure in developing countries lower still. [111,112]

Institutional involvement in the sector is impeded by a number of constraints, chief among them:

- **Short-term focus**, due to pressures stemming from investors' liability profile, such as the need to service near-term obligations and liquidate assets.
- **Limited investment and risk management expertise**, with regards to evaluating investment opportunities, handling political, social and local risks etc.
- **Incentives and restrictions associated with regulatory frameworks,** including (i) the threshold investment grade rating of A- for assets that can be held by OECD pension funds[113]; (ii) the Solvency II framework which is likely to affect capital reserves and result in reconsidered exposure to unlisted and illiquid assets and a move to assets with lower capital charges; and (iii) the move to fair-value accounting which is likely to shift the focus to short-term market fluctuations, including for pension funds.

[107] To some degree this mirrors the experience of donors in SSA in issuing PCGs for say, credit to SMEs (that is, not just to infrastructure). Banks are happy with the reduced credit risk arising from the credit enhancement; however, they will not necessarily reduce their lending margins in a risk reflective manner.
[108] UN / DESA (2014). World Economic Situation and Prospects 2014. Chapter III: International Finance for Development
[109] Russell Investments (2012). Russell Investments' 2012 Global Survey on Alternative Investing.
[110] Estimated by aggregating the figures provided in Bassanini (2013) for current infrastructure allocations of pension funds, insurance companies, mutual funds and SWFs.
[111] UN (2014). International financial system and development. Report of the Secretary General.
[112] Franco Bassanini (2013). The Role of Long Term Institutional Investors in Financing Infrastructure.
[113] Paul Collier (2014). Attracting international private finance for African Infrastructure.

- **Structural and policy barriers including a lack of appropriate financing vehicles,** such as unlisted emerging market infrastructure funds offered by the major infrastructure asset managers, as well as reduced popularity overall of infrastructure funds since the crisis due to factors such as high fees and extensive leverage. Other issues relate to the limited availability of project bonds issued by emerging market and developing economies, exacerbated by the collapse of monoline insurers.
- **A lack of appropriate data and investment benchmarks** for illiquid assets, making it difficult to assess the risks of such investments.

These barriers are further amplified in the context of developing regions such as SSA and South Asia; this is reflected in the finding that institutional allocations to infrastructure remain largely concentrated in brownfield/ operational projects in developed economies, with a limited focus at this stage on emerging market and developing economies. In general, institutional investors typically prefer to invest in liquid assets, often with a short-term horizon, also accounting for some of the volatility in capital flows.

6.3. Summary

The ability of local banks to lend to infrastructure projects is largely determined by their ability to access wholesale FX markets, where it is possible to raise long term finance on a fixed rate basis, through the availability of interest rate swaps. The main network banks in Africa do not face such a constraint and many national banks also have some access to FX. However, the inability to hedge exchange rate risk is one of the main constraints stopping local banks from borrowing from international wholesale markets. Another is their own credit ratings which creates issues of counterparty risk.

Traditional European banks have scaled back participation in the syndicated loans market, with an increasing role for Network banks to fill the gap (as borne out by the evidence in Section 3). Continued global deleveraging pressures on international banks (particularly European banks) have subdued net commercial bank flows to developing countries. Key issues relate to the potential impact of financial regulatory reforms on incentives underlying how global financial institutions participate in the market for long-term finance, as well as on the costs of the different types of transactions.

Over and above the need for investability and bankability – local and international institutional investors have additional requirements. Even where issues of creditworthiness are addressed (although credit worthiness is a key barrier), there is still not a good fit between the financing requirements of projects utilising project financing approaches in which debt is held to term from financial close onwards and the need of institutional investors for lower risk and more liquid investments for either group of investor. However, both groups then have different types of barrier that they face.

Local institutional markets while a potential source of local currency finance - as they are largely looking for local currency assets to invest in - have strong preference for liquid assets. At the moment, the absence of local currency denominated corporate bond investment opportunities for operational assets is a major constraint on the debt side. This reflects the prevalence of illiquid, FX-denominated, unlisted project finance debt approaches which do not meet the portfolio requirements of local institutional debt investors.

Although the length of local currency tenors are beginning to improve, they are still not sufficient to meet the main financing needs of infrastructure such as IPPs, where there is need for finance of at least twelve years. A further problem is the much higher interest rates of local currency financing[114] and the absence of longer term hedging markets means that these rates cannot be fixed for any meaningful period of time, creating further financial risks (for projects). As a result, most SSA local currency markets are a long way off being able to offer long term local currency finance.

While there has been growing international institutional investor interest in the infrastructure sector, overall allocations to infrastructure are still limited, with the majority of infrastructure investments concentrated in OECD economies; for instance, a 2013 survey found that only 12% of European pension funds expressed interest in investing in Africa. International institutional investors are subject to additional obstacles including: a short-term focus; limited investment and risk management expertise; incentives and restrictions associated with regulatory frameworks; structural and policy barriers including a lack of appropriate financing vehicles; and a lack of appropriate data and investment benchmarks. These barriers are further amplified in the context of developing regions such as SSA and South Asia.

[114] Which are at extremely low historical levels given the extent of quantitative easing being undertaken by the US Federal Reserve and European Central Bank.

PART D: POLICY OPTIONS

These sections turn to a consideration of the policy options that are already or could be implemented to address the constraints identified. The first section considers the aims of mobilising private finance for infrastructure. The second considers policy options for addressing upstream issues, with the third turning to financing structures that can improve bankability. The final two sections consider interventions, including the use of donor subsidies, for mobilising international and local, particularly institutional, finance.

The objective of PART D is to set out the options for policy makers to consider that could in the longer 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. Or 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.

7. WHAT ARE POLICY INTERVENTIONS SEEKING TO ACHIEVE?

Governments in DFID's focus countries in SSA 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 financial 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.[115] 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.[116]

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, FX-based debt from 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. Resolving this may not only involve the provision of new instruments but potentially the adoption of new business models, particularly by the DFIs.

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. Precise prescriptions will also need to take into account the context in question.

7.1. Reducing reliance on government balance sheets

At the highest level, 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.[117] 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

[115] 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.
[116] Performance risks can be seen as the risks associated with delivering on contractual commitments.
[117] Financing risks include risks associated with exchange rate and interest rate fluctuations.

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.[118]

7.1.1. Sovereign versus project risk

There are two main sources of sovereign borrowing through which institutional investors have traditionally provided finance to infrastructure. This has involved local and international investors providing capital to either governments and / or to MDBs and DFIs, rather than being exposed directly to the risks of projects.[119]

Governments borrow in local bond and Treasury bill markets whereas MDBs and DFIs, use their Triple A ratings to borrow very efficiently (cheaply) in international markets.[120] The finance raised is then channelled to infrastructure. For instance, several governments in SSA have recently issued infrastructure bonds specifically for this purpose.[121] Shorter term finance raised in local markets through Treasury bill and bond issues, can also be used for these purposes.[122]

In these contexts, 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 investors to take full project risk that a government frees itself from any financing obligations, which is an ultimate objective of tapping private finance.[123]

7.1.2. 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.[124] In such an approach, project investors and lenders bear the risks

[118] 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.

[119] 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.

[120] 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.

[121] 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.

[122] 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.

[123] 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.

[124] 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

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.[125]

7.2. Supporting the project financing model

Developing bankable projects remains the key policy challenge in DFID focus countries 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 South Africa, conforms to a model between the 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 FX, largely US dollars, which as shown, dominates financing patterns.

7.2.1. 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 challenges of addressing bankability should not be underestimated. As is shown in the next sections there are, though, ways in which different types of donor intervention can assist. However, this FX-based financing model cannot be seen as being a long term policy goal; it is an intermediate step at best. 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.

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.

[125] 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.

7.3. Institutional and local currency financing

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

- The first is to achieve **bankability** whereby at a minimum, DFI debt is available. Addressing exchange rate risk is a further challenge at the stage.
- The second, more challenging stage is to either:
    - access sources of **institutional debt** finance; and / or
    - increase the "**localisation**" of finance in which it is possible to tap into domestic, local currency sources of financing, particularly institutional finance.

Although the requirements of international and local institutional investors are different in terms of scale and credit rating requirements, 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 greenfield 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.

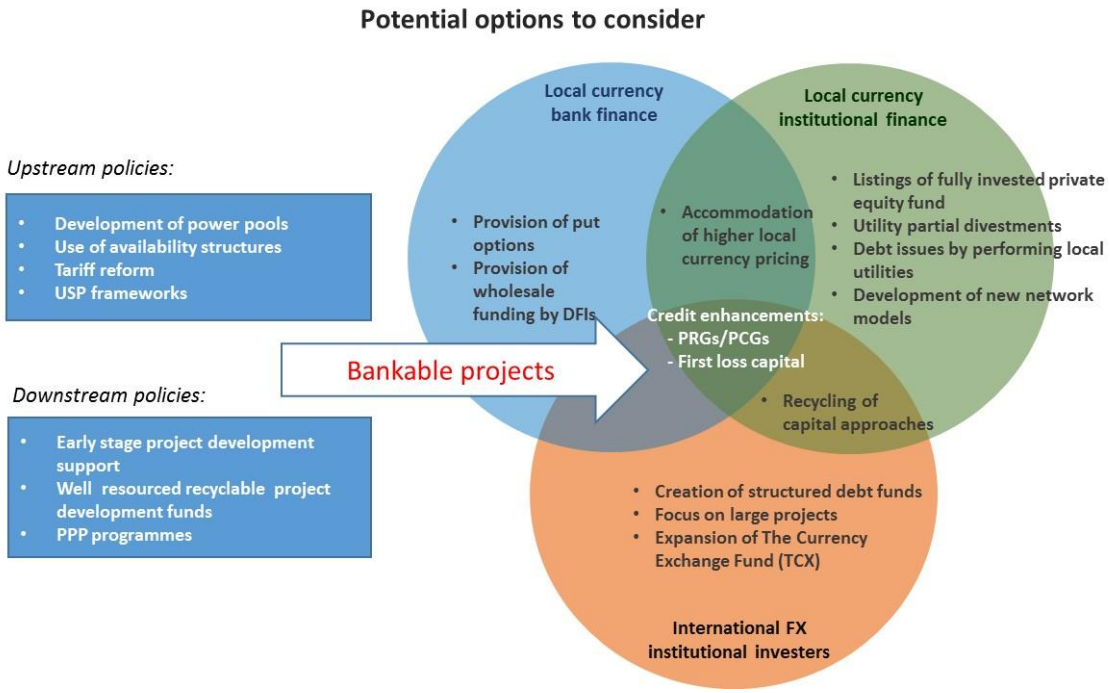
Localisation of finance includes attracting more domestic equity financing through either direct placements or else public offerings by local sponsors in local stock-markets, through which local institutional investors can participate. Local institutional investors also need to be able to access private 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.

7.4. Policy options

As policy options are wide-ranging depending upon what area is being addressed. Figure 7-1 provides an overview of the potential solutions that need to be considered.

Figure 7-1: Overview of policy options



Source: CEPA analysis.

These different options are considered in separate sections:

- Section 8 considers how constraints associated with infrastructure development might be addressed, building on existing interventions.
- Section 9 looks at both immediate and longer term approaches to achieving bankability.
- Section 10 looks at approaches to mobilising international institutional capital.
- Section 11 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.

8. ADDRESSING BARRIERS TO INFRASTRUCTURE DEVELOPMENT

Upstream barriers have been identified as the main blockage to the development of PPPs - addressing these is 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 creation 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 development cycle**. Such support is either provided by multi-country facilities or else specific national initiatives.

This section summarises 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.

8.1. 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 as well as the Infrastructure Advisory Approach (such as NIAF) pursued by DFID. [126]

8.1.1. The World Bank

Although the World Bank provides support in this area in several ways, a key vehicle is PPIAF, a multi-donor trust fund hosted by it. 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.[127]

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 initial design work for longer term PPP programmes in Ghana, Nigeria and Kenya, ultimately funded by IDA credits which have focused on creating legal and institutional frameworks for PPPs, including how countries should measure and manage any funded or contingent liabilities arising from PPPs. This approach has parallels with methods that have been used successfully in South Asia.

[126] 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.
[127] PPIAF website.

The aim has also been to establish PDFs to support downstream activities 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, an important intervention as discussed below.

The World Bank is also in the process of establishing the GIF, although at the moment it is not clear what its precise coverage and mode of operations will be.

8.1.2. 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.[128]

8.1.3. Evidence on the impact of the different approaches

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. In the DFID model, most of the support is provided by the consortium awarded the technical assistance contract.

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. 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).[129] 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 NIAF's). 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 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.

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.[130]

[128] NIAF website. Link: http://niafng.org/about-2/.
[129] See Policy Report for fuller details.
[130] NIAF2 Annual Review 2014.

DFID Nigeria commissioned a value for money 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 that it 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 value for money by using its resources economically, efficiently, and effectively and can be expected to provide a strong return on resources over time.[131]

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

8.1.4. 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 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 prohibiting such approaches and being in conflict with even with donor-backed initiatives, such as in the case of the Nairobi Commuter Rail project in Kenya.[132]

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.

[131] NIAF2 Annual Review 2014.

[132] The Nairobi Commuter Rail project is currently being supported by InfraCo Africa, who signed a joint development agreement 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.

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.[133] 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 economies such as the Swiss Challenge and Bonus System, 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.[134] For example, a typical USP in Africa may involve a local "entrepreneur" often with limited, if any resources, identifying an attractive opportunity.[135] The entrepreneur will then try and negotiate a MoU 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. [136] 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.

[133] Many countries actively support USP and have a range of different approaches to progress this form of project origination 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.

[134] 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 the best value for money. Standard approaches include the **Swiss Challenge** method 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 protecting the original bidder's intellectual property. International experience suggests that achieving this balance is not straightforward.

[135] 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.

[136] Based say on the development of an initial concept design, backed by a pre-feasibility study.

8.2. Downstream preparation and development of projects

Donor support for the preparation of projects is widely accepted as being a key constraint facing infrastructure projects.[137] 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.

8.2.1. Publicly originated projects

Support for publicly originated projects can be split between 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 PDF.[138]

Global / regional PPFs

Following a concern by the G20 in 2011 that the support provided by PPFs was too fragmented and diffused amongst too many facilities, ICA commissioned CEPA to undertake a review of PPFs offering support to projects in Africa. This found that a handful of facilities were responsible for most of the support to projects in Africa and very few of the facilities provided support to very early stage project development. However, as of 2015, for various reasons, the key PPFs 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 EU-AITF) and the World Bank's GIF, as well as the project development arm of Africa50, an initiative of the AfDB.[139] 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.[140]

National PDFs

Progress on developing PDFs to support African PPPs has been relatively slow. Table 8-1 below presents the current progress in establishing PDFs in DFID focus countries in SSA.

[137] G20 Development Working Group - Report on Infrastructure Agenda and Response to the Assessments of Project Preparation Facilities in Asia and Africa. 2014.
[138] 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.
[139] It is, however, not clear the extent to which this will support publicly originated projects.
[140] AfDB website on Africa50.

Table 8-1: 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, 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 Ghana Infrastructure Investment Fund (GIIF) was set up purely to cover the project financing gap and does not currently undertake project development activities. However, the World Bank has been supporting project development activities in Ghana with an IDA credit, and is now looking at the development of a PDF.
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 finance preparation costs, including feasibility studies, 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).

Source: CEPA analysis.

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 being successful at accelerating project development, although attribution as ever in such evaluations is a challenge. As set out in Table 8-2, a key element of these approaches is their ability to recycle their funds where transactions are successfully completed.

Table 8-2: DFID focus countries in South Asia with National PDFs.

Country	Details
India	The Government of India established the Infrastructure Project Development Fund (IIPDF) in the 2007-08 budget with an initial Rs. 100 crore (US$16m) budget and was set up on a revolving fund basis. The IIPDF 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 IIPDF 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 phases, 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 the project). The amount of technical assistance the Fund can provide is limited to 1% of projects with a total cost of

Country	Details
	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 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.

Source: CEPA analysis.

8.3. 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 the Nairobi Commuter Rail.

This has involved creation of specialist vehicles. InfraCo Africa and InfraVentures 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 project. Upon financial closure, the donor-backed vehicle 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. It may also bring a higher degree of innovative development skills to bear on the project development approach (which can be important where particular innovative approaches are required). In comparison to more standardised projects such as 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 where for instance, excess power or other infrastructure services, can be provided more widely.

Table 8.3 provides selected examples of the types of projects which have been co-developed by InfraCo Africa and InfraVentures in DFID focus countries in SSA.

Table 8-3: Infraco Africa and InfraVentures projects.

Project name	Country	Sector	Key project information	PPP partners	Additional information
InfraCo Africa[141]					
CenPower	Ghana	Energy	Total project cost US$904m, with InfraCo investing US$11m. Reached close in late 2014.	Cenpower and the African Finance Corporation 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
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.
InfraVentures[142]					
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.
Lamu Electrawinds	Kenya	Energy	Infraventures has committed US$4.0m to date.	Electrawinds of Belgium	100MW wind power plant
Ewekoro power plant[143]	Nigeria	Energy	Partnership agreed September 2014.	Lafarge, and Wärtsilä	Involves freeing up 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.

Source: CEPA analysis.

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

[142] 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.

[143] 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.

8.4. Summary

As set out, there needs to be much more public origination not only of *projects*, but also 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, there are few, if any, other sources of immediate support. As found in CEPA's report for ICA on PPFs, most support from global facilities is only available once a project is developed to at least the pre-feasibility stage.[144] 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.[145]

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.[146] As also identified in CEPA's work for 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.

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 USPs. In particular, these need to provide for donor-backed developer approaches which can bring innovation and risk

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

[145] 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.

[146] 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.

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[147] are increasingly providing pre-financial close development capital, most others will only provide capital at 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 the DFIs, 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.

[147] In 2015 Norfund and CDC announced a new partnership that involved Norfund acquiring a 30% stake in Globeleq, which CDC previously owned through its investment in the Actis Infrastructure Fund 2.

9. ACHIEVING BANKABILITY

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.

9.1. 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 address government performance risks associated with their role in mitigating such risks.

9.1.1. Off-take contexts

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 un-creditworthy 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 either a smaller share or the available off-take.[148] 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

[148] 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 multi-party PPA involves EdM, the Mozambican utility. Kenya provides an example of Kwale sugar co-generation project, a sugar refinery that sells excess power to KPLC, but with most of the output dedicated to the factory.

the power producer is not obliged to supply. The constraint will typically be one of being able to transmit the power to other customers.[149] 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 pools are still at the stage of establishing the physical transmission links which allows them to operate, with little power traded outside of PPAs.

9.1.2. Market risk contexts

In the absence of opportunities for reliable offtake, it is 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 where future pricing and volume growth is difficult to predict, 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, where it is not possible to identify volume off-take.

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 road projects have been provided with minimum revenue guarantees. In other instances it has been possible to compensate for revenue risk by increasing the potential[150] upside to investors, through for instance, the provision of property development rights along the transport route.[151] 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.

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. The project is therefore not totally dependent on tolling revenues but it does involve a government commitment to pay the concessionaire when toll revenues are insufficient.

[149] An interesting area for further research would be on the extent to which PPAs allow for this.
[150] In fact, availability models are being used increasingly to de-risk PPPs by exposing the project to controllable performance risks rather than less controllable market ones.
[151] 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.

In the absence of such mechanisms, however, 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.

9.1.3. 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. As shown, PRGs are the most common instrument used.

PRGs

PRGs 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.

They 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. 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[152]. 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 to the host country. 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.

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.[153]

Some of the main benefits of utilising PRGs, claimed by the World Bank include: more bidders ("halo" effect of the Bank); increased upfront investment commitments; increased sales value for the privatisation; 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.[154]

[152] 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.
[153] 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.
[154] Catalyzing private finance: The relevance of World Bank Guarantees at time of risk aversion.

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.[155,156] 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.

9.2. 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 Gap Funding (VGF) approaches or else reducing financing costs through *blending* approaches. An alternative approach to consider, is to increase the resources available for the deployment of concessional PRGs.

9.2.1. Blending

Blended finance is defined as the complementary use of grants (or grant-equivalent instruments) and non-grant financing from private and/or public sources to provide financing on terms that would make projects financially viable and/or financially sustainable.[157] This approach is favoured by the European Commission (EC) in blended facilities such as the EU-AITF in which EC (and other donor) grant money is blended with that of more market-based DFI capital.[158] 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.[159]

9.2.2. 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. 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.[160] First loss capital is effectively a form of subsidy as it is not priced at the level of risk that

[155] 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.
[156] "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.
[157] Mustapha, S.; Prizzon, A.; Gavas, M. Topic Guide: Blended finance for infrastructure and low-carbon development [full report]. Evidence on Demand, UK (2014) 51 pp. [DOI: http://dx.doi.org/10.12774/eod_tg9_jan2014.odi]
[158] As regards EU-AITF support overall, interest rate subsidy 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).
[159] First loss capital is subordinated to other capital in financing structure; it is the last to make a return and to be paid out.
[160] 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.

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.

9.2.3. Enhancing PRG underwriting capacity

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 programme.[161]

If they were to be deployed more widely, 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. The precise approach would need to be considered in detail, but it could involve placing supplementary trust funds with the MDBs to provide additional guarantee reserves, thus increasing the underwriting capacity available. This could be a cost effective way of mobilising private capital as it is on a concessional basis.

There is also 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. Concessionality could be achieved through blending approaches, which in the case of contingent instruments would reduce guarantee fees, as opposed to the interest rates in funded ones.

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 per dollar of subsidy than using it in first loss fund structures (such as the EAIF) or in blending funded instruments, such as loans. However, this is a complex area and would be an interesting area for further research.

Rather than providing first loss capital through the 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 not happened yet.[162]

9.3. Summary

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 (as discussed in detail Section 3.3).

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

[161] The World Bank's project and programme planning typically operates on a lending allocation which is determined in consultation with the country, taking into account the Bank's risk-management strategy and the country's financing needs and economic performance. The assistance envelope for a given country as established in the CPS / CAS is increased by 75 percent of the face value of IDA guarantees included in that country's lending programme. Therefore, commitments on guarantees would count only as 25% against the country's assistance envelope.

[162] 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" report for Sida, to which CEPA contributed.

mobilising private capital for projects at scale and is preferable to government providing guarantees direct to private lenders (the indemnification being to MDBs).[163] It also allows for a better allocation of risks than is the case with full-faith government credit guarantees. Ways of boosting the guarantee capacity available include the wider provision of concessional PRGs by institutions such as the EIB as well as supplementing IDA and ADF resources. If the objective is to maximise the flow of private capital, 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.[164] 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 amount of capital on similar terms and without the need to provide any form of indemnification. This is 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, reducing the extent of credit enhancements required to mobilise private capital.

[163] 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.

[164] 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.

10. MOBILISING FX 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 long 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 of 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 interest rate hedging products; although exchange rate risks arise as a result of its use. As set out, 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.

10.1. Mitigating credit risk

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 a particular type of risk, or else an unequal sharing in which donors take the 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.

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. 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 interest 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 (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.[165] Such an application of "innovative financing" could potentially increase the reach of the existing guarantee products of the MDBs/DFIs, who cannot enter exposures which unduly risk their own capital.[166]

10.2. Hedging exchange rate risk

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

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 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 10-1, 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 10-1: Overview of TCX and its operations

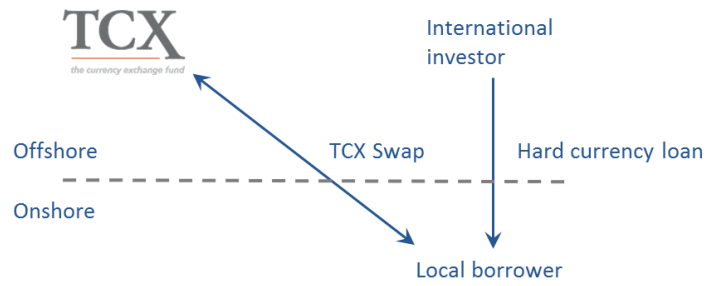
Overview of the TCX
The financing of infrastructure projects in developing countries and DFID-focus countries in particular has typically been provided in international "hard" currencies. Financial markets in developing countries are often not deep enough for long-term financing to be available on reasonable 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, donors and regional development banks. An example of a TCX cross-currency swap is outlined in the figure below.

[165] 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.

[166] MDBs mitigate risks to their own capital by providing it on a sovereign basis. DFIs charge 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.

Overview of the TCX

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.

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

Whilst many Network 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.[167] This Fund provides US dollar guarantees on behalf of the borrowing banks so as to improve their access to liquidity. It is currently looking to scale up its activities. This could potentially assist a greater range of local banks to participate in FX-based project financing.

10.4. Structured funds / 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 for commercial lenders providing capital to it, within a tiered structure that also includes DFI subordinated debt and commercial bank-provided senior debt. Utilising this mix of

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

capital, 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.[168]

In principle, the approach could be used more widely within infrastructure, for instance, to attract institutional capital by helping to mitigate credit risk and raising the credit rating of the vehicle. It could also involve securitisation approaches in which the balance sheets of the DFIs were freed up by transferring asset portfolios into a new bespoke vehicle. This point is returned to in the discussion of institutional finance.

10.5. Partial credit guarantees

The two main forms of guarantee support are PRGs (discussed above) and partial credit guarantees (PCGs). Both can be used to share credit risks with commercial providers.

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.

10.5.1. MDBs

The main MDBs provide PCGs, but on a sovereign basis and are used to support the capital-raising of publicly-owned entities.[169] 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.[170] 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.[171]

10.5.2. 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

[168] 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.

[169] As such they can offer a similar form of support to MIGA's non-honouring of a sovereign obligation.

[170] An enclave project is typically a project that is export focused, earning FX revenues, even though it is in an IDA country.

[171] 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.

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, there does not appear to be a strong financial 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 better return for the effort expended - 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.[172] 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.[173]

10.5.3. 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.[174] 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.[175]

This allows Sida and USAID to be more concessional and therefore more flexible than 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 10.7 below.

10.6. Non-credit barriers

Several other upstream and downstream barriers and their mitigation were considered as part of the research.

10.6.1. Basel III

There has been a degree of concern regarding Basel III, which has introduced more stringent capital requirements[176] for international banks, in addition to imposing capital buffers,[177] a minimum leverage

[172] One DFI mentioned that they were providing back-end guarantees to lenders which has this effect.
[173] In other words, risk is reduced to the provider of the PCG either through the provision of a grant, or guarantee, which takes the first loss.
[174] Their capital is provided out of development budgets, rather than being raised on a commercial basis in the markets.
[175] Although, at present to a health fund, rather than infrastructure.
[176] 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.
[177] 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.

ratio,[178] and stricter liquidity and funding requirements.[179]

In the interviews conducted with South African-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.

10.6.2. Competing opportunities

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 of international banks, given the additional challenges of such businesses. 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, being mainly focused on investment in operational assets in the developed world, as discussed below.

10.7. Additional challenges facing international institutional finance

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

- **Investment scale** – institutional investors look at minimum investments of ~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 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. The precise nature of the challenge and therefore the potential options will depend upon whether the institutional finance is being sought for *equity* or *debt* investments; for an individual *project* or on a *portfolio* basis;

[178] 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 SIFIs, and 5% for their bank holding companies.

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

and whether the underlying asset(s) are *greenfield* or *operational* in nature. In general, the challenges are greatest for single project debt investments in greenfield assets. Investing in portfolios of liquid, operational assets is the easiest way of attracting institutional funds.

The options available to address the different challenges for a selection of types of opportunity are set out below.

10.8. 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.[180]

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 (typically 10% of its overall portfolio).

There are several of such private equity funds active in SSA. Table 10-1 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.

[180] 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 cash flows.

Table 10-1: Private equity funds active in SSA

Fund, scale and year of establishment	Manager	DFI Investors	Private and institutional investors	Focus countries and sectors	Examples of investments
Africa Infrastructure Investment Fund1 (AIIF) 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[181]	Africa, with a bias towards South Africa (Energy and Transport)	• Trans African Concessions Pty Ltd (Toll road between South Africa and Mozambique) • N3 Toll Concession (South Africa) • Umoya Energy 67MW Wind Farm (South Africa)
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	Potential investors include: • U.S.-based fund of funds, Stanlib • Ghanaian pension fund • The Public Investment Corporation (PIC) in South Africa	Various SSA countries excluding South Africa (Energy)	N/A
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)

[181] 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 and institutional investors	Focus countries and sectors	Examples of investments
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 • Liberty Life • Metropolitan Financial Services (US$10m) • ABSA Bank • Old Mutual • Standard Bank	SSA (All infrastructure)	• Investor in Aldywch International • Essar Telecom Kenya

Source: CEPA analysis.

10.8.1. Debt funds

As regards debt in general, 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. As set out, two recent sizeable issues in this respect were for two Nigerian companies, Helios Towers and Seven Energy; however, in part the capital raised was for the refinancing of operational assets.[182] These issues were successful despite the fact that their credit ratings were sub-investment grade, with yields that reflected this level of risk. IFC was an investor which also helped the acceptability of the issues.

The attraction of debt funds over single investments is that risk is diversified. They also help address the minimum investment scale constraint faced by international investors. There are potentially two types of debt funds, those focused on operational assets and those on greenfield. Whereas the first is potentially most attractive, the reality is that there is simply not the scale of operational investment opportunities available; although in theory, supply could be increased by securitising DFI debt portfolios, but not without significant challenges.

Operational assets and securitisation of DFI portfolios

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.[183]

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.

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[182] Exceptions to 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.

[183] 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.

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 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[184] and credit enhancements such as guarantees by highly rated entities.

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 particularly 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.[185]

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 securitisation would be stronger if it allowed for a needed recycling of DFI balance sheets, which amongst other things would help push up their own pricing. There is though little evidence that most DFIs are short of capital which would trigger such the need; if anything, their observed behaviour suggests an excess of capital that they are struggling to deploy, reflecting the primary problem of a shortage of bankable projects.

At the moment, therefore, 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, 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.

Greenfield funds

Whilst greenfield funds also have portfolio benefits, even with this, the risks involved in the creation of new infrastructure assets are perceived as being significantly higher than for operational ones.

Both IFC and Sida are currently looking at approaches to attract institutional finance to infrastructure. IFC is seeking parallel pari-passu debt investments to its own loan portfolios, but through separate fund vehicles. These would cover the full range of IFC's geographic exposure. Sida is seeking to develop

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

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

approaches for both equity and debt institutional investment which can be supported by its guarantee instrument to mitigate risks.

A challenge for any fund is how to address the additional risks associated with investments in DFID-focus countries, especially one that was focused singularly in these countries. A possible solution to this would be the provision of extra credit enhancement, provided either through first loss capital or else guarantees.

In addition, it is also possible that some institutional lenders such as pension funds would need to be able to exit such investments for liquidity reasons, which could be addressed through the provision of liquidity instruments, such as put options, to them.

10.8.2. 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 a 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.

Greenfield assets

Large greenfield capital raisings are even more challenging to finance institutionally, given investor aversion to greenfield risk.[186] As set out, 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.[187] 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 had strong government guarantees.[188]

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.[189]

Operational assets

An immediate challenge of the refinancing approach is to identify an existing project of sufficient scale to justify this. Possible candidates might be large IPPs where there is a creditworthy anchor customer such as a mine, which have been operational for several years with a robust payment 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 the most potential. The issue of incentives for existing lenders to exit performing assets may also need to be considered.

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[186] 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.

[187] Only Assured Guarantee and MBIA survived the global financial crisis. Historically, these institutions supported the debt issuance of Private Finance Initiative (PFI) projects and were an important component of it. See: Ft.com (July 2012) Monoline revival could aid infrastructure.

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

[189] 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.

A new approach: recycling of DFI capital

Other than in relatively narrow instances, it is very challenging to raise international institutional finance in the SSA context. 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 through on-demand credit guarantees.

Even in more developed countries it is only highly specialised investors that are interested in such risks. It is more usual for institutional capital to be introduced through refinancing 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 participation being taken up by cheaper institutional capital.

The creation of new operational assets in which institutional investors can invest could, however, 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. This, though, implies a different operational model; for purposes of illustration therefore, Box 10-2, provides that outline of a model that might be investigated and developed further.

Box 10-2: A new recycling of capital model

Would a different type of DFI approach increase opportunities for institutional investment?

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, open 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 open 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.

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

Would a different type of DFI approach increase opportunities for institutional investment?
DFIs to divest some existing assets). Institutional investors will also likely require credit enhancement to reduce risk. First loss capital could be used to reduce risk and / or reduce pricing. 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.

10.9. Summary

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.

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 to 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 often 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.

11. MOBILISING LOCAL CURRENCY FINANCING

From a supply side perspective, local currency financing faces many more challenges than FX-based financing. It is difficult to provide the required tenors for many types of infrastructure and to hedge interest rate risks for any period of time, as such, finance is provided on a variable rather than a fixed rate basis. Local currency financing is therefore much less competitive than FX financing as a source of long-term financing for infrastructure. In DFID focus countries in SSA (excluding South Africa) – the vast bulk of infrastructure project financing is FX-based.

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 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 for local currency investors, 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.

11.1. Equity

A main challenge for local equity is finding opportunities to invest in, 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. It also has a strong preference for 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 acquired through specialist intermediary private equity funds.

The attraction 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 listed and unlisted routes. The main policy implication for

governments and donors is to ensure that opportunities exist for local equity investment to access project opportunities.

11.1.1. 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 11-1.

Box 11-1: Thirty percent divestiture of KenGen

Partial divestiture of the Kenya Electricity Generating Company
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%.[190] 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 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.

Source: CEPA analysis.

Local infrastructure companies

In several countries in SSA there are now local companies that are developing much greater operating and financing capacity.[191] These companies are listed and therefore in a position to increase their equity base through investment by local institutional investors.

Such companies are 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.

11.1.2. Unlisted investments

The analysis in Section 10 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

[190] PPIAF (2013).

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

equity funds remain the main way for local institutional investors to gain exposure to greenfield investments.

11.1.3. 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 they attract interest from 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 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.[192]

11.2. 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 cost of local currency debt is 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 challenge will persist. Therefore, opportunities need to be created in which at least a portion of local currency financing is provided for in the contractual or regulatory approach. 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

[192] At least one private equity fund is considering this as a means of eventual exit.

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 providers of local currency debt, through the provision of PCGs. The most significant providers are USAID and Sida – as bilateral agencies, although without a specific infrastructure focus, as well as GuarantCo, a PIDG vehicle. DFIs such as the IFC and FMO have also sought to provide PCGs.[193]

All of these tend to focus on bringing in capital at financial close, with products that are focused 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 the 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, financial products such as put options can help address the gap.[194] 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 demand from providers of debt instruments, rather than a shortage of supply of such products. A particular role put options could be in helping local debt providers participate in longer-term financing through addressing their own liquidity risks. In turn the availability of longer tenors would help projects address the risks that they would otherwise 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.

11.2.1. Local credit markets

The main structural supply-side constraint 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 their tenor asset-liability mismatches by issuing their own

[193] For instance, the IFC provided a PCG to a cellular telephony project in Cameroon in the early 2000s. See ifcext.ifc.org.
[194] 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.

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.

Wholesale rather than project level finance

A possible other approach would be for the DFIs to provide more 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. As regards the DFIs' own credit risks, well capitalised local banks, with a portfolio of assets, should present 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 11-2, 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 11-2: 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 a five year period.

On-shore rupee bond programme

The Maharaja bond issuances aim to attract investments from global funds in rupee-denominated assets. 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 a 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 the 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.

The IFC's rupee capital raising
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)[195]

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.

11.2.2. 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 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 of this happening where DFIs are currently not involved; for instance, where DFIs are prohibited from, or disinclined to invest (e.g. coal generation projects), there has been greater participation by local companies.[196]

A move towards more 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

[195] Ft.com (Sep 2014) IFC launches India's first Maharaja bond; Ft.com (Nov 2014) IFC arm of World Bank issues 10bn rupee 'masala bond'.

[196] 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.

financing approaches might be reduced, with projects financing their requirements through local markets on a corporate basis. Smaller scale, incremental investment by network companies, rather than one-off large-scale project financing would tend to offer more opportunities for corporate financing.

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 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 through tariffs. Of course, in the event of an exchange rate devaluation, the local currency tranche of financing would form a hedge against these costs. Again, this emphasises the need for regulatory regimes to provide for any additional costs associated with local currency financing.

11.3. Summary

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 depreciation; 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.[197] 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

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

perspective, but also which incorporate an element of local currency financing within financial structures, which may have cost implications.

PART E: REGIONAL INFRASTRUCTURE

Part E considers the extent to which the answers to the research questions examined throughout the report differ when the focus is on regional infrastructure, designed to increase cross border trade. It provides a definition of regional projects, from the perspective of what makes them different from purely national projects, analyses recent transactions, summarises the case studies developed on three regional projects and provides a set of policy options for addressing the regional specific constraints.

The objective of this section is to identify more clearly the constraints to the private financing specific to regional projects and some of the steps and approaches that recognise these specific constraints.

12. SPECIFIC CONSTRAINTS FACED BY REGIONAL PROJECTS

12.1. What are regional projects?

For the purposes of this report the definition of a regional project is based on previous research carried out by CEPA for DFID's African Regional Department.[198] In this, regional projects are defined as either:

- Multi-country projects.

  Or

- National projects with regional impacts.

12.1.1. Multi-country projects

These are projects which are only viable (from an economic or financial and or sometimes technical perspective) if the project operates across a number of countries. Examples include:

- Electricity generation from a location-specific source, but where markets are located elsewhere (e.g. Inga Hydropower project, which is based in the DRC but will generate electricity mainly for South Africa).
- A railway project linking a mine – which provides the anchor freight traffic – to a port, with the mine being in one country and the port in another.
- Water basin projects in which the creation of, say, a dam and associated irrigation infrastructure in an upstream country has implications for countries lying downstream.

These projects typically have more complex project development cycle requirements than for a purely national project. For instance they often require policy, legal and regulatory agreements to be made across a number of countries, which often necessitates the creation of new project-specific institutions.

12.1.2. National projects with regional impacts

National projects with regional impacts are projects that are located entirely within a single country but confer significant positive economic externalities on other countries in the region. Examples of this might include a port, such as Beira port in Mozambique that opens up trade corridors for neighbouring land-locked countries.

National projects with regional impacts take two main forms:

- **Projects with proportionate costs and benefits.** Projects whose impact can be greatly enhanced if their design is altered to incorporate neighbouring countries; that is, there is the potential to capture significant externalities. Often this can involve sizing the asset so that other countries can benefit. In such situations there should be positive incentives for regionalisation. At the extreme, of course, this can push a "national" project into the "multi-country" project category set out above if it creates such cross dependencies. Typical scaling projects can involve increasing the

[198] CEPA (2015), Africa Regional Department: Infrastructure Project Preparation Facilities In Africa – Options For Future Support.

scale of generation assets, airports or ports, and the carrying capacity of transport or transmission assets (e.g. width of roads, voltage of transmission lines etc.).

- **Projects with disproportionate costs and benefits.** In these instances, the costs and benefits of the project are shared disproportionately between the host country and its neighbours. In these instances, there is either a lack of incentive for a host country to pursue a project or else active disincentives to do so. Examples of such situations can involve a host country using its IDA or ADF allocations to support a project of limited or questionable benefit to itself but which benefits its neighbour(s) considerably. Extending a road or rail link to a border may be an example of this. Stakeholders have suggested that projects where the host is less likely to benefit are unlikely to be developed, which could prevent key regional infrastructure from being taken forward.

The characteristics of these different types of regional projects are summarised below.

Table 12-1: Characteristics of regional infrastructure projects

Multi-country	National
• Ownership" complex and requires high risk, early stage project preparation investment • Regulation and operation more challenging • Bigger and more lumpy; public or PPP • Extended gestation and payback periods • Possible asymmetry of costs and benefits • Fewer " success" stories • Risks – real and perceived – generally higher • Risk mitigation more challenging	• Quicker to prepare and implement than multi-country projects • Anchor of national economic and political interest • Market discipline of exporter or transit service model; less complex risk profile • Public, PPP or private; more success stories; project finance model less challenging to implement • Risks – real and perceived – seen as lower • But possible asymmetry of costs and benefits can create problems of alignment and incentives

Source: CEPA analysis.

12.1.3. Analysis of regional project transactions

Utilising the definition of regional projects set out above, this sub-section analyses some of the characteristics of regional projects that have been successful in attracting private finance, based on publicly available information. It also presents case studies of three multi-country regional projects.

The projects defined as regional include: power generation projects (especially renewables) that have a stated trading component mentioned in the project documents; ports; railway; and airport projects within a country with a potential for opening up new trade routes for adjacent land-locked countries. Cross-border electricity and gas transmission projects are also included.

Using the definition of regional projects, Table 12-2 provides a breakdown of the projects that have reached financial close 2005 – 2014.

Table 12-2: Sector wise split of regional projects 2005-2014 in SSA

Sector	No. of cross border projects	Total investments (US$m)	No. of national projects with potential regional impacts	Total investments in national projects with potential regional impacts (US$m)
Energy				

Sector	No. of cross border projects	Total investments (US$m)	No. of national projects with potential regional impacts	Total investments in national projects with potential regional impacts (US$m)
Electricity generation	5	1,064	n/a	n/a
Gas transmission	1	590	n/a	n/a
Transport				
Airports			2	210
Railroads	1	287	1	134
Roads	1	97	1	426
Seaports			28	7,438
Total	**8**	**2,038**	**32**	**8,208**

Source: PPI database and CEPA research.
Note: Approx. figures based on PPI database and information available in the public domain.

The table shows that only eight cross-border regional projects have been successful in attracting private finance. Total public and private investment in these projects is approximately US$2bn, with the majority of the investment in the energy sector.

The national projects with a regional impact are primarily seaport projects, which have attracted over US$8bn of investment over the period 2005-2014. It is important to note that 25 of these projects are from the Nigerian port concession programme.

There are few examples of multi-national regional projects that have successfully reached financial close. The majority of projects are hydro and gas powered IPPs with export commitments to neighbouring countries. Table 12-3 below summarises the eight regional projects with cross-border elements that are either operational, under construction, or achieved financial close.

Table 12-3: Cross-border projects with stated regional element

Project / programme name	Financial Close	Country	Status	Size US$m	Regional impact
Cross-border transport projects					
Beitbridge Border Post	2011	South Africa, Zimbabwe	Operational	97	Border crossing post
Kenya-Uganda Railways	2010	Kenya, Uganda	Operational	287	Cross border railway
Energy trade projects					
Neusberg Hydro Electric Plant	2013	South Africa	Operational	56	Exporting to Namibia
Gisenyi Methane Gas Plant	2010	Rwanda	Operational	16	Export surplus to Uganda
Muchinga Power Company	2012	Zambia	Financial close	600	Plans to export to SAPP countries
KivuWatt	2011	Rwanda	Under construction	142.2	Export surplus to Uganda
West Africa Gas Pipeline Ltd.	2005	Nigeria, Ghana, Benin, Togo	Operational	590	Exports gas from Nigeria to Ghana, Benin and Togo

Source: Adapted from PPI database and publicly available information.

Based on available data on project costs, regional projects have received around US$9.4bn in total investment, of which Nigerian seaports alone account for US$7.2bn.

In 2010, PIDA was established to take forward regional development plans in SSA.[199] PIDA is a policy framework rather than a funding mechanism, covering the period 2011 – 2030.

The first output of PIDA was the Priority Action Plan, 2012–2020, which set out 51 priority projects that would support regional integration across SSA if implemented. The cost of delivering the 51 projects was estimated to be US$68bn, with domestic public and private sources expected to provide over 50% of required funds.[200]

The overall cost of the PIDA programme for 2011 – 2040 is estimated to be US$360bn;[201] these costs set against the total of US$9.4bn that has been invested in regional projects suggests that progress in attracting private finance to support regional projects has been very limited to date.[202]

12.1.4. Regional case study projects

Three regional projects were explored as case studies to explore regional specific constraints more fully:

- Nacala Corridor, which will link parts of Mozambique and Malawi by rail to the Nacala Port.
- Ruzizi Hydropower Plant that is being developed between DRC, Burundi, and Rwanda.
- Inga III, a large hydropower plant in the DRC.

The key characteristics of these projects are presented below.

Table 12-4: Summary of case study projects

	Ruzizi III	Nacala Corridor	Inga III
Sector	Energy	Transport	Energy
Countries	DRC / Burundi / Rwanda	Mozambique / Malawi	DRC, with South Africa purchasing approximately half the electricity generated.
Project description	Construction of a 147 MW run-of-the-river hydroelectric plant with three power units and a 10 km transmission line.	Upgrade of 682km rail line and construction of 230km rail line and a coal terminal in the Port of Nacala.	Construction of a 12km canal, a 100m-tall concrete dam across the Bundi valley, an 11 unit hydropower station and transmission lines.
Start date	2008	2010	2010
Financial close	Expected end of 2015	Unclear	Unclear – mid 2016 at earliest
Implementing structure	Energy of the Great Lakes Countries (EGLC), a specialised agency of Economic Community of the Great Lakes Countries.	Subsidiaries of Vale and Mitsui working with Mozambique's ports and railways company.	The Government of DRC and partners are currently setting up Agence pour le Développement et la Promotion d'Inga (ADEPI), an independent agency.
Project cost	US$650m	US$4.4bn	US$10.5bn

[199] NEPAD (2010), Africa launches an ambitious programme for infrastructure development.
[200] SOFRECO (2011), PIDA: Interconnecting, Integrating and Transforming a Continent – The Regional Infrastructure that Africa Needs to Integrate and Grow through 2040.
[201] PIDA (2010), Closing the Infrastructure Gap is Vital for Africa's Transformation.
[202] PIDA (2010), Closing the Infrastructure Gap is Vital for Africa's Transformation.

	Ruzizi III	Nacala Corridor	Inga III
Project structure	A 25-year build, own, operate and transfer concession.	Five concession agreements with the governments of Mozambique and Malawi.	TBD – expected that the private partner will construct and operate the power station and one transmission line, with the public sector developing the intake, canal and dam.
Private sector partner	Consortium Sithe Global – IPS	Vale, Mitsui	TBD – tenders to shortlist bidders in Summer 2015.
Current proposed project financing	Equity: 28%, of which: Private partner equity: 55%; States equity: 27%; and IFIs grant: 18% Debt: 72%, of which: concessional loans will be 80% and 20% planned from DFIs.	Equity and quasi-equity: ~16%, of which Vale and Mitsui will take a 50:50 share. Debt: ~84%, of which 70% is project finance and remainder a loan from Vale's shareholders.	TBD

Source: CEPA analysis.

The main findings from the experience that these projects have had in trying to reach financial close are as follows.

Private sector engagement

An interesting observation emerging from the case studies is that they have all had varying success in attracting private sector interest from an early stage, despite the fact that a well-developed legal and regulatory framework was not in place. For instance, the concession agreements for the port of Nacala and for Nacala railways were signed by Vale before the full establishment of a PPP legal framework in Mozambique.[203] The technical and organisational studies undertaken for the project highlighted the need for an International Treaty and the creation of an institution to manage the water resources of the Kivu Lake and the Ruzizi Rive - the Basin Agency, Autorité du Bassin du Lac Kivu et de la Rivière Ruzizi (ABAKIR), which would be responsible for the sustainable and equitable management of the water resources. These proposals were approved by the Ministers of Energy of the DRC, Rwanda and Burundi in July 2011. Nevertheless this agency is not yet operational and its responsibilities have not been defined in full.

However in each case the private sector has retained an interest in the projects:

- **Nacala** is being developed by Vale a private mining company, which hopes to utilise the corridor to transport more coal from its Moatize mine. The potential economic benefits on offer from exporting the coal have given Vale an incentive to develop the project.
- **Inga III.** Despite the challenges of working in the DRC energy sector, three consortia have remained involved in Inga III since 2010. The important feature of the project is that an off-take agreement has been signed with South Africa and 1,300 MW is reserved for the local mining sector; both of which provide credit-worthy off-takers.

[203] Axis Consulting (2013). PPP Country Paper, Mozambique, working paper.

- **Ruzizi III.** Three bids were received from the private sector for the Ruzizi project - Consortium Sithe Global (USA) – Industrial Promotion Services (IPS) (Kenya) was declared as the preferred bidder of the project. Other bids were received from Copperbelt Energy and Argentina's IMPSA, as well as Norway's SN Power (Agua Amara).[204] The project relies on selling the generated power to national utilities in Burundi, DRC and Rwanda. None of the off-takers are creditworthy; however the provision of sovereign guarantees has helped to address this issue and made the project attractive to the private sector.

What links the three case study projects is that they are all, to different degrees amenable to private sector participation. Particularly in the case of Nacala, but also for Inga III and Ruzizi III there is suitable demand for the infrastructure services to make the projects financially viable. This arises from either a large private anchor customer, as in the case of the coal mine in the Nacala example, or else Eskom in South Africa.

This is important to note because many of the regional infrastructure projects are not suited to private financing. For example, large electricity transmission projects are not commonly developed as PPPs, nor are many of the large international road corridors suitable for toll road projects (at least if tolls were to be relied on as source of revenue).

As noted the PAP contains 51 regional projects. Through the Dakar Financing Summit process this list was cut down to 16 pilot projects to try to identify the projects with the most potential of being taken forward with private sector participation.[205] Some consultees were of the view that this revised list still contains a number of projects that have limited potential to attract the private sector.

Thus the three case studies highlight that private participation in multi-country projects can be achieved, even when the appropriate legal and regulatory framework is not in place. This is dependent on identifying projects which have some scope to enable a private firm to invest on a viable basis, and given the current status quo suggests that more resources need to be devoted to prioritising regional projects.

Importance of up-front project development support

Another important feature of the case studies is that they have had access to significant project development funding and to advisory skills:

- Inga received over US$100m in project development funding from the World Bank and the AfDB.
- Ruzizi received over €7m from the EU-AITF.
- Vale invested significant resources to develop the Nacala project.

In addition, the projects all have strong teams developing them, with Vale, the DRC Government with the support of its partners and the EGL all driving the process. For example, for Inga the Prime Minister of the DRC has become a champion for the project, showing the level of national commitment required. The progress made in the development of the project is attributed to the strength of the project preparation and management activities.[206]

[204] IJGlobal.com (Oct 2012) Preferred bidder selected for Africa's Ruzizi 3 hydro.
[205] NEPAD (2014), Dakar Financing Summit for Africa's Infrastructure – Financing Africa's Infrastructure Development – Leveraging Public-Private Partnerships for Regional Infrastructure Transformation - Brochure.
[206] World Bank (2014), Regional infrastructure in Sub-Saharan Africa: Challenges and opportunities.

13. POLICY OPTIONS FOR REGIONAL PROJECTS

In some ways regional projects have the potential to overcome some of the constraints that are faced by national projects. This is because regional projects can address some of the underlying challenges of creditworthiness associated with national projects. Greater traffic flows arising from increased connectivity can reduce traffic risk associated with roads and railway projects if shared by more than one country; for instance, through a transport corridor. Similarly, the development of the physical infrastructure of power pools, together with permissive regulation, can reduce the reliance of IPPs on a single-off taker, enabling power to be switched to other customers when there is a failure to pay. As is shown by examples such as Inga III and Ruzizi III, large investments can become attractive to the private sector in part where market risk can be mitigated by large and creditworthy off-takers.

Therefore, efforts to address the constraints specific to regional projects could have significant and widespread impacts, not just for customers, but potentially through creating the types of scale investment that, in the right circumstances, could attract international institutional finance (at least once operational).

13.1. Addressing constraints distinct to regional projects

The main finding on the constraints faced by regional projects is that they are similar to those faced by purely national projects, but with added complexity (particularly for multi-country projects) caused by the direct involvement/ interest of a number of different countries and the relevant government institutions in the project.

This makes it more difficult to take a regional project to financial close, as multiple government institutions, regulations and laws (which can cut across different RECs) need to be managed; not to mention dealing with different stakeholder groups in different areas for multi-country projects.

From the private sector perspective this means that the risks involved with regional projects are higher, particularly the costs involved in trying to carry out the up-front project development work.

The complexities involved in trying to develop regional projects can be a key deterrent to private investors in larger regional projects, as setting up meetings between the ministers or civil servants of multiple countries is complex and time consuming and leads to uncertainty and long costly delays for private investors. This has been a particular challenge for regional projects in Africa to date – for the PIDA projects in the pipeline, the majority of the those reviewed above have seen some delay, and many of the EU-AITF's projects have been extended two or three times.

Implementation capacity among the RECs and their specialist agencies was also highlighted as a constraint, including requirements for both financial and human capital. As is discussed under the Ruzizi III study, a key driver of the project's success has been EGL, whose capacity has received significant support from EU-AITF. Without similar external support, it is unlikely that many of the other RECs and their agencies would be able to develop such a project.

13.2. Specific approaches

One of the ways that governments and RECs can address the constraints faced by regional projects is to continue to work to prioritise regional projects more effectively. This could be through the preparation of a strategic infrastructure plan that aggregates and prioritises projects that are in the

pipeline taking forward the work undertaken for the PAP projects and as part of the new Dakar Financing Summit scheme. The importance of a clear strategy has been re-emphasised in a recent paper by the Brookings Institute.[207]

One of the factors in the ability of the case study projects to attract private participation is the investment that was made up-front in project development activities. As discussed in the sub-section above, regional infrastructure projects can be inherently more complex than national projects. Therefore it is important, particularly for multi-country projects that a single lead institution is created/ given the mandate to develop the project on behalf of the different countries involved in the project.

This could take the form of a single contracting party responsible for taking the projects (or projects, where there are cross dependencies) to market. In some instances this role could be limited to project preparation; that is, packaging prior to tendering; in others there could be full development of opportunities up to financial close, or in some cases construction and operations, with partial or full exit post operations. The institutions involved could be power pool secretariats, development corridor companies, or infrastructure SPVs, in the case of the latter approach. This last approach could also create the types of operational assets at scale that would be of most interest to international institutional investment. This latter approach would also mimic some the positive "turnkey" aspects of the Chinese approach.

[207] Gutman et al (2015). *Financing African Infrastructure: can the world deliver?*

PART F: CONCLUSIONS

Part F presents the key conclusions from the research highlighting the importance of mobilising private capital to reduce the burden to the balance sheets of governments who would otherwise have to finance it.

The objective of this section is to provide a brief summary of the overall findings.

14. CONCLUSIONS

14.1. Objective of mobilising private finance

Mobilising private capital to finance infrastructure not only creates a new resource, it also reduces the burden to the balance sheets of governments who would otherwise have to finance it. Where finance is raised without the need for government support (such as in the form of a credit guarantee) it reduces a major constraint to the provision of infrastructure.

14.2. Achieving bankability

The main challenge to mobilising private capital to finance projects in DFID focus countries in SSA (excluding South Africa), is a shortage of bankable projects. These projects are typically not creditworthy, first and foremost due to the risk associated with their own revenue streams. This can arise from either poor quality off-take, as in the case where IPPs sell to near insolvent power utilities, or else in the case of user-charging based revenues where projects face high levels of demand (market) risk. Ultimately tariffs need to become more cost and risk reflective and suppliers of infrastructure services such as power need to be able to divert their services to alternative customers in events of non-payment, such as through power pools. Investors are only likely to take full project risk on mainstream economic infrastructure once the underlying problems that militate against project bankability are addressed.

In the immediate term, projects need to be offered to the market with appropriate support packages that mitigate these risks. Whilst not necessarily needed in every case, for instance where ECA support is available, most projects that have recently received financing in DFID-focus countries in SSA outside of South Africa, have done so with a package of support arrangements, and in particular, with the provision of PRGs from the main MDBs. As this is essentially a government risk, due to the need of government to indemnify the PRG providers, the supply of such support by the MDBs needs to take into account the ability of countries to assume such risks, even when they are to the MDBs. Again, to reduce these risks to taxpayers, tariffs need to be cost reflective so as to reduce the likelihood of a guarantee being called.

One approach to mitigating the demand risk faced by projects such as roads is to adapt the PPP model so that government is the ultimate payee. Whilst this may sound counter-intuitive from the perspective of reducing the burden to governments' balance sheets, if this reduces the need for governments to provide full credit guarantees to private banks, it is preferable. The alternative is to provide projects with returnable first loss capital that can cushion investors and lenders against market risks. However, the first approach is likely to be most cost effective, in terms of the amount of capital raised per dollar of subsidy. As such, ways of providing additional resources to fund guarantee reserves at the main MDBs so that they do not eat into IDA and ADF allocations could be explored. In addition to the provision of the formal guarantee, the presence of an MDB in a financing structure helps to mitigate wider political risks that investors and lenders perceive.

14.3. Supporting project preparation

Even where projects reach financial close, the development process is extremely slow, in part because of an inability of some governments to prepare and package projects that they have originated. Whilst

attempts to develop the capacity of governments to do so are being implemented in several countries, often based around a centralised PPP unit, with an accompanying PDF, the resourcing of such facilities rarely, if ever, matches the scale of their ambition.[208] Alternatively such approaches might be refocused on sectors with the most potential; with the transaction costs incurred being repaid, at least in part, by successful projects, so as to recycle funding. Regional projects, in particular, need a much higher degree of coordinated preparation and packaging.

Private sector originated projects which will typically not have been solicited by government can also be problematic as they are likely to require the same type of support package. At a minimum, governments need to develop more structured frameworks for unsolicited bids, which set out the principles and qualifying criteria for the award of any necessary support packages.

Resource flows from donors and government budgets to develop capacity to prepare, negotiate, and transact projects need to be increased. However, whilst donors can help provide the necessary resources to support project preparation and development, what they cannot do is create the necessary commitment on the part of governments who need to champion PPP programmes if they are to be successful. Donors may therefore wish to channel their support to those governments that appear most committed to support PPP approaches.

14.4. Sources of finance

Where bankable projects exist they can be financed by long term FX debt from either DFIs and / or increasingly, Africa-based commercial and investment banks (European and US based lenders are less active in these markets). If anything, both types of entity are opportunity constrained and typically face no pressures to recycle their capital and prefer to receive an annuity income over the life of their project loans. Whilst new regulations such as Basel III are likely to increase costs for commercial lenders, this would appear to be more likely to reduce their margins rather than prevent them from doing business.

14.4.1. Institutional investment

In addition to addressing credit risks, there are also significant challenges in accessing international institutional investment as well as long term debt finance from either local institutional investors or banks. The main challenge shared by both FX-based and local currency-based institutional investment is that there is a mismatch between the requirements of FX-based, project finance models looking for fixed rate term capital at financial close and institutional debt investors looking for more liquid, operational assets.

There are, though, differences between the nature of the mismatches between projects and international and local institutional investors. Apart from more specialist investors, international debt investors such as pension funds typically require minimum investment grade ratings for projects for prudential regulatory reasons which projects cannot provide as it is difficult for “on-shore” projects to pierce the sovereign ceiling of the host country, as well as the required transaction sizes that are too large for most SSA projects; although the economics of some regional projects could provide more opportunity. Due to the specific challenges of appraising greenfield project risk, they look for post

[208] Taz Chaponda and Duncan Lishman (2013), PPPs and missing markets in sub-Saharan Africa. A study on project preparation funding.

operational assets, other than for equity investments which forms part of their Alternative Asset Investment (alongside property development, private equity and hedge fund investments). Their liquidity requirements are also typically driven by prudential requirements such as the Solvency II directive.[209]

Local institutional investors, who also need liquidity, look for local currency investments to meet their own local currency liabilities, such as pension provision. At the moment this is not a good match with the overwhelming FX nature of project financings in SSA outside of South Africa. Whilst size of investment and a need for credit ratings do not provide the same barriers for them as for international investors, if local projects were to offer debt this would need to be competitive with yields on government stock.

From the perspective of projects, in general, local currency financing is at a disadvantage to FX due to higher levels of interest rates, as a result of the higher inherent risks of developing versus developed economies, not to mention the impact of quantitative easing by the central banks standing behind the main international currencies. However, by financing in FX, projects create considerable risks of exchange rate depreciation, given that their revenues are typically denominated in local currency. To avoid these risks, which crystallised during the Asian Crisis of the late 1990s, projects should reduce their dependence on FX debt and look to finance at least in part through local currency, including through institutional sources of capital.

Attracting international institutional debt finance

Whilst avenues through private equity funds exist for equity investment, debt is much more problematic. However, there are options as to how the different barriers identified for international investors could be addressed.

The minimum investment size constraint could be addressed through a focus on larger mega, or regional projects, such as power generation for the South African market, which also require transmission links. The South African market also represents a source of more creditworthy off-take which in principle should make it more attractive to institutional investors.

The challenges in mobilising institutional debt finance for single greenfield projects at financial close, will be the likely need for a level of credit protection similar to what monoline insurance used to provide. There are few donors, if any, however, who can replicate the protection of this type of on-demand product.[210] In any event, such greenfield investment would remain relatively illiquid.

Credit quality could be improved by drawing on the portfolio benefits of funds, especially where diversification is both by sector and geography. IFC and Sida are both pursuing investment fund approaches, in which the need for credit enhancements to achieve the necessary credit ratings is fully recognised. This could be achieved by either providing guarantees to investors in the funds, and / or providing donor first loss capital. The latter could, for instance, improve the risk profile for commercial debt providers as was the case when EAIF was introduced (although it was banks rather than institutional investors who provided the debt).

[209] Future Rules: Solvency II (including "Omnibus II"). European Commission.

[210] Most donor guarantees are not on-demand. The guaranteed entity is paid an amount related to the extent of the loss experienced. On demand guarantees allow the guaranteed entity to transfer any potential losses to the guarantee provider as soon as there is a default (at which point, the extent of the loss is not known).

Focusing on the creation of operational assets may, however, be a more productive approach. This could potentially be achieved by the implementation of a more defined, recycling of capital approach, which would be more akin to what project finance banks do in more developed markets. In such an approach, DFIs would concentrate their financing in late project development (helping to address another barrier as several private equity / development funds are currently doing) and construction phases of projects, with a view to selling down their debt position once the project becomes operational.

This would, however, represent a significant change to the current operational model of most DFIs. It may, for instance, require their single project exposure limits be relaxed to facilitate this, as it would most likely lead to higher concentrations of risk for them. In the approach, they would need to charge more for their debt during the construction phase of the project to reflect the additional risks, rather than blending these costs over the life of the loan. They would also make a part of their return as equity holders through an increase in gearing and / or lower debt pricing, post operations. Their equity could be introduced earlier on in the project cycle, pre-financial close, to help fund project development. Other sources of fee income or else ways of mitigating the risks they face may also need to be established in order for the DFIs to make the level of risk-adjusted return that their shareholders require. Although increasing the risks they face, such an approach would concentrate DFI financial resources on the parts of the project cycle where they could be the most catalytic and additional.

Although credit quality would improve once a project became operational, it could be further improved through a range of approaches. These include the provision of PCGs to direct investors in the debt instruments issued at the time of the refinancing with institutional capital. Alternatively, project debt could be sold to funds through which institutional investors would participate in underlying investments.

All of the above assumptions could only be verified, however, by their application in a real project investment context.

Local institutional finance

As with international institutional finance, creating opportunities for equity is easier to achieve than for debt. Local currency debt is more expensive in real terms than FX and it is difficult to fix in the absence of liquid hedging markets. It is therefore at a competitive disadvantage to FX – despite its benefits in mitigating exchange rate risks. Without a concerted effort to promote its incorporation into financing structures, opportunities for local credit and capital markets to contribute to the debt financing of projects will remain minimal, notwithstanding the limited examples of where this has taken place (such as in the case of KenGen). The extent to which such measures can be realistically introduced will depend upon the level of development of local credit and capital markets and the desire of policy makers to realise the potential to do so, which would likely increase the cost of financing.

A first set of actions, based around the existing project finance model, involve ensuring that local currency financing finds opportunities. For example, PPAs need to be able to provide for changes to the costs of local currency financing in the same way that most do for exchange rate movements. There may be a need to require that a given portion of a project's debt financing needs to be in local currency in order to reduce exchange rate risks to consumers. This helps create a market, which arrangers of a project's debt need to be cognisant of.

As with international institutional finance, if institutional debt finance is to be attracted, opportunities for investment in operational assets also need to be created. This could be achieved in several ways; for instance, local banks being refinanced out of a transaction, post operations.

More widely, in order to maximise the opportunities for all kinds of local capital, as well as improving the sustainability of projects, policies should shift over time to a more active "localisation" approach. This would involve a lower reliance on what is a relatively high cost project financing model, involving international sponsors and expensive US and European lawyers. More locally sponsored projects, which may even be corporate rather than project financed, through listings on local stock exchanges, would have lower transaction costs (especially if they utilised local lawyers). Smaller projects would be the obvious entry point for more localised solutions; however, the more that governments open up infrastructure to private financing through, for instance, partial divestitures, the greater the scope for this.

This may not necessarily happen on its own and may involve changes to the way the large international institutions conduct their business. Institutionally, there may be a larger role for local DFIs to help in the localisation of the financing of projects, with the larger international DFIs focusing on the larger and more challenging transactions, leaving smaller ones to local financial institutions.

Part of such an approach could involve the largest DFIs becoming more indirect "wholesale" providers of capital, rather than providing capital directly to projects. The option of using the capital raising powers of the DFIs to issue local paper and then on-lend such term capital to local financial institutions should be actively pursued where the right conditions exist. Again, ways in which donor patient and other capital could increase the scope for this should also be considered, in terms of absorbing risks that the DFIs may not be able to.

ANNEX A PPP INSTITUTIONS IN DFID FOCUS COUNTRIES IN SUB-SAHARAN AFRICA

Country and PPP Unit	Key responsibilities of the PPP unit	Name of approval authority	Budgetary resource information	Origin of funds for establishing PPP units	Example of funding for project development
West Africa					
Nigeria Infrastructure Concession Regulatory Commission (ICRC)	• Building a pipeline of public infrastructure investment projects using the MDAs that are high priorities for the Government of Nigeria and which can attract private sector investment. • Ensuring a robust, transparent, efficient and equitable processes is developed for managing the selection, development, procurement, implementation and monitoring of PPP projects and that this process is applied consistently to all relevant projects. • Ensuring that the advantages and requirements of PPP's are well appreciated at the National level amongst potential investors and by other relevant stakeholders.	Federal Executive Council (FEC).	The ICRC is allocated specific funds annually in the Government of Nigeria's budget. In 2013, around US$5.4m was allocated to the ICRC, down from US$7.4m in 2012.211	In December 2008, the World Bank agreed to provide the Federal Government of Nigeria a US$315m PPP Financial Intermediary Loan Support, with $115m of this credit was disbursed through the ICRC for capacity building, developing key PPP-laws and regulations and for transaction support funding.	As part of the US$315m loan provided by the World Bank, US$200m was proposed for establishing the Viability Gap Fund which would be a facility where public funds would be available to bridge one-off financing gaps for PPP projects. Some of the funding would also be used to provide private commercial loans, where an on-lending agreement would be negotiated with a private sector financier, who would then assume the risk of channelling loans to PPP projects.
Ghana PPP Advisory Unit/Project and Financial Analysis Unit	• Provide value added advice and support to the MDAs and other Contracting Authorities in the public sector to enhance the identification, preparation of feasibility analysis,	PPP Approval Committee.	Based on budget statements published by the Ministry of Finance and Economic Planning (MoFEP), specific budgetary allocations are not made to the Public	Advice from various organisations (such as the World Bank's Public-Private Infrastructure Advisory Facility (PPIAF) and CPCS Transcom Limited advised the	The World Bank has provided US$30m to improve the legislative, institutional, financial, regulatory and technical framework to generate a pipeline of bankable PPP

[211] At current exchange rates.

Country and PPP Unit	Key responsibilities of the PPP unit	Name of approval authority	Budgetary resource information	Origin of funds for establishing PPP units	Example of funding for project development
	structuring, negotiations and procurement of PPP projects. • Build capacity among public sector stakeholders, and MDAs, to enable them to lead the implementation of a PPP project from start to finish in a professional and technically competent manner. • Promoting awareness and understanding of Ghana's PPP programme in order to encourage the use of PPP for selected appropriate projects. • Act as a centre of excellence for PPPs in Ghana. • Provide assistance to MDAs and other Contracting Authorities that want to promote PPPs in their respective sectors and developing in collaboration with the PFA Unit, Model Agreements for that sector. • Assist MDAs and other Contracting Authorities in understanding approval requirements for PPPs, and developing necessary documents for review.		Investment Division, which house the Project and Financial Analysis Unit and the PPP Advisory Unit.	Government of Ghana on the need to establish a centralised PPP unit, however the actual funding for this seems to have been derived from government sources. Furthermore, the World Bank has dedicated US$30m to support PPPs in Ghana, of which US$18.5m is dedicated to improving the legal, regulatory and technical capability of the PPP units.	projects. Also, according to its National Policy on PPPs, the Government of Ghana will deploy a number of instruments to support project preparation and increase the financial viability of projects, including the Project Development Facility (PDF), the Viability Gap Scheme and the Infrastructure Finance Facility.
Sierra Leone PPP Support Unit	• Develop PPP policies for consideration of the PPP Council. • Develop technical and best practice guidelines.	PPP Council	According to the PPP Act, the activities of the Unit shall be funded through budget allocations approved by Parliament	According to DFID (2013), the World Bank, the AfDB and the United Nations Development Programme (UNDP) have supported the Government in	According to DFID (2013), the Government, AfDB and UNDP have committed £1m for staff, technical assistance and training for the PPP Unit,

Country and PPP Unit	Key responsibilities of the PPP unit	Name of approval authority	Budgetary resource information	Origin of funds for establishing PPP units	Example of funding for project development
	• Coordinate and provide assistance to contracting authorities in respect of all PPP projects. • approve or reject pre-feasibility studies and advise contracting authorities on proposals and feasibility studies for PPP projects. • Monitor ongoing PPP projects.		and donations from interested parties.	establishing the regulatory framework for PPPs, while the NGO the Africa Governance Initiative has also assisted in the establishment of the PPP Unit. Both UNDP and AfDB have declared that they will continue to support the Unit further, while DFID has committed £765,000 to supporting the Unit, of which £215,000 will cover administrative issues necessary for operating the Unit.	while DFID is committing £550,000 for pre-feasibility studies and associated technical assistance.
East Africa					
Kenya PPP Unit	• Serve as a resource centre on matters relating to PPPs. • Promote the awareness and understanding of the PPP process amongst stakeholders. • Assist contracting authorities on a range of issues throughout the transaction process and during the implementation of PPP contracts. • Rate, compile and maintain an inventory of PPP projects that are highly rated and which are likely to attract private sector investment.	PPP Committee	The day-to-day running of the PPP Unit will be funded through budgetary allocations to the National Treasury.	The PPP Unit was established in the National Treasury of the Government as a result of active government policy to improving the infrastructure climate within Kenya.	According to the PPP Act (2013), a Project Facilitation Fund is to be created that shall support contracting authorities in project preparation, support to activities of the PPP unit and act as a viability gap fund for projects that are desirable but cannot be implemented without financial support from the Government. Money for this Fund shall be drawn

Country and PPP Unit	Key responsibilities of the PPP unit	Name of approval authority	Budgetary resource information	Origin of funds for establishing PPP units	Example of funding for project development
	• Develop an open, transparent, efficient and equitable process for managing the identification, screening, prioritization, development, procurement, implementation and monitoring of projects, and ensure that the process is applied consistently to all projects. • Conduct research and gap analysis to ensure continuous performance improvement in the implementation of PPPs. • Make recommendations on the approval or rejection of projects prior to submission to the Committee for approval. • Advise the government and the Committee on key issues relating to specific PPP projects and PPP policy in general.				from fees, levies and tariffs generated from projects, grants and donations and money sourced from the National Treasury's budgetary allocation.
Tanzania Coordination Unit	• Process applications that are submitted by contracting authorities for PPP projects; • Make recommendations and submit the project proposal to the Finance Unit; and • Keep a register of details regarding projects accepted by the Finance Unit.	Finance Unit	Based on Tanzania's budget statements, funds are specifically allocated to the overall PPP Unit (which comprises the Coordination and Finance Units). According to the 2013/14 Budget Book, around US$600,000 has been allocated to the management of these units, although this is	Government funding	According to the PPP Act (2010), the Minister of Finance has the power to establish a PPP Project Development Facility for contracting authorities for specific projects to help finance project preparation costs.

Country and PPP Unit	Key responsibilities of the PPP unit	Name of approval authority	Budgetary resource information	Origin of funds for establishing PPP units	Example of funding for project development
			expected to increase to US$830,000.212		
Uganda Investment and Private Sector Department (IPSD)	• Formulate, review and coordinate investment policies, laws and regulations which are consistent with the need to achieve higher economic growth targets for the economy. • Formulate, review and coordinate policies that stimulate Private Sector development and enhance Competitiveness. • Monitor implementation of Investment and Private Sector development policies. • Coordinate, supervise and monitor the performance of Agencies affiliated to the Ministry of Finance, Planning and Economic Development (MFPED) in the implementation of Investment and Private Sector development policies. • Liaise with key stakeholders to identify and address constraints to investment and Private Sector development. • Follow up Uganda's interests in regional investment fora. • Coordinate the development and monitor the implementation of the	Cabinet of the Government of Uganda213	According to the PPP Framework Policy (2010), the provision of funds to run the PPP unit drawn through MFPED.	The feasibility study for the establishment of a PPP unit was carried out by the PPIAF, while funds to establish the PPP unit were sourced from the Government.	According to the PPP Framework Policy (2010), detailed project development will be the responsibility of the government ministries that are responsible for the sector in which the project lies.

[212] Based on current exchange rates.
[213] Source: PPP Framework Policy (2010).

Country and PPP Unit	Key responsibilities of the PPP unit	Name of approval authority	Budgetary resource information	Origin of funds for establishing PPP units	Example of funding for project development
	Public-Private Partnerships (PPP) framework.				
Southern Africa					
South Africa PPP Unit of the National Treasury	• Develop, formulate and promote PPP policy. • Developed systems and documentation to formalise and standardise PPP processes. • Provide direct technical assistance to national and provincial departments, and municipalities, in preparing and procuring value-for-money PPPs. • Ensure that international best practice for PPPs is followed in the South African context.	According to the National Treasury's PPP Manual (2004), approval of PPP projects is taken by the relevant treasury (i.e. depending on where the province is located).	The day-to-day running of the PPP Unit will be funded through budgetary allocations to the National Treasury.	According to PPIAF (2011), the South African PPP Unit was established with extensive support from donors, including the US Agency for International Development (USAID), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and DFID.	Between 2006 and 2001, the Business Trust and the Presidency of the Government of South Africa entered into a partnership to deliver the Support Programme for Accelerated Infrastructure Development, which established a Project Preparation Fund. This Fund aimed to get capital projects at municipal level prepared for implementation to avoid delays and increase capacity of those delivering projects.
Malawi PPP Commission	• Support with identification of infrastructure projects appropriate for PPP, concept development and exploration of different PPP options and undertaking pre-feasibility analysis; • Undertaking technical economic and financial feasibility studies, legal, environment and social appraisals, assessment of project risks and	PPP Commission	According to the PPP Bill (2011), funds for the PPP Commission may be drawn from budgetary resources, grants and donations, fees as a result of services provided by the Commission and through the sale of state-owned enterprises.	Government sources	According to the PPP Bill, the PPP Commission can raise funds for project development through grants and loans obtained both inside and outside Malawi, as well as charging fees for services it provides (such as training, consultancy,

Country and PPP Unit	Key responsibilities of the PPP unit	Name of approval authority	Budgetary resource information	Origin of funds for establishing PPP units	Example of funding for project development
	identification of solutions to mitigate those risks. This would include support in development of financial and economic models. • Supervising a competitive bidding process to select the best private sector offer. • Providing support to the CA during negotiations with the private sector provider. • Assisting the CAs in understanding the approval requirements (the Review function), helping them develop necessary documents for review and generally guiding the CAs through the approval process. • Promoting PPPs in Malawi and internationally, ensures public awareness amongst all stakeholders, facilitate capacity building across the various institutions and provide guidance on PPP procedures and processes. • Liaising with funding agencies and international development partners with respect to obtaining financial and technical support for PPP projects.				facilitation of PPP arrangements etc.).
Mozambique A national PPP unit has yet to be	N/A	N/A	N/A	The Unit was developed as a result of a PPIAF study, with funding being	The City of Maputo PPP Unit has received funding from the PPIAF to support

Country and PPP Unit	Key responsibilities of the PPP unit	Name of approval authority	Budgetary resource information	Origin of funds for establishing PPP units	Example of funding for project development
established, However, the City of Maputo PPP Unit is regarded as one of the most established units in Africa.				received from the municipal government.	the development of PPP projects in the city.
Zambia Zambia Development Agency	• According to the PPP Act (2009), the functions of the PPP Unit included the following: • Promote private sector participation in different aspects of infrastructure projects. • Advise the Government on policies regarding PPPs. • Record and categorise PPP projects. • Co-ordinate with contracting authorities with respect to particular projects. • Develop best-practice guidelines with respect to PPPs. • Assess PPP proposals received by contracting authorities.	N/A	N/A	N/A	N/A

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