MOBILISING FINANCE FOR INFRASTRUCTURE

A STUDY FOR THE UK DEPARTMENT FOR INTERNATIONAL DEVELOPMENT (DFID)

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International Capital Flows to Infrastructure in Sub-Saharan Africa and South Asia

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Contents

ACRONYMS

AE	Advanced Economies
AfDB	African Development Bank
AUM	Assets Under Management
BIS	Bank for International Settlements
CDO	Collateralized Debt Obligation
DB	Defined Benefit
DC	Defined Contribution
DFI	Development Finance Institution
EBA	European Banking Authority
EIOPA	European Insurance and Occupational Pensions Authority
EMDEs	Emerging Market and Developing Economies
FAS	Financial Accounting Standards
FMO	Netherlands Development Finance Company
FSB	Financial Stability Board
FTK	Financial Assessment Framework
FX	Foreign Exchange
GAAP	Generally Accepted Accounting Principles
G-SIBs	Global Systemically Important Banks
G-SIFIs	Globally Systemically Important Financial Institutions
HQLA	High-Quality Liquid Assets
IAS	International Accounting Standards
IDA	International Development Association
IFC	International Finance Corporation
IFRS	International Financial Reporting Standards
LCR	Liquidity Coverage Ratio
LSE	London Stock Exchange
LTI	Long-Term Investing
MIGA	Multilateral Investment Guarantee Agency
MDB	Multilateral Development Bank
NSFR	Net Stable Funding Ratio
OECD	Organisation for Economic Co-operation and Development
OTC	Over-The-Counter
PE	Private Equity
PCG	Partial Credit Guarantee

PRG	Partial Risk Guarantee
QE	Quantitative Easing
QIS	Quantitative Impact Study
RMB	Rand Merchant Bank
SIDA	Swedish International Development Cooperation Agency
SIFI	Systemically Important Financial Institutions
SSA	Sub-Saharan Africa
SWF	Sovereign Wealth Fund
TCX	The Currency Exchange Fund
US	United States
USAID	United States Agency for International Development
VaR	Value at Risk
WBG	World Bank Group

1. EXECUTIVE SUMMARY

The purpose of this Report is to present DFID with an overview of the key trends and challenges underlying financial flows from Organisation for Economic Co-operation and Development (OECD) markets to sub-Saharan Africa (SSA) and South Asia. The research is aimed at identifying 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 (SWFs)). The findings are primarily based on extensive desk-based research.

1.1. Trends around international capital flows

There has been significant volatility in international capital flows to Emerging Market and Developing Economies (EMDEs) following the financial crisis, largely due to spill-over effects from the policy response in Advanced Economies (AEs), such as Quantitative Easing (QE), and stricter regulatory requirements imposed on European banks.

Recently however, frontier market economies in SSA have regained access to international capital markets, supported by stronger risk appetite and a return to search-for-yield strategies at the global level. Overall, there has also been a strong loan supply for infrastructure since the crisis, with issuance volumes trending upwards, including in Africa. While syndicated loans have regained importance in SSA following the decline in volume terms after the financial crisis, the origin of flows has changed. Traditional European investors from France, Germany and the UK have scaled back participation in new syndicates and large bilateral loans, with an increasing role for domestic banks to fill the gap.

1.2. Institutional investors

There has been growing institutional investor interest in the infrastructure sector, in large part due to the persistent low-interest rate and low-yield environment on listed bonds globally, which has led investors to pursue diversification and return-enhancing strategies by taking on additional risk in alternative assets, including in EMDEs. The focus on infrastructure investments in Africa also reflects increasing investor emphasis on sustainable investments.

Overall however, allocations to infrastructure are still limited. OECD's 2013 survey of pension funds estimated global infrastructure investment in unlisted equity at just 0.8% of Assets under Management (AUM). Further, as the asset class is relatively new, allocation to direct infrastructure funds accounts for only 4% of total alternative investments by the top 100 alternative investments asset managers worldwide (Towers Watson, 2014)[1]. The majority of institutional investments in infrastructure are concentrated in OECD economies, with a limited focus on Africa. According to an IPE and Stirling Survey (2013), only 12% of European pension funds expressed interest in investing in Africa.

[1] Alternative investments include funds of hedge funds, private equity funds of funds, real estate funds, direct infrastructure funds, direct hedge funds, direct private equity funds, direct commodities funds and illiquid credit.

Given investment priorities and asset allocation strategies of institutional investors, the key barriers to long-term investing identified, particularly in the African context, include:

- **Short-term focus**, as the investment decisions of life-insurers and pension funds are subject to short-term pressures stemming from their liability profile. The illiquidity of long-term assets is particularly a challenge to the ability of investors to exit assets in order to service short-term obligations.
- **Limited investment and risk management expertise**, with regard 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[2]; (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.
- **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 EMDEs, 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.

1.3. International bank lending

Continued global deleveraging pressures on banks (particularly European banks) have subdued net commercial bank flows to EMDEs. The key deleveraging pressures identified include:

- **Economic drivers**, stemming from the economic slowdown and the negative sovereign-bank-real economy feedback loop, whereby periods of increased sovereign stress and economic slowdown will continue to constrain European bank's operations, as well as tighten credit standards. The feedback loop is likely to be further reinforced by the lack of a banking union with appropriate pan-European backstops.
- **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

[2] None of the eighteen focus countries in SSA meet this threshold requirement in terms of their sovereign ratings.

the policy measures introduced for Globally Systemically Important Financial Institutions (G-SIFIs)[3] and Over-The-Counter (OTC) derivatives market reforms.[4,5,6]

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 EMDEs; (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 funding conditions or investor concerns about the overall health of banking groups.

While 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 funding for EMDEs in the past, it will be particularly important to monitor the impact of Basel III on the availability and lending tenors of bank funding. 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 EMDEs**, as the liquidity framework favours highly rated bonds, which require a relatively low proportion of stable funding under the Net Stable Funding Ratio (NSFR), and can also be used as short-term liquidity cover under the Liquidity Coverage Ratio (LCR).
- **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)[7] which shifted credit risk from their balance sheets, it has since become more difficult to do so given the disappearance of monoline insurers and the fall in investors' appetite for CDOs.

[3] The Financial Stability Board (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. At present 30 Global Systemically Important Banks (G-SIBs) are identified, and are allocated across buckets corresponding with the higher loss absorbency requirement that will apply from January 2016. Further detail is presented in Annex D.

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

[5] Financial Stability Board (2015). Making Derivatives Safer. Accessed on 29/5/2014 at: http://www.financialstabilityboard.org/what-we-do/policy-development/otc-derivatives/

[6] Financial Stability Board (2014). 2014 update of list of Global Systemically Important Banks (G-SIBs).

[7] 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.

1.4. Policy recommendations

The barriers identified in this Report indicate that even if concerns around bankability of projects were dealt with, there would still be a role for DFIs to support the provision of long-term debt. The wider question at hand is around whether the emphasis should be on its direct provision, or on the mobilisation of private capital through provision of guarantees that mitigate risks for investors. In this context donor-provided first loss capital can play a key role in improving the terms of both Partial Risk Guarantees (PRGs) [8] and Partial Credit Guarantees (PCGs) [9], as well as potentially supporting their deployment.

Once credit/ default risks are addressed, it opens up opportunities for the provision of fixed-rate, long-term foreign exchange debt, provided currency risks are mitigated. DFIs have a "market-making" role to play in this regard, by facilitating availability of long-term currency swaps; the Currency Exchange Fund (TCX) presents a promising foundation that can potentially be built on to reduce this risk. DFIs can also use the strength of their own balance sheets to help raise local currency financing at a lower cost than most host country financial institutions, as exemplified by the on-shore and off-shore rupee bond programmes in India supported by the International Finance Corporation (IFC).

While there is potential to tap into institutional markets, doing so depends on significant credit enhancement. In particular, a rated portfolio of operational assets, ideally listed on international exchanges, presents the most promising route for attracting investors into the infrastructure sector in Africa. Such an approach could be supported by implementation of project life-cycle related recycling of DFI capital, whereby DFIs focus their financing in later stage project cycle activities and construction, with a view to partially exiting their debt position through refinancing post operations. This would involve securitisation of existing debt into specialist vehicles which would raise finance from investors and then on-lend it to projects.

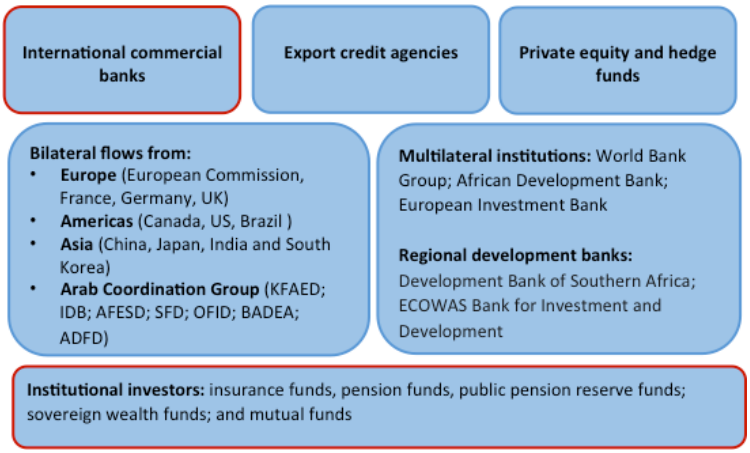
[8] PRGs cover private lenders and investors against the risk of the government (or a government owned agency) failing to perform its obligations vis-à-vis a private undertaking.

[9] PCGs provide a cover to a portion of the exposure faced by lenders providing credit, either for a proportion of principal, or targeted to the later years of a loan, thereby increasing its maturity.

2. INTRODUCTION

The purpose of this Report is to present DFID with an overview of the key trends and challenges underlying financial flows from Economic Co-operation and Development (OECD) markets to sub-Saharan Africa (SSA) and South Asia. A broad range of international capital flows are identified, presented in Figure 2.1 below. The research is aimed at identifying 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 (SWFs)). The findings are primarily based on extensive desk-based research.

Figure 2.1: Sources of international capital flows



Source: CEPA analysis.

The rest of the Report is structured as follows:

- **Section 3** presents an overview of overall trends around international capital flows.
- **Section 4** considers institutional investors' interest in infrastructure in Africa and South Asia in further detail, looking in particular at the drivers and limitations of such investments, and identifying key constraints to long-term investing.
- **Section 5** explores the constraints to international bank lending, including key deleveraging drivers and channels through which deleveraging is transmitted, in addition to paying closer attention to the potential impact of key financial regulatory reforms including Basel III.
- **Annex A** presents a list of key institutional investors in the infrastructure sector.
- **Annex B** summarises investor perspectives on mobilising long-term institutional finance to infrastructure in Africa, based on key inputs from stakeholders during a workshop organised by Swedish International Development Cooperation Agency (SIDA) and United States Agency for International Development (USAID).
- **Annex C** presents an overview of Basel III Phase-in Arrangements.
- **Annex D** presents the updated list of 30 Global Systemically Important Banks (G-SIBs).
- **Annex E** summarises available information on the key Private Equity (PE) funds that have been active in SSA's private infrastructure markets

3. OVERALL TRENDS AROUND INTERNATIONAL CAPITAL FLOWS

Over the last decade global investors have been increasingly investing in both bonds and equities originating in emerging markets. The attraction of emerging market securities has been driven by a decline in their relative credit risk compared with those from Advanced Economies (AEs); their improved credit ratings; the growing role of emerging markets in the global economy; and the prevalence of low yield securities in the AEs.

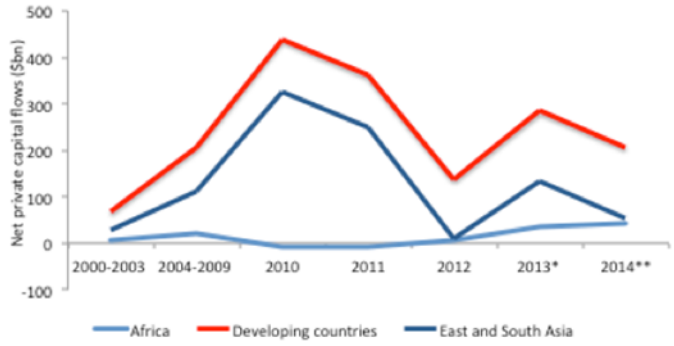
Despite this overall increase in investment, international capital flows have been volatile, largely due to the spill over effects from policies in response to the financial crisis in the AEs, such as Quantitative Easing (QE) and the stricter regulatory requirements imposed on European banks. As discussed further in Box 3.1 below, these policies have led to the expansion and retrenchment in portfolio flows to developing countries.[10]

Box 3.1: Impact of the financial crisis and the policy response on international capital flows to developing economies.

QE has had a significant impact on portfolio flows to developing economies, prompting a surge of inflows in 2009, 2010 and 2012, followed by a sell-off of financial assets in mid-2013 amid expectations that QE would end. This was compounded by the economic weaknesses underlying some of the large emerging economies including Brazil, India, South Africa, Indonesia, the Russian Federation and Turkey.

Given the increase in longer-term interest rates in the United States (US), net portfolio capital flows to developing countries were negative in 2013, with a 50% decrease in inflows and only a moderate increase in outflows.

Figure 3.1: Net private capital flows to Africa, East and South Asia and developing countries overall.[11]



Source: UN/ DESA (2014) [Partly estimated; ** Forecast]*

The decline was most marked in East Asia and South Asia, particularly with respect to equity inflows to India. Portfolio outflows prompted currency depreciation and a fall in equity markets in both India and South Africa. Initial data from 2014 indicates that capital inflows were likely to be lower in 2014 compared to 2013, although it was expected to pick up slowly thereafter. Even so, there could be continued retrenchment in portfolio flows to developing countries, given the likelihood of normalisation of monetary conditions in the advanced economies over the next few years.

In general, short-term commercial bank flows to many Emerging Market and Developing Economies (EMDEs), particularly those with open capital accounts such as South Africa, have experienced the most volatility compared to other types of flows. Deleveraging pressures on a number of international

[10] UN (2014). International financial system and development. Report of the Secretary General.

[11] Net private capital flows are calculated by aggregating net direct investment, net portfolio investment (including portfolio debt and equity investment) and "other" net investment (which includes short- and long-term bank lending, as well as possibly including some official flows due to data limitations). Total net flows are calculated by aggregating net private capital flows and net official flows.

banks have contributed to subdued net commercial lending, with the reduced cross-border lending activity particularly acute for EMDEs that were dependent on European banks (e.g. emerging European economies).

Both SSA and South Asia faced contractions in long-term lending in 2012. Overall, international bank lending to EMDEs, particularly from European banks, has shifted towards shorter maturities, with a decline in total international claims (including all cross-border and local claims in foreign currency) with a maturity of over two years and lower growth in longer-term claims relative to total claims.

While international bond issuances recovered in developing countries following the financial crisis, the international syndicated loan market did not, largely due to European bank stress. Participation by European banks in long-term syndicated loans to EMDEs fell from 86% in 2008 to 53% in 2012. Stricter regulatory requirements for European banks have led to large indirect penalties on cross-border lending and expectations of continued deleveraging pressures. Other banks have moved into areas previously accounted for by European banks, with a modest increase in assets of banks in the US, UK, Canada and Australia. However, they have not been able to fully bridge the gap, especially in specialized areas.

The impact of deleveraging by AEs' banks on EMDEs since 2010 has thus been concentrated in specialty finance lines, including long-term project finance, with a growing mismatch between the amount and time horizon of available capital, and the needs of projects in EMDEs. Deal volumes were at a historic low in 2012, with a decline in global project financing by 6% from the previous year. Although corporate bond finance was at a record high in infrastructure sectors, this was largely to refinance existing debt, with virtually no bond finance in new projects.

Source: UN (2014); UN / DESA (2014); World Bank (2013); FSB (2012).

Very recently there has been a stronger risk appetite and a return to search-for-yield strategies at the global level, which have enabled frontier market economies in SSA to regain access to international capital markets. Bond and equity flows to SSA market-access economies[12] have resurged, and over the period April-September 2014, recovered about 40% of the ground lost since May 2013. With the exception of Ghana,[13] sovereign spreads have seen a return to post global crisis lows, irrespective of countries' fiscal positions, while recent Eurobond sovereign issuances have been largely oversubscribed.[14]

A recent study by the Bank for International Settlements (BIS) indicates that deleveraging and the adjustment to new global financial regulations only appear to have had a short-term impact, as overall, there has been a strong loan supply for infrastructure since the global crisis, with issuance volumes trending upwards, including in Africa. As illustrated in Figure 3.2 below, private infrastructure finance through syndicated loans has risen significantly in emerging markets, often exceeding levels in AEs, with a major share of syndicated project loans for infrastructure-related sectors directed to emerging Asia (excluding China).[15]

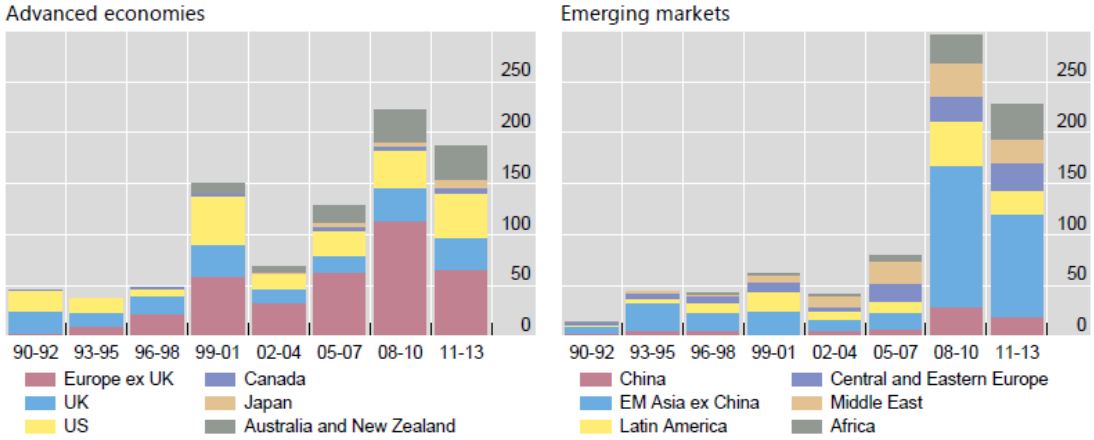
[12] Market-access economies refer to specific group of countries that have been able to increasingly access international financial markets. They are more formally defined in the IMF Report (2014) as countries that have issued an international sovereign bond and/or are typically featured in investment bank reports. These economies include Angola, Ghana, Kenya, Mauritius, Nigeria, Rwanda, Senegal, South Africa, Tanzania, Uganda, and Zambia. While Côte d'Ivoire is also considered a market access economy, it is excluded from the analysis as it was experiencing a civil conflict over part of the period of analysis.

[13] IMF (2014). Regional Economic Outlook: SSA Staying the Course.

[14] IMF (2014) presents an analysis of the change in sovereign spreads since May 2013 and fiscal balance over 2013–14 for selected economies: Ghana, Zambia, Tanzania, Senegal, SA, Cote d'Ivoire, Nigeria and Angola.

[15] Ehlers (2014). Understanding the challenges for infrastructure finance. BIS Working Papers No 454.

Figure 3.2: Infrastructure-related syndicated project loans (US$ bn)[16]



Source: Dealogic and BIS calculations; extracted directly from Ehlers (2014).

Syndicated loans have also regained importance in SSA, following a decline in volume terms after the financial crisis, and have taken on a more diversified structure. *However, the origin of flows has changed – while traditional European investors from France, Germany and the UK have scaled back participation in new syndicates and large bilateral loans, domestic banks have stepped up*.[17]

[16] Total amount of project finance through syndicated loans in shown regions and economies for the following infrastructure-related sectors: "Construction and Buildings – Infrastructure", "Government", "Healthcare", Professional services – Schools and Universities", "Telecommunications", "Transportation", "Utility and Energy".
[17] IMF (2014). Regional Economic Outlook: SSA Staying the Course

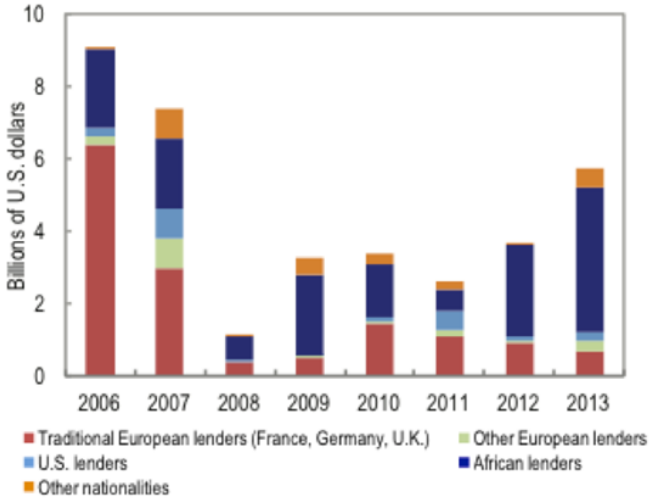
Box 3.2 presents further information on the shift towards increased lending from local/ regional banks in Africa. Similarly, in Asia, it generally appears that the gaps left by European banks have been easily plugged – *"Europe's mass departure has been treated with a mixture of unrestrained glee and raw opportunism across Asia; whenever a European financial asset has been on the block, buyers – mostly Asian – have flocked to buy*."[18]

[18] Emerging Markets (2012) BANK DELEVERAGING: Moving out.

Box 3.2: Shift from European lending for infrastructure towards increased finance from local and/ or regional African banks

Figure 3.3 presents trends underlying participation in new syndicated and large bilateral loans for infrastructure in SSA by lender nationality, highlighting a growing role for African lending institutions which have stepped up to fill the gap left by traditional European investors.

Figure 3.3: Sub-Saharan Africa - new syndicated and large bilateral loans for infrastructure by lender nationality, 2006-13



Source: Dealogic Analytics; and IMF staff calculations; extracted directly from IMF (2014).

In South Africa, domestic rather than international lenders have been teaming up with Development Finance Institutions (DFIs) and Export Credit Agencies to finance projects. Local sources of finance provided 86% of overall debt in the first three rounds of the Renewable Energy Independent Power Producer Procurement Programme, with lending dominated by the five large South African banks – Standard Bank, Nedbank, ABSA, Rand Merchant Bank (RMB) and Investec.

More broadly, larger institutions from Southern and Western Africa are becoming lead arrangers of syndicates, with most of the syndicated financing operations outside South Africa targeted at SSA frontier markets. The observed trends are in line with the findings from consultations with South African banks, which indicated that they are willing to invest in bankable projects in Africa. Stakeholders' views also suggested that South African banks are more inclined to investing long-term relative to subsidiaries of foreign banks such as Standard Chartered and Citibank. For instance,

- **Nedbank's** investments are driven primarily by simple risk assessments rather than Basel III, with the bank participating in infrastructure deals for long periods (tenors range from 7 years to 20-22 years for Rand loans).
- **RMB** has allocated around 10-15% of its portfolio to long-term infrastructure; liquidity is not seen as a major issue. RMB was the lead arranger for the Cenpower deal in Ghana, underwriting $450m worth of debt; the deal also involved other South African banks, Investec, Standard Bank and Nedbank, while Netherlands Development Finance Company (FMO) led the DFI-financing.

Source: CEPA stakeholder consultations; IMF (2014); PPIAF (2014).

4. 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 (AUM).[19] 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,[20] these allocations are still relatively limited. Globally, overall infrastructure investment by long-term investors is estimated at just US$2.2tn.[21] These investments are estimated to account for just 3% of pension fund assets, with allocations to infrastructure in developing countries lower still. [22,23]

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

- Short-termism in investment decisions.
- Limited investment and risk management expertise.
- Incentives and restrictions associated with regulatory frameworks governing pension funds and insurers.
- Structural and policy barriers including a lack of appropriate financing vehicles and limited availability of project bonds.
- A lack of appropriate data and investment benchmarks for illiquid assets.

These barriers are likely to be 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 EMDEs. 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, which has been discussed above in Section 3.[24]

The subsections below explore in further detail:

- Trends underlying increased allocations towards infrastructure.
- Limitations to infrastructure investments by institutional investors.
- Profile of investors targeting SSA.
- Constraints to long-term investing in infrastructure.

Annex A presents a list of the largest pension fund investors in the infrastructure asset class. Annex B summarises key messages from a roundtable between donors, institutional

[19] UN / DESA (2014). World Economic Situation and Prospects 2014. Chapter III: International Finance for Development.
[20] Russell Investments (2012). Russell Investments' 2012 Global Survey on Alternative Investing.
[21] Estimated by aggregating the figures provided in Bassanini (2013) for current infrastructure allocations of pension funds, insurance companies, mutual funds and SWFs.
[22] UN (2014). International financial system and development. Report of the Secretary General.
[23] Franco Bassanini (2013). The Role of Long Term Institutional Investors in Financing Infrastructure.
[24] UN (2014). International financial system and development. Report of the Secretary General.

investors and multilateral organisations, organised by SIDA and USAID in August 2014, on mobilising long-term institutional infrastructure investments in Africa.

4.1. Increased allocation towards infrastructure

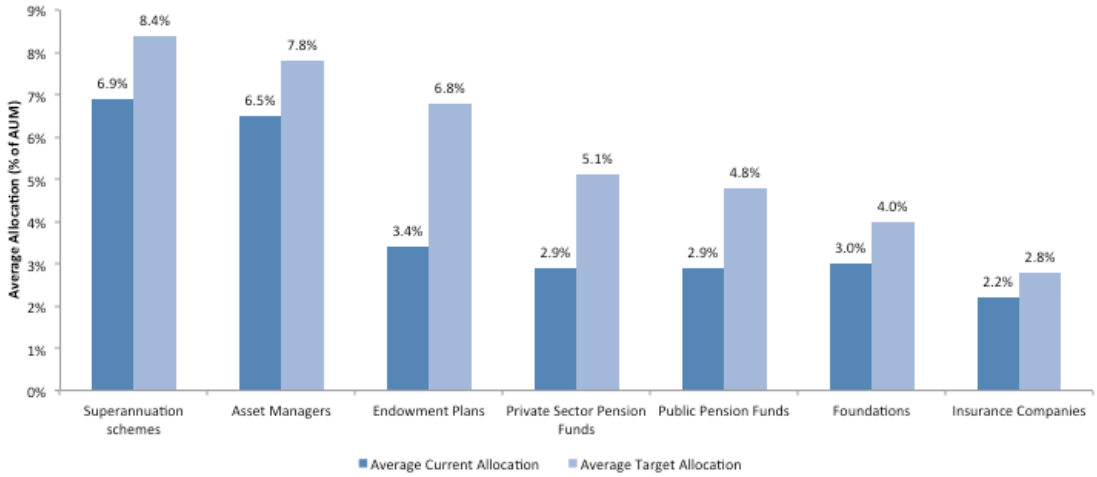
One the one hand, institutional investors' appetite for listed equities has fallen given the volatile and muted performance in European and US equity markets, while there has been a long-term trend increase of bond allocation, with investors seeking out bills and bonds from credit-worthy governments. On the other, the persistent low-yield environment has led institutional investors to pursue return-enhancing strategies by taking on additional risk in alternative assets and in smaller, potentially less liquid markets,[25] reflecting a *"growing appetite among pension funds for diversification, their search for yield and the attraction of valuation methods for unlisted assets*."[26] There has also been an observed acceleration in the trend towards investing in Emerging Market Economies.[27] In addition to the potential to earn a positive return, interest in the infrastructure sector in Africa also reflects a growing emphasis of institutional investors on contributing to sustainable investments.[28]

Some of the major trends in overall institutional investments in infrastructure are highlighted below:

- **The infrastructure investor universe has grown**. The Preqin Infrastructure Online Database (2014) indicates that public and private sector pension funds collectively account for 35% of the total infrastructure investor universe, while insurance companies account for 9%. Although superannuation schemes only represent 3% of the investor universe, they are identified as having the highest infrastructure allocations.[29]
- **Increased infrastructure allocation**. Preqin's findings also indicate that the average current allocation of institutional investors to infrastructure has increased from 3.5% in 2011 to 4.3% in 2014, with the average target allocation rising from 4.9% to 5.7% over this period.[30] Figure 4.1 below presents the average current and target allocations to infrastructure by investor type.[31] According to Towers Watson and Financial Times' Investor Survey 2014, of the total US$3.26tn in AUM by the top 100 alternative investment asset managers, US$120.6bn was invested in infrastructure, with pension funds, insurance companies and SWFs identified as the investors more inclined to invest in infrastructure (9% and 10% of their AUM respectively).[32]

[25] World Bank (2013). Long-Term Investment Financing for Growth and Development: Umbrella Paper.
[26] OECD (2013). The Role of banks, equity markets and institutional investors in long-term financing for growth and development. Report for G20 leaders.
[27] World Bank (2013). Long-Term Investment Financing for Growth and Development: Umbrella Paper.
[28] KPMG (2014). How can Sida contribute to mobilizing institutional investments to infrastructure in SSA?
[29] Preqin (2014). Investor Appetite and the Changing Infrastructure Investor Universe.
[30] Preqin (2015). Investor Appetite for Infrastructure in 2014: Investor Interviews. Infrastructure Spotlight March 2015.
[31] Preqin (2014). Investor Appetite and the Changing Infrastructure Investor Universe.
[32] Croce and Gatti (2014). Financing infrastructure – international trends.

Figure 4.1: Average current and target allocations to infrastructure by investor type.



Source: Preqin Infrastructure Online

- **Positive outlook**. An overwhelming majority (86%) of the 40 infrastructure (institutional) investors interviewed by Preqin in Q4 2014 perceived that their infrastructure investments either met or exceeded expectations in the past year. The investors surveyed generally had a positive perception of the infrastructure industry (57% had a positive outlook, with the balance neutral).[33]

- **Shift in the preferred investment strategy**. Preqin's survey in Q4 2014 also indicated that 56% of investors were targeting direct infrastructure investments over the next 12 months compared to just 29% in December 2012, while the proportion of investors channelling investments via unlisted funds declined from 91% in 2012 to 65% in 2014. Only 6% of active investors are found to be targeting listed funds in 2015.[34] Less experienced pension plans typically invest via an allocation to general alternatives, PE, opportunistic and/or real assets, while more experienced funds tend to have separate infrastructure-specific allocations.[35]

- **Increasing appeal of infrastructure debt to investors**. In line with these findings, infrastructure debt appears to be increasingly attractive to investors given their higher yields relative to other fixed-income assets such as government bonds.[36] According to a survey by GSAM Insurance Asset Management in 2012, a net third of 152 insurance companies globally, representing over US$3.8tn in assets, indicated that that they were planning to increase allocations to high yield debt. Roughly three in ten respondents indicated a planned increase in allocations to property and emerging market debt, and almost a fifth to PE.[37]

[33] Preqin (2015). Investor Appetite for Infrastructure in 2014: Investor Interviews. Infrastructure Spotlight March 2015.
[34] Preqin (2015). Investor Appetite for Infrastructure in 2014: Investor Interviews. Infrastructure Spotlight March 2015.
[35] Preqin (2012) Pension Funds Investing in Infrastructure.
[36] WEF and Oliver Wyman (2014). Infrastructure investment policy blueprint.
[37] OECD (2013). The Role of banks, equity markets and institutional investors in long-term financing for growth and development. Report for G20 leaders.

4.2. Limitations to infrastructure investments

While some large funds, particularly in Australia and Canada, have actively increased allocations to infrastructure over the last decade, in general the stage of evolution of pension fund investment in infrastructure is found to vary across countries.[38]

Further, it is cautioned that as institutional appetite for infrastructure assets is largely driven by an absolute returns strategies, particularly in the context of low returns on government bonds, it can be in part attributed to some of the volatility in international capital flows; for instance, a sharp increase in sovereign yields would reduce the relative attractiveness of long-dated infrastructure debt.[39]

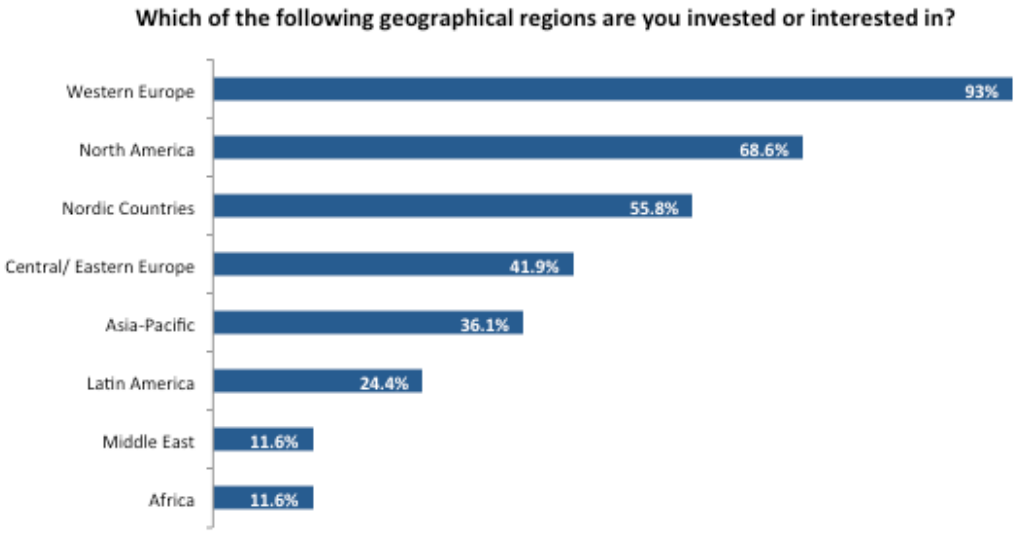
Overall, OECD's 2013 survey of pension funds estimated infrastructure investment in unlisted equity at just 0.8% of AUM.[40] Given that the asset class is relatively new, institutional investors typically allocate a small proportion of AUM to infrastructure compared to other alternative asset classes[41] - allocation to direct infrastructure funds accounts for only 4% of total alternative investments by the top 100 alternative investments asset managers worldwide (Towers Watson, 2014).

More recently, Preqin's survey of investors in Q4 2014 indicated that 62% of (infrastructure) investors were below their target allocations, with a sizeable proportion (45%) expecting to allocate less capital to infrastructure in 2015 compared to 2014. However, overall there is a relatively positive long-term outlook for continued growth of the asset class, with two-thirds of surveyed investors planning an increase in their infrastructure allocations over the longer term while the balance intended to maintain their current level of exposure.[42]

The majority of institutional investments (in infrastructure) are concentrated in OECD economies. Almost half (49%) of the 40 infrastructure investors surveyed by Preqin in Q4 2014 indicated that they would be targeting investments in Europe, while 35% would be seeking out North American infrastructure assets. *Only 15% indicated that they would be targeting Asia and countries outside these three core regions*.[43] More broadly, Preqin's findings in 2013 highlighted that while 591 investors[44] considered opportunities in EMDE infrastructure, they still represented a minority as emerging markets were only targeted by 14% of investors over the following 12 months. Low interest of European pension funds in emerging markets is also reflected in IPE and Stirling (2013) survey, as illustrated in Figure 4.2 below.[45]

[38] OECD (2014). Pooling of institutional investors capital – selected case studies in unlisted equity infrastructure.
[39] PwC ( ). Capital Markets: The Rise of Non-Bank Infrastructure Project Finance.
[40] WEF and Oliver Wyman (2014). Infrastructure investment policy blueprint.
[41] Preqin (2015). Investor Appetite for Infrastructure in 2014: Investor Interviews. Infrastructure Spotlight March 2015
[42] Preqin (2015). Investor Appetite for Infrastructure in 2014: Investor Interviews. Infrastructure Spotlight March 2015.
[43] Preqin (2015). Investor Appetite for Infrastructure in 2014: Investor Interviews. Infrastructure Spotlight March 2015.
[44] This included fund managers and financial firms – of these 90 were private pension funds, 70 public pension funds and 65 insurance companies
[45] Inderst and Stewart (2014). Institutional Investment in Infrastructure in Emerging Markets and Developing Economies.

Figure 4.2: Infrastructure investor intentions by region.



Source: IPE and Stirling (2013) in Inderst and Stewart (2014).

Only the largest OECD pension funds such as Australia, Canada and the Netherlands have sought out infrastructure investments in emerging markets, albeit with a relatively limited focus on Africa and South Asia – for instance, the few investments by Canadian and Australian pension funds outside of mature, developed markets have been mainly directed towards the Latin American renewable energy sector, largely in terms of brownfield projects.[46] The risk profile of the region is a key barrier for institutional investors in the Africa context.

"Investors focusing on for-profit investment in infrastructure, as opposed to developmental investment, may find it hard to justify investments in certain parts of the continent, when compared with lower- risk economies such as Europe and the US" (Preqin, 2013)[47]

4.3. Profile of institutional investors targeting SSA

Preqin analysis indicates that US-based investors represent the largest proportion (18%) of institutional investors that will consider gaining exposure to African infrastructure; other regions with investors open to exposure to African infrastructure include Denmark (7%), Morocco (6%), UAE (5%), and Germany (4%); China was excluded from the analysis.[48]

In line with broader investment trends in the asset class, 81% of overall active investors[49] in African infrastructure undertake unlisted routes to market. Around 54% of investors access investments directly. Only 8% undertake listed investment strategies. An increasing number of international firms appear to be focusing on infrastructure in Africa; findings indicate that as of August 2013, there were 51 closed- or open-ended unlisted infrastructure funds that

[46] Stewart, F. and J. Yermo (2012). Infrastructure Investment in New Markets: Challenges and Opportunities for Pension Funds.
[47] Preqin (2013). Key Markets: Africa. Infrastructure Spotlight August 2013.
[48] Preqin (2013). Key Markets: Africa. Infrastructure Spotlight August 2013.
[49] These figures may include domestic institutional investors within SSA, particularly from South Africa.

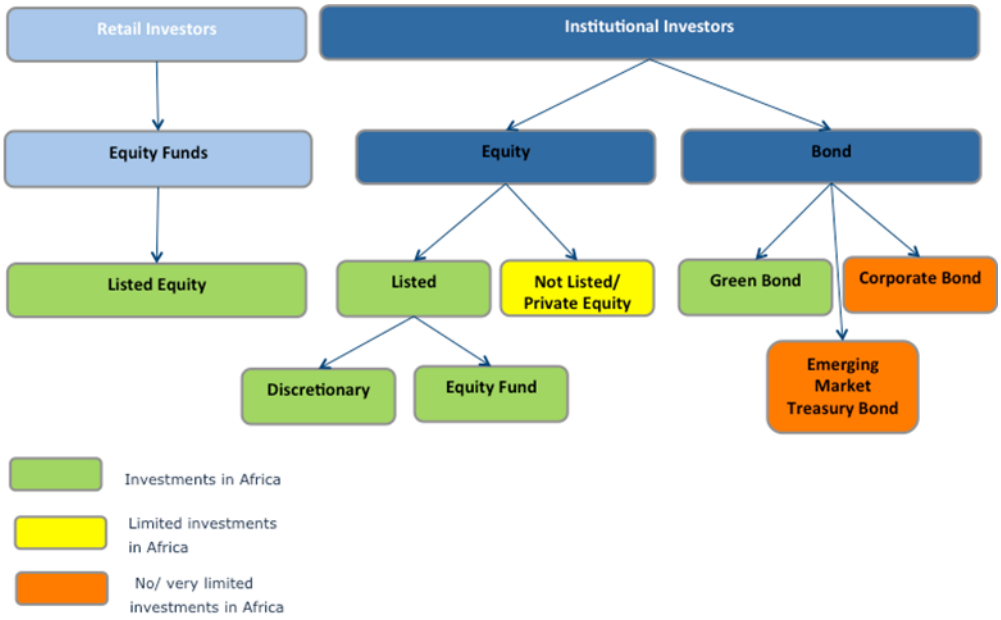
were in the market or had closed historically, that either solely or partially targeted investment in African infrastructure.[50]

Although Swedish institutional investors appear to have been excluded from Preqin's analysis, they have shown interest in the African infrastructure sector, reflecting in part, their focus on sustainable investments. While investments to date are still limited, there are a small number of examples of Swedish institutions investing in listed equities, bonds and through mutual funds. Box 4.1 presents the information available on these investments, along with a summary of the key priorities identified for these investors to increase investments into Africa, based on a study commissioned by SIDA.[51]

Box 4.1: Swedish investor perspective on infrastructure investments into Africa

Figure 4.3 below presents an overview of Swedish investors' investments in Africa.

Figure 4.3: Overview of investments by Swedish investors in Africa



Investors include **Första AP-fonden, Andra AP-fonden, Skandia and SEB,** which have made small investments, primarily in quoted equities, bonds and through mutual funds, with around ~$400-500m invested in total. **SPP** has invested US$140m in an African green bond issued by African Development Bank (AfDB).

Investor preferences for instruments and risks vary, including with regard to the choice between bonds and/ or equity. The following requirements are identified in order for investors to want to be able to increase investments into Africa.

- Compliance with different regulatory environments, including Solvency and Act on AP Funds.
- Sufficient investment size, of at least ~US$50m.
- Compliance with standard investment policies and processes.
- Bond investments should lie on the risk/ return curve, satisfying investment grade rating of BBB or higher, and be sufficiently liquid.
- With regard to equity investments, investors would want an opportunity for active board participation, with limited involvement in daily business decisions.

[50] Preqin (2013). Key Markets: Africa. Infrastructure Spotlight August 2013.
[51] KPMG (2014). How can Sida contribute to mobilizing institutional investments to infrastructure in SSA?

- Tax efficiency.
- Secure investment policies and process (including sustainability).

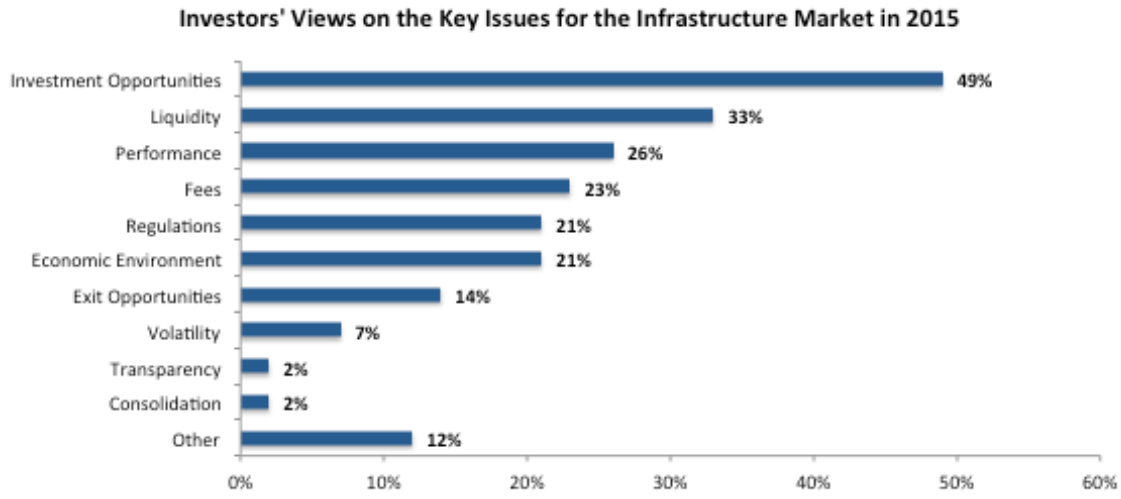
Source: KPMG (2014).

4.4. Constraints to long-term investing (LTI)

Despite their long-term liabilities, traditionally most institutional investors have held relatively liquid portfolios, with additional evidence of their asset allocations shifting towards more liquid assets and short-term investments following the crisis.[52]

Figure 4.4 below presents investors' views on the key issues relating to the overall infrastructure market in 2015, as expressed during interviews held by Preqin (2014).

Figure 4.4: Investors' views on the key issues for the infrastructure market in 2015



Source: Preqin Investor Interviews, December 2014.

Based on the review of the available evidence and other desk-based findings, the following key barriers to LTI in infrastructure have been identified:

- **Short-termism in investment decisions of life insurers and pension funds**, as they are subject to several short-term pressures stemming from their liability profile, such as the need to exit investments service near-term obligations
- **Limited investment and risk management expertise**, with regard to evaluating investment opportunities, handling political, social and local risks etc.
- **Incentives and restrictions associated with regulatory frameworks**. In addition to minimum investment grade requirements, the investment decisions of insurance funds will be affected by the Solvency II framework, which is likely to result in a move to assets with lower capital charges, while the move fair-value accounting which is likely to shift the focus to short-term market fluctuations, including for pension funds

[52] UN / DESA (2014). World Economic Situation and Prospects 2014. Chapter III: International Finance for Development.

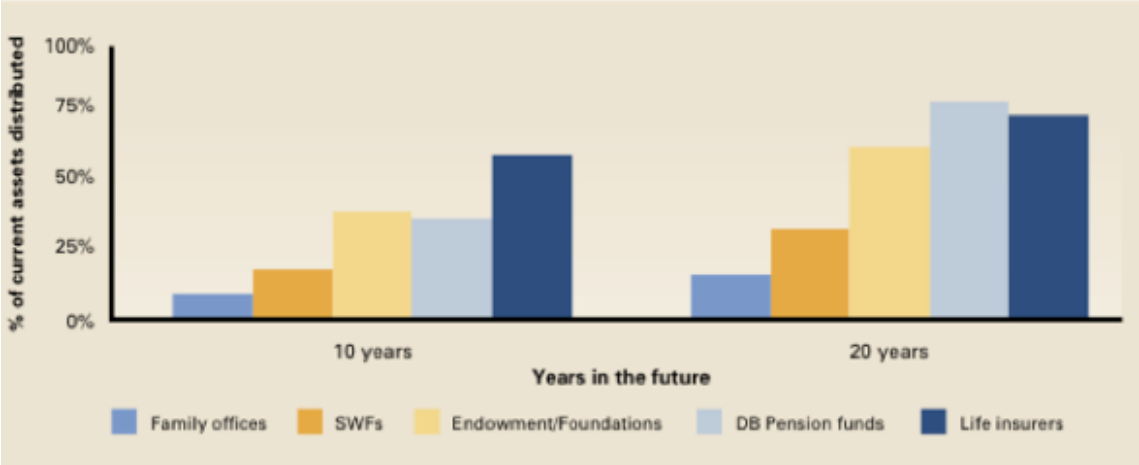
- **Structural and policy barriers including a lack of appropriate financing vehicles** such as unlisted emerging market infrastructure funds offered by the major infrastructure asset managers. Other issues relate to the limited availability of project bonds issued by EMDEs, exacerbated by the collapse of monoline insurers.
- **A lack of appropriate data and investment benchmarks for illiquid assets**, making it difficult to assess the risks of such investments.

4.4.1. Short-term focus

Despite their long-term liabilities, pension funds are typically subject to several short-term pressures, such as the need to service short-term obligations and liquidate assets, or behavioural or psychological biases.[53] Thus, a key barrier for many institutional investors centres on difficulties exiting infrastructure investments given the relative illiquidity of assets.

In particular, the investment decisions of life insurers and pension funds are more pressurised by their liability profiles, compared to other long-term investors. The figure below presents an assessment of the liability profiles for each of the broader categories of institutional investors, showing how investment assets may be needed to fund liabilities over the next 10 and 20 years.

Figure 4.5: Proportion of current assets that will be distributed to beneficiaries within 10 and 20 years



Source: Extracted directly from WEF (2011). The future of long-term investing.

For instance, life insurers are required to distribute about 60% of their current assets to beneficiaries within 10 years (and 40% within 20 years), and would therefore find it difficult to make long-term investment commitments. While pension funds, endowments, and foundations typically distribute close to 40% of their asset base within ten years, pension funds do not have as much flexibility in the amount to be paid out (compared to endowments and foundations). Given their well-defined liabilities, in general pension funds

[53] OECD (2014). Pooling of institutional investors capital – selected case studies in unlisted equity infrastructure.

and insurers would have to mitigate risk of insolvency, minimising risk of divergence between their portfolio value and maturing liabilities.[54,55]

Other factors identified as driving the decline in LTI by Defined Benefit (DB) pension fund investors include: the global shift in the developed world from DB to Defined Contribution (DC) styles of pension provision; the maturing of DB pension funds, reflecting closure of schemes and ageing of DB memberships; the sale of corporate pension funds to third party specialists who tend to reduce pension fund risks and long-term investing.[56]

4.4.2. Lack of capacity[57,58 59]

Institutional investors lack the capacity, investment and risk management expertise required to evaluate investment opportunities in infrastructure and make direct infrastructure investments. For instance, many Swedish investors find equity a challenge due to difficulties ensuring the investment and managing skills locally. Broad challenges identified for Swedish investors relate to understanding the African environment, evaluating local risks, ensuring sustainability aspects, and handling political and social risks.

In general, investment in capacity is not justified given the cost structure, with such investors going through secondary financial intermediaries, who typically have much shorter-term incentives. Restrictions on compensation levels in certain institutions also impede the ability of pension funds to execute an effective long-term investment strategy, as there is a highly competitive external market for investing talent.

4.4.3. Regulatory restrictions

A key message emerging from investors during the workshop organised by USAID and SIDA on mobilising long-term institutional infrastructure investments in Africa, centred on the importance for investment models to account for the complexity and diversity of their regulatory environments.[60] The key regulatory regimes for insurance and pension funds is summarised in Table 4.1 below.

Table 4.1: Main accounting standards and risk-based solvency/funding regulations

Sector	Accounting	Solvency
Insurance	International Financial Reporting Standards (IFRS) 4, Phase 2 Insurance Contracts. IFRS 9 Financial Instruments. US Generally Accepted Accounting Principles (GAAP) for Insurance	Solvency II in the EU and similar regimes in Japan and Switzerland. Risk-based solvency framework in Canada and the United States.

[54] WEF (2011). The future of long-term investing.
[55] UN (2014). International financial system and development. Report of the Secretary General.
[56] WEF (2011). The future of long-term investing.
[57] UN (2014). International financial system and development. Report of the Secretary General.
[58] OECD (2014). Pooling of institutional investors capital – selected case studies in unlisted equity infrastructure.
[59] KPMG (2014). How can Sida contribute to mobilizing institutional investments to infrastructure in SSA?
[60] USAID (2014). Report from the meeting: Mobilising Institutional Investment in Africa

Sector	Accounting	Solvency
	Products (FAS 60, FAS 97 and FAS 120).	
Pension plans	International Accounting Standards (IAS) 19 for Employer DB Obligations. Financial Accounting Standards (FAS) 87 in the United States.	Risk-based funding and investment requirements such as the Dutch Financial Assessment Framework (FTK), the Nordic traffic light system and the Mexican Value at Risk (VaR) requirements.

Source: Severinson, Yermo (2012).

Institutional investments in longer-term, less liquid assets such as infrastructure, and other alternative asset classes, are affected by regulatory factors such as:

- **Threshold investment grade rating.** A minimum rating of at least A- is required for assets that can be held by OECD pension funds. The reliance on commercial risk-rating agencies is a key barrier in this context, as African projects cannot be rated higher than the sovereign debt of the country, imposing a "rating ceiling" due to which there is inertia in bond ratings.[61] Regulatory principles, which equate safety with liquidity for pension funds, are also identified as a constraint. Given their well-defined future obligations, pension funds could trade off some liquidity for higher yield, reducing the risk that they are unable to meet their liabilities.[62]
- **Solvency II framework.** Regional initiatives such as Solvency II in the EU were identified as the financial reforms most likely to affect availability of LTI finance by some respondents participating in the Financial Stability Board's (FSB) continued engagement with private sector practitioners in long-term finance.[63] Implementation of the risk-based solvency framework for European insurers covers quantitative financial requirements, supervision, and disclosure for both solo and group-wide solvency assessment.[64] Regulation is based on a corporate loan matrix, which does not reflect the strong credit characteristics of project finance from a regulatory perspective, while the proposed regulatory capital treatment would dis-incentivise investments in unrated or below-investment grade project debt.[65] In general, the capital requirements under Solvency II depend on an insurer's asset-liability matching, with capital relief provided by a better matching of assets to liabilities.[66] Box 4.2 presents further detail on the potential impact of Solvency II on insurers' portfolios.

[61] None of the eighteen focus countries in SSA meet this threshold requirement in terms of their sovereign ratings.
[62] Collier and Mayer (2014). Unlocking Private Finance for African Infrastructure.
[63] Financial Stability Board (2014). Update on financial regulatory factors affecting the supply of long-term investment finance. Report to G20 Finance Ministers and Central Bank Governors.
[64] Severinson, C. and J. Yermo (2012). The Effect of Solvency Regulations and Accounting Standards on Long-Term Investing: Implications for Insurers and Pension Funds.
[65] B20 Panel of six international accounting networks (2014). Unlocking investment in infrastructure: is current accounting and reporting a barrier.
[66] Financial Stability Board (2014). Update on financial regulatory factors affecting the supply of long-term investment finance. Report to G20 Finance Ministers and Central Bank Governors.

Box 4.2: Impact of Solvency II on insurer's portfolios.

Results of the Fifth Quantitative Impact Study (QIS 5)[67] and earlier QIS assessments, as well as other desk-based research, indicates that Solvency II is likely to result in:

- **A move to assets with lower capital charges**. Recent estimates of solvency levels for European insurers point to limited scope for allocations to assets other than swaps, government bonds, and short-term credit instruments. A fall in long-duration private sector bonds is likely, as these would carry a high capital charge under Solvency II.

  Market-based valuations under Solvency II impose the risk of higher capital charges on longer-term investments, which typically involve higher volatility in market values. In general, insurers with a greater solvency buffer can adopt a more aggressive investment strategy, while insurers with lower buffers are pressured to move to investments with lower capital requirements, such as long-term European-issued government bonds and short-term corporate bonds.
- **A reconsidered exposure to unlisted and illiquid assets**. Under the standardized approach, unlisted infrastructure equity investments and PE have the same capital requirements as other types of equity exposure. Insurers with sufficient buffers may find unlisted infrastructure equity more attractive than infrastructure project debt, which is penalized under Solvency II given that it typically has a long-duration (and higher capital requirements). However, as noted below in Section 4.4.5, unlisted infrastructure funds have had a limited focus on SSA and South Asia, thus restricting opportunities for institutional investments in these regions.

Source: WEF and Oliver Wyman (2014) Financial Stability Board (2014); Severinson, C. and J. Yermo (2012).

- **Accounting framework and standards.** Some FSB members have expressed concerns that the recent and impending accounting changes may have an adverse impact on LTI. One issue identified was that the use of fair value accounting for financial instruments increased volatility in measures of income and capital, while another was that fair value does not reflect the business model of long-term investors, particularly insurers and holders of strategic equity investments, instead giving undue weight to short term changes in the value of instruments.[68] Thus, the move to fair-value accounting is generally perceived to have shifted the focus to short-term market fluctuations, including for pension funds. Institutional investors may adjust the duration of their fixed-income investment portfolio to better reflect the discount rate used. When discount rates are based on market interest rates and bonds have a low risk weighting in the solvency regulatory framework, investors are incentivized to reduce volatility in solvency levels by using bonds and interest rate hedging instruments, as illustrated by the insurance and pension fund sectors in some Scandinavian countries.[69] In comparison, the introduction of fair value accounting for US pension plan sponsors appears to have had little impact on their investment make up.[70,71]

[67] EIOPA (2011), EIOPA Report on the Fifth Quantitative Impact Study (QIS5) for Solvency II, EIOPA, Frankfurt.
[68] Financial Stability Board (2014). Update on financial regulatory factors affecting the supply of long-term investment finance. Report to G20 Finance Ministers and Central Bank Governors.
[69] For instance, pension fund portfolios in Denmark, Netherlands, Sweden, as well as Germany and UK, have been de-risked, with a move away from listed equities towards increased allocation to fixed income assets.
[70] OECD (2013). The Role of banks, equity markets and institutional investors in long-term financing for growth and development. Report for G20 leaders.
[71] Severinson, C. and J. Yermo (2012). The Effect of Solvency Regulations and Accounting Standards on Long-Term Investing: Implications for Insurers and Pension Funds.

While very high allocations to infrastructure and other liquid assets would expose pension funds to major solvency risk, under the Dutch FTK, pension funds have some flexibility to model infrastructure shocks, and can treat such investments as listed equity for the solvency test. This can thus be an attractive investment for funds, given that they have has a lower shock (25%) than PE (30%), and could also provide diversification value.[72]

4.4.4. Risk appetite

While demand for infrastructure capital in developing countries is particularly centred on investment in greenfield projects, institutional investors with liability constraints, tend to prefer brownfield equity investments in developed markets with established cash flows.[73,74] *The disappearance of monolines has had a significant effect from this perspective, as investors do not have as much appetite for diversity of project risks, and also lack specialist expertise to appraise and monitor projects.* The absence of an efficient capital market for infrastructure would impede the recycling of capital, thus presenting a challenge to the financing of new projects.[75]

As outlined above, many insurance regulations encourage investments in low-risk assets, as higher capital is required to be held in reserve by institutions investing in common stock or illiquid assets, than for investments in high-grade corporate bonds. For pension funds, a lower-risk appetite could stem from pressure to maintain funded status even in the short-term, or address any shortfall in funding, combined with the short-term basis of reporting of pension results to the markets. Table 4.2 below sets out key distinctions within DB pension funds, which have an impact on the liability structure, risk appetite, and the decision-making process.

Table 4.2: Differences between defined benefit pension funds impacting their ability to make long-term investments

Constraints	Drivers of difference	Overview of key difference
Differentiated liabilities	Open vs. closed plans	Open plans generally have longer-term liabilities and a greater capacity to tolerate shorter-term volatility of asset returns. Closed funds are typically more sensitive to shorter-term volatility between asset prices and liability level.
Differentiated risk appetite	Regional regulatory and accounting differences	Countries that do not yet require mark-to-market accounting of assets and liabilities enable investors to more easily handle short-term market volatility. On the other hand, pension funds in countries with mark-to-market accounting and strict solvency regimes are more likely to minimize risk-taking.

[72] Severinson, C. and J. Yermo (2012). The Effect of Solvency Regulations and Accounting Standards on Long-Term Investing: Implications for Insurers and Pension Funds.
[73] Inderst and Stewart (2014). Institutional Investment in Infrastructure in Emerging Markets and Developing Economies.
[74] WEF and Oliver Wyman (2014). Infrastructure investment policy blueprint.
[75] OECD (2013). The Role of banks, equity markets and institutional investors in long-term financing for growth and development. Report for G20 leaders.

	Public vs private funds	Private funds generally have more restrictive accounting and regulatory guidelines and are more likely to receive pressure from stakeholders to minimize fund volatility.
	Sponsor strength	Stronger sponsors can afford to make up any shortfalls caused by short-term volatility and thus can take longer-term risks.
Differentiated decision-making	Different governance structures	There are significant differences between pension funds regarding their ability and willingness to pay internal managers to directly manage the fund's assets.

Source: WEF (2011).

As a result, some DB pension funds have invested almost exclusively in high-grade corporate and government debt, while others have allocated over 50% of their assets to more risky alternative investments.[76]

The risk-appetite and asset allocation structure of SWFs is determined in part by their underlying objectives. For instance, stabilisation funds have a focus on short-term liquidity, thus investing mainly in assets such as cash and high-grade fixed income, while multigenerational funds are more driven by returns, and so have a more diversified asset allocation including greater exposure to risky assets.[77]

As detailed in Annex B, investors have expressed the need for investment models to reflect the risk/ return profile of different types of investors, in addition to highlighting a key role for public institutions and DFIs with regard to risk mitigation.

4.4.5. Lack of appropriate investment vehicles focusing on EMDEs

A key constraint also relates to the limited availability of suitably-structured investment vehicles, which reflect the required risk-return profile.[78] Typically, direct capital investments in infrastructure are only feasible for larger institutional investors, such as Ontario Municipal Employees Retirement System, with an established allocation to the asset class and resources to support sizeable investment teams. Thus, despite the recent decline in the proportion of investors targeting pooled fund commitments, it is nonetheless still the most common approach used.[79] Smaller pension funds in particular, require pooled investment vehicles, or seek opportunities for co-investment by joining the infrastructure funds established by their larger counterparts. However, there are relatively limited opportunities for cross-pension fund collaboration in some of the large, developed pension markets such as the US and UK, which are likely to continue depending on the traditional infrastructure funds offered by commercial asset managers, particularly for investments in EMES.[80,81]

[76] WEF (2011). The future of long-term investing.
[77] WEF (2011). The future of long-term investing.
[78] Inderst and Stewart (2014). Institutional Investment in Infrastructure in Emerging Markets and Developing Economies.
[79] Preqin (2015). Investor Appetite for Infrastructure in 2014: Investor Interviews. Infrastructure Spotlight March 2015.
[80] OECD (2014). Pooling of institutional investors capital – selected case studies in unlisted equity infrastructure.

Preqin' survey (2014) indicates that as of June 2014, almost half of the surveyed infrastructure investors (49%) would co-invest alongside an infrastructure fund, while a further 14% would consider doing so; 48% were willing to invest via a separate account with a fund manager, while 13% would consider this option.[82]

Historically however, infrastructure funds in the unlisted fund market have focused mainly on the developed economies, particularly Europe and some other OECD economies, with limited evidence of unlisted emerging market infrastructure funds offered by the major infrastructure asset managers.[83] For instance, the ten largest infrastructure fund managers at the end of 2013 typically focused on brownfield investments and on developed markets.[84] *According to Preqin data, 82% of deals involving an infrastructure fund manager between 2012 and April 2014 were in assets located in Europe or North America; only 6% were in Asia, while other regions accounted for just 3% of deals*. Conversely, while 65% of the deals completed by institutional/ trade investors over this period were in Europe or North America, 13% of investments by this group of investors was in Asia and 6% was categorized as "other", suggesting that "*other industry players, in particular those based in, or with good knowledge of the region in question, are more likely to make deals outside of Europe and North America.*" [85]

Overall, while 123 funds were closed between 2004-2013 with an estimated volume of US$41 billion, the actual number of deals by such funds has been relatively low in recent years – just 10-15 annually in Africa and 20 to 40 in Asia.[86] In addition, to the reduced liquidity following the crisis, key barriers to the growth of private infrastructure funds in Africa are likely to include:[87]

- **Significant decline in appetite for first-time funds (since 2011)**, with 43% of investors unwilling to invest in first-time offerings of any kind.[88] Manager experience and background are highlighted as key factors when investors select an infrastructure fund manager, suggesting that inexperienced firms operating in South Asia or SSA would find it difficult to attract institutional interest. While the overall level of fundraising by infrastructure funds in 2014 was similar to 2013, capital is increasingly concentrated among fewer funds reflecting that institutional investors are increasingly targeting larger commitments to fewer managers.[89]
- **Fund manager's investment strategy, past performance, and alignment of interest with investors**, particularly in terms of fees charged by unlisted infrastructure fund

[81] Stewart, F. and J. Yermo (2012). Infrastructure Investment in New Markets: Challenges and Opportunities for Pension Funds.
[82] Preqin (2014). Investor Appetite and the Changing Infrastructure Investor Universe.
[83] OECD (2014). Pooling of institutional investors capital – selected case studies in unlisted equity infrastructure.
[84] Croce and Gatti (2014). Financing infrastructure – international trends.
[85] Preqin (2014). Deals Spolight. Infrastructure Spotlight April 2014.
[86] Inderst and Stewart (2014). Institutional Investment in Infrastructure in Emerging Markets and Developing Economies.
[87] PPIAF (2011). Towards Better Infrastructure: Conditions, constraints and opportunities in financing public-private partnerships.
[88] Preqin (2014). Investor Appetite and the Changing Infrastructure Investor Universe.
[89] Preqin (2015). Investor Appetite for Infrastructure in 2014: Investor Interviews. Infrastructure Spotlight March 2015.

managers.[90] Infrastructure funds have generally been less popular since the crisis, given high fees and extensive leverage, as well as their short-time span of 10 years relative to the 25-30 years of a typical infrastructure asset.[91,92] Other barriers identified in a 2012 Survey by Russell Investments included volatility of listed infrastructure and relative maturity of the asset class.[93]

4.4.6. Limited availability of project bonds

The limited availability of project bonds from EMDEs also poses a particular barrier for investors to access infrastructure in these countries, given that bonds are the dominant asset class in the portfolio allocations of OECD insurers and pension funds.[94] For instance, a key challenge for Swedish investors is that African bonds are currently structured as either closed-end PE structures or broad spectrum funds issued by multilateral banks that are not aligned with regulations governing the investors.

In general, while institutional investors tend to look for operational assets that are rated and ideally listed on international exchanges, few African companies are able to access international debt markets on such a basis. For instance, outside of South African companies, there have only been two sizeable issues recently, both by Nigerian companies - Helios Towers and Seven Energy – which interestingly were successful despite the fact that their credit ratings were sub-investment grade. [95]

Key constraints identified to the issuance of project bonds in international markets, by SSA include:

- **Collapse of monoline insurers**. This is attributed in part to the sharp decline in infrastructure bonds immediately following the crisis as bond insurance is typically a pre-requisite for institutional investors such as pension funds.
- **The regulatory framework**. Europe and the US represent two distinct offshore markets for international bond issuances. The Eurobond market is not as deep and liquid as the US market, which can accommodate the largest issues and longest maturities, and also represents an investor base most willing to consider specialised sectors such as infrastructure. However, tapping the US market involves complying with the 144A disclosure standard, which is more demanding given the anti-fraud provisions of US securities law as well as information requirements. In comparison, the Eurobond alternative, following the Regulation S disclosure standard, is less demanding even if the market size is relatively smaller than the US. As such, 144A compliant infrastructure

[90] Preqin (2014). Preqin Investor Outlook: Alternative Assets H1 2014.
[91] OECD (2013). The Role of banks, equity markets and institutional investors in long-term financing for growth and development. Report for G20 leaders.
[92] Stewart, F. and J. Yermo (2012). Infrastructure Investment in New Markets: Challenges and Opportunities for Pension Funds.
[93] Russell Investments (2012). Russell Investments' 2012 Global Survey on Alternative Investing.
[94] OECD (2013). The Role of banks, equity markets and institutional investors in long-term financing for growth and development. Report for G20 leaders.
[95] Helios Towers (telecoms) successfully achieved a US$250m B rated, 8.375% issue and Seven Energy, 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.

bonds have been very rare in emerging markets, including for emerging Asian borrowers.

- **Global financial volatility**. The initiation of normalization of monetary policy in AEs and re-pricing of emerging market risks, have affected pricing of sovereign bonds issued by SSA countries, with a corresponding increase in yields. While further bond issuance is expected in the near future, the terms of issuance of new bonds may be affected. The cyclical nature of bond markets also means that changes in market conditions can affect conditions and even the success of bond issuance, given the time sensitivity of infrastructure finance, which involves large amounts and long maturities.
- **Asset allocation strategies of institutional investors**. As highlighted in the previous discussion, the traditional asset management approach may disfavour some of the key characteristics of project bonds. This could include cases where bullet repayments typical of bonds cannot be tailored to the cash flow pattern of projects and/ or the payment structure triggers a financing risk.

While there are certain tools available to credit-enhance bonds on certain projects in EMDEs, these are not without their own set of limitations:

- **Partial risk and partial credit guarantees issued by the World Bank** impose defined limits on the maximum amount that can be borrowed by a particular country from members of the World Bank Group (WBG), with 25% of the amount guaranteed under a Partial Risk Guarantee (PRG) counted against the limit. This constrains the amount of financing that can be facilitated by the WBG through issuance of guarantees, while also implying that neither partial credit not partial risk guarantees guarantee the timely payment of principal and interest. Partial Credit Guarantees (PCGs) or PRGs issued by GuarantCo are limited to obligations denominated in local currencies.
- **Political risk insurance by Multilateral Investment Guarantee Agency (MIGA)** are ordinarily limited to 15 years and as such are not sufficient to cover long-dated bonds.

4.4.7. Lack of data

Lack of high-quality data on infrastructure investments and a clear and agreed benchmark, pose difficulties in assessing the risk of such investments. Although some countries collect data as per the requirements of the corresponding authorities, there is a lack of international, official, accurate data on the asset allocation of institutional investors in alternative classes including infrastructure.[96] A 2013 Report to the European Commission from the European Insurance and Occupational Pensions Authority (EIOPA) identified the limited availability of consistent pan-European data on the performance of infrastructure loans, as a barrier preventing it from conducting the necessary analysis to recommend a lower calibration of capital requirements for infrastructure assets.[97]

[96] OECD (2014). Pooling of institutional investors capital – selected case studies in unlisted equity infrastructure.
[97] B20 Panel of six international accounting networks (2014). Unlocking investment in infrastructure: is current accounting and reporting a barrier.

5. INTERNATIONAL BANK LENDING

Continued global deleveraging pressures on banks (particularly on European banks) and non-performing loans have constrained long-term bank financing since the crisis, with subdued net commercial bank flows to developing countries. Other impeding factors include an increasing share of short-term deposits, reinforced by regulatory reforms such as Basel III, which raise required capital ratios and liquidity buffers, increasing the costs of long-term financing. The collapse of monoline insurers has further exacerbated the situation, while political factors have also played a role, by pressurising European banks to increase domestic lending.[98,99,100] This section explores these different issues in turn, looking in particular at:

- Key deleveraging drivers.
- Main transmission channels through which the impact of European bank deleveraging has been felt.
- Regulatory pressures, particularly the effects of: (i) Basel III; (ii) policy measures introduced for Globally Systemically Important Financial Institutions (G-SIFIs); (iii) higher capital requirements by the European Banking Authority (EBA); and (iv) Over-The-Counter (OTC) derivatives market reforms.
- The collapse of monoline insurers.

5.1. Key deleveraging drivers

In general, three main categories of deleveraging drivers are identified:

- **Economic drivers**. In addition to the economic slowdown, the negative sovereign-bank-real economy feedback loop that emerged during the European sovereign debt crisis appears to have intensified with the domestication of sovereign debt markets in peripheral countries and the austerity programmes. Thus, periods of increased sovereign stress and economic slowdown will continue to constrain European bank's operations, as well as tighten credit standards. Further, the feedback loop is likely to be reinforced by the lack of a banking union with appropriate pan-European backstops.[101]
- **Financial drivers**. Banks subject to a combination of risky sovereign exposures, excessive leverage and high reliance on wholesale funding, have been pressured by investors and funding counterparties to strengthen their balance sheets.[102] In particular, the dependence of European banks on short-term wholesale funding as well as the large scale of uncovered financing needs – €1.7 trillion in the next three years – have

[98] World Bank (2013). Long-Term Investment Financing for Growth and Development: Umbrella Paper.
[99] UN / DESA (2014). World Economic Situation and Prospects 2014. Chapter III: International Finance for Development
[100] Emerging Markets (2012). Accessed on 18/12/2014 at: http://www.emergingmarkets.org/Article/3100230/BANK-DELEVERAGING-Moving-out.html
[101] Feyen and González del Mazo (2013). European Bank Deleveraging and Global Credit Conditions: Implications of a Multi-Year Process on Long-Term Finance and Beyond.
[102] FSB (2012). Identifying the Effects of Regulatory Reforms on Emerging Market and Developing Economies: A Review of Potential Unintended Consequences. Report to the G20 Finance Ministers and Central Bank Governors.

contributed to tighter funding conditions in terms of higher costs or lower availability of funding. This has taken hold through channels such as tightening interbank and debt issuance conditions and dollar funding conditions. Financial fragmentation and a home bias trend have also been reinforced following the wearing off of Long-Term Refinancing Operation liquidity effects in 2012, as concerns around the break-up of the Euro Area and sovereign insolvency risks have led European banks with international operations to match assets and liabilities on a national level.[103] Other pressures on long-term lending stem from dysfunctional money markets and risk mispricing, while the fundamentals of bank business models are at risk given the move from a credit to equity culture and from an "originate and hold" to "originate and distribute" approach.[104]

- **Regulatory drivers**. A recent bank lending survey by the European Central Bank suggests that regulatory requirements including Basel III as well as the EBA's short-term recapitalization directive and other national measures, have led banks to deleverage on both sides of the balance sheet.[105] Basel III requirements on specialised lending, including project financing, imply increased loan interest-rate spread and disincentives for long-term lending by financial institutions with short-term liabilities.[106] In general though, findings suggest that the rise in capital costs has only had a modest effect in terms of lending spreads, and that stronger capital standards have not resulted in banks cutting back sharply on asset or lending growth when considered in aggregate (although there was a slight decline in asset and lending growth for European banks).[107] Nonetheless, it is recognised that such regulatory reforms affect incentives underlying how different types of financial institutions participate in the market for long-term finance, as well as costs of the different types of transactions. Implications of these reforms on lending to EMDEs are explored in more depth in the subsection 5.3 below.

5.2. Transmission channels

Cross-border funding constraints have affected domestic liquidity conditions mainly in terms of funding costs, heightened counterparty risk, and shortening of the maturity structure.[108]

Findings indicate that the impact of European bank deleveraging has been transmitted through the following channels:[109]

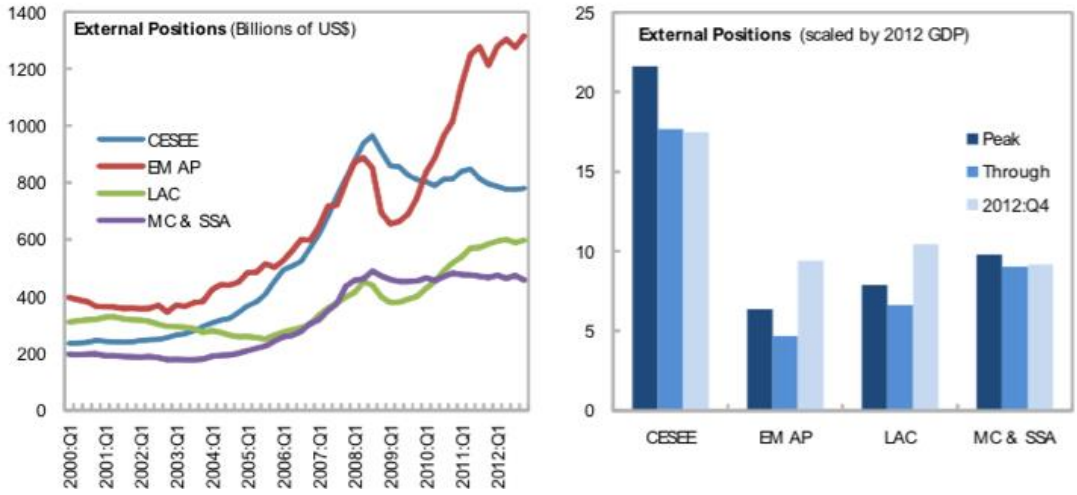
- Reduced cross-border claims of European banks on public, private, and banking sectors of EMDEs.
- Sales or downscaling of noncore, nondomestic businesses in host economies.

[103] Feyen and González del Mazo (2013). European Bank Deleveraging and Global Credit Conditions: Implications of a Multi-Year Process on Long-Term Finance and Beyond.
[104] World Bank (2013). Long-Term Investment Financing for Growth and Development: Umbrella Paper.
[105] Feyen and González del Mazo (2013). European Bank Deleveraging and Global Credit Conditions: Implications of a Multi-Year Process on Long-Term Finance and Beyond.
[106] McKinsey Global institute (2013). Infrastructure productivity: How to save $1 trillion a year
[107] Financial Stability Board (2014). Update on financial regulatory factors affecting the supply of long-term investment finance. Report to G20 Finance Ministers and Central Bank Governors.
[108] Sinha, A (2011). Financial sector regulation and implications for growth.
[109] Feyen and González del Mazo (2013). European Bank Deleveraging and Global Credit Conditions: Implications of a Multi-Year Process on Long-Term Finance and Beyond.

- Deleveraging by subsidiaries and branches of foreign banks given reduced funding flows from parents, or parent attempts to transfer dividends, capital, or liquidity to headquarters.
- Increased borrowing costs for subsidiaries, due to either deteriorating funding conditions or investor concerns about the overall health of banking groups.

In general though, European bank deleveraging in EMDEs is found to vary across regions and countries depending on the banks' business model and nationality. Foreign bank ownership has been particularly prevalent in SSA, accounting for over 50% of total assets.[110] Figure 5.1 below illustrates how the scope of deleveraging (by global banks) has varied across regions.

Figure 5.1: Global differences in extent of deleveraging



Notes: (i) Source: BIS Locational Banking Statistics; (ii) External positions are exchange rate adjusted and vis-a-vis all sectors; (iii) Country groupings: CESEE: Central , Eastern and Southeastern Europe ; EM AP: Emerging Asia & Pacific ; LAC: Latin America & Caribbean ; MC & SSA Middle East, Centra Asia, North Africa, and Sub-Saharan Africa; and (iv) Upper right panel: Peak: CESEE, MC & SSA 2008:Q3; EM AP, LAC 2008:Q2; Trough: CESEE2010:Q2; EM AP, LAC 2009:Q1; MC & SSA 2009:Q3.

Source: Extracted directly from Erbenova (2013).

5.3. Regulatory pressures

The World Bank has reported that there is little tangible evidence to date, to indicate that global financial regulatory reforms have significantly contributed to current long-term financing concerns.[111] Similarly, in a recent survey, members of the FSB indicated that it is still too early to fully assess the impact of financial regulatory reforms on the supply of long-term finance investment, as many of these reforms are still being developed or are in early stages of implementation.[112]

[110] Feyen and González del Mazo (2013). European Bank Deleveraging and Global Credit Conditions: Implications of a Multi-Year Process on Long-Term Finance and Beyond.
[111] World Bank (2013). Long-Term Investment Financing for Growth and Development: Umbrella Paper.
[112] Financial Stability Board (2014). Update on financial regulatory factors affecting the supply of long-term investment finance. Report to G20 Finance Ministers and Central Bank Governors.

Most members reported that they did not find any material evidence on shortage in supply of long-term financing investment resulting from the regulatory reforms. Nonetheless, they did point to potential unintended consequences (mostly qualitative in nature) of regulatory reforms that could affect long-term financing investment, particularly with regard to the Basel III capital and regulatory framework, the OTC derivatives market reforms, and regulation of institutional investors. Consultations with FSB Regional Consultative Groups also highlighted that as banks have been the main source of long-term funding for EMDEs in the past, it will be important to monitor the impact of Basel III on the availability and lending tenors of bank funding. These different issues are explored below.

At the outset, it should however be cautioned that FSB members have also pointed to difficulties in distinguishing the effects of regulatory changes from other broader economic and policy factors (such as increased risk aversion, uncertain market conditions, monetary policy interventions and low interest rates). In addition, the FSB Note suggests that some of these effects may also stem from the interaction of these reforms with existing financial sector weaknesses (such as the dominant role of banks in the credit market; low domestic retail savings leading to overreliance on wholesale funding; underdeveloped and shallow domestic capital markets; limited access to global funding market; lack of effective competition among financial intermediaries; and lack of alternative sources of long-term investment financing).

5.3.1. Basel III

International financial regulation has focused on ensuring the safety and soundness of the financial system, particularly the banking sector, through Basel III, which involves micro-prudential approaches to reduce risks of individual banks and address the macro-prudential policy framework by introducing a counter-cyclical capital buffer.[113] Key features include:[114,115]

- **Higher and better capital**. 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. Core capital has been strengthened to exclude some hybrid instruments (such as subordinated debt, which was previously included under Basel II); off balance sheet obligations are also included.
- **Capital buffers**. 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.
- **Minimum leverage ratio**. 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

[113] UN (2014). International financial system and development. Report of the Secretary General.
[114] UN / DESA (2014). World Economic Situation and Prospects 2014. Chapter III: International Finance for Development
[115] UN (2014). International financial system and development. Report of the Secretary General.

of 6% for eight Systemically Important Financial Institutions (SIFIs), and 5% for their bank holding companies.

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

Further detail on the phase-in arrangements under Basel III is provided in Annex C.

A McKinsey Report suggests that an additional €1,050 billion of capital is likely to be required by the European Banking sector as a result of Basel III, while the US banking sector would require a further €600 billion. There may be difficulties raising this amount, given that these requirements are likely to coincide with reduced availability of central bank funding, while there is still uncertainty regarding recovery of wholesale funding markets.[116] Overall, the key concerns identified around the impact on long-term lending, including infrastructure financing in developing countries, include:

- **Increased cost of lending and/or reduced supply and tenor.** The recent survey by FSB highlights concerns that implementation of the Basel III capital framework could have reinforced risk-averse behaviour (including deleveraging and a shift towards high-quality assets), causing banks to become less willing to lend in the long term.[117] As part of an earlier survey by the FSB, respondents in some EMDEs particularly expressed concern about possible increases in interest rates by international banks in response to regulatory changes, with tighter lending requirements or closing of operations. EMDEs with a large foreign bank presence pointed to the unintended consequences stemming from implementation of an incremental risk capital charge to capture default and migration risk under Basel 2.5, as well as a stressed value-at-risk requirement.[118]

  In general, capital adequacy rules under Basel III have increased capital charges against infrastructure loans, as the capital requirement ratio implies higher risk weights for longer-term and/ or higher-risk lending, entities with low credit ratings, and areas such as green investments, which lack sufficient data on default histories, and where information acquisition is costly.[119,120] The Basel III liquidity framework is also perceived to have a potential effect on provision of long-term investment and on the maturity structure of balance sheets, as banks may be incentivised to hold shorter-term assets to

[116] Linklaters (2011). Basel III and Project Finance.
[117] Financial Stability Board (2014). Update on financial regulatory factors affecting the supply of long-term investment finance. Report to G20 Finance Ministers and Central Bank Governors.
[118] FSB (2012). Identifying the Effects of Regulatory Reforms on Emerging Market and Developing Economies: A Review of Potential Unintended Consequences. Report to the G20 Finance Ministers and Central Bank Governors.
[119] UN / DESA (2014). World Economic Situation and Prospects 2014. Chapter III: International Finance for Development
[120] UN (2014). International financial system and development. Report of the Secretary General.

better match assets and liabilities maturities.[121] In line with these responses, findings indicate that large banks in developed countries have been increasingly reluctant to finance long-term illiquid assets, scaling back infrastructure loans in EMDEs, raising lending rates and shifting to short maturities.[122] Estimates suggest that Basel II and III could have increased the cost of project finance by around 10 basis points.[123]

- **Dis-incentivised allocation towards project bonds in EMDEs.** The Basel III liquidity framework favours highly rated bonds, as these require a relatively low proportion of stable funding under the NSFR. In addition, bonds of sufficiently high rating can be used as short-term liquidity cover under the LCR, as they are classified as HQLA.[124] As such, allocation towards project finance bonds in EMDEs may be at a relative disadvantage, given the role of cash and government bonds in the risk-weight optimization process, as the latter carry lower risk weights and are also the preferred assets for supporting margin and collateral calls, particularly for structured products and derivatives involved in bank business models.[125]

- **Over-reliance on global credit ratings,** in the Basel Framework is also identified as a key concern by respondents to FSB's survey, as local borrowers cannot be given a higher rating than that of its sovereign under global ratings. The Basel Capital Framework could thus contribute to differences in the measurement of risk between a parent bank and its subsidiary, overstating the risks of operating in their jurisdictions and resulting higher interest spreads which are passed on to the EMDE subsidiary and ultimately borrowers.[126]

In general though, there are differences across countries in terms of the extent to which the banking regulatory frameworks have been applied, with differences also in the weightings used in calculating risk-weighted assets as part of capital requirements. Further, there are differences across banks as well as across jurisdictions, in terms of incentives for investment implied by different requirements of Basel III. For instance, the leverage ratio, rather than the risk-based capital requirement ratio, was cited as the binding constraint for more than half the 26 banks (across Canada, Japan, US and Europe) surveyed under the Global Financial Markets Association's Basel III leverage ratio survey. This would indicate that lending by larger banks is likely to be constrained by the leverage requirement before the capital requirement takes effect, while conversely, leverage rules are likely to be less of a constraint for smaller banks, compared with capital requirement rules.[127] It is also generally recognised

[121] Financial Stability Board (2014). Update on financial regulatory factors affecting the supply of long-term investment finance. Report to G20 Finance Ministers and Central Bank Governors.
[122] WEF and Oliver Wyman (2014). Infrastructure investment policy blueprint.
[123] Castalia Strategic Advisors (2014). Barriers to Infrastructure Service Delivery in Sub- Saharan Africa and South Asia. Summary of estimates from Sheng, 2013; UK Parliament, 2011; Härle, et al., 2010).
[124] Linklaters (2011). Basel III and Project Finance.
[125] OECD (2013). The Role of banks, equity markets and institutional investors in long-term financing for growth and development. Report for G20 leaders.
[126] FSB (2012). Identifying the Effects of Regulatory Reforms on Emerging Market and Developing Economies: A Review of Potential Unintended Consequences. Report to the G20 Finance Ministers and Central Bank Governors.
[127] UN / DESA (2014). World Economic Situation and Prospects 2014. Chapter III: International Finance for Development.

that jurisdictions with well-capitalised banking sectors tend to be least affected, while bank deleveraging in some parts of Europe have also been driven largely by changes in bank strategies and de-risking, rather than regulation.[128]

5.3.2. Policy measures for Globally systemically important financial institutions[129,130,131,132]

There is concern that there may be potentially adverse effects from implementing the internationally agreed policy measures for G-SIFIs, which have been designed with the objective of addressing the systemic and moral hazard risks, which led to the "too-big-to-fail" problem. They include new international standards for national resolution regimes, resolution planning and higher loss absorbency requirements for G-SIFIs, and more intensive supervision of all SIFIs. Annex D presents the list of 30 G-SIBs which are allocated across buckets, in line with the higher loss absorbency requirement that they would be required to hold from January 2016.

The key concern is that higher capital requirements for these firms set by their local authorities could result in their retrenchment from some markets, restricting financial intermediation (in terms of both volume and spreads) in EMDEs in which they play a key role. The FSB has also suggested that G-SIFIs should have a low absorbing capacity beyond the general standards of Basel III.

5.3.3. Higher capital requirements by the EBA

In 2011, the EBA introduced measures to strengthen the capital position of large EU banks; including building up a temporary capital buffer, with the objective of ensuring that the Core Tier 1 capital ratio of those banks reached 9% by the end of June 2012. There has been concern about the cross-border effects of such measures in countries in which EU banks have a major role. Some EMDEs perceive that the tight deadline for meeting the higher capital requirements has exacerbated the retrenchment of those banks in their jurisdictions. Exposure to such deleveraging is particularly acute for some countries within the Central and Eastern Europe region, as foreign banks have a significant market share.[133]

[128] Financial Stability Board (2014). Update on financial regulatory factors affecting the supply of long-term investment finance. Report to G20 Finance Ministers and Central Bank Governors.
[129] FSB (2012). Identifying the Effects of Regulatory Reforms on Emerging Market and Developing Economies: A Review of Potential Unintended Consequences. Report to the G20 Finance Ministers and Central Bank Governors.
[130] UN / DESA (2014). World Economic Situation and Prospects 2014. Chapter III: International Finance for Development.
[131] Financial Stability Board (2011). Policy Measures to Address Systemically Important Financial Institutions.
[132] Financial Stability Board (2014). 2014 update of list of global systemically important banks (G-SIBs).
[133] FSB (2012). Identifying the Effects of Regulatory Reforms on Emerging Market and Developing Economies: A Review of Potential Unintended Consequences. Report to the G20 Finance Ministers and Central Bank Governors.

5.3.4. OTC derivatives market reforms[134]

Reforms to the OTC derivatives market require all standardised OTC derivatives contracts to be traded on exchanges or electronic trading platforms where appropriate, and cleared through central counterparties. Concerns around the impact are mainly in terms of the additional costs of new capital and marginal requirements, particularly for non-centrally cleared transactions (which are subject to higher capital market requirements). These include:

- **Increased transaction costs,** given margin requirements for long-term transactions (e.g. interest rate and currency swaps), which cannot be currently cleared through available central counterparties, impeding end-users from using such derivatives to hedge long-term contracts.
- **Upward pressure on prices of high quality collateral,** due to increased demand, compounded by demand for HQLA to meet standards and requirements under other reforms (e.g. Basel III and reforms to repo and securities lending markets). The need for highly liquid collateral could also force long-term investors to liquidate some of their holdings to meet margin and collateral requirements.

5.4. Collapse of monoline insurers

There is uncertainty around the role of long-term investors in debt financing. The majority of respondents in a survey of 55 banks, asset managers and institutional investors by BearingPoint, forecast that banks would increasingly be responsible only for providing short-term financing during the construction of the asset, with the debt sold on to institutional investors once the asset had a demonstrated track record.[135]

However, 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 monoline insurers and fall in investors' appetite for CDOs. Such difficulties in refinancing loans have constrained willingness of banks to lend long-term and until recently, these loans could only be sold at a big discount in the secondary market.[136,137]

[134] Financial Stability Board (2014). Update on financial regulatory factors affecting the supply of long-term investment finance. Report to G20 Finance Ministers and Central Bank Governors.
[135] WEF and Oliver Wyman (2014). Infrastructure investment policy blueprint.
[136] OECD (2013). The Role of banks, equity markets and institutional investors in long-term financing for growth and development. Report for G20 leaders.
[137] World Bank (2013). Long-Term Investment Financing for Growth and Development: Umbrella Paper.

6. POLICY RECOMMENDATIONS

The barriers identified in this Report indicate that even if concerns around bankability were dealt with, there is still need for different forms of credit enhancements from political risk insurance cover through to full and partial guarantees from donors/ DFIs, to make infrastructure projects in Africa attractive to international investors. In addition, investment vehicles need to be suitably structured in order to compete with liquid, shorter-term investments like government paper, as well as against the potential upside of longer-term property investments. In light of these considerations, the remainder of this section discusses the main recommendations, looking in particular at:

- The role for DFIs, particularly with regard to risk mitigation and the use of their balance sheets to mobilise additional private sector investment.
- Potential measures to attract institutional finance, with a focus on funds or specialist securitisation vehicles to facilitate investments in operational assets on a portfolio basis. Alternative approaches, particularly the recently proposed 'Nordic' investment model, are also considered.

6.1. The role for DFIs

There is a broad scope for DFI involvement in projects from direct provision of debt through to a move towards provision of guarantees to reduce credit risk; the provision of hedging products to mitigate exchange rate risks underlying fixed-rate foreign exchange (FX) debt; and/ or the use of their balance sheets to help raise local currency financing on more reasonable terms.

Direct investment

DFIs have a key role in making the first move to encourage participation by international investors, as they bring their reputation to specific projects and the sector as a whole. For instance, the government may be seen as less likely to renege on agreements when there is DFI involvement. In particular, during a workshop organised by USAID and SIDA, investors indicated their perception that the multilateral status of DFIs, their strong ties to government and strong local presence in Africa can be leveraged to reduce political risks. Investors also highlighted the importance for DFIs to have an understanding of the local environment and "feet on the ground" in Africa in order to identify projects and mitigate sustainability risks, particularly as most institutional investors lack this expertise, and are unlikely to build such capacity themselves.

Risk mitigation

While there is a recognised role for DFIs in the provision of long-term debt, there is a wider question around whether the emphasis should be on its direct provision, or the mobilisation of private capital through the provision of guarantees that mitigate risks for investors.

DFIs can implement a risk-sharing approach based on either an equal or pari-passu sharing of all risks or the full mitigation of particular type of risk; both approaches can be priced at

either subsidised or market rates. Another approach centres on unequal sharing of risks, typically based on a subsidy that is provided by donors rather rather than Multilateral Development Banks (MDBs) or DFIs, whereby donors take a first loss. This approach is discussed further in Box 6.1 below.

Box 6.1: Donor-provided first-loss capital

Donor-provided first loss capital is the last to be paid out and the first to be "hit" in a default scenario, thereby mitigating credit risk for other investor

It can be provided either to individual projects or else within structured funds and vehicles, such as those involving a tiered structure that also include DFI subordinated debt and commercial bank-provided senior debt. This structured approach has been used by development agencies such as BMZ and the EC in several fund structures, enabling DFIs to reduce and ring-fence their exposures, whilst also allowing their resources to be managed by commercial fund managers. The approach could be used more widely within infrastructure through securitisation approaches, in which the balance sheets of DFIs are freed up through securitisation of their portfolios. This is discussed further in Section 6.2.2 below.

First-loss capital provision can either be funded (e.g. a grant); contingent (a guarantee); or "blended" with MDB and DFI finance, as has been done with funded structured vehicles. While the blended approach has not been widely used with guarantees, such an application could potentially increase the reach of existing guarantee products of MDBs/ DFIs.

Source: CEPA analysis

Greater provision of first loss capital could improve the terms of guarantees, including for PRGs and PCGs, both of which can be used to share credit risks with commercial providers.

- **PRGs** have a key role in back-stopping government commitments to private sector investors, in order to attract investment. For instance, the Thika thermal power plant was the first IPP to attract commercial finance in Kenya, with the support of credit enhancement facilities from the World Bank and MIGA (further detail is provided in Box 6.2 below). However, given the limited resources of institutions such as the International Development Agency (IDA) and the French Development Agency, there may be need to explore possible approaches such as provision of additional funds, potentially through the establishment of supplemental Trust Funds at the MDBs, or else through provision of first loss capital to "market-priced" PRGs, backed by the MDBs' own capital.

Box 6.2: Shift from European lending for infrastructure towards increased finance from local and/ or regional African banks

The provision of commercial finance from ABSA capital, the South African-based subsidiary of Barclays Bank, to the Thika thermal power plant in Kenya was facilitated by the support of an IDA PRG letter of credit (L/C), which was used to backstop missed payments by Kenya Power. In addition, a guarantee from MIGA was provided to cover the termination of the PPA by Kenya Power due to failure to meet payments or political events.

Source: CEPA stakeholder consultations.

- **PCGs** provide a cover to a portion of the exposure faced by lenders providing credit, either for a proportion of principal, or targeted to the later years of a loan (thus increasing its maturity). While most of the main DFIs, particularly FMO and International Finance Corporation (IFC), offer PCGs to private providers of credit, there has been relatively limited take-up of PCGs by DFIs in the infrastructure sector. In theory, DFIs could increase the extent to which they leverage their capital through increased use of

PCGs, which would crowd in more private capital. Although pricing may be an issue due to the return on capital requirements, this could be addressed through the use of blending approaches, such as through provision of first loss capital, either on a funded or (counter) guarantee basis.[138] The concessional nature of guarantees provided by development agencies such as SIDA and USAID could be particularly useful in enabling DFIs to provide more PCGs, rather than providing their own loans. This is effectively a form of blending that could support pricing of guarantee products. Alternatively, appropriate blending of development agency subsidies and DFI risk capital would also have potential to mobilise private capital.

Oher key developments with regard to risk mitigation include a proposed credit enhancement facility in Nigeria by GuarantCo, which is working with the Nigerian Sovereign Investment Authority to assess the feasibility of such a vehicle. The facility would provide guarantees to Nigerian infrastructure projects, thus supporting projects in becoming a more investable class of asset for institutional investors.

Market making role

Over time, DFIs could move toward a more market-making role, involving the provision of hedging products, as well as using the strength of their own balance sheets to help raise local currency financing.

- **Hedging products.** DFIs can facilitate long-term fixed rate debt for projects through provision of exchange rate hedging products, particularly exchange rate swaps. The creation of Currency Exchange Fund (TCX) presents an innovating solution, which has enabled DFIs to provide long term debt in hard currencies, whilst allowing borrowing projects to hedge their exchange rate risk. Although close to a third of TCX's exposure has been in SSA, the focus has been on shorter-term finance for small and medium-term enterprises, rather than the longer tenors needed by infrastructure projects. Expanding the role of TCX to increase its penetration of infrastructure markets in SSA and address the underlying exchange rate risk issues, is an area that could potentially be built on.
- **Capital raising supported by DFIs' investment grade rating.** DFIs can use the strength of their balance sheets to raise local currency finance at a lower cost than most host country financial institutions; as they also have much higher credit ratings than local governments, they should, in theory, be able to borrow much more cheaply than them. For instance, as discussed in Box 6.3, the IFC has used its AAA credit rating to raise rupee financing which has either been on-lent directly to projects in India or invested in infrastructure bonds issued by a bank.

Box 6.3: The IFC's rupee capital raising

The IFC has played a catalytic role in supporting financing of infrastructure in India. Recent initiatives include a US$2.5bn on-shore "Maharaja" rupee bond programme aimed at deepening the country's US$880bn domestic debt market, in addition to a US$2bn offshore rupee programme, based on a combination of rupee-denominated bonds and swaps to raise local currency financing over the next

[138] In other words, risk is reduced to the provider of the PCG either through the provision of a grant, or guarantee, which observes the first loss.

five years.

On-shore rupee bond programme

The Maharaja bond issuances aim to attract investments from global funds in rupee-denominated assets utilising the IFC's investment grade credit rating. The debut tranche involved four separate bonds worth ~US$100m, with the proceeds directed at financing a number of renewable energy projects. In particular, the issuance comprised a five-year bullet bond of US$25m with a fixed rate coupon of 8%; and a 10-year bullet bond of US$25m with coupon of 7.97%. Both were subscribed to by Foreign Institutional Investors at yields approximately 50 basis points lower than the Indian Government Bond (IGB) benchmarks. In addition, the issuance extended the AAA yield curve by including two separately tradable redeemable principal parts (STRPPs) with maturities ranging from 13 to 20 years, thus helping to align financing with long-term horizon of infrastructure projects. The STRPPs were priced 20-30 basis points above the relevant maturity IGB benchmark yields, with coupons of 8.88% (for maturities of 13 to 18 years) and 9% (for maturities of 19 to 20 years).

Offshore rupee bond programme

The IFC's AAA rating has also supported issuance of offshore "Masala" bonds. The $163m rupee 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. The proceeds were partly invested in infrastructure bonds issued by Axis Bank, one of India's largest private sector lenders.

Source: IFC (2015); Financial Times (2014) IFC (2014).

6.2. Suitably structured investment vehicles and mechanisms to attract institutional finance

In addition to mitigating credit risk, investment opportunities must be packaged in a manner that facilitates institutional investors' interest. Investors are particularly inclined to invest in large-scale, liquid and operational assets, which are rated and ideally listed on international exchanges. The following sub-sections discuss the potential for attracting international institutional finance to infrastructure, on both a portfolio basis and also for stand-alone projects.

6.2.1. Capital-raising for stand-alone projects

As with portfolio investments, in theory, international institutional finance can be raised on either a green-field or refinancing basis for individual projects. However in both cases, transaction costs will be higher relative to credit market based financing, implying that such an approach is only suitable for larger transactions.

Identifying potential candidates for refinancing is likely to an issue given for instance, the relative lack at present of large IPPs involving a credit-worthy creditworthy anchor customer, such as a mine, which have been operational for several years with a robust payments history. The large hydropower enclave projects selling power to South Africa, coming on stream over the next decade may provide most potential but there would need to consider issues around incentives for existing lenders.

Attracting institutional finance to large greenfield capital raisings would be even more challenging given that investors are averse to greenfield risk, as well as in light of the collapse of monoline insurers who have traditionally been looked to by institutional

investors in developed markets to evaluate the credit risk of projects and provide on-demand credit guarantees.[139] While guarantee providers such as USAID could potentially support bond issues of greenfield projects, it is not clear that any donor product is currently capable of providing the type of on-demand protection that investors have historically sought.[140]

6.2.2. Portfolio-based capital raising

Given the challenges discusses above, investing on a portfolio basis through funds or specialist securitisation vehicles is the most logical route for institutional investors, who do not have the expertise to appraise individual investments by themselves.

Equity funds

With regard to equity investments, given that the main challenges relate to shallow illiquid financial markets, there is need for close-ended vehicles that can then invest in projects.

In light of factors such as the lack of operational equity assets, private equity funds offer institutional investors the most opportunity for equity risk exposure, particularly in terms of greenfield infrastructure, which would typically form part of the Alternative Asset Allocation of a pension fund. Annex E summarises available information on the key PE funds that 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.

The dual listing approach being developed by the LSE also presents a promising development, as it provides profile and extra liquidity in participating countries. In addition to several existing partnership agreements with a number of African exchanges (Morocco, Mozambique and Kenya), and dual listing agreements with South Africa, Ghana and Nigeria, LSE is currently looking to develop a dual listing with the Western African Regional Exchange. LSE and GuarantCo are also considering the development of dual listed vehicle listed on the Nigerian and LSE which would invest in infrastructure projects and dedicated infrastructure funds.

Debt: securitising DFI portfolios

Given capacity constraints and specific challenges associated with appraising greenfield project risks, international debt investors tend to look for post-operational assets, which offer liquidity, scale (typically a minimum of $50m), meet minimum rating requirements, and are ideally in the form of a listed instrument.

Operational assets could be made available by potentially refinancing local banks out of a transaction post operationalisation and/ or implementation of a project life-cycle related

[139] 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.
[140] 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.

recycling of DFI capital approach. The latter may be the most suitable target for institutional debt investment, as DFIs provide the majority of debt to infrastructure projects in SSA, typically holding such debt from financial close to term. Under such an approach, DFIs would instead concentrate their financing in the late development and construction phases of projects[141], with a view to selling down their debt position through a series of refinancings involving the securitisation of existing debt into specialist vehicles which would raise finance from investors and then on-lend it to projects. This would create new tradable instruments such as CDOs, providing more liquid investment opportunities; in addition, these instruments could be tiered in terms of their risk profiles, providing investors with a range of different opportunities.

The potential for securitising existing DFI portfolios would have to have to be balanced against issues relating to the level of pricing, the ability to build portfolios of sufficient scale and diversification, and ensuring that the resulting instruments are aligned with the requirements of the different investment "buckets" of different types of institutional investors

- **Pricing.** Refinancing could end up increasing the cost of debt as the all-in-cost (Libor plus spread) on DFI senior loans in SSA is likely to approximately range between 4%-5.5%, compared to much higher coupons on the bonds identified (8%-10.5%). In order to work, the cost of institutional debt would need to be brought down by portfolio benefits, tiering in structures[142] and credit enhancements such as guarantees by highly rated entities.
- **Scale and diversification.** The portfolio could be focused on larger mega, or regional projects, such as power generation for the South African market, which also require transmission links. In general though, there is a 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). Further, providing guarantees or other forms of credit enhancement to a more mixed portfolio rather than an SSA specific one, is likely to an issue for donors who may be most willing / able to provide such support.[143]
- **Alignment with investor requirements.** Although some investors have invested in sub-investment grade assets, as exemplified by the Helios Towers and Seven Energy examples in Section 4.4.6, most pension funds reportedly can invest only in investment grade rated assets, other than through their Alternative Investment Allocations. Credit ratings could be achieved through credit enhancements by donors on particular

[141] 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 also 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.

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

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

tranches within the CDO, such as with the provision of first loss capital to reduce risk and / or reduce pricing.

It is recognised that securitising existing DFI portfolios is not entirely straightforward, given the range of challenges, some of which relate to the DFIs, whereas others are more linked to general challenges of merging the needs of infrastructure and institutional debt providers. Nonetheless, it is at least worth trying to pilot an approach, in a manner that is workable, if nothing else to test the potential market interest in such assets.

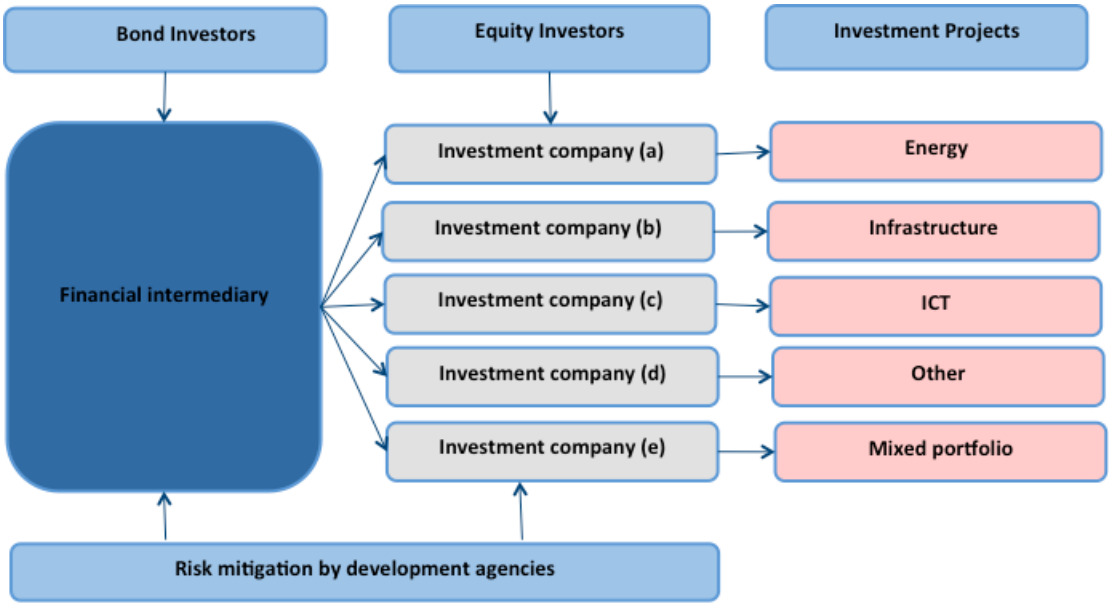
Alternative approaches

The IFC is pursuing an alternative approach to attract co-investments from institutional investors in new projects on a pari-passu basis. The rationale is to leverage IFC's considerable global origination capability as well as its membership in the WBG from a risk mitigation perspective. However, the model is based on the creation of new assets and therefore greenfield risk, to which most investors are risk averse. It thus remains to be seen whether IFC, either alone, or with the support of others can address the needs of institutional investors.

Other key developments include a proposed investment model by SIDA and Swedish institutional investors (Third AP fund, SPP/Storebrand and Folksam) aimed at mobilising Nordic institutional capital for sustainable infrastructure investments. The model centres on a dual approach, allowing for both fixed-income and equity investments, and also involves a role for DFIs to mitigate financial, political and sustainability risks. As such, it is relatively well aligned with most investors' requirements. Further detail is provided in Box 6.4 below.

Box 6.4: Mobilising Nordic institutional capital for sustainable infrastructure investments.

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



One part of the model offers standardised investment grade bonds issued by a financial intermediary;

the other facilitates equity investments through investment companies, adapted to specific needs and regulatory requirements of each investor. These investment companies also receive financing from the financial intermediary.

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

Alignment with investors' needs

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

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

ANNEX A: LIST OF KEY INSTITUTIONAL INVESTORS

Table A.1: Largest pension plan investors in the infrastructure asset class by capital committed

Investor	Currently committed to infrastructure ($m)	Investor Type	Investor Location	Preference
OMERS*	13,420	Public Pension Fund	Canada	Direct
National Pension Service*	10,295	Public Pension Fund	South Korea	Listed, Unlisted, Direct
CPP Investment Board*	10,087	Public Pension Fund	Canada	Unlisted, Direct
APG - All Pensions Group*	9,520	Asset manager	Netherlands	Unlisted, Direct
Ontario Teacher's Pension Plan*	8,803	Public Pension Fund	Canada	Unlisted, Direct
AustralianSuper*	8,559	Superannuation Scheme	Australia	Unlisted, Direct
TIAA-CREF**	6.5bn	Private Sector Pension Fund	US	
ABP**	6.0bn	Public Pension Fund	Netherlands	
ATP Lifelong Pension**	2.6bn	Public Pension Fund	Denmark	
Public Sector Pension Investment Board**	2.3bn	Public Pension Fund	Canada	
Construction and Building Industries Superannuation Fund**	2.2bn	Superannuation Scheme	Australia	
California Public Employees' Retirement System**	1.7bn	Public Pension Fund	US	

** Preqin (2014) Investor Appetite and the Changing Infrastructure Investor Universe*

***Preqin (2012). Pension funds investing in infrastructure*

ANNEX B: INVESTOR INPUTS ON MOBILISING LONG-TERM INSTITUTIONAL FINANCE FOR INFRASTRUCTURE INVESTMENTS IN AFRICA

This Annex presents a summary of key inputs from investors during the roundtable meeting organised by SIDA and USAID in August 2014 in connection with the Africa Leader's Summit in Washington D.C., on mobilising long-term institutional infrastructure investments in Africa. The meeting convened donors, institutional investors and multilateral organisations for a discussion on the opportunities and challenges underlying infrastructure investments in the region. [144]

General inputs included emphasis on the importance of exit and liquidity for fixed income investors (but less so for equity investors) and management of political and sustainability risks. The discussion highlighted that institutions issuing the credit enhancement must also have a high rating, solid track record, reputation and corporate governance.

Given their high fees and short terms, PE type fund models were sometimes seen as less interesting for Swedish pension funds. In general, investors indicated the need for products to be easy to understand – "one minute rule" – with instruments tailored to the different needs of different pension funds. Lack of data and the need to identify project risks were also highlighted, with the potential for investors to pool information, an area to explore further.

Investors' key issues

Overall, the key issues identified from investors' perspectives included:

- **Regulatory requirements**. There is need for organisations designing the investment products to understand the complexity and diversity investors' requirements and regulatory environments, such as Basel II/III and Solvency II.
- **Currency**. Current risk may be an issue, particularly for fixed-income products, while long-term investments may present a challenge due to the need to hedge local currencies. There are limited hedging solutions available, although some are under development.
- **Rating**. Fixed-income investors in principle require an investment grade rating given considerations around solvency. In general though, there is limited rating outside South Africa, although Bloomberg is developing a new rating system with the World Bank. Key areas of focus include understanding how credit enhancement works as well as the cost of credit enhancement for investors.
- **Project availability**. Limited interest of institutional investors in Africa is partly due to the shortage of bankable projects. AfDB's experience indicates that there is usually limited need for credit enhancement once credible structures, products and projects are available.

[144] USAID (2014). Report from the meeting: Mobilising Institutional Investment in Africa

- **Role of public institutions**, development banks and DFIs. These institutions bridge regulators/governments and investors, with a key role in terms of risk mitigation. For instance, multilateral status, strong ties to governments and strong local presence in Africa can be leveraged to reduce political risks. It is also important that such institutions have an understanding of the local environment and "feet on the ground" in Africa in order to identify projects and handle sustainability risks, particularly as most institutional investors lack this expertise, and are unlikely to build such capacity themselves. Finally, public institutions have a catalytic role in terms of supporting project pipelines, particularly by making projects more bankable. "Simple solutions, with good governance and clear risk mitigation are most interesting."
- **Understanding African investment environment**. Significant differences between African countries are often overlooked, while perceived risk is often higher than real risk. In reality, many African countries have undertaken economic reforms, contributing to the reduced investment risk, while available risk mitigation instruments can also reduce political risk.

ANNEX C: BASEL III PHASE IN ARRANGEMENTS

Table C.1: Basel III Phase in Arrangements

	Phases	2013	2014	2015	2016	2017	2018	2019
Capital	Leverage ratio		Parallel run 1 Jan 2013 – 1 Jan 2017; Disclosure starts 1 Jan 2015				Migration to pillar 1	
	Minimum Common Equity Capital Ratio	3.5%	4.0%	4.5%				4.5%
	Capital Conservation Buffer				0.625%	1.25%	1.875%	2.5%
	Minimum common equity plus capital conservation buffer	3.5%	4.0%	4.5%	5.125%	5.75%	6.375%	7.0%
	Phase-in of deductions from CET1*		20%	40%	60%	80%	100%	100%
	Minimum Tier 1 Capital	4.5%	5.5%	6.0%				6.0%
	Minimum Total Capital		8.0%					8.0%
	Minimum Total Capital plus conservation buffer		8.0%		8.625%	9.25%	9.875%	10.5%
	Capital instruments that no longer qualify as non-core Tier 1 capital or Tier 2 capital		Phased out over 10 year horizon beginning 2013					
Liquidity	Liquidity coverage ratio – minimum requirement			60%	70%	80%	90%	100%

	Phases	2013	2014	2015	2016	2017	2018	2019
	Net stable funding ratio						Introduce minimum standard	

Includes amounts exceeding the limit for deferred tax assets, mortgage servicing rights and financials.

Shaded area denote transition periods.

Source: BIS. Basel III phase-in arrangements.

ANNEX D: LIST OF G-SIBS[145]

The table below presents the list of S-SIBs as of November 2014, which are allocated to buckets corresponding to the required level of additional loss absorbency, that will apply to each institution as requirements are phased in from 1 January 2016 (with full implementation by 1 January 2019). The list of G-SIBs will be next updated in November 2015.[146]

Table D.1: List of G-SIBs as of November 2014

Bucket[147]	G-SIBs in alphabetical order within each bucket
5 (3.5%)	(Empty)
4 (2.5%)	HSBC JP Morgan Chase
3 (2.0%)	Barclays BNP Paribas Citigroup Deutsche Bank
2 (1.5%)	Bank of America Credit Suisse Goldman Sachs Mitsubishi UFJ FG Morgan Stanley Royal Bank of Scotland
1 (1.0%)	Agricultural Bank of China Bank of China Bank of New York Mellon BBVA Groupe BPCE Group Crédit Agricole Industrial and Commercial Bank of China Limited ING Bank Mizuho FG Nordea

[145] Financial Stability Board (2014). 2014 update of list of global systemically important banks (G-SIBs).

[146] The higher loss absorbency requirements for the G-SIBs identified in the annual update each November will apply to them as from January fourteen months later.

[147] The bucket approach is defined in the Basel Committee document (2013) Global systemically important banks: updated assessment methodology and the higher loss absorbency requirement. The numbers in parentheses are the required level of additional common equity loss absorbency as a percentage of risk-weighted assets that will apply to G-SIBs identified in November 2014, with phase-in starting in January 2016.

Bucket[147]	G-SIBs in alphabetical order within each bucket
	Santander Société Générale Standard Chartered State Street Sumitomo Mitsui FG UBS Unicredit Group Wells Fargo

Source: Financial Stability Board (2014).

ANNEX E: PRIVATE EQUITY FUNDS ACTIVE IN SSA

Table E.1: Private equity funds active in SSA

Fund, scale and year of establishment	Manager	DFI Investors	Private investors	Focus countries and sectors	Examples of investments
Africa Infrastructure Investment Fund (AIIF) 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.[148]	Africa, with a bias towards South Africa (Energy and Transport)	• Trans African Concessions Pty Ltd (Toll road between RSA and Mozambique) • N3 Toll Concession (RSA) • Umoya Energy 67MW Wind Farm (RSA)
AIIF2 US$500m 2011	AIIM	**DFIs (c. 35%):** • IFC (US$100m); • Proparco (US$30m); • CDC (US$30m); • Norfund	Life insurers (c.35.7%) , public pension funds (15.1%),	SSA (Energy and Transport)	• Kpone (Cenpower) IPP (Ghana) • Kinangop Wind Park (Kenya) • Azura Edo IPP (Nigeria) *Pipeline* • Kipeto Wind Park (Kenya)
Africa Renewable Energy Fund US$200m 2014	Berkeley Energy	• AfDB (US$65m) • CDC (US$20m) • FMO (US$10m) • BOAD • EBID • EIB (US$20m) • African Biofuel and Renewable Energy	Potential investors include U.S.-based fund of funds, Stanlib, Ghanaian pension fund and the Public Investment Corporation (PIC) in South Africa	Various SSA countries excluding South Africa (Energy)	N/A

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

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

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