Mobilization of Long-term Savings for Infrastructure Financing in Africa

Study prepared for Federal Ministry for Economic Cooperation and Development (BMZ)

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15th of April 2017
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The Study was commissioned as part of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH sector project “Protecting Global Public Goods via linking bilateral German Development Cooperation with international Financing Institutions” on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ). The views expressed in this paper are solely those of the author and do not necessarily reflect the views or carry the endorsements of BMZ or GIZ.
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Executive Summary

Infrastructure development is key to reaching the sustainable development goals. Africa needs to invest some US$ 135 billion every year into economic and social infrastructure to keep pace with the growing population. The financing gap is estimated at about US$ 60 billion per year. African countries must mobilize considerably more domestic revenues, for example in the form of higher tax receipts. ODA will continue to provide an important contribution. However, it alone cannot cope with infrastructure investment needs of this dimension. Private investments will be necessary to close the gap.

This desk study has been commissioned to assess the current state and potential use of three sources of infrastructure financing in Africa: (i) Global institutional investors such as pension funds and insurance companies have the scale necessary to materialize “billions to trillions”, (ii) Domestic pension funds that have emerged and are growing rapidly in many African countries, and (iii) Remittances from migrant workers abroad.

Potential of global Institutional Investors

Institutional investors worldwide hold about US$ 120 trillion in assets under management. They have traditionally been highly conservative in their investment policies and strategies due to their fiduciary responsibility for pensions and insurance for millions of customers. Almost 90% of assets are listed and exchange-traded securities such as bonds (fixed income) and stocks (equity). Pension funds have a “home bias” and are largely (65% of assets) invested domestically in their respective home countries. About 5% of assets are invested in emerging markets, with a marginal allocation to Africa.

Over the past twenty years, there has been a gradual but steady shift in asset allocation to more riskier asset classes and to alternative investments (including infrastructure). This trend has been accelerated in recent years by the global search for returns in a low-yield environment. The weighted average real returns on pension funds' investments in the OECD countries was only 0.4% in 2015, however, with a wide variation across countries. Alternative assets include unlisted assets in private equity, real estate and also infrastructure; these assets are less liquid but offer higher returns.

It is estimated that only 1% to 2% of institutional investors' assets are allocated to infrastructure globally. The proportion allocated to African infrastructure in this global context is indeed negligible. Nevertheless, global institutional investors show an increased interest in African infrastructure investments. Many investors have been reaching out through infrastructure funds dedicated to Africa or global funds with an Africa window. The bulk of investments (87%) have been in the form of private equity and so far very little debt financing. Australian and Canadian pension funds have been champions in global infrastructure investments with allocations of 10% resp. 15% of total assets and these have become models for learning and replication.

Long-term investors are growingly realizing that infrastructure assets are a natural habitat for their investments; they tend to match their long-term liabilities, provide inflation-protected
yields and have lower correlation to other financial assets. The current low-yield environment strengthens the relative value of illiquid asset classes such as infrastructure that offer an illiquidity premium. Infrastructure is gradually becoming an asset class in its own right. Many investors now have specific target allocations to infrastructure assets. However, achieving those targets remains a challenge. An OECD survey among large pension funds revealed that all pension funds that reported a separate allocation to infrastructure were below targets at the end of 2014. This is an indication of prevailing investment barriers and obstacles that prevent fund managers from reaching their own business targets.

Potential of domestic institutional investors in Africa

Over the past decade, a range of local institutional investors has emerged across Africa, including pension funds, insurance companies and sovereign wealth funds. With US$ 800 billion assets under management in 2014, domestic institutional investors in Africa have become a sizable factor and a potential source for infrastructure finance. South Africa clearly stands out, accounting for two-thirds (65%) of total assets.

Pension assets are growing rapidly due to demographic factors and to increased formalization of African labor markets. So far only between 5% and 10% of the population in sub-Saharan Africa are covered by pension funds. The same applies to the insurance industry. In terms of premiums collected, Africa has a low average penetration rate of about 3.5% of GDP, again with the exception of South Africa (over 15%). Sovereign wealth funds (SWFs) exist in a few countries only (Algeria, Libya) and are mainly related to oil and gas. A recent study found that African SWFs are not very transparent and that they are more likely to invest abroad than domestically or in the region.

The pressure is high on investing resources productively and on building a diversified investment portfolio. Historically and currently pension funds have invested mostly in domestic sovereign debt. Institutional investors, unlike their counterparts in OECD countries, have benefited from continued high double-digit returns from listed securities. In recent years, some countries (e.g. Kenya, Ghana) have also seen a steady increase in investing in equities by pension funds.

Until recently, most pension funds in Africa were hesitant to invest in infrastructure such as roads, railroads, and ports. Tying up cash in decade-long projects seemed unnecessarily risky while strong economic growth was driving up local stock markets and government bonds yielding high returns. Seeing global pension funds and peers from South Africa making first inroads to African alternative assets markets has attracted the attention and interest from local pension funds and local regulators. Many countries are passing new regulations to allow investment into private equity and other unlisted investments and several African pension funds have started to invest in private equity.

South African pension funds have become pioneers in infrastructure investments. This move is spurred by rules that allow them to invest 10% of assets through private equity and by the need for portfolio diversification to avoid a complete dependence on the shallow domestic equity market. Moreover, it was catalyzed by the Pan African Infrastructure Development Fund, a co-investment platform initiated by the AfDB.

A major shortcoming is that capital markets are underdeveloped or nascent in most African countries. Stock exchanges exist in only half of the countries with 75% market capitalization attributed to Johannesburg. Debt markets are even less developed. South Africa again clearly stands out with a highly developed bond market, and four other countries being in an advanced state. There are 10 next-generation countries where bond markets are developing while in the remaining 40 countries bond markets are nascent.
Investment barriers for institutional investors and possible solutions

There are numerous constraints and barriers to investments in infrastructure assets. Some of the constraints are specific to infrastructure as an asset class, others are more generic for institutional investors or for the target market, mostly poor African countries. Most of the investment barriers apply to both global and domestic institutional investors alike, albeit at different degrees, and include the following:

- Scarcity of well-structured bankable infrastructure projects
- Lack of appropriate financing vehicles and instruments
- Minimum deal size
- A myriad of risks – genuine and perceived
- Absence of a market for infrastructure assets, adding a liquidity risk
- Regulatory barriers and disincentives at global level (Basel III/Solvency II) and in-country
- Sovereign ceiling in international ratings of African countries

Efforts are under way to address some of the constraints while some investment barriers are persistent and call for amenable solutions and external support. This includes the following:

- Numerous project preparation facilities have been set up by development organizations for building pipelines of bankable projects, some at the regional but most of them at the global level. However, impact has been modest so far.
- Donors and DFIs have launched infrastructure funds and co-investment platforms, e.g. the Africa50 Infrastructure Fund created by the AfDB and the Managed Co-lending Portfolio Program (MCPP) launched by the IFC.
- Innovative financing vehicles and instruments are needed that match institutional investors’ needs and preferences, that are aligned with their risk-return-profiles and that can unlock institutional capital on a large scale, especially debt financing.
- The multiple risks in infrastructure finance require a comprehensive risk management approach. Some risks can be managed internally, others may require external risk mitigation support from donors and DFIs.
- Regulatory barriers are only partly being addressed. Basel III clearly penalizes long-term bank lending for infrastructure. The same is true for European pension funds and insurers under Solvency II but consultations are under way for a recalibration of the framework.

Two major constraints remain unresolved: sovereign ceiling and currency risks. The sovereign ceiling does not allow an individual project rating to exceed that of the country where it is located. This rule effectively closes the door for debt financing in African countries, with very few exceptions, by global institutional investors. Currency risks weighs heavily on long-term financing. Experience has shown that cross-border long-term financing – albeit on concessional terms – can be very costly for recipient countries due to currency devaluations over the long run. It is important to note, however, that these constraints do not or to a much lesser extent - apply to domestic institutional investors. This allows the conclusion that by developing local capital markets and strengthening of domestic institutional investors the fundamental sovereign and currency risks can be mitigated or even eliminated.

Potential use of migrant remittances for infrastructure finance

Africa received US$ 66 billion of remittances from 32 million migrants in 2015. Three countries – Nigeria, Egypt and Morocco – received 73% of all remittances. This is double the volume of Official Development Assistance (ODA). The true size of remittance flows, however, including unrecorded flows, is believed to be significantly larger. Remittances are
frequently transferred through informal channels often not subject to registration, licensing, or regulation.

Recipient households spend most of the remittances on living expenses, food, education and health but also on land purchases, building a house or improving the farm. Only small proportions of remittances are saved in financial form, e.g. in a bank account, which could be intermediated as loans for infrastructure projects. Hence, there is little scope for redirecting current household remittances to infrastructure. Governments have often offered incentives to channel them to productive uses but such have met with little success. Fundamentally, remittances are private funds that should be treated like other sources of household income.

Oftentimes remittances are directly channeled to local infrastructure at the community level. Numerous examples, notably from Mexico and Morocco, show that migrants contribute to the financing of the infrastructure at local level, for electrification, water provision and irrigation, road building, medical centers and schools. Here, small contributions can have a significant and visible impact that directly benefits the migrant’s family members and relatives.

The securitization of future remittances can mobilize funds for infrastructure finance but its potential is limited. Remittances have been part of diversified payment rights (DPR) transactions used by financial institutions in emerging markets to obtain attractive access to international capital markets. Securitization of future flows has allowed banks in Brazil, Egypt, El Salvador, Guatemala, Kazakhstan, Mexico and Turkey to raise more than $15 billion since 2000. Banks in several African countries, aided by the African Export-Import Bank, have used remittance securitization in Ghana, Nigeria and Ethiopia. Overall, the potential use of securitization of remittances for infrastructure financing in Africa is limited, for several reasons:

- The potential volume is estimated at US$ 2 to 4 billion annually for the entire African continent
- There is a mismatch in maturities: Securitization can be useful for raising short- to medium-term financing by African banks while infrastructure financing requires long-term finance.
- Securitization involves high fixed costs of legal, investment banking and credit rating services which only pay off for large transactions.
- The extensive use of informal remittance channels makes it difficult to reliably determine the value of future remittance flows.
- Finally, securitization requires an appropriate legal framework and some level of local capital market functions which most countries in Africa still need to develop.

Diaspora bonds have some potential for mobilizing migrants' resources for infrastructure projects. Diaspora bonds are appealing as a concept but implementation is challenging.

- The success stories in Israel and India – raising over US$ 50 billion since 1951 – are outweighed by failures in many countries, including Africa (Ethiopia, Kenya, and Ghana)
- With an estimated potential of US$ 5 to 10 billion per year, the issuance of diaspora bonds are worth considering, especially by poor countries with a large diaspora. Nigeria is currently launching a US$ 300 million diaspora bond, and Ghana has similar plans.
- To tap diaspora investments, countries should develop the right structure, marketing and distribution channels, and build long-term relationships with the target investors. Moreover, it requires trustworthy government institutions that protect the interest of the bondholders.
Diaspora bonds, like regular bonds, may require credit enhancements to entice overseas nationals to invest. To make the bond even more appealing, the countries the migrants reside in could provide tax breaks on interest income.

The diaspora label can be an important aspect for marketing of regular bonds in the international market.

Recommendations

1. Align with institutional investors needs and requirements

It is necessary adopt realistic expectations with regard to institutional investors’ engagement in infrastructure finance in Africa and to take investors where they are coming from. This should take into account key parameters like regulatory red lines, risk appetite and return expectations, deal size, to name a few. It is recommended

- to adopt realistic expectations on institutional investors and acknowledge their key parameters and limitations or investment decisions
- to enable, motivate and incentivize institutional investors to make “baby steps” toward infrastructure finance in Africa.

2. Promote partnerships and co-investments in infrastructure

Co-investment platforms are important catalysts for crowding-in institutional investors. By pooling their resources, institutional investors can leverage their cumulative risk appetite and invest in a variety of deals, diversifying their infrastructure portfolio and potentially gaining a better, more stable longer-term return than would be possible if investors were to invest in deals by themselves. Having DFIs as co-investors provides reassurance to institutional investors and also helps to gain access to prospective investment opportunities. It is recommended

- to utilize the existing co-investment platforms and to replicate such platforms for other infrastructure investments, as appropriate.
- It may be worthwhile to pilot-test a co-investment platform at the country level, e.g. in one or two of the Compact countries, e.g. Ghana or Tunisia, for both domestic and global investors.

Peer-to-peer exchange and peer learning can be very effective tools to promote infrastructure finance, both among pension funds and pension regulators. The different levels of development of pension systems in Africa provide a useful context for exchange of knowledge and expertise amongst industry participants across the continent. It is recommended

- to consider establishing an infrastructure finance working group as peer learning platform for African pension funds as a special initiative under the Africa Pension Fund Network (APFN).
- to propose the idea peer-to-peer platform for regulators and test the waters with key regulators in a first step, e.g. in South Africa and Nigeria, and in a second step, to identify the appropriate format and institutional framework for such platform.

3. Provide effective risk mitigation (de-risking)

The objective of risk mitigation is to bring the risk profile of an infrastructure project to a minimum level that is acceptable to institutional investors. This is especially relevant for debt
financing which generally requires investment grade rating. Risk mitigation can – to a considerable extent - be achieved standalone through innovative finance structures and financial engineering techniques. To some extent, however, it requires external enhancement support from government, donors or DFIs to make project debt issues attractive to investors. It is recommended

- to develop innovative finance structures and apply proven financial engineering techniques for risk mitigation, including:
  - Unbundling of infrastructure projects into components with different risk-return profiles and creating component-specific financial products
  - Pooling of multiple infrastructure projects with different risk-return profiles into a single portfolio, thereby enhancing diversification
  - Credit enhancement through risk tranching and subordination

- for donors to provide external credit enhancement via first-loss tranches as effective instruments for aligning risk and return profiles for institutional investors.

- to fully utilize the existing and future risk mitigation and risk transfer facilities (e.g. MIGA) for African infrastructure finance, including the latest additions – the European External Investment Plan and the IDA Private Sector Window – which come with considerable capital endowments of almost US$ 6 billion and a huge leverage potential.

- to consider establishing a stand-alone construction risk mitigation product for Africa, similar to ADB’s Construction Period Guarantee for Asia.

4. Develop financing vehicles tailored to the risk, return and fiduciary requirements of institutional investors

Appropriate financing vehicles are needed for both, equity and debt investments. However, with a debt financing share between 70% and 90%, the volume of debt finance is much larger than equity. While institutional investors have made first steps in equity finance in African infrastructure, their engagement in debt finance has been close to zero, primarily due to lack of appropriate debt instruments such as infrastructure project bonds or infrastructure debt funds. It is recommended

- to develop and pilot-test a model fund structure for equity participation that is consistent and coherent with the underlying infrastructure assets.

- to support initiatives on infrastructure project bonds and to draw lessons for replication in countries with advanced or developing capital markets.

- to conduct a feasibility analysis for launching an infrastructure debt fund for Africa, especially for countries with nascent capital markets. An alternative could be to consider an infrastructure window in the existing structured debt funds REGMIFA and SANAD.

- to study the market potential and feasibility of “asset recycling” for selected African countries and to conduct a cost-benefit analysis. Asset recycling comprises the sale of operating (brownfield) assets by DFIs to institutional investors and to raise funds for new (greenfield) infrastructure.
to explore the use of performance- or success-based subsidies for aligning risk-return profiles of institutional investors (like successfully done in EU-/BMZ-supported structured funds) and to build them into the financing vehicles and structures.

5. Support domestic capital market development

It is timely to support domestic capital market development more comprehensively. With millions of workers and employees entering the rapidly growing pension systems across Africa, the development of domestic capital markets becomes an increasing challenge. Young and emerging pension funds have an urgent need for safe long-term investment opportunities with reasonable yields.

It is recommended

- to place stronger emphasis on capital markets development within donors’ sector strategy on building inclusive financial systems. The concept of financial inclusion should embrace access to pension services.
- to integrate or link infrastructure finance into a medium term strategy of domestic capital market development because there are clear synergies between the two approaches. Creating financing vehicles and instruments for infrastructure are important steps and building blocks for capital market development.

6. Reorient ODA and DFIs toward a leveraging and catalytic role for market development

In recognition of the Addis Ababa Action Agenda, private sector participation is indispensable for achieving the ambitious development goals, especially in infrastructure development. A paradigm shift is under way from using ODA as purely concessional finance to leveraging scarce concessional resources to enable much larger private capital flows to developing countries (“from billions to trillions”).

It is recommended

- that donors and DFIs assume a facilitator and leveraging role and to employ ODA as catalyst for crowding-in private investors
- that DFIs utilize their comparative advantages (AAA rating, rigorous investment standards, political influence, etc.) to provide a quality seal and reassurance to private investors
- to concentrate resources on creating well-designed demonstration projects or demonstration countries in terms of broader market development.
- to gear direct participation in infrastructure project finance to a catalytic function, e.g. as anchor investor in higher risk or very large projects.
- to assume a unified-voice lobbying role on the global regulatory framework
- to encourage cooperation with China around infrastructure development in Africa in the G20 context
1. Introduction

The mobilization of capital for sustainable infrastructure financing in Africa is of great importance on the political and development agenda. In the context of the German G20 presidency, a Compact with Africa is being proposed, with a financing framework for infrastructure as a core component. As a sectoral initiative, the BMZ has introduced a Marshall Plan with Africa where infrastructure is also one of the cornerstones. In addition, various discussion forums and events are planned in the course of 2017.¹

A key theme in all these forums and events is the mobilization of private long-term savings for financing development in Africa, in particular infrastructure. Three potential sources have been identified which merit a more in-depth analysis of their potential and feasibility, namely:

1. Global institutional investors including pension funds and insurance companies
2. Domestic institutional investors, especially pension funds, emerging in many African countries
3. Remittances from Africans working and living abroad

The German Federal Ministry for Economic Cooperation and Development (BMZ) has commissioned this short study to shed light onto these three potential approaches, discuss potential investment barriers, identify successful examples from Africa and other regions and assess their transferability, replication and up-scaling potential, and finally provide recommendations on ways and means of tapping these sources.

The study was conducted as a desk-study and draws from a review of the literature, existing analyses and secondary studies.

¹ These include: OECD Global Forum for Development in April, AfDB Annual Meeting in May, Investor conference focusing on Africa in June, EU-Africa summit in November, World Bank/IMF Spring Meeting in April with a side event on local currency financing to reduce exchange rate risks.
2. Infrastructure finance in Africa

2.1. Infrastructure investment needs

Scaling up infrastructure investment is a global challenge in the developing world. Improving infrastructure is a key component of the 2030 Development Agenda and a necessary prerequisite for achieving the Sustainable Development Goals (SDGs). Infrastructure investment needs are estimated at $1 to $1.5 trillion per year for all developing countries (United Nations, 2015).

Africa's infrastructure investment needs are estimated at US$135 billion per year, perhaps even higher amid the rapid population growth. A comprehensive regional analysis conducted by the World Bank and major donors in 2009\(^2\) estimated that Sub-Saharan Africa alone needed $93 billion per year to fill the infrastructure gap, with about 40 percent alone in the energy sector. More recent estimates for the whole of Africa put infrastructure needs at US$135 billion per year (Africa50 website).

Infrastructure services have traditionally been provided by the government. However, the role of the private sector in infrastructure provision has been gradually increasing. This applies especially to the telecommunications sector with the dominant role of mobile network operators. In other sectors such as transport and energy various forms of public-private partnerships have emerged while the social sectors (health, education) have largely remained a public sector domain. In view of the huge infrastructure investments required over the medium term, the role of the private sector in infrastructure provision will likely need to increase significantly over time. This will also affect the pattern of infrastructure financing.

2.2. Current pattern of infrastructure finance in Africa

The current level of infrastructure finance in Africa falls significantly short of investment needs. Recent estimates put total annual infrastructure investments at US$77 billion (Africa50) and US$81 billion (IMF, 2014). African countries rely mainly on government budget and concessional financing for infrastructure, while private sector financing is limited. This leaves a considerable financing gap of US$55 to 60 billion per year.\(^3\)

The primary source of funding for infrastructure, as elsewhere in the world, continues to be public sector budgets. Government spending on infrastructure accounts for 57% (Africa50) to 63% (IMF 2014) of total investments, representing some US$ 44 to 51 billion per annum.\(^4\) However, there are large differences among countries. South Africa continues to dominate the continent in terms of absolute national budget allocations, accounting for over 50% of infrastructure spending in Africa.

External financing for African infrastructure has surged in recent years. While the different estimates provide similar levels of external financing, ranging from US$ 30 billion

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\(^2\) Africa Infrastructure Country Diagnostic (AICD)

\(^3\) Gutman et al (2015) point to large inefficiencies in infrastructure use in Africa and suggest that this gap can be reduced by $17 billion alone through more efficient use of existing infrastructure.

\(^4\) This compares to Griffith-Jones and Kollartz (2015) who derive the following (simplified) financing structure for developing countries in general: 56% from government budget, 24% from private investors and 20% from development banks (with share of private investments).
(IMF 2014, Gutman et al. 2015) to 33 billion (Africa50) per year, their estimates on the composition of external sources differ markedly\(^5\) (see Table 1).

**Table 1: External Financing of African Infrastructure**

<table>
<thead>
<tr>
<th></th>
<th>IMF 2014</th>
<th>Gutman et al. 2015</th>
<th>Africa50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Official Development Assistance</td>
<td>12.9 (43%)</td>
<td>10.0 (33%)</td>
<td>28.0 (85%)</td>
</tr>
<tr>
<td>China</td>
<td>13.4 (45%)</td>
<td>5.0 (17%)</td>
<td>--</td>
</tr>
<tr>
<td>Private Investors</td>
<td>3.9 (13%)</td>
<td>15.0 (50%)</td>
<td>5.0 (15%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30.2 (100%)</strong></td>
<td><strong>30.0 (100%)</strong></td>
<td><strong>33.0 (100%)</strong></td>
</tr>
</tbody>
</table>

Note: Partly reclassified and regrouped by the author

China has emerged as the largest single funder of infrastructure investments in Africa. The average annual flow between 2007 through 2012 is estimated at about $5 billion, well beyond any other single bilateral or multilateral source. However, as hard data on China’s investments are not available, estimates differ considerably as shown in Table 1. Most of Chinese financing is provided through China EXIM Bank. In recent years, Ghana and Ethiopia have been the largest recipients of Chinese infrastructure financing while other notable recipients are Cameroon, Zambia, and Nigeria. China is especially targeting the transport sector, particularly railways and roads. These are sub-sectors in which Chinese firms have particular experience and successfully compete for contracts under multilateral financing. They are also sub-sectors that have received less interest from private investment in sub-Saharan Africa. More recently, Chinese financing has increasingly targeted the energy sector and hydropower in particular. (Gutman et al., 2015)

Official Development Assistance (ODA) has been an important and stable source of infrastructure finance in Africa, shared almost equally by the World Bank, the AfDB and bilateral agencies. If China is included in ODA, African countries receive somewhere between US$15 billion and US$28 billion per year in ODA.

Private investments are mainly concentrated on telecommunication and concentrated in few countries. During 2005-2013, 64% of total private investments in sub-Saharan Africa went to the telecom sector. Most of the remaining investment went to the energy and transport sectors. In terms of countries, South Africa and Nigeria dominate investments in all sectors, and their dominance has only grown. In recent years, these two countries have accounted for over 80% of private investments in the energy sector, 95% in transport, and about 60% in telecommunication. (Gutman et al., 2015)

2.3. Different types and modes of infrastructure finance

Infrastructure financing involves different types (debt/equity, listed/unlisted) and modes (direct/indirect) of finance as illustrated in Table 2 below.

**Equity versus debt financing.** Infrastructure projects, because of their immense size, have typically required a large amount of debt financing. The typical debt-to-equity leverage ratios for infrastructure projects are in the order of 75:25 or 90:10 (OECD 2014), projects require much larger amounts of debt than equity. There are typically two types of debt financing: project finance – i.e. loans from banks and DFIs – in the early stages of a project and bonds at a later stage. Equity can take the form private equity stakes or stocks.

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\(^5\) Major differences exist in the volume of private investors which is estimated much higher by Gutman in comparison to other sources (IMF, AfDB), and in the volume of ODA which might be explained by inclusion or exclusion of China’s investments. Unfortunately, the differences cannot be fully clarified.
Table 2: Overview of different types of infrastructure financing

<table>
<thead>
<tr>
<th></th>
<th>DIRECT</th>
<th>UNDIRECT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EQUITY</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10%-25%</td>
<td>Listed</td>
<td>Stocks of infrastructure companies</td>
</tr>
<tr>
<td></td>
<td>Unlisted</td>
<td>Private equity in companies/projects</td>
</tr>
<tr>
<td><strong>DEBT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75%-90%</td>
<td>Listed</td>
<td>- Corporate bonds of companies - Infrastructure bonds</td>
</tr>
<tr>
<td></td>
<td>Unlisted</td>
<td>Project finance/loans to companies/projects</td>
</tr>
</tbody>
</table>

Source: Own compilation

Listed versus unlisted instruments. Both equity and debt instruments can be either listed or unlisted. Listed instruments such as stocks or bonds are traded in stock or security exchanges, and thus have the advantage of being highly liquid. Unlisted instruments – private equity stakes or bank loans – do not have a market and hence suffer from illiquidity.

Direct versus indirect financing. Infrastructure investors can engage in direct financing of the infrastructure project or indirectly via intermediaries such as infrastructure investment funds. Both options have their pros and cons. Direct investment gives direct ownership and control over the investments, but requires much stronger in-house resources in the process of building, acquiring, managing and disposing assets. Transaction costs and investment sizes are relatively high. Indirect investment allows investment in smaller sizes and a higher degree of diversification. However, there is little control over assets and substantial fees needs to be paid to external specialist firms. Direct investing in infrastructure is not a realistic option for most smaller and medium-sized pension funds. (Inderst, 2009)

Emergence of infrastructure funds for Africa. Unlisted funds, Preqin database, two types of funds:

- **Solely Africa-focused Infrastructure investment funds.** The unlisted infrastructure fund environment focused exclusively on Africa is relatively small. 24 funds with a primary geographic focus on Africa have closed since 2007, raising a combined US$4.6 billion in institutional capital commitments. Two-thirds of these funds are managed by Africa-based firms, including 42% that are managed by South Africa-headquartered firms.

- **Global Infrastructure investment funds with an Africa window.** There are many infrastructure funds closed that operate with a globally diversified investment remit that may include Africa as part of a wider geographic focus. In total, 115 vehicles have reached a final close since 2007 that have a global investment remit, securing US$102 billion in capital commitments. In addition, there are currently 44 unlisted funds on the road with a globally diversified focus, collectively targeting US$36 billion in capital. Large and experienced infrastructure firms from Canada, USA and Australia are able to attract vast sums of capital for their global funds. However, data on the size of the Africa windows is not available, but the volume of actual investments in Africa (outside South Africa) is presumably very small.

2.4. Implications and challenges for the future

**Africa requires an additional US$60 billion per year to close the infrastructure financing gap.** Considerable efforts from all stakeholders are necessary to face this challenge. African countries must mobilize considerably more domestic revenues, for example, in the form of higher tax receipts. ODA will continue to provide an important
contribution. However, it cannot cope with infrastructure investment needs of this dimension and, hence, should be employed to leverage private investments in line with Addis Ababa Action Agenda.

Institutional investors such as pension funds and insurance companies have the scale necessary to materialize “billions to trillions” at a global level. Domestic pension funds have emerged and are growing rapidly in many African countries. Finally, remittances from migrant workers abroad have become a major source of external financing, larger than ODA in most countries. The following analysis will shed light on the current state and future potential use of these sources for infrastructure financing in Africa.

3. Global Institutional Investors

3.1. Volume and structure of assets under management

Institutional investors worldwide hold about US$ 120 trillion in assets under management (IMF, 2016a). Institutional investors comprise pension funds, insurance companies and mutual funds, public pension reserve funds (PPRF) and sovereign wealth funds (SWF), family offices and foundations.

Global assets have been growing at a high rate of 5% per year. Global pensions assets, for example, have been growing at an average annual rate of 6.7% in local currencies over the past ten years, and 4.9% in US$ terms (Willis Towers Watson, 2016). As a growing population is entering formal labor markets in emerging markets, the growth in assets is likely to continue in the coming years. A growth rate of 5% translates into US$ 6 trillion incremental assets every year. The annual increment alone provides a huge potential: only 20% would be sufficient to fund the entire infrastructure investments in the entire developing world.

Institutional investors have traditionally been highly conservative in their investment policies and strategies. This conservative stance is – understandably – rooted in their fiduciary responsibility for pensions and insurance for millions of customers. The traditional investments are in listed and exchange-traded securities such as bonds (fixed income) and stocks (equity). In most pension funds and insurance companies, these asset classes account for 90% or more of the investment portfolios. In the US, for example, 67% of insurers’ total investments in 2014 have been invested in bonds (IAIS 2015).

There has been gradual shift in asset allocation to riskier asset classes and to alternative investments. The latest OECD annual survey on large pension funds (OECD 2016a) notes marked shifts over the past five years from fixed income to equity, and within fixed income a shift from highly-rated sovereign bonds to lower-rated corporate bonds, and an increase in alternative assets. While these trends have been propelled by the global search for yield in a low interest-rate environment, the trend towards alternative assets has been building slowly but steadily over the last twenty years. In the pension fund portfolios of the seven largest OECD countries allocations to alternative assets have increased from 7% in 1996 to 24% in 2015. The OECD survey which covers a wider range of countries and pension funds found 14% of pension fund assets invested in alternative assets with the balance of 86% traditionally invested in listed securities.

Alternative assets tend to be less liquid but offer higher returns. The terms “alternative assets” and “alternative investments” have no fixed definition and, as such, different analysts will include different investment types within those categories. Typically, alternative assets include private equity, private debt, hedge funds, real estate, natural resources and
infrastructure (Preqin, 2016b). They are generally unlisted and therefore less liquid than traditional asset classes. However, they generally provide higher returns by offering an illiquidity premium.

Pension funds have a “home bias” and are mostly invested domestically in their respective home countries. This applies to an aggregated 65% of assets, while 35% are held in foreign assets mostly in other OECD countries. This is surprising in view of the prevailing global search for yield. Funds have mostly invested across borders by diversifying equity and fixed income portfolios, but some also invest in foreign alternatives such as real estate, private equity and infrastructure. However, these aggregate figures mask considerable variations across countries and individual funds. Funds based in Europe and Canada generally had high amounts invested overseas, while funds in Latin America invested nearly exclusively in domestic markets. Funds based in the United States reported a moderate amount of foreign investment. Foreign diversification is mostly the result of regulation and investment policy, although large funds based in countries with small domestic markets may be more inclined to invest abroad to diversify and increase the opportunity set. Six large pension funds reported zero foreign exposure. Notable exceptions are funds in Chile and Norway which invested 100% in foreign assets. (OECD, 2016a)

Most funds have established allocations in emerging markets as part of foreign allocations. Emerging market investments mostly comprise listed securities – fixed income and equity, while some funds have pursued alternative strategies such as private equity or hedge funds. 38% of the respondents to the survey reported investment in emerging markets, with allocations ranging from as little as 2% to 50% of total foreign investment and an average of 15%. (OECD, 2016a) This represents roughly an average 5% of total assets invested in emerging markets.

Average returns on pension fund investments are low. The OECD simple average real return (adjusted for inflation) was 2.1% in 2015, with considerable variations among countries from the Netherlands ranking highest at 7.1% to negative values in the USA (-1.7%), Poland (-4.0%) and Turkey (-5.9%). The low performance in the USA pulled down the weighted average for the OECD to 0.4% (OECD, 2016b). The generally low yields on bonds were coupled with a weak performance of stock markets in 2015, and both factors have led to the low investment returns. Rising interest rates in the USA might signal the beginning of the end of the low-yield environment which has persisted the past couple of years. This will have an impact on return expectations and risk appetite of institutional investors, with alternative investments perhaps becoming relatively less attractive. Many active funds target a 4.0% real return over long-term periods (OECD, 2016a). An adequate real return provides funds with the ability to grow the corpus of the fund beyond the rate of inflation and wage growth.

3.2. Current patterns of infrastructure investments

Globally only between 1% and 2% of institutional investors’ assets are allocated to infrastructure. There are no precise figures available on infrastructure investments by institutional investors, and official data is scarce. The OECD survey found that large pension funds on an aggregate hold 1.3% of total assets in infrastructure investments (OECD, 2016a). Other sources estimate the infrastructure share at around 1% of institutional assets (Inderst, 2013). According to a recent IMF estimate, all institutional investors combined

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6 This contrasts with an average real return of 7% achieved in the year before (2014) by respondents to the OECD survey of large pension funds.

7 Weighted average for Large Pension Funds (LPF) and Public Pension Reserve Funds (PPRF)
allocate an estimated 2% of total assets to infrastructure (IMF, 2016a). However, these figures cover only unlisted infrastructure assets.

It is often overlooked, however, that institutional investors have been investors in listed infrastructure assets for a long time, e.g. as shareholders of infrastructure companies listed on public stock exchanges, in IPOs of privatized utility companies, as buyers of corporate bonds of infrastructure companies, or municipal bonds. Data from 2011 show 535 infrastructure stocks with a market capitalization of US$ 3.25 trillion worldwide which was roughly 6% of the estimated global stock market capitalization. With regard to debt financing, (tax-exempt) municipal bonds are a major contributor to infrastructure finance in the USA. Annual issuance is in around US$ 400 billion and the total market volume is over US$ 3.5 trillion. (Inderst, 2013) Institutional investors have significant allocations in these listed securities which, however, are not recorded as infrastructure investments. A guess estimate may easily put the total share of listed infrastructure assets at about 5% of total assets.

Over half of pension funds (53%) surveyed by the OECD are investing in infrastructure, either directly or indirectly, albeit on a very limited scale as mentioned above. Institutional investors are taking different approaches to infrastructure investing. Unlisted equity is the largest category of infrastructure investment at 87%. More than half of this was allocated as direct investment or co-investment in projects, while the other half was invested indirectly via infrastructure funds as intermediaries. The relatively high proportion of direct investments reflects the nature of the survey which has a focus on larger funds that have the size and expertise for direct investments. (OECD, 2016a)

Infrastructure is gradually emerging as an asset class in its own right. The majority of the funds report dedicated exposure to infrastructure assets whereas many funds still subsume infrastructure under alternative assets. The former generally have a larger exposure to infrastructure.

Target allocations for infrastructure are another main driver of performance. 39% of funds with infrastructure assets had set dedicated target allocations to the asset category. Target allocations amongst the funds with dedicated exposure ranged on the low end from under 1% to 21.5% of total assets. Some funds are increasing their allocation to infrastructure, indicating investor appetite for infrastructure assets. For example, Brazil’s Previ allocation to unlisted infrastructure increased from 3.7% of the total portfolio in 2010 to 6.6% in 2014. Australia’s Sunsuper's allocation increased from 4.1% in 2011 to 6.0% in 2014. (OECD, 2016a)

Canada and Australia are showcases for successful infrastructure investments by pension funds. Both countries have well-established private capital markets for infrastructure investments and a long history of institutional investor participation. Canadian funds accessed unlisted equity through direct and co-investments. Canada’s OMERS reported an allocation to unlisted infrastructure assets of nearly 15% of the total fund (with a target allocation of 21.5%) and OTTP at 8.3%. Australian superannuation funds used a mix of investment funds and direct/co-direct investments. Australian pension funds AustralianSuper and HESTA both had nearly 10% of its assets in infrastructure. This contrasts with funds based in Europe and the United States which tended to use infrastructure funds rather than direct investment. The Canadian pension fund OMERS has launched a global investment alliance with a target of US$20 billion for infrastructure investments and has attracted Japanese pension funds and other investors (see Box 1).
All funds that reported a separate allocation to infrastructure were below targets at the end of 2014. This is an indication of prevailing barriers and obstacles that prevent fund managers from reaching the business targets they have set for themselves.8

Global institutional investors show an increased interest in African infrastructure investments. Alternatives research firm Preqin maintains a database of 124 institutional investors globally with combined assets under management (AUM) of US$11 trillion that have appetite for infrastructure investments in Africa. The largest proportion (38%) of investors is located in the USA (see examples in Box 2). Investors based in United Arab Emirates, China and the UK also make up notable proportions of the investor pool. European investors' top choices are East Africa-focused funds (52%), while North American investors are more specific, preferring Nigeria-focused funds (62%). This database includes some of the largest institutional investors in the world: half of the investors seeking exposure to Africa have over $10bn in AUM; with the largest proportion (30%) holding $50bn or more in total assets.

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Box 1

Global Strategic Investment Alliance (GSIA) by Canadian pension fund OMERS

The GSIA is a global co-investment alliance platform launched in 2012 by the Ontario Municipal Employees Retirement System (OMERS). The GSIA was designed to gather sophisticated like-minded investors (mainly pension funds) to directly invest in infrastructure assets. Through the GSIA, participating alliance members will invest in core infrastructure assets with an enterprise value of more than USD 2 billion in sectors such as airports, railways, ports, power generation & distribution, and gas pipelines mainly in North America and Europe.

The GSIA aims to raise USD 20 billion with OMERS providing USD 5 billion. In April 2012 Mitsubishi Corporation (MC) entered into binding commitments to jointly invest up to USD 2.5 billion in quality infrastructure assets, together with leading Japanese pension funds and financial institutions, namely Pension Fund Association, Japan Bank for International Cooperation, and Mizuho Corporate Bank. In March 2014 OMERS entered into a co-investment agreement with Japan's Government Pension Investment Fund (GPIF), the world's largest pension fund, and the Development Bank of Japan (DBJ). Capital commitments stood at US$12.5 billion as of June 2014.

Borealis Infrastructure, a separate investment platform of the OMERS Administration Corporation, manages the infrastructure assets on behalf of OMERS and the other institutional investors.

The initiative is an example of insourcing investment in the form of co-investment with other institutional investors. In particular, infrastructure is long-lived and may not necessarily be suitable for traditional private equity structures, making these assets more attractive for direct ownership. Funds with less experience, in this case, the Japanese funds, can also partner with other funds that have well-established teams of professionals or expertise, in this case, OMERS. Another benefit of collaborating allows for a better alignment of interests between investors.

Other examples of such platforms are the Pensions Infrastructure Platform in the United Kingdom and the Philippine Investment Alliance for Infrastructure Fund in the Philippines.

Source: OECD, 2014

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8 Unfortunately, the OECD survey did not investigate this issue further.
New York State Common Retirement Fund, one of the largest pension funds in the U.S. with US$180 billion of assets, plans to invest about US$5 billion (2% to 3% of assets) across all sectors in Africa over the next five years, as opportunities arise and meet investment standards.

The US$9.3 billion Missouri State Employee's Retirement System (Mosers) has for the past few years put money into private equity funds in Africa run by both Actis, which invests in Asia and Latin America as well as Africa, and Development Partners International (DPI), which focuses on Africa.

The role of Sovereign Wealth Funds (SWF) as infrastructure investors in Africa is limited. The investments of SWFs in Africa are marginal compared to other regions. Investments came from Asian SWFs (49%) of which 48% China, and 38% from Africa (incl. Libya and Algeria). However, investments were mostly in real estate and hotels (42%), industries (32%), only 10% in infrastructure (Dirollo et al., 2016).

Aggregate data on global investors’ investments in African infrastructure are not available; however, the actual volume is likely marginal. As mentioned, most of the investments are channeled through global diversified infrastructure funds with an Africa window. But as only 5% of institutional investors’ assets are invested in emerging markets, with Africa likely holding a very small share, and only 2% of assets are globally invested in infrastructure, African infrastructure likely receives a miniscule share. And within this marginal share, the main preference of institutional investors is for lower risk, operating infrastructure assets with predictable, often inflation-linked, cash flows.

3.3. Future potential

First and foremost, the huge volume of institutional funds in search for yield presents a large potential to expand institutional investment in infrastructure. Even if a small portion of assets under management of long-term investors were to be earmarked for infrastructure development on a global scale, the impact on the global economy, as well as commercial returns could be bigger than any other source of large-scale private investments. Only 1% of institutional investors’ assets would be able to finance the entire annual infrastructure investments needs of all developing countries. Global institutional investors have the scale and potential to move the frontiers “from billions to trillions”.

Infrastructure is gradually becoming an asset class of its own right. It is encouraging to note that the targeted shares of investments in infrastructure are growing across the board. The successful cases of Canadian and Australian pension funds provide important lessons for their peers in other countries.9

Long-term investors are growingly realizing that infrastructure assets are a natural habitat for their investments. Infrastructure assets are ideal investments for pension funds and insurance companies as they tend to match their long-term liabilities, provide inflation-protected yields and have lower correlation to other financial assets. It is also an asset class where they are likely to face less competition, and where remarkably there is also a huge demand for funding (IMF, 2016b).

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9 Inderst (2014) presents a detailed analysis and lessons learned from Canada and Australia.
Long-term investors massively underestimate the relatively high returns on infrastructure related investments (IMF, 2016b). The current low-yield environment strengthens the relative value of illiquid asset classes such as infrastructure that offer an illiquidity premium. Harvesting the illiquidity premium has become increasingly important for many long-term investors.

Institutional investors are prepared to take higher risks. In recent years there has been a shift in the asset re-allocation from the AAA to BBB rating category which could be a sign of some sort of active search for yield (IAIS, 2015). Also the European Central Bank notes that some European insurers appear to be taking on more investment risks, with evidence of portfolio shifts towards infrastructure financing, equities and lower-quality bonds (ECB, 2015). Many European insurers express interest in increasing their (still low) exposure to infrastructure assets. Their preference is primarily for the ‘conservative’ end of the infrastructure investment spectrum, e.g. operating assets; bonds with a minimum rating of A–, ideally liquid and included in bond indices (Inderst, 2013). The low-yield environment and the desperate search for yield have certainly fostered this shift. Whether this is sustainable in view of rising global interest rates has to be seen.

3.4. Investment barriers

There are numerous constraints and barriers to investments in infrastructure assets. Some of the constraints are specific to infrastructure as an asset class others are more generic in view of institutional investors and in view of the target market, mostly poor African countries. For illustration, Table 3 presents a list of barriers identified by the OECD. Some of these barriers and a few other constraints are discussed in the following.

**Table 3: Barriers to investment for infrastructure assets**

<table>
<thead>
<tr>
<th>Categories</th>
<th>Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Investment opportunities</td>
<td>Regulatory instability</td>
</tr>
<tr>
<td></td>
<td>Fragmentation of the market among different level of governments</td>
</tr>
<tr>
<td></td>
<td>No clarity on investment opportunities</td>
</tr>
<tr>
<td></td>
<td>High bidding costs</td>
</tr>
<tr>
<td></td>
<td>Infrastructure investment opportunities in the market are perceived as too risky</td>
</tr>
<tr>
<td>2. Investor Capability</td>
<td>Lack of expertise in the infrastructure sector</td>
</tr>
<tr>
<td></td>
<td>Problem of scale of pension funds</td>
</tr>
<tr>
<td></td>
<td>Misalignment of interests between infrastructure funds and pension funds</td>
</tr>
<tr>
<td></td>
<td>Regulatory Barriers</td>
</tr>
<tr>
<td></td>
<td>Short Termism of investors</td>
</tr>
<tr>
<td>3. Conditions for Investment</td>
<td>Negative perception of the infrastructure value</td>
</tr>
<tr>
<td></td>
<td>Lack of transparency in the infrastructure sector</td>
</tr>
<tr>
<td></td>
<td>Shortage of data on infrastructure projects</td>
</tr>
</tbody>
</table>

Source: OECD (2014)

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10 The change could be partly due to a shift (downgrade) in the credit quality of securities already in portfolios referenced by the BIS (IAIS 2015).
Scarcity of well-structured bankable infrastructure projects. Governments and international institutions indicate a broad availability of potential investment projects. The fact is that in reality the opportunities available are much more limited. Good projects with an acceptable risk-return combination are rare. According to the IMF, this is momentarily the most severe constraint to greater private investment in infrastructure (IMF 2016). The preparation and structuring of complex infrastructure PPPs takes a long time and the cost and quality of project preparation is often underestimated. An illustration of the extreme is the Kigamboni bridge in Tanzania which took 20 years to plan, prepare and construct. Moreover, as one pension fund manager put forward, the fairly limited supply of easily investible structures has resulted in price increases for core infrastructure assets.11

Lack of appropriate financing vehicles and instruments. Many large institutional investors are too far away from infrastructure projects and have great difficulties to understand the asset class and its underlying risks. With some exceptions, e.g. Canadian and Australian pension funds, they generally do not have the analytical staff capacity for comprehensive due diligence of direct project investments. Attracting institutional investors on a large scale requires appropriate intermediary structures between large institutional investors and projects on the ground for more indirect investment opportunities, for example infrastructure funds or project bonds. These structures are more amenable to institutional investors’ mainstream business.

Those investors that have been engaged in direct investments in infrastructure are unhappy with the private-equity-type vehicles in two respects. First is a maturity mismatch: Private equity funds typically have a medium-term investment horizon of 8 to 10 years while infrastructure requires a much longer term. Second is the management fee: The level and structure does not fit with large and long-term infrastructure financing vehicles (OECD, 2014).

Deal and ticket size. The size of the infrastructure investment is a key factor for large institutional investors as it implies considerable transaction costs. Analyst resources for due diligence and risk analysis are considerably high for unlisted and unrated investments. The larger the pension fund or insurance company the larger is the minimum project size. To illustrate this with an example: Allianz with AuM of US$2.2 trillion will likely look at minimum deals of US$300 to 500 million (0.02% of total assets) as the participation of Allianz in IFC’s MCPP has shown. While many infrastructure projects are indeed large-scale, smaller and more complex projects may easily fail to reach the minimum thresholds. Size mismatches on either side call for intermediation by either pooling (smaller) projects for a large investor or pooling (smaller) investors for a large infrastructure project.

Risks – genuine and perceived. The key concern for any investor is risk. This is especially true for highly conservative and risk-averse pension funds and insurance companies. In the infrastructure sphere, investors are confronted with a myriad of risks as illustrated in Exhibit 1. Many risks are genuine, others are perceived and unfounded. Some of the key risks are briefly discussed below.13

- Information and knowledge gap. The lack of information and transparency, data and benchmarks for a new asset class like infrastructure – which is highly diverse in itself - creates a cloud of uncertainty and makes it difficult for institutional investors to

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11 Interview with Matt Whineray, Chief Investment Officer, New Zealand Superannuation Fund (OECD 2015)
12 On the other hand, the investment in a very large single project may expose the investor to bulk risk.
13 For more comprehensive presentation and analysis of risks in infrastructure see Inderst 2009, Ehlers 2014
analyze the performance of infrastructure investments. Infrastructure assets are unlisted securities and credit ratings are generally not available for investment decisions. This uncertainty – coupled with the limited risk management expertise of institutional investors – opens the door for high risk perceptions.

**Exhibit 1: Risks in infrastructure finance**

![Exhibit 1: Risks in infrastructure finance](image)

Source: Ehlers 2014

- **Political and regulatory risks.** Investors in public infrastructure need clear and stable regulations, together with efficient contractual procedures. This has not always been the case, and some governments have changed the contractual terms of concessions along the way. In many countries, corruption poses another threat in public infrastructure projects.

- **Pre- versus post-completion risks (greenfield versus brownfield).** One peculiarity of infrastructure investments is that project-specific risks vary significantly over the lifetime of the project. Risks are highest during the design, planning and construction phase (pre-completion) and decline significantly as the project enters the operations phase (post-completion) and generates revenues. This is the reason why institutional investors prefer brownfield assets, i.e. old infrastructure, and generally shy away from greenfield investments, or in the words of a pension fund manager: *One of the difficulties is that what governments want is new infrastructure, but what investors find easiest to price is old infrastructure, that has already constructed and doesn’t have any construction risk.*

  The OECD survey among large pension funds confirms that only few funds reported exposure to greenfield equity investments but the majority prefer the more stable investment profile of brownfield assets (OECD, 2016a). However, for debt investments the case seems to be clear:

14 see footnote 10
Institutional debt providers will not accept pre-completion project risks even in mature, high quality markets such as the UK (Palmer, 2014). This has important implications for structuring appropriate financing vehicles. Different financing instruments are needed for different phases of infrastructure finance (Ehlers, 2014).

- **Headline risk.** Institutional investors are much concerned with reputational risks, in particular about negative press in relation to involvement in infrastructure finance. There are well-known negative examples of infrastructure projects that have filled the headlines such as the Eurotunnel in the past, and currently the new Berlin Airport.

**Absence of a market for infrastructure assets: Illiquidity.** Unlike listed investment instruments, it is normally not so easy to reduce or liquidate unlisted infrastructure assets at short notice. There is yet no secondary market for this emerging asset class. The heterogeneity within the infrastructure sector poses a challenge for standardization and benchmarking which are important elements for market creation. Overall, this adds a liquidity risk to infrastructure investments.

**Policy barriers and regulatory disincentives.** The policy and regulatory framework also imposes restrictions which may have an adverse effect on infrastructure investments. The global regulatory framework Basel III requires banks to maintain high capital allocation for long-term loans to infrastructure providers. Together with the higher cost of matching long-term assets with liabilities with a similar duration, the regulation has greatly dis-incentivised banking sector involvement in infrastructure projects. It is likely that banks will become more reluctant to provide project loans. Furthermore, Basel III increased the amount of capital banks must hold against corporate bonds and imposed liquidity rules that may further increase the cost to banks from holding bond inventories (IAIS, 2016). According to the IMF, Basel III will likely continue to constrain infrastructure project finance by the banking sector (IMF, 2016a).

A similar effect was feared from the Solvency II regulatory framework on the pension funds and insurance companies in the European Union - also dubbed as the “Basel for Insurers” – that came into effect in January 2016. It follows the principal framework of risk-based capital adequacy with the effect of penalizing long-term investments of insurers and pension funds, including infrastructure assets. There are concerns that fair value and risk-based regulations for institutional investors could lead to further de-risking and pro-cyclicality, and may also be detrimental to substantially increasing infrastructure and other long-term investment strategies. The European Commission has therefore called on the European Insurance and Occupational Pensions Authority (EIOPA) to define a more favorable framework for infrastructure investment. Technical consultations are under way for a recalibration of the Solvency II framework.¹⁵ Hence, the countries in Europe are waiting for EIOPA to pronounce on the specific regulation on the particular treatment of infrastructure assets in the IORP directive whereas the Anglo-Saxon countries are relatively satisfied with their current legislative structures (Alonso et al., 2015).

Both Basel III and Solvency II are criticized of (i) favoring a trend towards “short-termism” in credit and capital markets and (ii) forcing financial institutions to rely more on assessments of credit risk by private rating agencies, thus, abdicating part of the public regulatory authority in favor of private rating agencies. The rule that the rating agencies’ sovereign ceiling does not allow an individual project rating to exceed that of the country where it is located, has a major impact on emerging markets. Many developing countries, especially in

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¹⁵ EIOPA Consultation Paper No. CP1161005 on the request to EIOPA for further technical advice on the identification and calibration of other infrastructure investment risk categories i.e. infrastructure corporates, circulated on 15 April 2016
Africa, are low-rated or don’t have a sovereign rating at all (see Table 4 below). As pension funds set limits to their exposure to certain asset classes and countries, it is feared that this will curtail greatly the supply of finance to emerging economies (IMF, 2016a).

In addition to the global regulatory frameworks, each country has its own regulation for pension funds and insurance companies. Regulation in countries that set limits on pension fund investment in infrastructure is tremendously varied. According to the latest annual survey on investment regulation of pension funds by the OECD, most countries have quantitative limits on the investments of pension funds. Only nine countries do not impose any ceiling to pension fund investment for the asset classes Australia, Belgium, Canada, Ireland, Netherlands, New Zealand, United Kingdom, the United States, and Malawi (OECD, 2015a). It is the developing countries, especially in Africa and one or two in Latin America, which present the most restrictive regulations. (Alonso et al., 2015). Some countries including Malawi, Tanzania and Nigeria prevent pension funds from investing abroad. However, the general conclusion of the latest survey is that, over time, most of the legislative changes regarding investment regulation of pension funds led to a softening of the limits and allowed more discretion to pension funds (OECD, 2015a).

**Country risks in developing countries.** Country or sovereign risks are a major factor for investments in emerging markets and especially in developing countries in Africa. For debt investments, institutional investors require a country rating at investment grade at the minimum (BBB- on Standard&Poor’s and Baa3 on Moody’s rating scale). In practice, institutional investors look at a more solid investment grade such as A but some institutional investors feel comfortable with BBB if the project is financed by an experienced development bank (Griffith-Jones and Kollartz, 2015).

Only five out of 55 countries on the African continent fulfill this requirement, Botswana and Mauritius rather comfortably, while South Africa, Morocco and Namibia are just on the border. Six additional countries have a sovereign rating but below investment grade. The remaining 44 countries are not rated at all.

**Table 4: Sovereign Rating of African Countries in 2017**

<table>
<thead>
<tr>
<th>Sovereign rating</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment grade (S&amp;P BBB-, Moody’s Baa3): 5 countries</td>
<td>Botswana (A-), South Africa (BBB-), Morocco (BBB-), Mauritius (Baa1), Namibia (Baa3)</td>
</tr>
<tr>
<td>Rated below investment grade: 6 countries</td>
<td>Egypt, Nigeria, Ghana, Kenya, Uganda, Zambia</td>
</tr>
<tr>
<td>Not rated</td>
<td>44 countries</td>
</tr>
</tbody>
</table>

As mentioned above, the sovereign rating generally provides a ceiling which does not allow an individual project rating to exceed that of the country where it is located. While this is the general rule, some exceptions are made. In a few instances, mainly in the oil and gas sector, Moody’s for example has "pierced" the foreign currency ceiling, or rated certain projects above the sovereign ratings of the countries where they are domiciled. Such “piercing” may also be justified by the finding that the average default rates on project finance (which mostly refers to financing of infrastructure) are fairly comparable between OECD and non-OECD countries (6.7% versus 8.8% over the period 1990-2013) (Moody’s, 2015).

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16 The extent and depth of country regulations is illustrative by the outcome of OECD survey with 289 pages of detailed country tables

17 Another example of “piercing” is the securitization transaction by Banco do Brasil in August 2001. The bank issued $300 million worth of bonds (with five year maturity) using future yen remittances from Brazilian workers in Japan as collateral. Rated BBB+ by Standard and Poor’s, these securities were several notches higher than Brazil’s sovereign foreign currency rating BB– at the time.
Infrastructure investing exhibits different characteristics from other asset classes, which could represent barriers to entry to potential investors. High up-front costs, lack of liquidity and long asset life of the projects require significant scale and dedicated resources both to understand the risks involved and to manage them, resources that many investors are lacking. These characteristics imply that infrastructure investment – at least in the forms in which it is currently offered – may not be a suitable proposition for all investors (OECD, 2014).

3.5. Outlook and conclusions

Many efforts are under way for building pipelines of bankable projects. Numerous project preparation facilities have been set up by development organizations, some at the regional but most of them at the global level. However, impact has been modest so far (IMF 2016). Most facilities have been established only recently it will take several years until bankable projects come on stream. For example, the Global Infrastructure Facility (GIF) became operational in 2015 with an initial capitalization of $100 million and is expected to prepare 15 to 20 projects over a period of three years.

<table>
<thead>
<tr>
<th>Box 2: Donor and DFi programs in support of Infrastructure in Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Infrastructure initiatives</strong></td>
</tr>
<tr>
<td>• <strong>Private Infrastructure Development Group (PIDG)</strong> – 2002</td>
</tr>
<tr>
<td>multi-donor organization to develop commercially viable projects and provide long-term finance to private sector infrastructure projects.</td>
</tr>
<tr>
<td>• <strong>Infrastructure Consortium for Africa (ICA)</strong> – 2005</td>
</tr>
<tr>
<td>established by the G-8 to promote public and private investment in infrastructure</td>
</tr>
<tr>
<td>• <strong>Programme for Infrastructure Development in Africa (PIDA)</strong></td>
</tr>
<tr>
<td>– 2011 promoted by New Partnership for Africa’s Development (NEPAD) to identify and assess key cross-border infrastructure investments</td>
</tr>
<tr>
<td>• <strong>Global Infrastructure Initiative and Global Infrastructure Hub</strong></td>
</tr>
<tr>
<td>– 2012 following G20 Australian Presidency</td>
</tr>
<tr>
<td>• <strong>Power Africa initiative</strong> – 2013 launched by USA</td>
</tr>
<tr>
<td><strong>Infrastructure funds and investment platforms</strong></td>
</tr>
<tr>
<td>• <strong>Emerging Africa Infrastructure Fund (EAIF)</strong> – 2002</td>
</tr>
<tr>
<td>The fund operates as facility under PIDG in 48 SSA countries. It has mobilized US$ 1.1 billion and provides sub-ordinated debt.</td>
</tr>
<tr>
<td>• <strong>Global Infrastructure Fund (GIF)</strong> – 2013</td>
</tr>
<tr>
<td>Managed by IFC for financing large complex infrastructure projects. $447 million committed to eight companies, only one in Africa (Nigeria).</td>
</tr>
<tr>
<td>• <strong>Africa50 Infrastructure Fund</strong> – 2015</td>
</tr>
<tr>
<td>by AfDB as separate entity with US$ 1 billion capital and expected to reach US$10 billion at full capacity, and to attract up to US$100 billion of local and global capital.</td>
</tr>
<tr>
<td>• <strong>Managed Co-lending Portfolio Program (MCPP)</strong> – 2016</td>
</tr>
<tr>
<td>by IFC. MCPP is a structured fund with first loss from SIDA.</td>
</tr>
</tbody>
</table>
Donors and DFIs have launched infrastructure funds and co-investment platforms. Notable initiatives are the Africa50 Infrastructure Fund created by the AfDB in 2013 and the MCPP Managed Co-lending Program (MCPP) launched by the IFC in 2016 (see Box 2). Most initiatives are recent but so far the traction among institutional investors has been limited. Developing appropriate financing vehicles for institutional investors remains a challenge. More vehicles and instruments are needed with innovative features that match institutional investors’ needs and preferences, that are aligned with their risk-return-profiles and that can unlock institutional capital on a large scale (see recommendations).

Deal size matching is a key prerequisite for closing a transaction successfully. Project developers must carefully match the right projects (deal size) with the right investor profile (ticket size). Direct investments will only be realized when both ends fit. When sizes – on either side – don’t match, pooling or intermediation structures can bridge the gap, either by pooling assets (smaller projects) for a large investor or by pooling investors (smaller pension funds) for a large infrastructure project. Another option is regional infrastructure projects that tend to have the size for large institutional investors. For instance, the Central Corridor project is an integrated transport program covering five countries (Burundi, DRC, Rwanda, Tanzania, and Uganda), with an investment of about US$18 billion, involving local and international actors from the public and private sectors (World Economic Forum, 2016). There are several such projects on the African continent in the pipeline which – if properly structured – could be a business proposition for large international pension funds.

Managing and mitigating the multiple risks in infrastructure finance is probably the greatest challenge. It requires a comprehensive risk management approach which addresses the different risks in an effective and appropriate way. Infrastructure finance in particular calls for a proactive approach to managing risks across the project cycle from design and construction (greenfield) to operation (brownfield). Some risks can be managed internally, others may require external risk mitigation support from donors and DFIs (see recommendations).

Despite growing interest among investors for infrastructure assets, mainly through private equity, the issuance of project finance debt has been limited. This reflects mainly the inability of issuers to design debt instruments with a risk-return profile suitable for investment grade rating. The sovereign ceiling has made it particularly difficult to achieve the threshold investment grade rating for Africa’s infrastructure debt. The volume of debt finance needed for infrastructure development is huge, and a multiple of equity finance needs. Developing appropriate debt financing vehicles and instruments will be a key priority for the future (see recommendations).

Specific solutions must be developed for country risk mitigation if international investors are to be engaged in debt finance of African infrastructure. The first option, “piercing” of the sovereign ceiling, may be possible in exceptional cases only. The second option is political risk insurance, for example from MIGA which cover investments against adverse government actions or war, civil strife, and terrorism. A third option is pooling assets into a regional vehicle like IFC’s MCPP with a supporting credit enhancement may be a more feasible option. Credit enhancement can raise the credit rating to an investment grade level acceptable to institutional investors. The better solution, however, and the fourth option, is getting local institutional investors involved as they are not constrained by the sovereign ceiling of their home country. This would also be an important first step towards developing domestic capital markets.

Currency risks weigh heavily on long-term financing. Potential investments from global institutional investors expose infrastructure operators in African countries to significant currency risks. Initial investments are conducted in hard currency and for a very long term
while revenue streams from infrastructure user fees are in local currency. Experience has shown that cross-border long-term financing – albeit on concessional terms – can be very costly for recipient countries due to currency devaluations over the long run. This problem applies to much lesser extent to domestic institutional investors who are mobilizing and allocating resources in local currency that could be allocated to financing the local currency components of infrastructure projects.

**External financing must be in accordance with the debt capacity of recipient countries.** There are concerns that the access to global capital markets could open the floodgate and drive borrowing countries to excessive levels of indebtedness. Many developing countries have struggled with large external debts in the past. The IMF and the World Bank have developed the Debt Sustainability Framework (DSF) to help guide countries and donors in mobilizing financing for development while reducing the chances of an excessive build-up of debt in the future. Under this framework, debt sustainability analyses are conducted regularly and one of the outcomes is a risk rating of external debt distress. Also, institutional investors – like the donors and the borrowing countries themselves – should take into account the results of debt sustainability assessments in their investment decisions to safeguard the long-term debt sustainability of the recipient country.

### 4. Domestic institutional investors in Africa

This chapter analyses the potential of domestic institutional investors for infrastructure financing. As a matter of fact, most developed countries finance virtually all of their capital stock domestically. Therefore, the local financing of infrastructure also constitutes a medium to a long-term goal for developing countries.

#### 4.1. Emergence of domestic institutional investors

**Over the past decade, a range of local institutional investors have emerged across Africa,** including pension funds, insurance companies and sovereign wealth funds. Unfortunately, there is a dearth of both aggregate and disaggregate data on the emerging institutional investors in Africa in numbers and fund value. Hence, much of the following analysis is based on fragmented secondary data from local and international sources.

**Domestic institutional investors in Africa held about US$800 billion in assets in 2014.** This is considerably larger than the volume hitherto considered in various publications. Table 5 provides latest available data from various secondary sources on the most important African countries. Over half (52%) of this volume stems from emerging pension funds, 28% from insurance companies and 20% from sovereign wealth funds.

**South Africa clearly dominates the list, accounting for two thirds (65%) of total assets and 78% of pension assets only.** It has a vibrant pension industry including one of the largest pension funds in the world. It is followed by Nigeria and Morocco while other countries are catching up exponentially. The biggest pension schemes are usually government and social security funds as well as local government and parastatal funds, as well as those of big corporations and multinationals. Recent reforms in many African countries have created private pension systems, which are rapidly growing and accumulating assets under management. Some examples:

- Since Nigeria's pension reforms started in 2004, and some 6.5 million workers are now paying into the system. The Nigerian pension industry grew from US$7 billion in 2008 to US$25 billion in 2013. Assets are growing at 30% a year.
- Ghana’s pension industry reached US$2.6 billion and is expected to expand by up to 400 per cent in the four years from 2014 to 2018.
Namibia’s government pension fund manages assets worth 80% of the southern African country’s gross domestic product.

Botswana’s local stock-and-bond holdings equal 40% of the diamond-rich nation’s GDP.

Table 5: Assets of domestic institutional investors in Africa (US$ billion)

<table>
<thead>
<tr>
<th>Country</th>
<th>Pension Funds</th>
<th>Insurance Companies</th>
<th>Sovereign Wealth Funds</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria</td>
<td>1.9</td>
<td>2.1</td>
<td>77.2</td>
<td>81.2</td>
</tr>
<tr>
<td>Angola</td>
<td>0.7</td>
<td>0.9</td>
<td>5.0</td>
<td>6.6</td>
</tr>
<tr>
<td>Botswana</td>
<td>6.0</td>
<td>2.0</td>
<td>6.9</td>
<td>14.9</td>
</tr>
<tr>
<td>Egypt</td>
<td>6.8</td>
<td>5.8</td>
<td>--</td>
<td>12.6</td>
</tr>
<tr>
<td>Ghana</td>
<td>2.6</td>
<td>0.4</td>
<td>0.1</td>
<td>3.1</td>
</tr>
<tr>
<td>Kenya</td>
<td>7.3</td>
<td>4.2</td>
<td>--</td>
<td>11.5</td>
</tr>
<tr>
<td>Libya</td>
<td>n.a.</td>
<td>n.a.</td>
<td>65.0</td>
<td>65.0</td>
</tr>
<tr>
<td>Morocco</td>
<td>25.7</td>
<td>6.7</td>
<td>--</td>
<td>32.4</td>
</tr>
<tr>
<td>Namibia</td>
<td>10.0</td>
<td>3.5</td>
<td>--</td>
<td>13.5</td>
</tr>
<tr>
<td>Nigeria</td>
<td>25.0</td>
<td>5.1</td>
<td>1.4</td>
<td>31.5</td>
</tr>
<tr>
<td>Rwanda</td>
<td>0.5</td>
<td>n.a.</td>
<td>--</td>
<td>0.5</td>
</tr>
<tr>
<td>Senegal</td>
<td>n.a.</td>
<td>n.a.</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>South Africa</td>
<td>322.0</td>
<td>192.9</td>
<td>--</td>
<td>514.9</td>
</tr>
<tr>
<td>Tanzania</td>
<td>3.1</td>
<td>n.a.</td>
<td>--</td>
<td>3.1</td>
</tr>
<tr>
<td>Tunisia</td>
<td>n.a.</td>
<td>1.9</td>
<td>--</td>
<td>1.9</td>
</tr>
<tr>
<td>Uganda</td>
<td>1.5</td>
<td>n.a.</td>
<td>--</td>
<td>1.5</td>
</tr>
<tr>
<td>Zambia</td>
<td>1.8</td>
<td>n.a.</td>
<td>--</td>
<td>1.8</td>
</tr>
<tr>
<td>TOTAL</td>
<td>414.9</td>
<td>225.5</td>
<td>156.6</td>
<td>797.0</td>
</tr>
<tr>
<td>percent</td>
<td>52%</td>
<td>28%</td>
<td>20%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Sources: Ashiagbor (2014) for data on pension funds, PwC (2015) for data on insurance companies and pension funds, Diallo et al. (2016) on sovereign wealth funds

The insurance industry is growing rapidly. In terms of premiums collected Africa has a low average penetration rate of about 3.5 percent of GDP, with the exception of South Africa which is over 15%. (PwC, 2015a) In other countries, a serious growth of the insurance sector has only begun in recent years. Hence, total insurance assets of US$225 billion still lag somewhat behind pension assets.

Sovereign wealth funds exist in a few countries only. They are mainly related to oil and gas, such as the two largest SWFs in Algeria and Libya which account for over 90% of SWF assets. With total assets of US$156 billion, the African SWFs make up a little over 2% of global SWFs with total assets of US$ 7.4 trillion in 2016. A recent study found that African SWFs are not very transparent and that they are more likely to invest abroad than domestically or regionally (Diallo et al., 2016).

The growth of African pension funds is only beginning. Demographic, economic and regulatory factors are driving the growth of pension funds. So far only between 5% and 10% of the population in Sub-Saharan Africa are covered by pension funds. Pension funds are still tiny in comparison to gross domestic product (GDP), which in turn is growing fast in many African countries. Nigeria is a good example. It had 6.5 million contributors in 2015,
that figure could triple in the next four years. The target is to hit 20 million contributors by 2019, but that still is a very conservative figure (Smith, 2015) Nigerian pension funds are about 5% of GDP in Nigeria, compared to 170% of GDP in Netherlands, 131% in the UK and 113% in the US. Southern Africa is generally better served: Namibia’s pension represents 80% and Botswana’s 42% of GDP (Minney, 2015). A known economist19 conservatively projects that pension funds in the six largest Sub-Saharan African markets alone will grow to US$ 622 billion in assets by 2020 and to US$ 7.3 trillion by 2050. The need to deploy these resources most productively puts the spotlight on the search for quality investment assets.

4.2. Asset investments by African pension funds

The rapid growth of pension funds is exerting an enormous pressure to invest the capital productively. Historically and currently pension funds have invested heavily in domestic debt. Interestingly, with the exception of South Africa, the domestic debt markets are in the main short term (three months). The continent’s sovereign bonds were also generating strong returns because they are issued at a premium, reflecting the higher perceived risk relative to assets from more mature markets. Institutional investors, unlike their counterparts in OECD countries, have benefited from continued high double-digit returns from listed securities. For example, in 2014 the ten-year government bonds in South Africa, Kenya and Nigeria were yielding 8.4%, 11.4% and 14.1% respectively (Ashiagbor, 2014).

Regulation has been a key driver of asset allocation. Many African countries’ regulations are around asset allocation limits and restrictions. Most African regulators do not permit or impose severe restrictions on cross-border investments. Young pension fund managers pursue a strict implementation of regulations; this leaves little scope of developing prudent skills of picking and trading stocks and bonds. Regulators should encourage capacity building of fund managers to upgrade their skills and should allow for some degrees of freedom within a prudent range in asset allocation.

Countries that embarked on pension fund reforms have increased their investment allocation towards equities. A recent review of Ghana, Kenya and Nigeria showed that there is a steady increase in investing in equities by pension funds in these countries, Kenya has the highest percentage in equities investment (36%) followed by Ghana (29%), Nigeria had the lowest (13%) (27four, 2015). Pension fund growth is thought to have contributed to a 79% surge in Ghana stock market in 2013 as funds chased too few investments (Minney, 2015).

Diversification has become a necessity for many pension funds. Regulators and fund managers are starting to recognize that keeping all their assets at home can be risky, too. As a result, some African pension funds, especially from South Africa, are spreading out – where permitted - across the continent, seeking similarly strong returns in the stocks and infrastructure projects of other African nations.

Private equity has become a gateway to alternative assets. African pension funds, especially South African funds, like their U.S. and European peers before them, had been slow to invest in private equity, but are now considering alternatives — often at the expense of equities. African pension funds are estimated to have invested some US$ 3.8 billion to US$ 5.7 billion in private equity and – based on the funds’ own target allocations – to have scope to invest another US$29 billion (Ashiagbor, 2014). Many countries are passing new regulations to allow investment into private equity and other unlisted investments.

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19 Charles Robertson of Renaissance Capital, quoted in Minney (2015).
4.3. Investments in infrastructure

Until recently, most pension funds in Africa were hesitant to invest in infrastructure such as roads, railroads, and ports. Tying up cash in decade-long projects seemed unnecessarily risky while strong economic growth was driving up local stock markets and government bonds yielding high returns. Africa’s economy has recently grown by about 5% annually, thanks to a variety of factors including the rapid rise of Africa’s consumer class.

South African pension funds have been pioneers in infrastructure investments, led by the Government Employees’ Pension Fund (GEPF) as the largest pension fund in Africa (see Box 4). This move is partly spurred by rules that allow them to invest 10% of assets through private equity. Another factor which draws South African pension funds to alternatives is portfolio diversification, which enables them to avoid a complete dependence on the shallow domestic equity market.

Box 4
South African Pension Funds pioneering Infrastructure Investments

The South African Government Employees’ Pension Fund (GEPF) is the largest pension fund on the African continent and the seventh biggest in the world with an asset base of US$ 127 billion at the end of 2016 and a membership of 1.3 million people. In 2015, the GEPF committed US$ 4.3 billion towards “unlisted and developmental assets” to the Pan African Infrastructure Development Fund (PAIDF) with other pension funds and institutional investors from Africa.

South Africa’s Eskom Pension and Provident Fund (EPPF) in 2014 invested $ 30 million into infrastructure projects through private-equity house Abraaj, based in Dubai, as well as mobile-phone infrastructure through London’s Helios. To diversify its portfolio, EPPF wants to put more than $100 million (1.2% of its total assets) into infrastructure projects.

Source: Minney 2017

Co-investment platforms are an important catalyst for pension funds involvement. A prime example is the Pan African Infrastructure Development Fund (PAIDF) initiated by AfDB in 2007. The fund attracted a number of all-African pension funds and other institutional investors (see Box 5). In a similar vein, the Africa50 Infrastructure Fund set up by the AfDB is expected to draw interest from local institutional investors.

Pension funds in other African countries are slowly but gradually following suit. The Government Institutions Pension Fund of Namibia has adopted a target allocation of 2.5% to the infrastructure. The Kenya Pipeline Company Retirements Benefit Scheme plans to increase its investments in alternative assets. Since 2009, the Kenyan government has issued five infrastructure bonds, with maturities ranging from 8-20 years, targeted at specific infrastructure projects. These bonds have been popular with pension funds, which have taken significant portions of the total issue (OECD 2015b). In Nigeria, talks are underway to allow pension funds to be invested more heavily in infrastructure and private-equity firms. The Director General of Nigeria’s National Pension Commission emphasized in a recent conference that well-managed pension funds offered an important source of finance for infrastructure and housing development (Smith, 2015). Alternatives data firm Preqin records
57 Africa-based institutional infrastructure investors, with over half (53%) having a separate infrastructure allocation\(^\text{20}\) (Preqin, 2016a).

### Box 5
**Pan African Infrastructure Development Fund (PAIDF)**

The Pan African Infrastructure Development Fund (PAIDF) was launched in 2007 at the African Union Heads of State Summit in Ghana. The establishment of the PAIDF was partly informed by the recognition that mobilising private capital and creating public-private partnerships is crucial and complementary in responding to Africa’s infrastructure development backlog.

PAIDF’s objective is to invest directly in infrastructure projects in all regions of Africa as well as in securities of companies that own, control, operate or manage infrastructure and infrastructure-related assets. Within the spectrum of infrastructure development, PAIDF’s targets include energy and power, telecommunications, transport, and water and sanitation.

The cornerstone investors were all African based and comprise a mixture of pension funds and financial institutions including the African Development Bank. Others: Government Employees Pension Fund, Barclays/ABSA Bank, Development Bank of Southern Africa, Old Mutual, Standard Bank, Liberty Life, Metropolitan Asset Managers, Social Security and National Insurance Trust.

At it’s first close, this fund raised US$ 627 million and has already disbursed a sizeable portion into it’s impressive deal pipeline on the African continent. The Fund has a horizon of 15 years and plans to invest into more than 70 African projects.\(^\text{21}\) The fund term is 15 years with each investment held for approximately 7-8 years. The target return of the fund was a minimum of 15% IRR.

An all-African investor base has helped with sourcing deals in which the fund can invest, particularly with investors such as the African Development Bank and the Development Bank of Southern Africa. In many ways the early stages of the fund with an all-African investor base, provided a proof of concept and subsequently the fund has had a number of deals come to them instead of the fund having to chase after deals. A successor fund, PAIDF 2, recently announced first close after raising $435 million again with pension funds as key investors.

**Sources:** OECD (2014), Minney (2017)

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**African institutional investors are (still) comparatively small and fragmented.** Industry fragmentation is an issue in some countries, with assets split across dozens of small pension funds. Smaller funds can only make tiny private equity investments, often below the minimum ticket size of many general partners. To address these issues, discussions are underway in countries like Kenya and Nigeria about building local “funds of funds” or locally listed vehicles to create liquidity (Ashiagbor, 2014).

**As a consequence, local institutional investors are interested in smaller deal sizes than global investors.** Given their small size, local pension funds have lower thresholds than their large peers from abroad. This also implies that large infrastructure projects can only be financed through co-investment with other pension funds. This pattern also determines the preferred route to market, i.e. direct versus indirect investments. For local

\(^{20}\) African institutional investors are still dominated by banks and investment companies (38%) while pension funds account for 23% and insurance companies for 12%.

\(^{21}\) Among the projects are: Touwsriver and Bokpoort solar power projects in South Africa; MainOne data and broadband telecommunications in West Africa; pan-African power generation through Aldwych Power; N3TC which operates and maintains 420km of South Africa’s N3 highway; and two hospitals. Other investments listed include $21.6m into private airport concession TAV Tunisia.
institutional investors both routes are possible. In a survey by Preqin, 69% of respondents preferred direct investments in infrastructure projects and the same proportion (69%) had a preference for infrastructure funds.

**The lack of good projects remains a key concern.** Africa’s fast-growing pension funds need a faster pipeline of investible and well-run projects. Transparency, accountability and good governance of infrastructure projects are key prerequisites for pension funds and their constituencies. The idea of pension assets being invested in public infrastructure is at times controversial among the ultimate owners of pension assets. For example, the Nigerian Labor Congress expressed members’ fears (Minney, 2017):

“The thought of using our pension fund for investment in public-sector infrastructure development is highly frightening given the well-known penchant for mismanagement inherent in public-sector institutions in Nigeria ... It is therefore immoral and careless to subject such fund which is the life-blood of workers to the itchy fingers of politicians, no matter how well intentioned.”

A major shortcoming is that capital markets are underdeveloped or nascent in most African countries. On the equity side, there are 29 stock exchanges in Africa, representing 38 nations’ capital markets or two thirds of all African countries. The market capitalization of all bourses combined exceeds US$ 1.0 trillion of which over 75% is attributed to Johannesburg. On the debt side, markets are even less developed. In all of Africa, US$ 19 billion in corporate and sovereign/supranational debt capital was raised in 2015 (PwC, 2015b). A diagnostic study conducted by the AfDB in 2011 provides a quantitative classification of African domestic bond markets by level of development using an objective, transparent and defensible criteria. The results are presented in Table 6.

**Table 6: Level of bond market development in African countries**

<table>
<thead>
<tr>
<th>Level</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly developed</td>
<td>South Africa</td>
</tr>
<tr>
<td>Advanced</td>
<td>Botswana, Egypt, Mauritius, Namibia</td>
</tr>
<tr>
<td>Developing</td>
<td>Ghana, Kenya, Morocco, Nigeria, Tunisia</td>
</tr>
<tr>
<td>Nascent – developing</td>
<td>Cape Verde, Senegal, Tanzania, Uganda, Zambia</td>
</tr>
<tr>
<td>Nascent – underdeveloped</td>
<td>39 countries</td>
</tr>
</tbody>
</table>

South Africa clearly stands out with a highly developed bond market and four other countries are in an advanced state. The study identified ten next-generation countries where bond markets are developing, albeit at different pace among the countries.

4.4. Conclusions

**Domestic institutional investors in Africa have become a sizable factor and a potential source for infrastructure finance.** With US$ 800 billion assets under management in 2014, the volume of domestic long-term savings is considerably larger than expected and has by now likely passed the US$ 1 trillion threshold. If a little over 5% of assets allocated to infrastructure it could close Africa’s financing gap. Pension assets are growing rapidly due to demographic factors and to increased formalization of African labor markets. The pressure is

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22 The study ranks countries based on their aggregate score under the following criteria: Macroeconomic environment (monetary and fiscal policy); Legal and regulatory framework; Bond market infrastructure; Issuers and issuing strategy; Investor base; and Active participation of economic agents.

23 It is noteworthy that this classification is very similar to the pattern of sovereign ratings (Table 3) with the list of countries being almost identical.
high on investing resources productively and on building a diversified investment portfolio. As a consequence, a fast pipeline of bankable projects is needed.

**Domestic institutional investors are in some ways complementary to their global peers.** As most African pension funds are still small, the deal size threshold is lower and more fitting to small to medium-sized infrastructure projects. Furthermore, domestic investors have a larger propensity for direct investments in infrastructure while their global peers prefer indirect investments through infrastructure funds and other vehicles. This is fostered by the fact that domestic investors know the local market and the relevant players, and are better able to assess the risk of infrastructure projects.

**There is scope for cooperation between global and domestic investors.** Local pension funds can be important anchor investors and can serve as catalysts for external investors. Local institutional investors lend credibility and a measure of validation of project parameters, and also allow global peers to leverage local knowledge and networks. Currently, it seems that in many African countries it is the other way round: Global institutional investors from South Africa but also from Canada or the US, are making pioneering investments in African infrastructure projects while local pension funds have been cautiously staying on the sidelines. However, such anchor investments by global peers have raised attention and interest, not only from pension fund managers but also by pension regulators in some countries.

Most of the conclusions drawn for global investors (section 3.5) equally apply to domestic investors; however, domestic investors have some comparative advantages. As mentioned above, domestic investors are happy with smaller deal sizes which match medium to small-scale infrastructure. However, the major comparative advantages are two-fold: firstly, domestic institutional investors are not restricted by a sovereign ceiling in their own country, and secondly, domestic investors do not face a currency risk because both their assets and liabilities are in local currency. These are strong and superior arguments for developing strategies that facilitate the engagement of domestic institutional investors in infrastructure financing and that lay the building blocks for developing domestic capital markets in the medium term.

## 5. Migrant remittances

### 5.1. Latest facts and figures on migration and remittances

The World Bank’s Migration and Remittances Factbook 2016 provides the latest figures on migration and remittances in Africa:

**Migrant remittances to developing countries have reached about US$441 billion in 2015.** More than 247 million people, or 3.4 percent of the world population, live outside their countries of birth. In 2015, worldwide remittance flows are estimated to have exceeded US$ 601 billion. Of that amount, developing countries are estimated to receive about US$ 441 billion. This is nearly three times the amount of official development assistance (ODA) and in many countries larger than foreign direct investments (FDI). India retained its top spot in 2015, attracting about US$ 69 billion in remittances. Other large recipients were China, with US$ 64 billion, the Philippines (US$ 28 billion), Mexico (US$ 25 billion), and Nigeria (US$ 21 billion).

**Migrants from Africa comprise 32 million people,** of which 23 million from SSA and almost 9 million people from North African countries. This represents 2.5% of the population in SSA and 5.1% in North Africa. 65% of the SSA migration is intra-regional, i.e. in other African countries. In addition, there is a second-generation African diaspora of 4 million
people in OECD countries, of which over half from Algeria (1.4 million) and Morocco (0.9 million).

**US$ 66 billion of remittances went to Africa in 2015.** This represents 14% of all remittances to developing countries. Three countries – Nigeria, Egypt and Morocco – received 73% of all remittances (Table 7). Outward remittances amounted to US$ 4.6 billion of which over half was from Angola (US$ 1.3 billion) and South Africa (US$ 1.1 billion).

Table 7: Migrant remittances to African countries 2015

<table>
<thead>
<tr>
<th>Country</th>
<th>US$ billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigeria</td>
<td>20.8</td>
</tr>
<tr>
<td>Egypt</td>
<td>20.4</td>
</tr>
<tr>
<td>Morocco</td>
<td>6.7</td>
</tr>
<tr>
<td>Tunisia</td>
<td>2.3</td>
</tr>
<tr>
<td>Algeria</td>
<td>2.0</td>
</tr>
<tr>
<td>Ghana</td>
<td>2.0</td>
</tr>
<tr>
<td>Senegal</td>
<td>1.6</td>
</tr>
<tr>
<td>Kenya</td>
<td>1.6</td>
</tr>
<tr>
<td>South Africa</td>
<td>1.0</td>
</tr>
<tr>
<td>Uganda</td>
<td>0.9</td>
</tr>
<tr>
<td>Mali</td>
<td>0.9</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>0.6</td>
</tr>
<tr>
<td>Liberia</td>
<td>0.5</td>
</tr>
<tr>
<td>Sudan</td>
<td>0.5</td>
</tr>
<tr>
<td>Other countries</td>
<td>4.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>66.1</td>
</tr>
</tbody>
</table>

Source: World Bank, Migration and Remittances Factbook 2016

The true size of remittance flows, however, including unrecorded flows, is believed to be significantly larger. In Nigeria, for example, one source estimates the remittances received between January and November 2016 amounting to $35 billion by Nigerians living abroad (Ujah, 2017); this is almost double the amount presented above for 2015.

Remittances are frequently transferred through informal channels. A large number of small money transfer businesses all over the world are often not subject to registration, licensing, or regulation, depending on local circumstances. Many of these businesses are part of channels that are culturally embedded and have been described as “alternative remittance systems,” “informal value transfer systems,” and “informal funds transfer systems” such as *Hawala* and *Hundi* used in the Middle East and South Asia, or *Fei Ch’ien* (flying money) in Asia (IMF, 2009).

The increasing withdrawal of correspondent banks poses a disruptive threat to remittance transfers. Major international banks continue to close correspondent banking accounts of money transfer operators (MTO) to limit exposure to money laundering and other financial crimes. A World Bank survey confirms that account closures are widespread, with adverse impacts on remittance costs and flows in rural and remote regions. For example, over the past two years, 84 accounts of 32 Philippine remittance providers
(including both banks and MTOs) were closed by 33 foreign banks in 13 major remittance-sending countries. The Financial Stability Board (FSB) presented to G20 Leaders in 2015 an action plan to assess and address the decline in correspondent banking (FSB, 2016).

The cost of remittances in Sub-Saharan Africa is among the highest and a huge amount is lost in money transfer fees. The average cost worldwide remained close to 8% in 2015 — far above the 3% target set in the Sustainable Development Goals. It costs 19% to send US$ 200 from South Africa to Zambia (Ratha, 2012).

5.2. Potential use of remittances for infrastructure finance

Remittances could be directed toward infrastructure investments in several ways: Firstly, by channeling (part of) remittances into financial savings in bank accounts, and these could then be intermediated by the banking sector into infrastructure investments; secondly, by channeling remittances directly to small-scale community infrastructure. Thirdly, by securitization of future remittance flows, and fourthly, by issuance of diaspora bonds that specifically target migrants abroad.

Recipient households spend most of the remittances on living expenses but also on small investments. Surveys conducted in African countries found that a considerable share is spent on food, education and health, but also on land purchases, building a house, business, improving the farm, agricultural equipment, and other investments (Mohapatra and Ratha, 2011). Only small proportions of remittances are saved in a financial form, e.g. in a bank account.

Based on current patterns, it will be difficult to redirect household remittances to infrastructure. Financial education may help to increase the proportion allocated to savings which could potentially be intermediated to infrastructure investments. Several projects under the multi-donor Financing Facility for Remittances (FFR) managed by IFAD have focused on financial literacy programs for remittance recipients, with good results (IFAD, 2013). However, given the poverty levels of many remittance-dependent households, there are clear limitations to directing remittances away from immediate expenses on food, education and health. Also, governments have often offered incentives to increase remittance flows and to channel them to productive uses but such have met with little success. Fundamentally, remittances are private funds that should be treated like other sources of household income (Ratha, 2012).

Frequently, however, remittances are directly channeled to local infrastructure at the community level. Numerous examples, notably from Mexico and Morocco, show that migrants contribute to the financing of the infrastructure at local level, for electrification, water provision and irrigation, road building, medical centers and schools (OECD, 2005). Here, small contributions can have a significant and visible impact that directly benefits the migrant’s family members and relatives.

Alternative options to harness remittances for infrastructure finance are the use of future remittances as collateral in a securitization transaction or the mobilization of funds among the migrant communities abroad – the diaspora – through infrastructure investment bonds, so-called diaspora bonds.

5.3. Securitization of future remittances

Migrant remittances can be used as collateral in a future financial flow securitization and can help African countries to finance infrastructure projects. Remittances have
been part of diversified payment rights (DPR) transactions used by financial institutions in emerging markets to obtain attractive access to international capital markets. Collateral comprises future and existing payment rights related to export payments, foreign direct investment, and worker remittances. In the hierarchy of future flows that are amenable to international securitization, major international rating agencies rank remittances in the same category as credit card and telephone receivables, next only to crude oil exports. Such collateralized financing can reduce interest costs and lengthen the maturity of bonds, but servicing such securitized debt is rather rigid and inflexible.

Securitization of future flows has allowed banks in several developing countries to raise more than US$ 15 billion since 2000, including Brazil, Egypt, El Salvador, Guatemala, Kazakhstan, Mexico and Turkey (Okonjo-Iweala and Ratha, 2011). For example, Fitch Ratings has rated over 80 notes backed by diversified payment rights (DPR) since 1995. The majority of issuances have come from sponsor banks in Latin America and Turkey. The nature of remittance flows varies; Peruvian DPRs are heavily tied to the mining sector while Turkish flows are well-diversified across industries. Globally, Fitch-rated DPR programs feature relatively uniform structures and systemically-important sponsor banks (Fitch Ratings, 2013). Transactions backed by diversified payment rights, in contrast, are typically investment grade.

Banks in several African countries, aided by the African Export-Import Bank, have used remittance securitization to raise international financing at lower cost and longer maturities (Mohapatra and Ratha, 2011):

- In 1996, the African Export-Import Bank co-arranged the first future-flow securitization by a Sub-Saharan African country: a US$ 40 million medium-term loan in favor of a development bank in Ghana, backed by its Western Union remittance receivables.
- In 2001, it arranged a US$ 50 million remittance-backed syndicated note issuance facility for a Nigerian entity using Moneygram receivables.
- In 2004, it co-arranged a US$ 40 million remittance-backed syndicated term loan facility to an Ethiopian bank using its Western Union.
- In 2012, it co-arranged a US$ 150 million five-year loan to Nigeria's Skye Bank. The structure is backed by formal remittances generated from Nigerians living abroad through Western Union. (Ossa, 2012)

Sub-Saharan Africa could potentially raise US$ 35 billion annually by using future receivables as collateral, of which US$4 billion could come from remittances (Mohapatra and Ratha, 2011). Other estimates are more cautious and see the securitization potential at around US$ 17 billion with only US$ 2 billion contributed by remittances (AfDB, 2012).

5.4. Diaspora bonds

The concept of diaspora bonds is appealing. Diaspora bonds are debt instruments issued by a state, a sub-sovereign entity or a private corporation to raise funds from diaspora populations abroad. The G20 Cannes Declaration acknowledged the potential role diaspora bonds could play in the mobilisation of resources for financing development. Ratha and Plaza (2011) suggest that diaspora bonds can tap into the emotional ties of the diaspora and their desire to give back, offering to poor or/and wealthier migrants a means to invest in their country of origin. Moreover, investors with a personal link to a country are often happier than other outsiders to take higher risks and accept lower yields. Another advantage of diaspora bonds for African countries is that migrants make more stable investors in their home countries than people without local knowledge. They are less likely to pull out at the first sign of trouble but rather on the contrary: diaspora investors are willing to invest when the home country is in crisis, as examples from Israel and India show. Diaspora bonds can
also be issued in the local currency, as migrants are likely to be less averse to the risk of currency devaluation. That is because members of the diaspora have more use for local currency than foreign investors; migrants can always use it when they go back home or for family-related expenses (Okonjo-Iweala and Ratha, 2011).

**Israel and India are successful examples of diaspora bond issuance.** The practice of issuing diaspora bonds goes back to the early 1930s with the first issuers being Japan and China, followed in the 1950s by Israel and later by India. The State of Israel Bond stands out as the most successful example of a diaspora bond issuance, mobilizing over US$ 40 billion since 1951. Diaspora bonds represented 20-35% of Israel's outstanding external debt and became integral part of the government's annual borrowing policy. Interestingly, it saw uptake soar during its 1967 war. India has raised close to US$ 11 billion from Indian nationals living and working abroad. Diaspora funds bailed it out from a 1991 balance of payments crisis and raised US$ 4.2 billion in 1998 to offset international sanctions imposed after nuclear tests (AfDB, 2012 and 2010).

**Other countries have failed to mobilize their diasporas for bond subscriptions.** It has not been easy to imitate funding strategy successfully pioneered by India and Israel. Many countries overestimate the generosity of their natives abroad (Strohecker, 2016):

- In 2008, Ethiopia's first bond to fund a hydro-electric dam failed chiefly because the government could not convince investors it would repay the debt.
- In 2009 and 2010, Nepal raised a fraction of its target when it offered yields below 10 percent over five years on rupiah bonds - well below local rates at the time.
- Moldova also decided not to issue diaspora bonds, concluding that Moldovans abroad who were willing to invest in its currency would probably prefer local bank accounts that pay 25 percent interest.
- One high-profile example was Greece, which proved unable to raise a hoped-for US$ 3 billion from the million-strong Greek community in the United States at the height of its debt crisis in 2011.

**The African experience with diaspora bonds is mixed, with several initiatives not seeing the expected uptake.**

- As mentioned above, the Millennium Corporate Bond issued by Ethiopia in 2008 to raise funds for the country's Electric Power Corporation during a time of power shortage failed to ignite interest among the diaspora.
- Learning from its mistakes, the second diaspora bond issued by Ethiopia in 2011 fared better. It addressed some of the structural failings of its predecessor – smaller denominations, for instance. Raising capital for the construction of the continent’s biggest hydroelectric dam, the Grand Renaissance Dam, targets a project that resonates with Ethiopians. The government managed to raise over $400m but mostly from the domestic market.
- Kenya issued a special infrastructure bond in 2012 targeting its diaspora, also with mixed outcomes. The subscriptions fell far short of the expected amount of US$213 million according to one source at $154 million (Ozaki, 2015).
- Ghana has created specialised funds to finance its infrastructure such as roads, health and education (Ratha and Plaza, 2011) but there is no information available on their performance.

**The causes for the failure of diaspora bond issuances have been manifold.** The failure has been pinned on anything from a lack of trust in the countries’ governments and the ability of projects to meet repayments, to political risk and – particularly in Kenya’s case – high inflation of 17% at the time. There have been challenges in implementing the Know Your Customer (KYC) requirements to safeguard against anti-money laundering. Furthermore, there are restrictions in marketing the bonds among the diaspora in
foreign jurisdictions. The distribution end has often failed because African governments issuing the bonds didn’t know how to reach out to the diaspora. On the other side, migrants who fled oppressive governments can hardly be expected to fund the regimes that drove them away.

**Important lessons can be drawn from the successes and failures.** It is clear that diaspora bonds will not be productive in contexts characterized by weak legal systems, poor governance, lack of economic and political stability, and unfavourable investment regulation. As such, policymakers should pay attention to these external factors, which may negatively influence the efficacy of diaspora bonds (Ratha and Plaza, 2011). The AfDB sees five major lessons that can be learnt for African countries (AfDB, 2012): (i) Diaspora bonds are a trustworthy source of finance for countries undergoing difficulty; (ii) Open the sale to all, but market strategically to the few; (iii) Emotional affiliation does not eliminate the need to make a financial return; (iv) Transparency in the use of proceeds is critical; (v) A lack of rating does not preclude bond issuance.

**Sub-Saharan Africa has a potential to raise between US$ 5 billion and US$ 10 billion per year through the issuance of diaspora bonds.** The total number of African migrants is estimated 145 million, of which 114 million Africa-internal and 31 million abroad (IFAD, 2015). Countries like Nigeria, Ghana, Kenya and Zambia, which have fairly large numbers of migrants living abroad in high-income countries, would particularly profit from issuing diaspora bonds.

**Nigeria is about to roll out a US$ 300 million Diaspora Bond in 2017.** The bond is aimed at raising investments from Nigerians living in the diaspora, and to be used to supplement the Nigerian budget. The bond will come with at least with 5-10 year maturity and annual dividends between 5-8 percent which is more than bank deposit and certificate of deposit, hence financially attractive to investors. A further incentive is that the bond is exempted from tax. Moreover, bonds can be used as collateral for borrowing from banks and discounts houses and can be sold either through any of the Primary Dealers Market Makers or on the floor of the Nigerian Stock Exchange.

**Ghana is also considering a diaspora bond issuance.** The government is targeting Ghanaians in the diaspora to raise money from them since it may be cheaper. It plans to offer between 5% and 8% which is attractive amid the minimal interest paid on savings in the US and in Europe. Repayment will be assured through the Sinking Fund, presumably a kind of guarantee fund (Citifmonline, 2016).

**Asset managers and crowdfunding platforms are also targeting the diaspora.** It is not only governments who are targeting the diasporas. Reportedly, several big asset management firms are considering launching country-specific funds to be marketed to diasporas (Strohecker, 2016). Furthermore, crowd-funding platforms are emerging such as Movement Capital (formerly Homestrings), an online portal that gives diaspora members access to investment opportunities in Africa. The predecessor Homestrings has apparently raised funds for infrastructure projects in Kenya. There is also a new program launched by IFAD, the Diaspora Investment in Agriculture (DIA) initiative, which seeks to encourage the global diaspora to invest in sustainable agricultural projects.

### 5.5. Conclusions

The potential use of securitization of remittances for infrastructure financing in Africa is limited, for several reasons:

- The potential volume of US$ 2 to 4 billion for the entire African continent is rather limited, less than 10% of the infrastructure financing gap of US$ 60 billion per year.
There is a mismatch in maturities: Securitization can be useful for raising short- to medium-term financing by African banks while infrastructure financing requires long-term finance. Securitization involves high fixed costs of legal, investment banking and credit rating services which only pay off for large transactions. The extensive use of informal remittance channels makes it difficult to reliably determine the value of future remittance flows. Finally, securitization requires an appropriate legal framework and some level of local capital market functions which most countries in Africa still need to develop.

Diaspora bonds are appealing as a concept but implementation is challenging. The success stories in Israel and India are outweighed by failures in many countries, including Africa. With an estimated potential of US$ 5 to 10 billion per year, the issuance of diaspora bonds are worth considering, especially by poor countries with a large diaspora. To tap diaspora investments, countries should develop the right structure, marketing and distribution channels, and build long-term relationships with the target investors. (Ozaki 2015) Moreover, it requires trustworthy government institutions which protect the interest of the bondholders. Diaspora bonds must adequately reflect risk-return considerations in view of the diaspora’s level of financial literacy. For example, 33% of emigrants from Sub-Saharan Africa to OECD countries are tertiary-educated (World Bank, 2016d). Diaspora bonds, like regular bonds, may require credit enhancements to entice overseas nationals to invest. To make the bond even more appealing, the countries the migrants reside in could provide tax breaks on interest income. The diaspora label can be an important aspect for marketing of bonds in general. Since 2010, several African countries have been able to issue regular bonds in the international market, and the shift from international bonds to diaspora bonds is essentially a case of marketing.

The diaspora seems more inclined to directly finance local infrastructure in their home communities and villages, compared to investing in a bond issue for financing large-scale infrastructure projects. Local infrastructure facilities like schools or medical centers have a direct benefit and visible impact for the migrant’s family members at home. It may be worthwhile for governments to incentivize diaspora investments in community infrastructure. For example, Mexico runs the ‘3 por1’ program where for each ‘migradollar’ invested in a community project, the public sector would add another three dollars. It is an effective financing mechanism for leveraging remittances for small-scale community infrastructure projects.

6. Recommendations

6.1. Align with institutional investors needs and requirements

It is necessary to adopt realistic expectations with regard to institutional investors’ engagement in infrastructure finance in Africa and to take investors where they are coming from. This should take into account the following parameters: Institutional investors like pension funds will remain conservative in their investment behavior, given their primary fiduciary and prudential responsibility to millions of pensioners.

Comprising Morocco, Senegal, Namibia, Nigeria and Zambia.
• This fiduciary mandate also guides the regulatory framework with little scope of “softening” but rather using the space within the existing framework for innovative solutions
• Due to transaction cost, minimum deal size US$ 100 million plus, for large pension funds US$ 300-500 million, lower for local and smaller pension funds
• Investment priorities will remain in the following order. First: listed debt (bonds), second: listed equity (stocks), third: unlisted alternatives, including infrastructure
• Brownfield infrastructure in operation is clearly preferred to greenfield projects under construction
• Risk-return-profile: generally low risk with about 4% p.a. target real return over the long run. Significantly higher returns (and somewhat higher risk) for private equity. Investment grade rating for debt.
• Partnerships and co-investments with DFIs and with peers preferred
• Visibility and publicity amenable for CSR but also fear of headline risk

But: institutional investors have the scale necessary to materialize “billion to trillions”. A marginal change in investment policy and behavior can have a seismic effect. African infrastructure could easily be financed by global and domestic institutional investors.

_It is recommended (i) to adopt realistic expectations on institutional investors and (ii) to enable, motivate and incentivize institutional investors to make “baby steps” toward infrastructure finance in Africa._

6.2. Promote partnerships and co-investments in infrastructure

Strategic partnerships between banks, institutional investors, infrastructure corporations and donors/DFIs are becoming more common for structuring financing projects that highlight their complementary aspects. Partnerships are sought to align the structuring and debt origination capabilities of the banks with the appetite for long-term financing sought by institutional investors and with the convening power and risk-sharing capacity of DFIs.

_**Co-investment platforms are important catalysts for crowding-in institutional investors.**_ Platforms like OMERS at the global level and PAIDF at the regional level served as a proof-of-concept and are now being replicated, for example the AfDB-sponsored Africa50 Fund and the MCPP by IFC. Co-investment platforms have a number of benefits. By pooling their resources, institutional investors can leverage their cumulative risk appetite and invest in a variety of deals, diversifying their infrastructure portfolio and potentially gaining a better, more stable longer-term return than would be possible if investors were to invest in deals by themselves. Having DFIs as co-investors provides reassurance to institutional investors and also helps to gain access to prospective investment opportunities. By committing funds to the initial phases of the project, DFIs can indeed reduce investors’ construction risk concerns.

_It is recommended to utilize the existing co-investment platforms and to replicate such platforms for other infrastructure investments, as appropriate._

_It may be worthwhile to pilot-test a co-investment platform at the country level, e.g. in one or two of the compact countries, e.g. Ghana or Tunisia, for both domestic and global investors._

**Peer-to-peer exchange and peer learning can be very effective tools to promote infrastructure finance.** Experience has shown that peer-to-peer mechanisms are more effective than expert advice or external training. The different levels of development of

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25 Ref OECD 2014 for an analysis and lessons learned from success cases
pension systems in Africa provide a useful context for exchange of knowledge and expertise amongst industry participants across the continent, with some countries having well developed private pension systems and others only moving to funded pension schemes. Two different peer groups would be relevant: institutional investors such as pension funds on the one hand, and pension regulators on the other hand.

With regard to pension funds, the co-investment platforms already provide some framework for dialogue and exchange, albeit limited to those investors participating in the investment. However, the scope could be expanded to include a wider group of potential investors. The Africa Pension Fund Network (APFN) established under the Making Finance Work for Africa Initiative might serve as a home for such a forum. The APFN already provides a platform for exchange of knowledge and expertise amongst industry participants across the continent and also facilitates cross-country collaboration through co-investments and peer-to-peer learning.

*It is recommended to consider establishing an infrastructure finance working group for African pension funds as a special initiative under the Africa Pension Fund Network (APFN).*

A peer-to-peer platform for pension regulators would equally be beneficial, as experience elsewhere shows.26 Such platform could be championed by progressive regulators from South Africa or Nigeria with a core group of pension regulators from interested countries.

*It is recommended to propose the idea to key regulators and test the waters, and in a second step, to identify the appropriate format and institutional framework for such platform.*

### 6.3. Provide effective risk mitigation (and de-risking)

The high risk associated with infrastructure projects in Africa has been a key obstacle to a larger engagement of institutional investors. Hence, the focus must be on the design of effective risk mitigation solutions as a key priority. This was confirmed by an AfDB study (AfDB, 2013) which identified a large risk mitigation gap in Africa. The objective of risk mitigation is to bring the risk profile of an infrastructure project to a minimum level that is acceptable to institutional investors. This is especially relevant for debt financing which generally requires investment grade rating.

Effective risk mitigation the instruments range from simple techniques to more sophisticated financial engineering. Risk mitigation can – to a considerable extent - be achieved standalone through innovative finance structures and market-based solutions. To some extent, however, it requires external enhancement support from government, donors or DFIs to make project debt issues attractive to investors. The following techniques can and should be applied in the African context:

**Unbundling of infrastructure projects**

The risk profile of an infrastructure project is changing over its lifecycle. Project sponsors can unbundle the infrastructure project into components with different risk-return profiles, e.g. for the planning, construction, and operation phases, and can create financial products that isolate and address the risk elements of each phase. They can then allocate the financing of the different components to investors with different risk tolerance. Typically, banks and DFIs would provide project finance during the planning and construction phases while institutional investors’ risk appetite would preferably be for the operation phase of an infrastructure project.

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26 e.g. the Alliance for Financial Inclusion (AFI) – supported by BMZ and GIZ – for financial regulators.
**Risk pooling and diversification**

Multiple infrastructure projects with different risk-return profiles can be bundled or pooled into a single portfolio. Pooling can significantly mitigate credit risk by enhancing diversification, particularly if the pooled projects belong to different geographical areas and different sectors. Furthermore, investors may invest into a wide range of infrastructure projects, for example through an infrastructure equity fund, with the aim to diversify the *bulk risk* of individual projects. The resultant equity in such entities is then subject to lower risk than direct investment into an individual infrastructure project. It may even open the possibility of including projects with significant risks, e.g. greenfield infrastructure, which – as stand-alone projects – would not pass the threshold of risk-averse investors. Assigning a credit rating to a pooled project portfolio can, however, be challenging when data are limited and correlations among different projects in the pool are difficult to determine.

It is also possible to pool the same component of multiple projects, for example operation, into a single portfolio (re-bundling) to further reduce risk. In this way, investors with a low risk threshold would be able to contribute to the financing without taking on the full risk of the project (Collier and Mayer, 2014). Capital markets play a crucial role in unbundling infrastructure projects and re-bundling them into diversified portfolios. The lack of sufficiently deep capital markets in most African countries makes this kind of risk isolation and allocation difficult, but not impossible.

**Credit enhancement**

Credit enhancement is a type of financial engineering technique that changes the structural details of a debt obligation to increase its credit quality. It aims at bridging the gap between the credit worthiness of the underlying assets (the infrastructure project or a pool of projects) and the desired credit rating for the debt obligation.

The most common form of credit enhancement is *risk tranching and subordination*. The debt obligation is sliced into tranches with different levels of credit risk protection: senior, mezzanine, and junior. A cascading structure provides different levels of risk protection: junior investors holding the first-loss tranche are subordinated to mezzanine investors who in turn are subordinated to senior investors. Thus, the subordinated investors (junior and mezzanine) act as credit enhancers for the senior investors that would incur losses only if the losses exceed the amount of the subordinated tranches. The distribution of income from the project follows a similar but inverted cascade (income waterfall): project yields are channeled first to senior investors up their target returns, mezzanine investors are served next and junior investors last.

The objective of the tranching process is to create debt securities (in particular the senior tranche) whose credit rating is higher than the average rating of the underlying asset (the infrastructure project). In this way, it is possible to create securities with different risk-return profiles suitable to different types of investors. In a typical commercial structure, senior tranches would be appropriate for institutional investors, while mezzanine tranches would fit investment banks, willing to accept a greater risk in return for the possibility of obtaining a greater yield, and the junior tranche would generally be retained by the sponsoring entity, earning the highest return on this first-loss position.

*It is recommended to apply proven financial engineering techniques for risk mitigation in infrastructure financing vehicles and instruments.*
External credit enhancement

Such a structure on a fully commercial basis may not be applicable to infrastructure finance in Africa. Firstly, the specific risk profile of African infrastructure may require a larger size of subordinated tranches, and these may be too large for the usual investors (project sponsor, investment banks). Secondly, the project yield may not be sufficient to satisfy the expected returns of the different investors. In other words, the “water” on the “income waterfall” is dried up say at the mezzanine level, leaving no more “water” for the junior investors. In this case, external or third-party credit enhancement from development organizations can solve the impasse. Donors and DFIs play a critical role in promoting project financing when stand-alone financial engineering techniques are not sufficient to enhance the creditworthiness of debt obligations to a level sufficient to access financial markets. There are many examples where DFIs have participated as mezzanine investors and donors have taken first-loss positions or junior tranches.

The involvement of donors as junior investors has a dual benefit. First, donors are risk-takers, using mostly grant funding of highly concessional funds, and can underwrite relatively large first-loss tranches. Second, donors do not expect risk-based financial returns. Their main focus is on the development dividend measured by the impact of the project to be financed. In fact, donors’ return expectations are generally far below those of typical junior investors. In structured funds, for example, donors would expect a financial return at the level of inflation with the aim of preserving the real value of their capital contribution. This enables relatively larger returns for senior investors (and possibly mezzanine investors) from the project’s income waterfall, essentially through redistribution of project returns. As a result, the effect of donors taking a first loss is two-fold: it reduces the risk and increases the returns for private investors, with a much higher chance of achieving the risk-return combination required for crowding-in private investors.

- It is recommended for donors to provide external credit enhancement via first-loss tranches as effective instruments for aligning risk and return profiles for institutional investors.

Credit guarantee instruments from DFIs

Credit guarantees cover losses in the event of a debt service default with no differentiation of the source of the risks that caused the default. There are two types of credit guarantees: (i) partial credit guarantees (PCGs), which cover the payment of principal and/or interest up to a predetermined amount and (ii) full credit guarantees or wrap guarantees, which cover the entire amount of the debt service in the event of a default. Credit guarantees enable access to financial markets and improve the terms and conditions of commercial debt by extending maturity, lowering interest rate, or increasing issue amount. The guaranteed coverage level may be structured so as to enable commercial bank lenders to participate in project financing or to achieve a particular bond rating to attract institutional investors.

Most MDBs and DFIs offer guarantee products, and there are some new major regional and global initiatives (see Box 6) which potentially benefit infrastructure investments in Africa. A major factor is the AAA-Rating of MDBs and DFIs which gives them superior guarantee power. Thus, most regulators recognize guarantees from DFIs as first class guarantees. Even lower-rated entities like GuarantCo28, a facility under the Private Infrastructure Development Group (PIDG), can lift bonds to investment grade level. For example, GurarrantCo used its local AAA in Nigeria to credit enhance a 7-year naira-

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27 see World Economic Forum (2016) for a detailed overview
28 GuarantCo is rated A1 by Moody’s
denominated bond issued by a local aluminum company for the construction of a new factory. With GuarantCo enhancement, the bond was able to secure a local A-rating, required to be able to access national pension funds (IMF, 2014).

Box 6
Selected guarantee facilities by development agencies

GuarantCo – 2005
As a multi-donor facility under the Private Infrastructure Development Group (PIDG) offers partial guarantees for local debt instruments. To date, 36 projects in 17 countries enabled US$ 394 million of infrastructure investments.

African Development Bank (AfDB): Private Sector Credit Enhancement Facility (PSF) – 2015
The PSF’s credit enhancement capacity is backed by the liquidity of a reserve pool of €206 million seeded by a grant from the ADF to cover potential losses on payment default to cover exposures amounting to €620 million. 25 projects approved with US$ 420 million (62 percent).

European External Investment Plan (EIP) – NEW
The EIP intends to boost investments in Africa and EU Neighborhood countries. With €3.35 billion to support innovative guarantees and similar instruments to crowd-in private investments, enabling to mobilize up to €44 billion in total investment.

IDA’s Private Sector Window (PSW) – NEW
The PSW comprises several facilities with a total volume of US$ 2.5 billion, including a risk sharing facility that aims to help infrastructure projects.

Box 7
Africa Local Currency Bond Fund (KfW, BMZ)
The Fund will only invest in non-sovereign corporate or financial institution issuers that are either first time issuers or are introducing market innovation (e.g. listing, rating, longer tenors, structured transactions) that meet the Fund’s market development objectives.

Proceeds of bond issuance must be used in highly developmental sectors. These include financial services with a focus on financial inclusion (SME lending, mortgage finance and microfinance), housing, education, green/renewable energy, and agriculture/ agro-processing.

The fund has so far built a portfolio of US$ 31 million with 15 issues in 7 countries, mostly MSME finance.

Source: http://www.alcbfund.com/fund/target-transactions/

Risk transfer (Insurance)

Some risks are difficult to mitigate and, if possible, should preferably be transferred to the market, i.e. to specialized insurance facilities that cater for the specific type of risk. This includes the following:

- Political risk: insuring political risks calls for a greater role for MIGA, if the insurance premium allows an economically feasible structure. MIGA US$ 4.3 billion issued guarantees for investment projects in 2016.
- Catastrophic risk: some form of CAT insurance should be embedded in an infrastructure finance transaction from the beginning stages.
- Currency risk: hedging facilities should be used where available, e.g. The Currency Exchange Fund (TCX), but for most African currencies there is clearly a need for better mechanisms to hedge currency risks. An example is the Africa Local Currency Bond Fund initiated by BMZ and KfW (see Box 7).

*It is recommended to fully utilize the various existing risk mitigation and risk transfer facilities for African infrastructure finance. The latest additions – the European External Investment Plan and the IDA Private Sector Window – come with considerable capital endowments of almost US$ 6 billion and a huge leverage potential.*

A recent survey by the World Economic Forum identified construction risk (18%) as one of the top three risks in infrastructure finance that would benefit from a risk mitigation instrument, further to change in law (51%) and currency risk (31%) (World Economic Forum, 2016).

*It is recommended to consider establishing a stand-alone construction risk mitigation facility or product for Africa, similar to ADB’s Construction Period Guarantee for Asia.*

6.4. Develop financing vehicles tailored to the risk, return and fiduciary requirements of institutional investors

Direct financing of infrastructure projects may not be the preferred route to market for most institutional investors. Some investors may seek direct exposure through participating in co-investment platforms but the majority will look for indirect investments via financing vehicles, e.g. funds, and other investment instruments tailored to the risk-return profiles of institutional investors.

Appropriate vehicles are needed for both, equity and debt investments. However, the urgency and priority is on debt financing. Firstly, with a debt financing share between 70% and 90%, the volume of debt finance is much larger than equity. Secondly, while institutional investors have made first steps in equity finance in African infrastructure, their engagement in debt finance has been close to zero, primarily due to lack of appropriate debt instruments.

**EQUITY FINANCING**

*Adapt private-equity-type funds to the infrastructure asset class*

Equity investments in infrastructure have been conducted through private-equity-type fund structures. This fund structure is inconsistent with the underlying asset. Pension funds and other long-term investors often find the lifespan of the infrastructure vehicle offered too short for their needs. There is a maturity mismatch between the typical length of private equity-type of funds (typically 8 to 10 years) with the liabilities of pension plans (often much longer).

Furthermore, the level and structure of the management fee are also not conducive for infrastructure investments. The fee level is perceived as too high by institutional investors (OECD 2014). In order to pay the investment manager’s performance fee, assets have to be sold during the lifetime of the fund. However, pension funds do not like the idea of selling assets that they might have bought for a long-term, steady, inflation-linked income stream.

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29 ADB’s Credit Guarantee and Investment Facility (CGIF) in July 2016 launched the Construction Period Guarantee, a new product aimed at mitigating construction risks for investors in greenfield projects.
It is recommended to develop and pilot-test a model fund structure for equity participation that is consistent and coherent with the underlying infrastructure assets.

According to investors, two models that seem to offer good alignment of interest are the Meridiam funds, closed-end vehicles with a 25 year horizon, and the Industry Funds Management (IFM) model, an open-end vehicle owned by 30 major Australian superannuation funds (OECD, 2014).

DEBT FINANCING

Infrastructure project bonds

An infrastructure project bond is a fixed income security issued to finance debt obligations of an infrastructure project. Infrastructure project bonds could fill part of the infrastructure funding gap and would be an important step toward building local fixed-income markets. Recent initiatives by the OECD (2016c) and the World Bank (2016a) in the G20 context have recommended promoting the development of infrastructure bonds.

Infrastructure project bonds were an important source of funding in advanced economies prior to the 2008 financial crisis. The demise of monoline insurers that provided full wrap guarantees led to a decline of the instrument. Chile introduced infrastructure bonds in 1998, i.e. effectively corporate bonds to finance infrastructure projects of public interest under certain concessions and regulations. A number of other countries have also issued infrastructure bonds, including Peru, Mexico, and also South Africa, and these bonds are popular with domestic institutional investors (Inderst, 2013).

Several recent initiatives, mostly in the US and in Europe, point to a renaissance of infrastructure project bonds. Infrastructure bonds continue to expand also in Latin American countries. For example, in 2015 Brazil – with support from the World Bank – has developed a local currency Standardized Infrastructure Bond (World Bank, 2016a).

The experiences show that project bonds (i) are more suitable for brownfield projects, (ii) require relatively large size thresholds, and (iii) generally require some type of credit enhancement to align the appetite of institutional investors. According to Moody’s, there is a relevant track record of lower probability of default and loss-given defaults when compared to corporate bonds of equivalent ratings (World Bank, 2016a).

The challenge for African countries to develop infrastructure project bonds is twofold. The first is building a sufficiently robust regulatory and institutional framework so that structuring, issuance, and placement of infrastructure project bonds is cost efficient. The second challenge is to apply appropriate credit enhancement instruments so that project bonds have a credit risk profile acceptable to institutional investors. Development organizations have an important role in both areas.

Infrastructure project bonds are championed by the AfDB as a future solution to Africa’s daunting investment shortfall. The AfDB seeks to contribute to mitigating risks in infrastructure by developing sound domestic debt markets in Africa through the creation of the African Domestic Bond Fund, which was established in 2015. However, project bond financing is new to the continent (World Economic Forum, 2016).

The development of an active infrastructure project bond market could have a number of positive externalities in reinforcing a long-term fixed income market for a broader range of

30 See World Bank (2016) for more details
issuers, for example, compensate for the higher volatility in foreign capital flows and support local fixed income markets. (OECD, 2016c)

- **It is recommended to support initiatives on infrastructure project bonds and to draw lessons for replication.**

**Infrastructure debt funds**

Infrastructure debt funds have increased in prominence in recent years as an alternative to bank lending. The contraction in credit markets in the post-financial crisis era has made sourcing long-term funding more difficult. In addition, the capital regulations under Basel II and III have forced banks to increase the amount of capital they must hold, potentially affecting their ability to provide loans for infrastructure projects. Debt funds can fill this gap to some extent.

Debt funds may also function as a precursor to infrastructure bonds in those countries that do not yet have the regulatory and institutional framework for fixed income markets. Such funds are offered as a way of investing in assets that are relatively safe but offer a yield higher than government bonds. Institutional investors that invest in debt funds are likely to include these investments in the fixed-income or alternative assets allocation of their portfolio, depending on the underlying risk.

There has been a decade-long successful experience with **structured debt funds** in the area of SME and microfinance, also in Africa. Many of these funds have been promoted by KfW with significant first-loss funding from the BMZ. Examples in point are the Regional Microfinance Fund for Africa (REGMIFA) focusing on Sub-Saharan Africa and the SANAD Fund for MSME operating in North Africa and the Middle East. The funds are generally located off-shore in a domicile with a conducive legal and regulatory framework, e.g. Mauritius or Luxembourg. With credit enhancement from donors and DFIs, the funds have been able to attract institutional investors to their senior tranches. These structured funds may therefore serve as a model for infrastructure debt finance in difficult environments.

- **It is recommended to conduct a feasibility analysis for launching an infrastructure debt fund for Africa, especially for countries with nascent capital markets.** 
  An alternative could be to consider an infrastructure window in the existing structured debt funds REGMIFA and SANAD.

**Asset recycling**

Given the different risk profiles over the lifetime of an infrastructure asset (construction versus operation phase) and institutional investors' preference for brownfield assets, there is a discussion about ‘asset recycling’, i.e. sale of operating (brownfield) assets in order to raise funds for new (greenfield) infrastructure (Inderst and Della Croce 2013, Collier and Mayer 2014).

The idea is for DFI investors, like the AfDB, World Bank/IFC, KfW, etc. (and potentially also banks) to sell down existing infrastructure loans on their balance sheets, once project completion has been achieved. The brownfield loans would be bundled in a securitization vehicle and sold as bonds to institutional investors. This would free up lending capacity for the DFIs. The proceeds of the sale of loans could be used for new – more risky greenfield – infrastructure investments. The result would be a ‘tilt’ by DFIs away from post-completion
risk in favor of increased pre-completion exposure and a corresponding increase in exposure of institutional lenders post-completion.

Exhibit 2

Such asset recycling would be important risk mitigation for the entire value chain of infrastructure finance. The inability to refinance or sell out of positions after the construction phase is one of the important reasons that greenfield projects are the “the least attractive” investment opportunities for private sector investors (OECD and AfDB, 2014).

A problem may arise in view of pricing if DFIs have been lending to infrastructure at subsidized rates. This may imply serious challenges in offloading these loans into bonds, as the latter would not provide competitive refinancing if priced at market rates (World Bank, 2016a).

It is recommended to study the market potential and feasibility of asset recycling for selected African countries and to conduct a cost-benefit analysis.

Raising returns for institutional investors: an alternative to risk mitigation?

An adequate risk-return profile of an investment is a pre-condition for crowding-in private investors. Acknowledging the trade-off between risk and return, this can principally be achieved in two ways: either by reducing risk or by raising returns. Either way has a cost and
requires public subsidies. The question is which instrument is the most cost-effective and has the greatest benefit.

Most of the interventions and instruments are focusing on the former, i.e. reducing risk, through risk mitigation, credit enhancement and guarantees, as discussed in the previous sections.

The alternative is raising returns to a level that is commensurate with the risk. Again, there are two ways of raising returns (or net income): either by reducing cost or by increasing income. Reducing cost has been the approach widely used in the form of input subsidies, including concessional lending. A common form is free or subsidized training and advisory services to project partners from the private sector.

The second way, i.e. increasing income, has not been widely used. Donors, and public sector institutions in general, have been reluctant to use (institutional) income transfers to private sector institutions. However, recent concepts of “performance-based grants” and “paying for success” propose an income subsidy that is linked to specific measures of a private institution’s success or performance.

Barder and Talbot (2016) show that the expected costs of offering a guarantee, providing an input subsidy, or paying for success should be the same for the donor. Moreover, they conclude that paying for success is less distortionary and produces better results for a lower expected cost than other incentive programs. If this is proven in projects on the ground, a greater openness towards this instrument would be worthwhile.

A form of success-based subsidy has been discussed above in the context of structured funds where the senior tranche investors receive a higher return through the redistribution of project net income built into the income waterfall, as donors take a first loss stake and forego part of the financial returns. Through this redistribution, the risk-return profile is moved up to a level that is acceptable to institutional investors whereas risk mitigation alone would not be sufficient.

*It is recommended to explore the use of performance or success-based subsidies for aligning risk-return profiles of institutional investors and to build them into the financing vehicles and structures.*

### 6.5. Support domestic capital market development

It is timely to support domestic capital market development. With millions of workers and employees entering the rapidly growing pension systems across Africa, the development of domestic capital markets becomes an increasing challenge. Young and emerging pension funds have an urgent need for safe long-term investment opportunities with reasonable yields. African countries are not prepared for this challenge because - with a few exceptions - domestic capital markets are highly underdeveloped. Except for a few countries, such as South Africa, local capital markets remain dominated by commercial banks with a short-term focus.

*Developing capital markets has not been a focus for mainstream donors and most DFIs.* Over the past two decades, considerable support has been directed toward financial systems development, microfinance and inclusive finance. However, the development of
capital markets – which is part of financial systems – has not received much attention.\textsuperscript{31} For most donors, it is rather abstract and not particularly “sexy” to support the development of debt instruments or domestic yield curves. Abstract capital markets are perceived to be “far away” from the ultimate target groups of development cooperation. Moreover, in the post-financial crisis era, there is still a considerable suspicion toward sophisticated – but necessary – capital market instruments like securitization. There is a need for establishing the missing link between functioning domestic capital markets and development goals.

The concept of financial inclusion should embrace access to pension services. The work on micro-insurance has already expanded the frontier to include access to life insurance services. Financial inclusion should also cover public and private pension services as an important pillar of social security and protection against vulnerability of an ageing population. These goals are aligned with the institutional mandates and objectives of most donor organizations and should provide a rationale for stronger engagement.

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**Box 8**

**African Domestic Bond Fund (ADBF)**

The African Development Bank seeks to contribute to the development of sound domestic debt markets in Africa through the creation of the African Domestic Bond Fund (ADBF) in 2015.

As a project, the African Domestic Bond Fund has three components: (i) The African Domestic Bond Index, (ii) Regional Multi-disciplinary Working Groups, and (iii) the African Domestic Bond Fund.

The specific objectives of the Fund are the following:

- Reduce African countries dependency on foreign currency denominated debt
- Encourage the deepening of domestic bond markets through investments in longer dated debt
- Contribute to enlarge the investor base in African domestic bond markets

Domiciled in Mauritius, the Fund is the first regional Fixed Income exchange-traded fund that will invest in African sovereign bonds in 15 eligible countries.

In December 2016, AfDB approved a seed equity capital investment of USD 25 million into the Fund.

**Source:** ADBF website

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African countries with support from donors and DFIs should foster domestic capital market development. The development of capital markets calls for a comprehensive strategy with a medium to long term perspective. This encompasses a.o. (i) a conducive legal and regulatory framework and (ii) infrastructure and instruments for equity e.g. stock exchanges, and for debt markets, e.g. bonds, and (iii) institutions such as investment banks, investment funds, brokers, pension funds, etc. While stock markets exist in several African countries, bond markets are highly underdeveloped. Relatively well-developed local currency bond markets exist in South Africa, Egypt and Nigeria, which combined account for almost 90% of total outstanding local currency bonds.

\textsuperscript{31} For example, the BMZ sector policy on Financial Systems Development briefly mentions capital market products in two sentences only. Pension services and capital markets find no mention in the work program of CGAP, the world’s think tank on inclusive finance.
It is recommended to place a stronger emphasis on capital markets development within donors' sector strategy on building inclusive financial systems. The concept of financial inclusion should embrace access to pension services.

Some catalytic initiatives are laying important building blocks of capital markets. At least two regional initiatives are putting structures and instruments in place that are laying the foundations for capital markets, the Africa Local Currency Bond Fund supported by BMZ and KfW (Box 7) and the African Domestic Bond Fund created by the AfDB in 2015 (Box 8). Also, initiatives at an individual country level like diaspora bonds issuances or securitization of remittances in some countries like Nigeria, Ghana, Kenya and Ethiopia are building blocks for capital markets.

Infrastructure finance could become a catalyst for broader capital market development. The development of financing vehicles and instruments e.g. infrastructure project bonds, in combination with risk mitigation techniques and credit enhancement, create a foundation for domestic capital market development. Developing long-term assets (i.e. infrastructure) and matching them with long-term liabilities of pension funds has a dual development impact on infrastructure and domestic capital markets alike.

It is recommended to integrate or link infrastructure finance into a medium-term strategy of domestic capital market development because there are clear synergies between the two approaches. Creating financing vehicles and instruments for infrastructure are important steps and building blocks for capital market development.

6.6. Reorient ODA and DFIs toward a leveraging and catalytic role for market development

In recognition of the Addis Ababa Action Agenda, private sector participation is indispensable for achieving the ambitious development goals, especially in infrastructure development. Donors, MDBs and DFIs have an important role to play as facilitators for crowding-in private investors. To this end, a paradigm shift is under way from using ODA as purely concessional finance to leveraging scarce concessional resources to enable much larger private capital flows to developing countries (“from billions to trillions”).

DFIs should use their guarantee power to unlock private capital flows. Most DFIs and MDBs have a first-class (AAA) rating which is a powerful attribute in international and national capital markets. This guarantee power can be used to unlock large volumes of private capital, without any concessional funds or ODA. In this context, for example, Multilateral Development Banks have submitted a joint action plan to the G20 to optimize their balance sheets. DFIs and MDBs could “lend” their AAA-rating to institutions or structures with good credit quality but which are affected by the sovereign ceiling.

ODA should be employed with a maximum leverage ratio to improve risk-return profiles for private investors. This can be achieved by employing concessional ODA funds for (i) reducing risk, e.g. through risk mitigation and credit enhancement, (ii) increasing returns, e.g. by taking high-risk but low-yield positions (first-loss or mezzanine) in structured financing vehicles, or (iii) a combination of both.

There is scope for improving the effectiveness of risk mitigation instruments offered by DFIs. A recent study of risk mitigation instruments by the World Economic Forum concludes that the annual mobilization contribution of these instruments has been extremely
limited, making at best a marginal contribution to crowding in private-sector finance. Furthermore, there seems to be little standardization and little complementarity across the formal DFI risk products offered (World Economic Forum, 2016). With more risk mitigation facilities being created, these shortcomings should be eliminated.32

The leveraging role of DFIs should be monitored and incentivized. In the G20 context, working groups have been established to develop indicators and frameworks for measuring and monitoring the achievement of the new leveraging goals. Moreover, recommendations have been submitted on calibrating MDB-internal incentives for crowding-in private investment in infrastructure (Global Infrastructure Hub, 2016).

DFIs should assume a market-making role in building domestic capital markets in Africa. The interventions of DFIs for leveraging and crowding-in private institutional investors should ultimately contribute to developing domestic capital markets in African countries.

DFI quality seal and reassurance to investors

The participation of DFIs in financing structures brings a number of non-material benefits, and these are often more important for capital market development than the financial contribution.

Due diligence expertise and rigorous investment standards. An important benefit is that when a DFI is involved, even with a relatively small stake in the form of a credit enhancement in an infrastructure bond issuance, it will apply its due diligence expertise and rigorous standards for investment, thus further reducing the credit risk for bond investors. The involvement of DFIs is crucial not only for investors but also for regulators. For example, the local pension regulations in Nigeria only permit investments in private equity funds that have DFIs among their limited partners, in part, to encourage a transfer of knowledge and skills from these experienced investors to the local pension fund managers.

Competent broker between private and public sector. Public private sector collaboration is a major challenge. Government bodies have very different social objectives from the return objectives of fiduciary investors. Embracing market principles while still supporting public policy objectives can lead to considerable tensions in public private partnerships. DFIs – by their nature as double bottom line institutions – stand in between public and private sector concerns and can act as competent brokers between the two.

Political risk management. The involvement of DFIs is an insurance against political risks. For example, the government partner in an infrastructure project set up as PPP is more likely to honor the terms of the concession contract and the obligations of the debt service agreement. Given their long-standing relationship with developing countries, DFIs have a strong convening power and can call on government representatives at the highest levels.

Credible auditors and fiduciary agents. As guardians of public funds, DFIs have stringent financial reporting and monitoring requirements and hence serve a key role as the credible auditor of projects. DFIs apply strict procurement procedures which create a high level of transparency and an effective shield from corruption.

Reassurance to institutional investors. All the above factors combined – including the AAA-rating – provide comfort and reassurance to institutional investors when DFIs are

32 There is also a discussion around establishing a global risk mitigation facility, with or without international financial institutions (World Economic Forum, 2016)
involved in a project, however small the financial contribution from DFIs may be. It is more
the (non-material) “market-making capital” that counts for institutional investors. In some
cases, DFI involvement is a pre-condition for private lenders to make their funding available.

Demonstration projects

DFIs have a crucial role in facilitating demonstration projects. Creating well-designed
demonstration projects is a very effective use of scarce public funds. DFIs can develop
model projects, lighthouse examples and showcases of good practice that exert a strong
signaling or demonstration effect for replication and scaling up. Demonstration projects are
an effective means of closing information gaps and aligning perceptions, e.g. on risk (real
versus perceived). Demonstration efforts can also focus on one sector, for example, energy,
to better understand the particular issues associated that sector. Demonstration effects in
terms of broader market development can best be shown for a “demonstration country”
where best practices can be put in place across the board in a coordinated manner.

Limited direct participation in infrastructure project finance

With the paradigm shift in development finance and the changing role of DFIs, direct
participation of DFIs in project finance with concessional ODA funding is expected to
decline. There are, however, important functions which need to be safeguarded by DFIs or
other players.

Expertise in project origination. DFIs have accumulated considerable knowledge in all
major infrastructure sectors and a vast experience in origination of infrastructure projects.
DFIs could continue to support capacity development in priority areas like project planning,
negotiation, risk assessment and planning, and project management. To some extent, this
know-how is passed on to the numerous project preparation facilities which have been
established and are supported by donors and DFIs. Developing a pipeline of bankable
infrastructure projects continues to be a top priority.

Anchor investor in higher-risk and very large projects. DFI participation in project
finance may still be required in projects or project phases with higher risk, e.g. for greenfield
projects or during project development and construction phases, or in very large
infrastructure projects which require some catalytic power. The DFIs’ catalytic role as anchor
investors in bank loan syndications may still be an important one, especially in times where
banks are getting more reluctant to provide project finance loans due to Basel III regulations.

Lobbying role on regulatory framework

At the global level, the DFIs could play a unified-voice lobbying role to interface with
regulators and rating agencies to evaluate and improve the investment guidelines that
institutional investors face in developing markets, in particular around (i) capital charges for
long-term investments in infrastructure and (ii) the “sovereign ceiling” that limits the upside
rating of entities domiciled in a developing country. At the local level, DFIs should work with
policy makers and regulators in African countries on developing conducive legal, regulatory
and institutional frameworks in a coordinated manner for domestic capital market
development.

Encourage cooperation with China around infrastructure development in Africa. As
China has emerged as the single largest investor in African infrastructure a greater
coordination and cooperation between China and other donors and DFIs would be
beneficial. The G20 context and the proposed Compact with Africa would provide an appropriate framework.

6.7. Develop demonstration cases under the forthcoming Africa initiatives

Two initiatives are currently in discussion and under preparation: the Compact with Africa and the Marshall Plan with Africa. The Compact with Africa has been outlined in a joint report by the World Bank, IMF and AfDB and was presented to the G20 Finance Ministers and Central Bank Governors in March 2017. The proposed financing framework for Africa is built on three elements: (i) Efficient risk mitigation instrument, (ii) Domestic debt market development, (iii) Create Instruments for Institutional Investors.

The Marshall Plan was launched as a sector initiative by the BMZ in early 2017. It consists of three pillars of which pillar 1 relates to economic activity, trade and employment. The Marshall Plan lists a number of action points in the finance field, based on the changing role of donors and ODA, such as developing risk transfer mechanisms, creating new investment products (funds and bonds) for private investors and supporting African financial markets and financial service providers.

The groundwork of this study and the recommendations provided are very much in line with both initiatives. The forthcoming initiatives provide an opportunity for pooling and focusing resources on selected demonstration countries to develop good practice showcases of infrastructure finance, crowding-in domestic institutional investors and local capital market development. This could include the following activities:

(i) Pilot-test a country-level infrastructure co-investment platform for institutional investors.
(ii) Assist countries in developing the legal and regulatory framework for a domestic capital market.
(iii) Support the issuance of infrastructure bonds with risk-return profiles aligned to domestic institutional investors.
(iv) Support the issuance and marketing of diaspora bonds.
(v) Study the market potential and feasibility of “infrastructure asset recycling” which comprises the sale of operating (brownfield) assets by DFIs to institutional investors and to raise funds for new (greenfield) infrastructure.
(vi) Conduct a feasibility analysis of launching an infrastructure debt fund for Africa, especially for poorer countries with nascent capital markets, similar to the successful MSME debt funds and complementary to existing fund initiatives.
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