GEGAFRICA
GLOBAL ECONOMIC GOVERNANCE

DISCUSSION PAPER | NOVEMBER 2018

INFRASTRUCTURE AS AN ASSET CLASS IN AFRICA

Gideon Oberholzer, Chelsea Markowitz, Malcolm Pautz, Joel Barnor & Neuma Grobbelaar

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ABOUT GEGAFRICA

The Global Economic Governance (GEG) Africa programme is a policy research and stakeholder engagement programme aimed at strengthening the influence of African coalitions at global economic governance forums such as the G20, BRICS, World Trade Organization and World Bank, among others, in order to bring about pro-poor policy outcomes.

The second phase of the programme started in March 2016 and will be implemented over a period of three years until March 2019.

The programme is expected to help create an international system of global economic governance that works better for the poor in Africa through:

- undertaking substantial research into critical policy areas and helping South African policymakers to prepare policy papers for the South African government to present at global economic governance platforms;
- ensuring that African views are considered, knowledge is shared and a shared perspective is developed through systematic engagement with African governments, regional organisations, think tanks, academic institutions, business organisations and civil society forums; and
- disseminating and communicating research and policy briefs to a wider audience via mass media and digital channels in order to create an informed and active policy community on the continent.

The programme will be focused on three thematic areas: development finance for infrastructure; trade and regional integration; and tax and transparency.

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Cover image: Piers for a railway bridge at the construction site of Standard Gauge Railway in Nairobi National Park during the Presidential Inspection of the Nairobi-Naivasha Phase 2A project in Nairobi, Kenya, 23 June 2018 © YASUYOSHI CHIBA/AFP/Getty Images

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CONTENTS

EXECUTIVE SUMMARY

Investment in infrastructure has long been recognised as an important mechanism for fostering economic growth and development. With an estimated $130 billion annual deficit in infrastructure investment, Africa is in dire need of such investment. However, despite the clear socio-economic benefits, there is a lack of institutional investment in infrastructure. This highlights the need for a better understanding of the characteristics of infrastructure as an asset class in Africa and for institutional investors to identify any hindrances – be they technical, regulatory or commercial – to institutional investment in infrastructure. The aim of this paper is to investigate the establishment of infrastructure as an asset class in Africa.

Pension funds and Sovereign Wealth Funds (SWFs) can potentially play a critical role in supporting investments in infrastructure through their ability to pool stable, long-term savings and direct these savings into appropriate investments. Various pension funds throughout Africa have grown year on year. In 2013, 10 African countries had approximately $380 billion in assets under management (in absolute terms). A number of African countries have established SWFs. In 2016, for example, the total assets under African SWFs were approximately $157 billion.

This paper focuses on public pension funds and SWFs in South Africa, Nigeria, Kenya, Botswana and Ghana. The South African retirement fund industry is very well established and is currently the eighth largest in the world (in dollar terms). The aggregate assets of South African retirement funds were valued at $318 billion in 2017. The Government Employees Pension Fund (GEPF) constitutes the vast majority of assets in the public pension fund sector. The GEPF has targeted infrastructure investment through its allocation to the Isibaya Fund. The level of investment in infrastructure-related funds is on par with the rest of Africa but could be increased to align with the rest of the world.

The total assets in Nigerian pension fund portfolios have grown consistently over the period 2012–2016. Nigeria has a robust legal and regulatory framework for pension funds investing in infrastructure, providing them with guidance on what is allowable. The country also has an SWF, the Nigeria Sovereign Investment Authority (NSIA). The NSIA has a sub-fund, the Nigeria Infrastructure Fund (NIF), which has a 40% asset allocation from the total SWF.

In Kenya, the National Social Security Fund (NSSF) had just 2% of its funds in corporate and infrastructure bonds over the period. More recently, there appears to have been a drive to get the NSSF more involved in infrastructure investments. Kenya is in the process of establishing an SWF.

Botswana has one of the most well-established pension systems on the continent, with the third largest pension fund-to-GDP ratio in Africa at 47.3%. Public pensions are governed by the Botswana Public Officers Pension Fund (BPOPF), which was established in 2001. Though infrastructure is not included as an asset class, in 2011 the BPOPF developed an alternative investment policy with the aim of exploring new asset classes. In its 2015/16 annual report the BPOPF indicated its intention to begin investing in local infrastructure development. Botswana also has an SWF, the Pula Fund, established in 1993 as a fund for Botswana's diamond reserves. The Pula Fund has an allocation of 60% to external sovereign bonds and 40% to external equities. This is in direct contrast to most SWFs on the continent, which invest heavily in domestic development.

Ghana's pension industry is among the fastest growing on the continent, expanding 400% between 2008 and 2014. This growth is the result of reforms to the Social Security National Insurance Trust (SSNIT) in 2009. The sole public pension fund in Ghana is managed by the SSNIT and in 2017 it had assets of approximately $2 billion under management. SSNIT has made small investments in infrastructure as a part of its unlisted equity class. The trust's 2014 annual report announced a targeted drive to invest in more diversified sectors, primarily real estate, but including infrastructure and energy, with a greater focus on public–private partnerships (PPPs).

This paper notes a number of challenges limiting pension funds and SWFs from investing in infrastructure, namely: the limited number of financial instruments; the lack of expertise in analysing infrastructure projects and associated risks, which affects the risk appetite of fund managers; the preference for traditional asset classes; the limited number of available investable infrastructure projects; a mismatch between available projects and requirements; and regulatory thresholds for infrastructure investments. The most pressing of these challenges include the limited number of financial instruments, the lack of expertise in analysing infrastructure projects and the limited number of available investable infrastructure projects. The paper also briefly summarises de-risking mechanisms available to address both political and macro-economic risks.

The paper concludes by posing a number of initiatives that could be undertaken to stimulate a greater appetite among public pension funds and SWFs. These are:

- Further engagement between regulatory institutions and international institutions active in the sector to reduce the regulatory hurdles that pension funds face in infrastructure investments.
- Enhancement of the capacity and understanding within public pension funds and SWFs to appraise and invest in infrastructure projects. The feasibility of a support fund or capacity programme could be considered.

- Pension funds (public, private and across countries) to be encouraged to pool resources to jointly invest in viable projects, hence enabling greater investments in projects, while reducing the exposure of any individual fund.
- Constructive and early engagement with infrastructure project developers and government institutions undertaking significant infrastructure initiatives (usually through PPPs). This enables a better understanding of the requirements and regulatory hurdles faced by institutional investors, as well as a better understanding among institutional investors of the project's technical and commercial structure.
- Monitoring, capturing and publishing of the returns and socio-economic benefits to stimulate further interest in and appetite for this asset class as an investment.

AUTHORS

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INTRODUCTION

According to the 2018 African Economic Outlook, investments in infrastructure projects are among the most impactful investments a society can make. This is evident from the significant influence of infrastructure development on economic growth, particularly in developing economies. Improved infrastructure development across Africa contributed approximately 0.99% to the region's per capita economic growth between 1990 and 2005. When compared to other initiatives aimed at driving economic growth, such as structural adjustment programmes, the effects of infrastructure development on economic growth were 0.31% higher over the same time period.[1] Infrastructure development is also central to the 17 Sustainable Development Goals (SDGs). SDG 6 and SDG 7, for example, call for affordable access to water, sanitation and energy infrastructure for all, while SDG 9 recognises the importance of resilient infrastructure as a contributor to industrial development. If infrastructure is managed and operated effectively, it can contribute to sustainable development and economic growth by enabling industrial activity, enhancing

1 World Bank, *Africa's Infrastructure, A Time for Transformation*, 2010, http://documents.world bank.org/curated/en/246961468003355256/pdf/521020PUB0EPI1101Official0Use0Only1.pdf, accessed 22 May 2018.

regional and international trade[2] and improving access to public services for marginalised groups.

Beyond its socio-economic impact, infrastructure investment is increasingly being seen as an important asset class for investors. However, the proportion of investments in infrastructure by institutional investors is perceived to be well below expected levels. In December 2017, the OECD released a report titled 'Breaking Silos: Actions to Develop Infrastructure as an Asset Class and Address the Information Gap' for the G20.[3] The report provides detailed recommendations (mapping the financing and risk allocation in infrastructure, the characteristics of infrastructure investment as an asset class and the mobilising of private sector investment in developing countries) informing a research agenda that could assist the G20 in developing infrastructure as an asset class. The 2018 Argentine G20 presidency has now taken these recommendations forward and pledged to develop a 'Roadmap to Infrastructure As An Asset Class'.[4]

In Africa, the AU–NEPAD Continental Business Agenda published the '5% Agenda Initiative' in 2017 with the ambitious goal of increasing African institutional – specifically Sovereign Wealth Fund (SWF) and pension fund – investments in its Programme for Infrastructure Development in Africa (PIDA) projects from the current 1.5% to 5%.[5] It notes that poor infrastructure development on the continent is a key binding constraint preventing sustainable economic growth and diversification away from an over-reliance on natural resources.[6]

2 AfDB (African Development Bank), 'African Economic Outlook', 2018, https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/African_Economic_Outlook_2018_-_EN.pdf, accessed 15 May 2018.

3 This report was in support of the G20/Organisation for Economic Co-operation and Development (OECD) Taskforce on Institutional Investors and Long-Term Investment Financing and the OECD and Long-Term Infrastructure Investors Association (LTIIA) Joint Forum on Developing Infrastructure as an Asset Class. See OECD, *Breaking Silos: Actions to Develop Infrastructure as an Asset Class and Address the Information Gap. An Agenda to G20*, December 2017, http://www.oecd.org/daf/fin/private-pensions/Breaking-Silos%20-Actions-to%20Develop-Infrastructure-as-an-Asset-Class-and-Address-the-Information-Gap.pdf, accessed 25 October 2018.

4 G20, 'Roadmap to Infrastructure as an Asset Class: Infrastructure for Growth and Development', https://www.g20.org/sites/default/files/documentos_producidos/roadmap_to_infrastructure_as_an_asset_class_argentina_presidency_1_0.pdf, accessed 25 October 2018.

5 AU-NEPAD, 'Continental Business Network (CBN) – 5% Agenda Report', 2017, http://www.au-pida.org/download/au-nepad-continental-business-network-cbn-5-agenda-report/, accessed 25 October 2018.

6 *Ibid*.

The 2017 German G20 presidency developed the 'Compact with Africa' (CWA) with the aim of increasing private investment in infrastructure in Africa, which is now being continued through successive presidencies as a part of the G20 finance track.[7]

African institutional investors (commercial banks, insurance companies, pension funds, hedge funds, endowments, SWFs and mutual funds) represent a potentially sizeable source of infrastructure investment. This is in view of their longer investment horizons and their general need to diversify and spread risk, which is well balanced against the potentially higher returns generated from infrastructure investments than from traditional asset classes.

This paper explores the challenge of mobilising institutional investments for infrastructure development, with a focus on pension funds and SWFs in Africa, in order to build on the NEPAD 5% Agenda. While the pension fund market includes a substantial portion of private pension funds, the study focuses on public pension funds, given that many pension funds have a developmental component to their mandate. First, the paper provides a brief overview of infrastructure as an asset class. Second, it focuses on African public pension funds' and SWFs' investments in infrastructure. To provide further context, this section explores the regulatory and fund landscape in five countries – South Africa, Nigeria, Kenya, Botswana and Ghana. The paper also briefly presents two case studies. Finally, it makes suggestions on how pension funds and SWFs could be incentivised to explore opportunities for investing more heavily in infrastructure.

OVERVIEW OF INFRASTRUCTURE AS AN ASSET CLASS

Infrastructure can be categorised into economic infrastructure (eg, transport, renewable energy and telecommunication) and social infrastructure (eg, schools, prisons and hospitals). Economic infrastructure is more likely to generate commercial returns on investment and attract private finance, whereas the obligation for social infrastructure is to meet social needs. With the latter, returns often do not cover costs, and as a result such investments are typically financed by the public sector. However, both economic infrastructure and social infrastructure are essential foundations for long-term sustainable development. Currently, social infrastructure development targeting marginalised groups is very limited. A recent World Bank study notes that while access to electricity, water and sanitation has improved drastically on the African continent, the bias towards urban over rural access is stark, which limits the overall impact on growth, inclusivity and poverty reduction.[8]

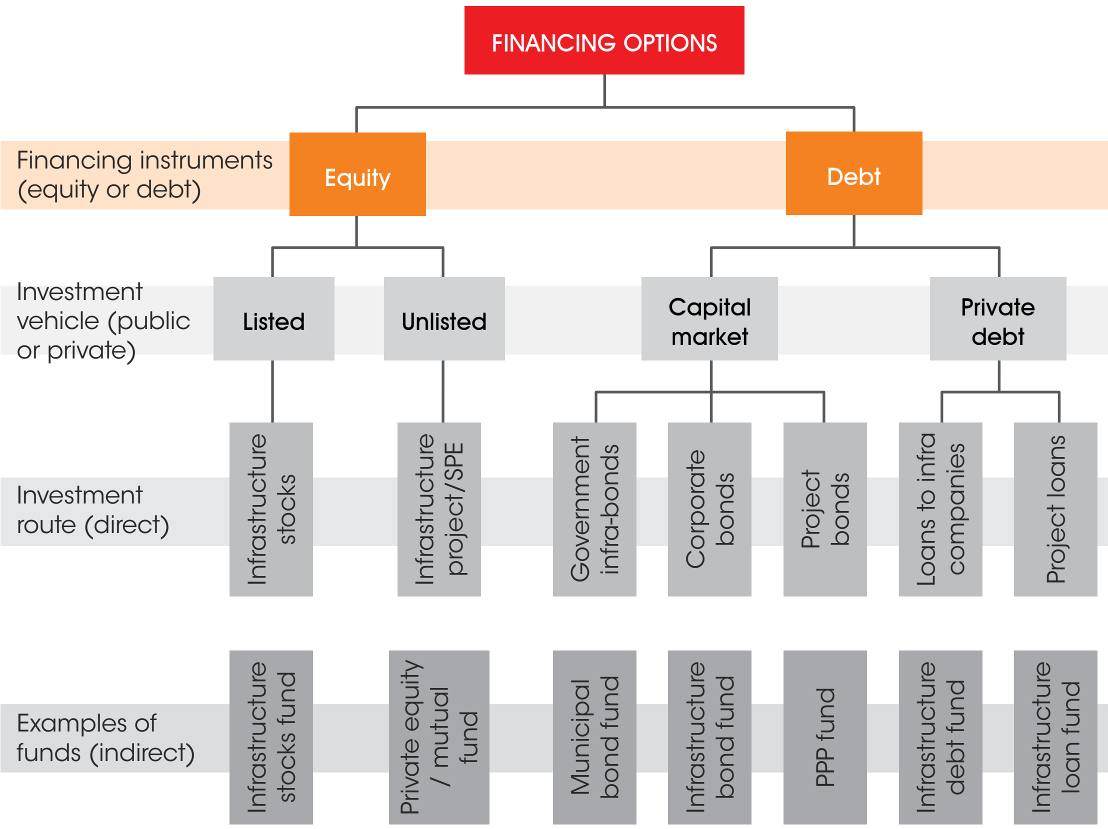
7 Floyd R *et al.*, 'Mobilizing Private Investment and the Compact with Africa: A Preliminary Assessment and Steps Ahead', T20 Argentina, https://t20argentina.org/publicacion/mobilizing-private-investment-and-the-compact-with-africa-a-preliminary-assessment-and-steps-ahead/, accessed 25 October 2018.

8 World Bank Group, *Africa's Pulse: An Analysis of Issues Shaping Africa's Economic Future*, 15, April 2017.

Institutional investors typically look for steady, predictable and inflation-adjusted income streams which mainly involve mature and operating assets that generate income.[9] Economic infrastructure, which usually meets these criteria, can be considered by investors to be an asset class, while social infrastructure is less likely to be considered an asset class. However, given their mandate as public institutions, SWFs and public pension funds have the added motivation to develop social infrastructure where possible.

As with other asset classes, investment in infrastructure as an asset class is typically made through an equity or debt investment. Within these two approaches, there are a number of direct and indirect channels through which an investment can be made, as shown in Figure 1 below.

FIGURE 1 INFRASTRUCTURE INVESTMENT CHANNELS



Source: Inderst G & F Stewart, 'Institutional Investment in Infrastructure in Emerging Markets and Developing Economies', PPIAF (Public–Private Infrastructure Advisory Facility), March 2014, http://documents.worldbank.org/curated/en/748551468337163636/pdf/913070BR0SecM20itutional0investment.pdf, accessed 15 May 2018

9 Inderst G & F Stewart, 'Institutional Investment in Infrastructure in Emerging Markets and Developing Economies', PPIAF (Public–Private Infrastructure Advisory Facility), March 2014, https://ppiaf.org/d/1918/download, accessed 31 May 2018.

The choice of investment vehicle and channel is based on a number of factors, linked to a particular investor's mandate, risk appetite and investment horizon. Greenfield infrastructure investments are typically of a long-term nature and are associated with low liquidity. These types of investments generate higher returns than what might be achieved in the fixed-income market, but they generally also have a higher associated risk. Direct investments in infrastructure usually also exhibit lower correlations with traditional asset classes and could provide a useful hedge against volatility in other asset classes.[10] Infrastructure funds are also an increasingly popular option for investors as they enable them to invest in a range of diversified projects to spread their risk.

Despite the potential value of investing in infrastructure as an asset class, there have been limited investments in infrastructure by institutional investors globally. Although more than $100 trillion is managed by institutional investors and commercial banks throughout the world, these savings do not appear to be flowing in significant quantities into infrastructure projects in Africa.[11] In fact, less than 1% of long-term institutional investors in the OECD have investments in infrastructure (unlisted equity or debt).[12] There are some exceptions in this group, such as Australia and Canada, although these countries have often preferred brownfield investments in infrastructure that is already operational in developed markets.[13] Overall, brownfield investments represent safer options for institutional investors as they bypass early-stage project development and construction risks and provide immediate cash flows. However, given the infrastructure deficit on the continent and limited public funds, this paper primarily focuses on greenfield investments.

African infrastructure financing landscape

A better understanding of Africa's infrastructure financing needs and the current distribution of finance is critical for identifying opportunities and arriving at recommendations to support increased institutional investments in infrastructure. In 2018, the African Development Bank (AfDB) estimated that $130–$170 billion is required annually for Africa to close its infrastructure deficit.[14] According to the Infrastructure Consortium for Africa (ICA),[15] overall financing for infrastructure

10 *Ibid*.

11 AfDB, *op. cit*.

12 Sy ANR, 'Leveraging African Pension Funds for Financing Infrastructure Development', Brookings, NEPAD & OSAA (Office of the Special Adviser on Africa), March 2017, http://www.un.org/en/africa/osaa/pdf/pubs/2017pensionfunds.pdf, accessed 25 October 2018.

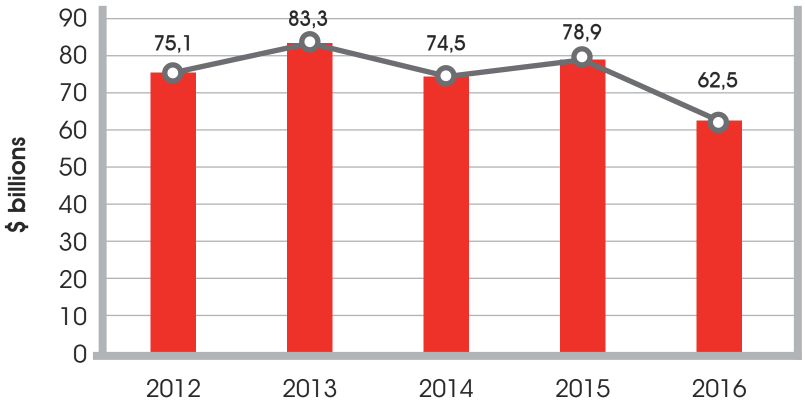
13 *Ibid*.

14 AfDB, *op. cit*.

15 The Infrastructure Consortium for Africa (ICA) is a consortium intended to make its members more effective in supporting infrastructure by pooling efforts in selected areas such as information sharing, project development and good practice. It is not a financing agency, but rather acts as a platform to broker more financing of infrastructure projects and programmes in Africa.

in Africa for 2016 amounted to $62.5 billion.[16] This marked the lowest level over the 2012–2016 period (see Figure 2).

FIGURE 2 TOTAL FUNDING TOWARDS AFRICA'S INFRASTRUCTURE, 2012–2016



Source: ICA, 'Infrastructure Financing Trends in Africa – 2016', 2017, https://www.icafrica.org/fileadmin/documents/IFT_2016/Infrastructure_Financing_Trends_2016.pdf, accessed 6 June 2018

The decline is attributed mainly to the significant reduction in Chinese funding (from $20.9 billion in 2015 to $6.4 billion in 2016) and a reduction in private sector funding, which can partly be attributed to previous substantial flows of funds into the South African Renewable Energy Independent Power Producer Procurement (REIPPP) programme declining (from $7.4 billion in 2015 to $2.6 billion in 2016).

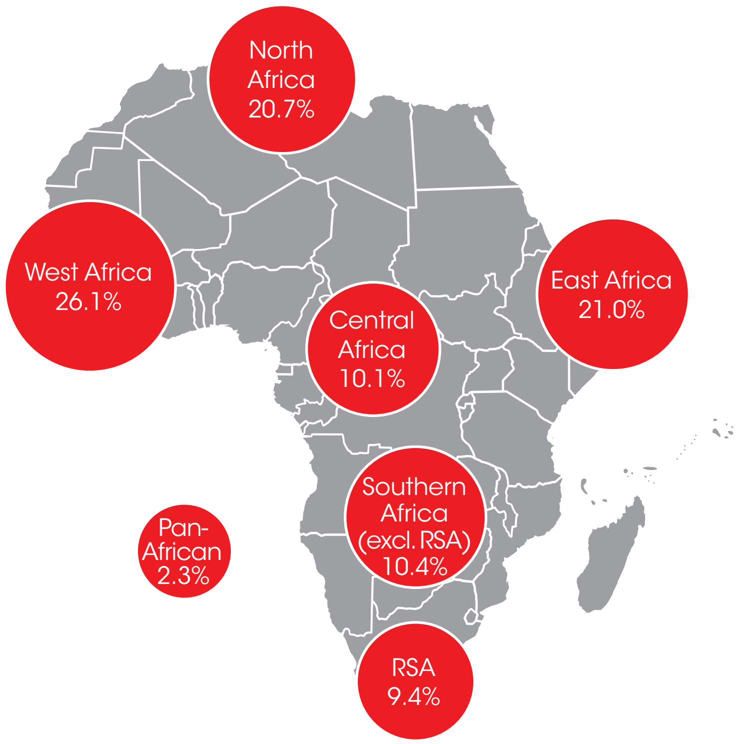
The $62.5 billion that was provided to finance African infrastructure in 2016 was spread across the continent, as shown in Figure 3 (on page 12). The distribution of investments was relatively even, at around 20% per region, except for Central Africa, which received just 10.1% of total investments.

West Africa received the largest portion of the total infrastructure investments with 26.1% ($16.3 billion), followed by North Africa (20.7%) and East Africa (21.0%). Southern Africa received 19.8%, of which almost half was in South Africa.

The Pan-African category, which constitutes intra-regional financial investments, made up just 2.3% of the total.

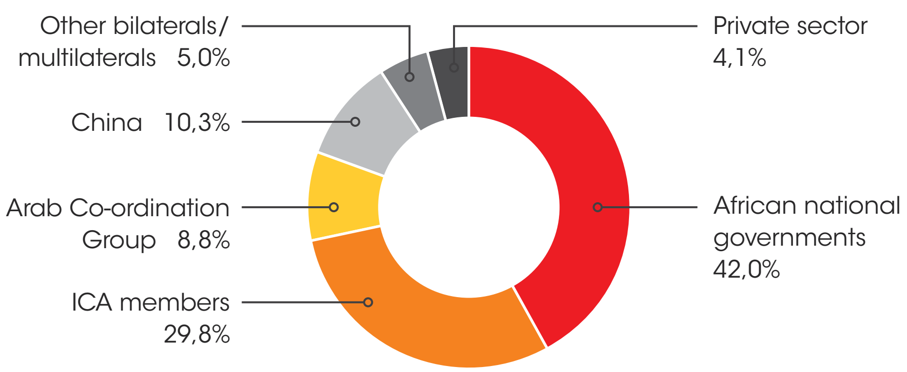
16 ICA, 'Infrastructure Financing Trends in Africa – 2016', 2017, https://www.icafrica.org/fileadmin/documents/IFT_2016/Infrastructure_Financing_Trends_2016.pdf, accessed 6 June 2018.

FIGURE 3 DIVISION OF TOTAL INFRASTRUCTURE FINANCING IN AFRICA, 2016



Source: ICA, 'Infrastructure Financing Trends in Africa – 2016', 2017, https://www.icafrica.org/fileadmin/documents/IFT_2016/Infrastructure_Financing_Trends_2016.pdf, accessed 6 June 2018

FIGURE 4 SOURCES OF INFRASTRUCTURE FINANCING IN AFRICA, 2016



Source: ICA, 'Infrastructure Financing Trends in Africa – 2016', 2017, https://www.icafrica.org/fileadmin/documents/IFT_2016/Infrastructure_Financing_Trends_2016.pdf, accessed 6 June 2018

Sources of investments in Africa can be broadly split into African governments, foreign governments, bilateral/multilateral organisations and the private sector. Figure 4 shows the breakdown of the various financing sources in 2016.

Most of the financing for infrastructure projects (42%) came from African governments. The second largest investment source was ICA members.[17] Only 4.1% of the investments in 2016 came from the private sector ($3.6 billion). This is the lowest number recorded over the 2012–2016 period. The highest number was in 2013 ($8.8 billion), which coincided with the start of the South African REIPPP programme. The projects that reached financial close in 2016 were only in the energy and transport sectors. Furthermore, no multi-sector projects in which the private sector was involved reached financial close in 2016.[18]

Figure 4 underlines the importance of assessing African government investments in infrastructure. Increasing public-sector investments is crucial for closing the gap in infrastructure financing. As indicated above, a range of actors, both globally and throughout Africa, have been engaged in initiatives to significantly enhance the allocation of public financial resources for infrastructure investments. Institutional investors such as public pension funds and SWFs have been specially earmarked for this purpose as they have substantial assets under management (AUM).

Given that institutional investors will assess an infrastructure investment in the same way that they assess any other investment, there must be a clear rationale for them to divert their resources from the traditional asset classes into infrastructure. The box below highlights some important features of infrastructure as an asset class that are likely to make it an attractive prospect for institutional investors.

FEATURES OF INFRASTRUCTURE AS AN ASSET CLASS

- Infrastructure investments have a long-term horizon, which aligns with investment horizons for pension funds and SWFs.
- When investing in infrastructure, there is typically a low correlation with the fluctuations and return profiles of other asset classes.
- Well-structured infrastructure projects are expected to provide stable and predictable cash flows.
- Infrastructure investments can serve as a good inflation hedge over the long term.

The remainder of this paper focuses on public pension funds and SWFs in Africa, assessing their investments in infrastructure.

17 These are investments made collectively by the AfDB, Development Bank of Southern Africa, European Commission, European Investment Bank, the G7 countries and the World Bank Group.

18 ICA, 2017, *op. cit.*

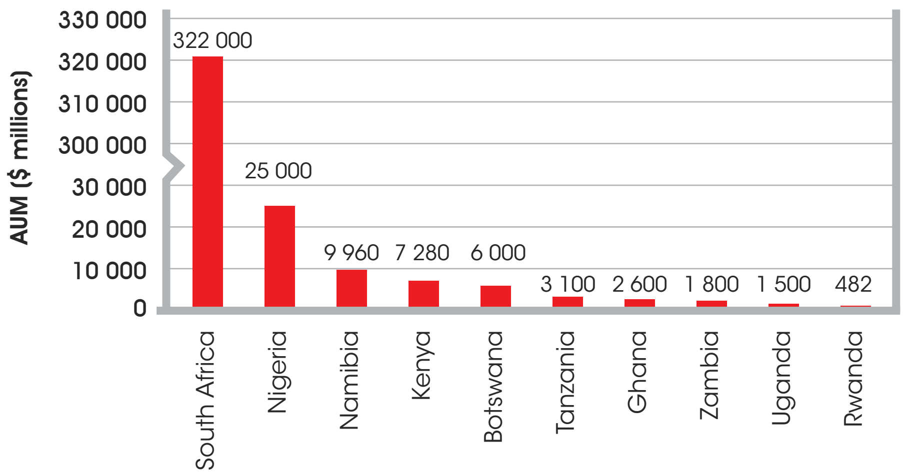
PENSION AND SOVEREIGN WEALTH FUNDS LANDSCAPE IN AFRICA

Overview of pension funds in Africa

Pension funds play a critical role in supporting investments through their ability to pool stable, long-term savings and direct these into appropriate investments to generate a return. They could play a key role in developing infrastructure in Africa.

Various pension funds throughout Africa have been enjoying continuous growth year on year. Data indicates that pension funds in 10 African countries had approximately $380 billion of assets under management (in absolute terms) in 2013.[19] The pension fund industries in South Africa, Nigeria and Namibia are among the largest in Africa when ranked by their AUM (see Figure 5 below).

FIGURE 5 AFRICAN PENSION FUNDS' ASSETS UNDER MANAGEMENT (AUM), 2014



Source: Ashiagbor D *et al.* (eds), *Pension Funds and Private Equity: Unlocking Africa's Potential*, MFW4A (Making Finance Work for Africa), The Commonwealth Secretariat and EMPEA (Emerging Markets Private Equity Association), 2014, https://www.avca-africa.org/media/1329/pension_funds_and_private_equity_2014.pdf, accessed 7 June 2018

South African pension funds have by far the largest AUM. Nigeria has the second largest pension fund market in terms of AUM. Nonetheless, in relation to GDP, pension funds are significant for both countries' economies. The pension fund assets

19 Sy ANR, *op. cit.*

in South Africa equate to approximately 87.1% of GDP[20] and in Botswana to 40.0% of GDP.[21]

It has been estimated that only 5%–10% of the population in sub-Saharan Africa contribute to pension funds.[22] However, the potential for future growth in pension fund assets is significant. For example, the Nigerian pension fund industry grew from a total value of $7 billion (total AUM) in December 2008 to $25 billion in December 2013.[23] The profile of Africa's youthful population has contributed substantially to the growth of pension funds as the continent is growing its labour class.

The structure of pension funds also influences the attractiveness of infrastructure investments. Most pension funds are either of the defined benefit or defined contribution type,[24] or a mixture of the two. With defined benefit (public) plans, the investment risk is primarily borne by the employer, while with the defined contribution (private) plans, the risk is borne by the employee. Defined benefit plans are less liquid, which is aligned to greenfield infrastructure investments. They also promise to pay employees regardless of their investment returns, and the shouldering of this risk can allow them greater freedom in investments. However, the majority of defined benefit plans in African countries (and also globally) are experiencing structural funding challenges, which should understandably warrant hesitation in diversifying into alternative, higher-risk investments. Moreover, in certain countries the presence of organised labour puts pressure on defined benefit schemes to invest conservatively. Defined contribution plans allow employees to choose from a number of investment options; this creates potential opportunities for infrastructure investments among employees opting for higher risk–reward profiles. While the majority of African pension schemes are still public and of the defined benefit type, among the five case study countries covered in this paper all have at least some defined contribution elements.[25]

20 Sy ANR, *op. cit*.

21 Ashiagbor D *et al.* (eds), *Pension Funds and Private Equity: Unlocking Africa's Potential*, MFW4A (Making Finance Work for Africa), The Commonwealth Secretariat and EMPEA (Emerging Markets Private Equity Association), 2014, https://www.avca-africa.org/media/1329/pension_funds_and_private_equity_2014.pdf, accessed 7 June 2018.

22 Maurer K, 'Mobilization of Long-term Savings for Infrastructure Financing in Africa', GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit), 15 April 2017, https://www.bmz.de/en/zentrales_downloadarchiv/wege_und_akteure/170419_Study_Infrastructure_Finance_Africa_fin.pdf, accessed 7 June 2018.

23 Ashiagbor D *et al.* (eds), *op. cit*.

24 See more details on the differences between defined benefit and defined contribution plans at Investopedia, 'How does a defined benefit pension plan differ from a defined contribution plan?', https://www.investopedia.com/ask/answers/032415/how-does-defined-benefit-pension-plan-differ-defined-contribution-plan.asp, accessed 25 October 2018.

25 Sy ANR, *op. cit.*; OECD, 'Updated Report on G20/OECD Checklist on Long-Term Investment Financing Strategies and Institutional Investors', 2015, https://www.oecd.org/daf/fin/private-pensions/April-Updated-Report-G20-OECD-Checklist.pdf, accessed 25 October 2018.

Overview of SWFs in Africa

Over the past couple of decades, a number of African countries have implemented SWFs, especially those with oil and gas endowments. In 2016, the total assets under African SWFs were approximately $157 billion[26] representing about 2% of global SWFs.[27] Table 1 shows the AUM of SWFs in Africa. Algeria and Libya account for about 90% of these assets.

TABLE 1 ASSETS UNDER MANAGEMENT OF SWFs IN AFRICA, 2016

COUNTRY	FUND DESCRIPTION	AUM ($ BILLION)	INCEPTION YEAR	AS A PERCENTAGE OF TOTAL AUM OF SWFs IN AFRICA
Algeria	Revenue Regulation Fund	77.20	2000	49.06%
Libya	Libyan Investment Authority	65.00	2006	41.31%
Botswana	Pula Fund	6.90	1994	4.39%
Angola	Fundo Soberano de Angola	5.00	2012	3.18%
Nigeria	Nigeria Sovereign Investment Authority	1.40	2011	0.89%
Senegal	Senegal Fonsis	1.00	2012	0.64%
Gabon	Gabon Sovereign Wealth Fund	0.40	1998	0.25%
Mauritania	National Fund for Hydrocarbon Reserves	0.30	2006	0.19%
Equatorial Guinea	Fund for Future Generations	0.08	2001	0.05%
Ghana	Ghana Petroleum Fund	0.07	2011	0.04%

Source: Maurer K, 'Mobilization of Long-term Savings for Infrastructure Financing in Africa', GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit), 15 April 2017, https://www.bmz.de/en/zentrales_downloadarchiv/wege_und_akteure/170419_Study_Infrastructure_Finance_Africa_fin.pdf, accessed 7 June 2018

SWFs in Africa were established for different reasons: economic stabilisation, accrual of savings, wealth diversification, safeguards against economic shocks and domestic investments in line with their investment mandates.[28] One way in which SWFs comply with their investment mandates is to establish sub-funds that are the preferred mode for making direct investments in infrastructure. This is in

26 Maurer K, *op. cit.*; Hove S, 'Sovereign Wealth Funds and Infrastructure Development in Africa', QGRL (Quantum Global Research Lab) Working Paper, 2016/02, April 2016, https://quantumglobalgroup.com/wp-content/uploads/2016/11/WP-no-2-Seedwell-Hove_April_2016.pdf, accessed 7 June 2018.

27 Maurer K, *op. cit.*

28 *Ibid.*

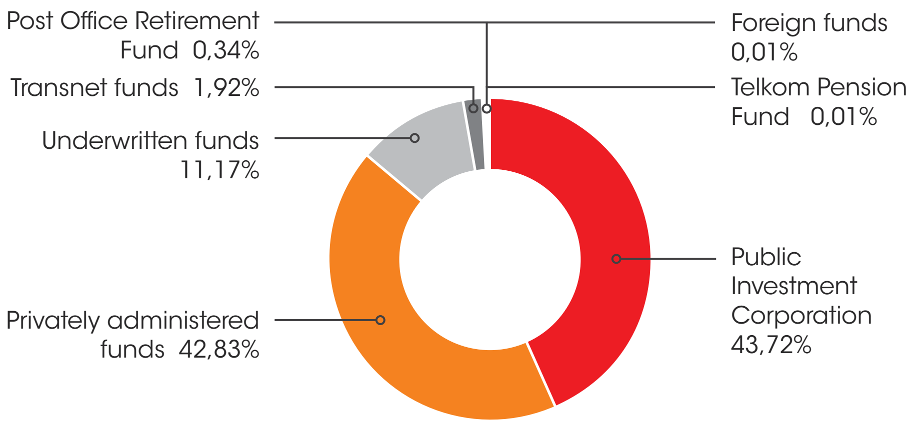
contrast to pension funds which primarily invest through diversified private equity infrastructure funds. SWFs also do not require such high levels of liquidity and are more likely to invest in greenfield projects. Furthermore, they are generally able to take on more risk as they are not directly linked to individual employee pensions. [29]

Pension fund and SWF landscape in selected countries

South Africa

The South African retirement fund industry is very well established, being the eighth-largest in dollar terms in the world and with the fifth-largest pension fund savings rate as a percentage of GDP.[30] In 2017, the aggregate assets of retirement funds in South Africa were $318 billion.[31] (See Figure 6 for a breakdown of South Africa's retirement fund industry by assets.)

FIGURE 6 BREAKDOWN OF SOUTH AFRICAN RETIREMENT FUND INDUSTRY BY ASSETS, 2017



Source: FSB (Financial Services Board), '2016 Registrar of Pension Funds Annual Report', https://www.fsb.co.za/NewsLibrary/Registrar%20of%20Pension%20Funds%20Annual%20Report%202016.pdf, accessed 15 June 2018

29 McGee J & S Sy, 'Sovereign Wealth Funds Investing in Infrastructure', *Preqin Real Assets Spotlight*, May 2016, http://docs.preqin.com/newsletters/ra/Preqin-RASL-May-16-Feature-Article.pdf, accessed 25 October 2018.

30 *BusinessTech*, 'Why pensions are in very real danger: Economist', 7 February 2018, https://businesstech.co.za/news/finance/223772/why-pensions-are-in-very-real-danger-economist/, accessed 20 June 2018.

31 The variation in numbers shown in Figure 5 and the $318 million is due to the big difference in the $/ZAR exchange rate from 2014 to 2017. FSB (Financial Services Board), '2016 Registrar of Pension Funds Annual Report', https://www.fsb.co.za/NewsLibrary/Registrar%20of%20Pension%20Funds%20Annual%20Report%202016.pdf, accessed 15 June 2018. Converted using Oanda $/ZAR exchange rate as at 29 June 2018 [13.8293].

The Public Investment Corporation (PIC) is an asset management company, wholly owned by the South African government, which managed funds with a market value of $139 billion[32] in 2017. Privately administered and underwritten funds make up 54% of the industry, with a total of 3 684 active funds as of October 2017.

In South Africa, all retirement funds other than state funds are subject to the Pension Funds Act No. 24 of 1956 as amended.[33] The state funds that are not subject to the Act include the following:

- Government Employees Pension Fund (GEPF), established in terms of the Government Employees Pension Law, 1996;
- Associated Institutions Pension Fund, established in terms of the Associated Institutions Pension Fund Act, 1963;
- Associated Institutions Provident Fund, established in terms of the Associated Institutions Provident Fund Act, 1971;
- Temporary Employees Pension Fund, established in terms of the Temporary Employees Pension Fund Act;
- Statutory Bodies Pension Scheme, established in terms of the Members of Statutory Bodies Pension Act 94 of 1969; and
- Closed Pension Fund, established in terms of the Closed Pension Fund Act No. 197 of 1993.

These funds are administered by the Government Pensions Administration Agency (GPAA) and managed by the PIC.

The GEPF constitutes the bulk of assets in the public pension fund sector. The GEPF invests in the asset classes listed in Table 2.[34]

TABLE 2 ASSET ALLOCATION OF THE GEPF, 2017

SOUTH AFRICAN ASSETS	STRATEGIC ASSET ALLOCATION (%)	ASSET ALLOCATION RANGE (%)
Cash & money markets	4	0-8
Domestic bonds	31	26–36
Domestic property	5	3–7
Domestic equity	50	45–55
REST OF AFRICA (EXCLUDING SOUTH AFRICA)		
Africa equity	2.5	0–3
Africa bonds	1.5	0–2
Africa property	1	0–2
Global bonds	2	0–4
Global equity	3	1–5

Source: GEPF (Government Employees Pension Fund), '2017 Annual Report', http://www.gepf.gov.za/uploads/annualReportsUploads/GEPF_2017_AR_2017.pdf, accessed 20 June 2018

32 Converted using $/ZAR exchange rate as at 29 June 2018 [13.8293].

33 FSB, *op. cit.*

34 GEPF (Government Employees Pension Fund), '2017 Annual Report', http://www.gepf.gov.za/uploads/annualReportsUploads/GEPF_2017_AR_2017.pdf, accessed 20 June 2018.

The GEPF's investments are managed by the PIC. The GEPF is the PIC's largest client, comprising 88% of its AUM. In 2017, the GEPF allocated ZAR 70 billion to the PIC for developmental investments through the Isibaya Fund. Established in 1999, the Fund invests in projects that have a positive social impact. Specifically it targets investments that result in long-term economic, social and environmental growth in South Africa and the rest of Africa.[35] This represents roughly 4% of the GEPF's assets.

The Isibaya Fund directly invests in infrastructure in South Africa focusing on energy, commuter transport, ICT and broadband, water, and liquid fuels and logistics networks. Among the Isibaya Fund's eligibility criteria for funding is that the projects must have a significant developmental impact.

The funding for projects starts at ZAR 50 million (approximately $3.8 million),[36] with a usual term of seven years. This can be shorter if the project is considered to have high developmental impact potential. Applications for funding are subject to Broad-Based Black Economic Empowerment (BBBEE) requirements, with the Isibaya Fund aimed at a minimum of Level 3 contributors.[37]

For investments across the rest of Africa, the minimum amount of funding under the Isibaya Fund is significantly higher than that for South Africa, starting at $50 million. The funding is also not subject to BBBEE requirements.

IN SUMMARY

- The South African pension fund industry is well established, being the eighth-largest in dollar terms in the world.
- The GEPF has targeted infrastructure investment through its allocation to the Isibaya Fund.
- Projects selected by the Isibaya Fund must have a positive social impact, which is usually the case with infrastructure projects.
- The level of investment in infrastructure-related funds is on par with the rest of Africa, but could be increased to align with the rest of the world.

Nigeria

The three main actors in the Nigerian pension fund landscape are the National Pension Commission (PenCom), the Pension Fund Administrators (PFAs) and the Pension Fund Custodians (PFCs).

35 Public Investment Corporation, 'About Isibaya', https://isibayafund.pic.gov.za/Pages/About-Us.aspx, accessed 20 June 2018.

36 Converted using $/ZAR exchange rate as at 16 July 2018 [13.2192].

37 BBBEE compliance in South Africa is measured on a scale of 1–8, where 1 is the highest level of compliance available. Scores are determined on the basis of seven elements: ownership, management, employment equity, skills development, preferential procurement, enterprise development and socio-economic development.

PFAs manage all pension contributions and make investments in various instruments on behalf of contributors. PFCs have the responsibility of housing all the pension fund assets. The role of PenCom is to regulate, supervise and ensure the effective administration of pension matters within Nigeria.[38] All PFAs and PFCs must comply with the regulations set out by PenCom.[39]

There have been various changes in the industry's legal framework since the first legislative act (Pension Ordinance) in 1951: the first reform in 2004 (Pension Reform Act of 2004) announced the Contributory Pension Scheme (CPS) which made it mandatory for employers and employees (public and private sector) to contribute to the retirement benefits of employees; the second reform in 2014 (Pension Reform Act of 2014) aimed to further secure assets and stimulate growth in the Nigerian pension fund industry.[40]

Table 3 below shows the composition of the Nigerian pension fund investment portfolio over the period 2012–2016.

TABLE 3 NIGERIAN PENSION FUND PORTFOLIO COMPOSITION, 2012–2016

	2012	2013	2014	2015	2016
Quoted ordinary shares	11.60%	14.60%	11.76%	9.80%	8.12%
FGN bonds	46.30%	42.90%	52.00%	57.73%	57.79%
Treasury bills	9.90%	16.00%	10.82%	8.89%	14.03%
Infrastructure funds	0.00%	0.00%	0.00%	0.02%	0.03%
Other	32.20%	26.50%	25.42%	23.56%	20.03%

Source: PenCom (National Pension Commission), '2016 Annual Report', https://www.pencom.gov.ng/wp-content/uploads/2018/03/Annual-Report-2016.pdf, accessed 16 May 2018

Nigerian pension funds only started investing in infrastructure funds after 2014, resulting in a 0.02% (NGN[41] 0.98 billion) rise in infrastructure fund investments in the period. From 2015 to 2016, there was a further 0.01% (NGN 1.09 billion) rise in infrastructure fund investments reaching NGN 2.07 billion ($5.7 million)[42]

38 PenCom (National Pension Commission), 'About us', https://www.pencom.gov.ng/about-us/, accessed 11 June 2018.

39 *Ibid*.

40 PwC, 'The Nigerian Pension Industry: Security the Future', September 2015, https://www.pwc.com/ng/en/assets/pdf/nigerian-pension-industry-publication-securing-the-future.pdf, accessed 12 June 2018.

41 Three-letter currency code for the Nigerian naira.

42 Converted using the $/NGN exchange rate as at 16 July 2018 [359.361].

in infrastructure funds.[43] Compared with the other portfolio categories, investment in infrastructure has been insignificant. According to the monthly summary of PenCom's assets as at April 2018, the investment in infrastructure funds had grown to 0.11% of total pension fund assets, while investment in corporate infrastructure bonds stood at 0.1%. There is also a significant impact on infrastructure through indirect investments in government bonds where a portion of the proceeds is directed at infrastructure projects.

Some of the key infrastructure funds and bonds in which Nigerian pension funds invest are:

- **The ARM-Harith Infrastructure Fund**: Incorporated in 2013, this is a $250 million infrastructure fund focusing on energy, transport and utilities projects in West Africa. Sixty per cent of the fund's infrastructure projects must be located within Nigeria. ARM-Harith recently invested equity capital in the Azuro-Edo Independent Power Project (450 MW open-cycle gas turbine power plant) in Nigeria and the Amandi Independent Power Project (200 MW combined-cycle power station) project in Ghana.[44]
- **The Nigeria Infrastructure Debt Fund – Chapel Hill Denham**: Established in June 2017, this fund aims to provide stable income by making debt investments in infrastructure projects situated in Nigeria. One of the key requirements is long-term, predictable cash flows and assets with a long and useful life.[45]
- **The Viathan Funding PLC Special Purpose Vehicle (SPV)**: It aims to raise debt through an infrastructure bond to procure power generation and distribution capacity as well as gas supply facilities. The lead issuer of this bond is Renaissance Capital.[46]

The total assets in Nigerian pension fund portfolios grew consistently over the period 2012–2016.

The total value of assets in all pension funds in Nigeria is shown in Figure 6, with each year's corresponding percentage change.

The growth in Nigeria's pension funds indicates that there is potential to help fund infrastructure investments by leveraging a portion of their assets.

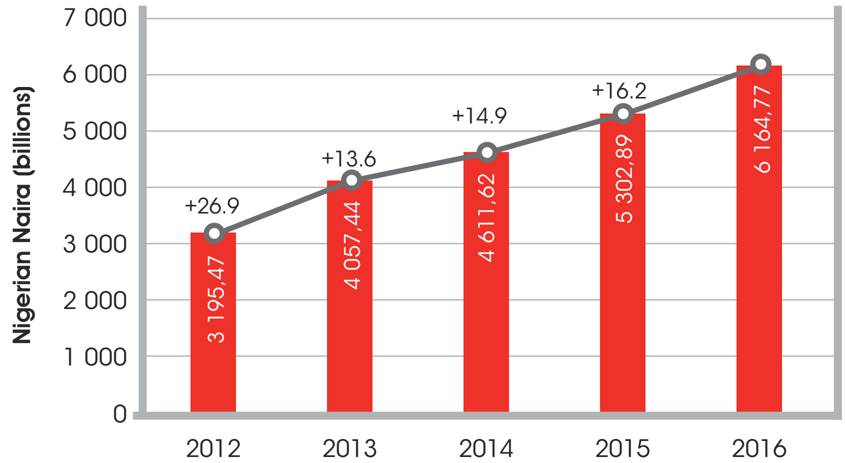
43 PenCom, '2016 Annual Report', https://www.pencom.gov.ng/wp-content/uploads/2018/03/Annual-Report-2016.pdf, accessed 16 May 2018.

44 ARM-Harith Infrastructure Fund Managers, http://armharith.com.ng/, accessed 13 June 2018; African Private Equity and Venture Capital Association, 'Member profile: ARM-Harith Infrastructure Investment Limited', August 2017, https://www.avca-africa.org/media/1775/arm-harith-avca-member-interview-final-update.pdf, accessed 13 June 2018.

45 Chapel Hill Denham, 'Nigeria Infrastructure Debt Fund', http://www.chapelhilldenham.com/index.php/nidf/, accessed 13 June 2018.

46 Viathan Funding Plc, 'Shelf Prospectus', https://www.fmdqotc.com/wp-content/uploads/2018/01/Viathan-Funding-Plc_Final-Shelf-Prospectus_vFinal.pdf, accessed 14 May 2018.

FIGURE 7 NIGERIAN PENSION FUND PORTFOLIO AS AT 31 DECEMBER, 2012–2016



Source: PenCom, Annual Reports 2012–2016, https://www.pencom.gov.ng/category/publications/annual-reports/, accessed 16 May 2018

In addition, approximately 66% of all pension fund contributors in Nigeria are under 49 years old.[47] Their relatively young age provides a rationale for investing in long-term investments such as infrastructure projects.

The country also has an SWF, the Nigeria Sovereign Investment Authority (NSIA). This SWF derives its mandate from the Nigeria Sovereign Investment Authority Act of 2011, which was implemented in May 2011.[48] The NSIA operates three ring-fenced funds, namely the:

- Future Generation Fund (FGF)
- Nigeria Infrastructure Fund (NIF)
- Stabilisation Fund (SF)

The NIF has a 40% asset allocation from the total SWF, the FGF has 40% and the SF has 20%.[49] The main aim of the NIF is to boost infrastructure development in Nigeria through investments in infrastructure projects that will generate specified

47 PenCom, 2016 Annual Report, *op. cit*.

48 NSIA (Nigeria Sovereign Investment Authority), 'Annual Report 2015', http://nsia.com.ng/~nsia/sites/default/files/downloads/NSIA_Annual-Report_online-2015.pdf, accessed 20 May 2018.

49 NSIA, 'Fund mandates', http://nsia.com.ng/about-us/fund-mandates, accessed 13 June 2018.

financial returns.[50] The NIF's expected average annualised return is around 6% and investment timelines are in excess of 20 years.[51] The fund specialises in investments in real estate, healthcare, power, agriculture and motorways.[52] According to a local market player in Nigeria, the NIF has invested in the Fund for Agricultural Finance in Nigeria, managed by Sahel Capital and Accugas Limited.[53]

IN SUMMARY

- There has been strong growth in total pension fund assets in Nigeria, indicating that pension funds could potentially contribute a portion of their assets to infrastructure investments.
- The average contributor to pension funds is young enough for pension funds to invest in long-term investments (such as infrastructure projects).
- The robust legal and regulatory framework for Nigerian pension funds investing in infrastructure guides pension funds in terms of what is allowable.

Kenya

The Kenyan state pension system is the National Social Security Fund (NSSF), which is set out in the NSSF Act No. 45 of 2013. This Act was preceded by the National Social Security Fund Act Cap. 258, which was subsequently repealed. The NSSF Act No. 45 of 2013 establishes two funds – a pension fund and a provident fund. The pension fund is mandatory and covers all workers in the formal economy. Member contributions are invested in compliance with the Retirement Benefits Act investment guidelines and the fund's Investment Policy. According to its 2013 financial statement, the NSSF had KES[54] 131.4 billion ($1.3 billion)[55] in assets. The breakdown of the fund's investments is shown in Figure 8.

As noted above, just 2% of the fund's investments (KES 2.9 billion or $28.87 million[56]) went into corporate and infrastructure bonds in 2013.

50 *Ibid*.

51 *Ibid.*

52 NSIA, 'Annual Report 2015', *op. cit*.

53 Personal interview, African private equity firm, Johannesburg, 23 August 2018.

54 Three-letter currency code for the Kenyan Shilling.

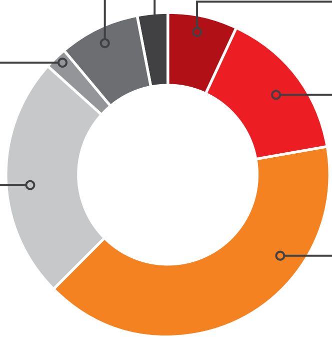
55 Converted using $/KES exchange rate as at 16 July 2018 [100.072].

56 Converted using $/KES rate as at 16 July 2018 [100.072].

Nevertheless, there appears to be a growing imperative to direct the NSSF's funds towards infrastructure projects, as noted in 2017:[57]

> The Kenyan Government should devise an infrastructure bond platform for channelling the KES 900 billion pension funds' assets towards national development through the capital market. A road project worth KES 3 billion to KES 10 billion can comfortably be funded by pension funds once they are guaranteed attractive returns. We need governments to hold meetings with financial experts as well as development finance institutions to create infrastructure bond products that encourage pension funds to invest locally.

FIGURE 8 KENYAN PENSION FUND INVESTMENTS, 2013



Source: Kenya, NSSF (National Social Security Fund), 'Annual Report 2013', https://www.nssfug.org/uploads/NSSF_Annual%20Report_2013%2011th.pdf, accessed 26 June 2018

Kenya is establishing an SWF that will be known as the National Sovereign Wealth Fund.[58] The SWF will be subject to the National Sovereign Wealth Fund Bill of 2014 and will consist of three sub-funds (similar to those of the Nigerian SWF),

57 Ashiagbor D, 'How pension funds can help relieve Kenya's debt burden', *Business Daily Africa*, 2 May 2017, https://www.businessdailyafrica.com/markets/marketnews/How-pension-funds-can-help-relieve-Kenya-s-debt-burden/3815534-3911628-nb5pyl/index.html, accessed 25 October 2018.

58 PIDA (Progamme for Infrastructure Development in Africa), 'AU-NEPAD Continental Business Network (CBN) 5% Agenda Report', 27 November 2017, file:///C:/Users/a0006555/Downloads/NEPAD%205%25%20Agenda%20-%20Concept%20Note%20(2).pdf, accessed 25 October 2018; PwC, 'Sovereign Investors 2020: A Growing Force', 2016, https://www.pwc.com/ee/et/publications/pub/sovereign-investors-2020.pdf, accessed 20 June 2018.

namely a Stabilisation Fund, an Infrastructure and Development Fund and a Future Generations Fund.[59] The purpose of the Infrastructure and Development Fund is to provide funding to infrastructure that will promote economic and social development.[60] However, no further information is available on this potential new national SWF.

The key learning point from the Kenya case is the strong political will to prioritise investment in infrastructure. This political will is paramount to obtaining the regulatory permissions required to establish infrastructure as an asset class.

IN SUMMARY

- As contribution is mandatory for all workers in the formal economy, continuous growth in the pension fund pool is expected, provided the Kenyan economy grows.
- While the current contribution to infrastructure is relatively small, there is strong political will to increase this percentage.
- The political will is further underscored by the proposed establishment of the SWF sub-fund for Infrastructure and Development.

Botswana

Botswana has one of the most well-established pension systems on the continent, with the third largest pension fund-to-GDP ratio in Africa at 47.3%.[61] Pension funds are established by the Retirement Funds Act of 2014[62] and are governed by the Non-Bank Financial Institutions Regulatory Act of 2008, which established the Non-Bank Financial Institutions Regulatory Authority (NBFIRA).

Public pensions are governed by the Botswana Public Officers Pension Fund (BPOPF), which was established in 2001 when Botswana's public pension system was restructured from a defined benefit to a defined contribution model. This has

59 KCSPOG (The Kenya Civil Society Platform on Oil & Gas), 'The National Sovereign Wealth Fund Bill, 2014', http://kcspog.org/wp-content/uploads/2017/12/National-Sovereign-Wealth-Fund-Bill-2014-Draft.pdf, accessed 20 June 2018.

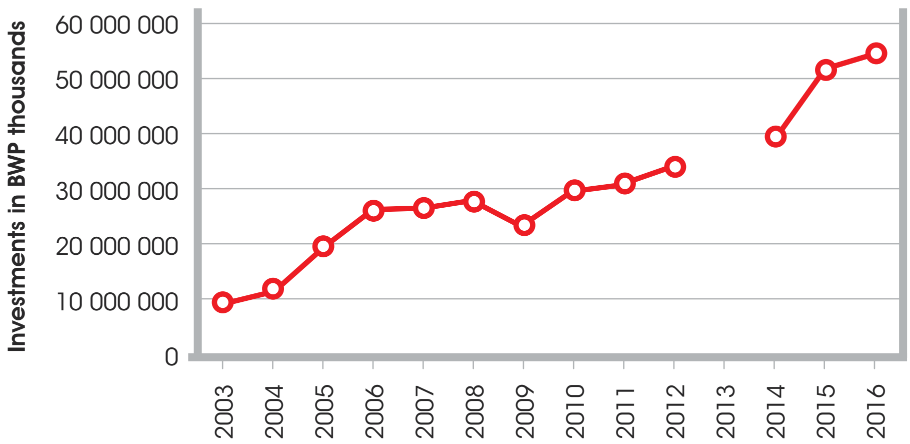
60 *Ibid*.

61 *Sunday Standard*, 'BPOPF third largest pension fund in Africa but …', 3 April 2017, http://www.sundaystandard.info/bpopf-third-largest-pension-fund-africa-%E2%80%A6, accessed 19 July 2018.

62 BPOPF (Botswana Public Officers Pension Fund), 'Retirement Funds Act of 2014', http://www.bpopf.co.bw/sites/default/files/publications/Retirement%20Funds%20Act%2C%202014.pdf, accessed 19 July 2018.

contributed to its significant growth from BWP 1.9 billion assets ($301 million) in 2001 to BWP 54.583 billion ($4.82 billion) in the 2015/16 financial year.[63]

FIGURE 9 BPOPF INVESTMENTS, 2003–2016



Note: No data available for 2013

Source: BPOPF (Botswana Public Officers Pension Fund) Annual Reports 2002 to 2016, http://www.bpopf.co.bw, accessed 16 May 2018

While the Retirement Act allows the NBFIRA to set limits for asset investments, the authority has not done so for the BPOPF; the 'Rules of the BPOPF' allow the trustees full discretion regarding investment, including allowing investment decisions to be delegated to a committee, financial institution or individual.[64] However, the 2012 Pension Prudential Investment Rule (PFR 2) under the Non-Bank Financial Institutions Regulatory Act stipulates a 2.5% investment limit in the 'other assets' category, which includes infrastructure investment. In 2015, the PFR 2 limit was revised upward to 5%.[65] The BPOPF's annual report includes a breakdown of the asset allocation of its investments.

63 BPOPF, '2015/2016 Annual Report', http://www.bpopf.co.bw/sites/default/files/publications/BPOPF%20Abridged%20Report%202016.pdf, accessed 19 July 2018; *Sunday Standard*, *op. cit*. Exchange rates for 31 December 2001 [6.31] and 31 December 2015 [11.04] were used.

64 BPOPF, 'Rules of the BPOPF', January 2004, http://www.bpopf.co.bw/sites/default/files/rules.pdf, accessed 19 July 2018; BPOPF, 'Retirement Funds Act of 2014', *op. cit*.

65 Bank of Botswana, 'Annual Report 2017', http://www.bankofbotswana.bw/content/2009110614010-annual-report, accessed 19 July 2018.

Though infrastructure is not included as an asset class, in 2011 the BPOPF developed an alternative investment policy with the aim of exploring new asset classes, and in its 2015/16 annual report indicated an intention to begin investing in local infrastructure development. This is in line with the Fund's 2017–2022 corporate strategy, which aims to diversify its asset base to contribute to domestic economic development and take on higher risks to achieve higher returns. Funnelling pension funds into infrastructure development is a key pillar of this strategy, evidenced in the BPOPF's recently released 'Local Infrastructure Investment Policy'.[66] The stable macroeconomic and overall political environment is conducive to an increase in infrastructure investment. Currently, the BPOPF rules require only 30% investment locally with the rest allowed offshore, a smaller local investment limit than most African countries. Over the past decade, BPOPF local investments have gradually increased from approximately 30% to 40%. However, when considering infrastructure investments in Botswana, even a 30% local investment requirement is challenging given the weak policy coordination and planning within government, which hinders the development of projects ready for private-sector participation.[67]

Overall, there is a distinct move by both the BPOPF and the NBFIRA to increase investments in infrastructure. This is supported by the PRA 2 increase in asset allocation to other assets and the BPOPF local infrastructure investment policy.

Botswana also has an SWF, the Pula Fund, established in 1993 as a fund for Botswana's diamond reserves. It is legally supported by Section 35 of the Bank of Botswana Act of 1975, which allows the Bank to establish a separate, long-term investment fund for excess assets.[68] The Pula Fund does not have a directly stated objective; however, it is understood to primarily provide savings for future generations and has also been used to stabilise government revenues.[69] It comprises a government investment account (in which the government also invests) managed by the Ministry of Finance and Development Planning (MFDP) and a reserve account managed by the Bank of Botswana.

There are no legal requirements for the investments of the Pula Fund. Investment decisions are determined through consultations between the Bank of Botswana and the MFDP and executed by the investment committee. There are no prescribed withdrawal or deposit limits. However, the Pula Fund has invested very conservatively in low-risk, yield-maximising options. To date, all investments by the Pula Fund have been offshore, implying that domestic investment opportunities do not yet meet the necessary criteria. Legislation allows the Pula Fund to invest in domestic development objectives if these form part of Botswana's national

66 *Sunday Standard, op. cit.*

67 Personal interview, African private equity company, Johannesburg, 23 August 2018.

68 Bank of Botswana Act of 1975.

69 Natural Resource Governance Institute & Colombia Center for Sustainable Investment, 'Natural Resource Funds: Pula Fund, Botswana', https://resourcegovernance.org/sites/default/files/NRF_Botswana_July2013.pdf, accessed 19 July 2018.

development priorities. However, such indications have not appeared in National Development Plans to date, nor is there an indication that this will change in the near future. In contrast, NDP 2011 suggests the need for a fiscal rule that mandates an allocation of funds to be reserved for future generations and to guard against a lack of fiscal prudence in future.[70]

The Pula Fund has BWP 59.1 billion ($5.67 billion) in assets (as of September 2017) and its allocation is 60% to external sovereign bonds and 40% to external equities.[71] This is in direct contrast to most SWFs on the continent, including those in Nigeria, Angola and Ghana, which invest heavily in domestic development.

IN SUMMARY

- Botswana's pension system is well established and exhibited strong growth in the period 2001–2016.
- There is evident political will in Botswana to increase investment in infrastructure and domestic development.
- While the SWF does not currently invest domestically, there is no legal mandate preventing such investment. It is feasible that the SWF will in future target more domestic investments, including infrastructure.

Ghana

Ghana's pension industry is among the most rapidly growing on the continent, expanding 400% between 2008 and 2014.[72] Pension funds in Ghana are governed by the 2008 National Pensions Act 766, as amended by Act 883 in 2014[73] and the regulatory body is the National Pensions Regulatory Authority (NPRA).

The sole public pension fund in Ghana is managed by the Social Security National Insurance Trust (SSNIT), which was established in 1965. As of 2017, its assets are

70 Botswana, Ministry of Finance and Development Planning, 'Botswana National Development Plan 2011:11 April 2017–March 2023', 1, September 2016, http://www.ncongo.info/wp-content/uploads/2017/02/NDP-11.pdf, accessed 19 July 2018.

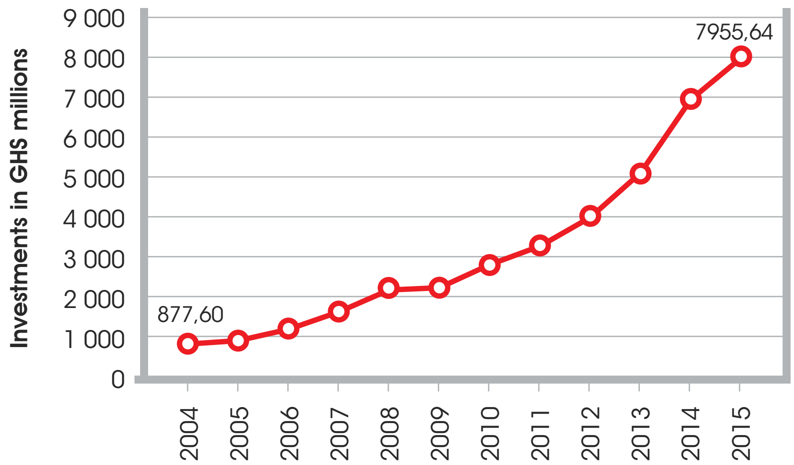
71 Bank of Botswana, 'Annual Report 2017', *op. cit*. Oanda exchange rate for 31 September 2017 was used [9.69].

72 Minney T, 'What are Africa's pension funds investing into?', *African Capital Markets News*, 13 March 2015, http://www.africancapitalmarketsnews.com/2683/what-are-africas-pension-funds-investing-into/, accessed 19 July 2018.

73 Ghana, 'National Pensions Act 766, 2008', http://www.iopsweb.org/resources/48749441.pdf, accessed 19 July 2018; Ghana, 'National Pensions Amendment Act 883, 2014', http://npra.gov.gh/pdf/National_Pensions%20(Amendment)_Act,2014_Act%20_.pdf, accessed 19 July 2018.

approximately $2 billion.[74] The SSNIT underwent reform in 2009 and is now a three-tier pension scheme. The first pillar follows a defined benefit model, while the second and third pillars both represent defined contribution options with private participation.[75] The rationale for this model is to increase individual choice and private sector opportunities to drive local economic growth. Pension funds in Ghana can only invest internationally with a recommendation from the NPRA and presidential approval.

FIGURE 10 SSNIT INVESTMENTS, 2004–2015



Source: Ghana SSNIT (Social Security and National Insurance Trust) Annual Reports, https://www.ssnit.org.gh/resources/annual-reports/, accessed 16 May 2018

Among the case study countries, the SSNIT is the only public pension with a clear socio-economic component in its investment mandate, which is to seek out investments that directly impact beneficiaries, such as housing for pensioners. This mandate along with the defined benefit structure of its public tier has allowed for more flexibility in its investments. As one might expect, the private pension tiers have stricter investment mandates.[76] The four listed asset classes of the SSNIT are equity, fixed income, real estate and 'economically targeted investments' (ETIs).

74 Minney T, 'How big are African pension funds?', *African Capital Markets News*, 30 November 2017, http://www.africancapitalmarketsnews.com/3544/how-big-are-african-pension-funds/, accessed 19 July 2018.

75 Kpessa MW, 'Retirement income security under Ghana's three-tier pension model: Assessment of risks and options for reform', *Pensions: An International Model*, 16, 2, May 2011.

76 Personal interview, Ghana public pension regulator, Johannesburg, 28 August 2018.

Though infrastructure is not included as a separate asset class, it is one of the sectors delineated under ETIs.

ETIs by definition are 'investments made in specific geographic regions with the goal of creating economic growth and improving the quality of local lives'.[77] From the first available annual reports in 2007, pension fund investments in economically meaningful sectors were identified as significant. The ETI target for the SSNIT, based upon the periodically received 'Asset Allocation Policy,' is 5% of the asset mix. Over the years, actual investments have fluctuated between 0% and 2%. In 2017, six ETI investments represented 1.8% of total investments, or GHS[78]166.46 million.[79] Under this asset class, the Trust has maintained a small (less than 2%) shareholding in the Pan African Infrastructure Development Fund (PAIDF) dating back at least to available annual reports in 2007.[80] It has full ownership of the Cenit Energy power plant and a 12% ownership share in an urban public transit company (Metro Mass Transport). The Trust has also invested in social infrastructure in the health sector, including hospitals, clinics and abattoirs to ensure sanitary cooking conditions.[81] Furthermore, the NPRA revised its investment policy to allow for infrastructure bonds in its 2011 and 2016 regulations.

The Trust's 2014 annual report announced a targeted drive to invest in more diversified sectors, primarily real estate but also infrastructure and energy, with a greater focus on public–private partnerships (PPPs). A PPP Bill providing clearer legal definitions for PPPs than in the current PPP policy will reportedly soon be passed into law. This is due to the need to generate higher returns given that in the shorter term, the 2010 three-tier pension overhaul decreased contributions while the 2014 amendment to the National Pensions Act expanded coverage but decreased investable funds.[82] Overall, the Fund's investments have not yielded expected returns, thus intensifying pressure to diversify and simultaneously increasing the need for financial prudence.[83] In support of this objective, the NPRA organised a conference in 2017 to mobilise pension funds for alternative investments. At the inauguration of the NPRA's new board in July 2018, Ghana's finance minister

77 SSNIT (Social Security and National Investment Trust), 'SSNIT Investment Series – Edition 5 (ETI)', 9 November 2017, https://www.ssnit.org.gh/resource/ssnit-investment-series-edition-5-eti/, accessed 19 July 2018.

78 Three-letter currency code for the Ghanaian cedi.

79 SSNIT, 'Investments', https://www.ssnit.org.gh/about-us/investments/, accessed 19 July 2018. Oanda exchange rate from 31 December 2017 was used [4.52].

80 SSNIT, 'Annual Reports 2007–2015', https://www.ssnit.org.gh/resources/annual-reports/, accessed 19 July 2018.

81 SSNIT, 'Investments', *op. cit*.

82 SSNIT, '2014 Annual Report', https://www.ssnit.org.gh/resources/annual-reports/, accessed 19 July 2018.

83 Government of Ghana, '13th Reconstituted SSNIT Board of Trustees Inaugurated in Accra', http://ghana.gov.gh/index.php?option=com_content&view=article&catid=28:general-news&id=3568:government-institutions-asked-to-provide-data-for-ssss-implementation-, accessed 19 July 2018.

reiterated the need for pension fund investments in infrastructure.[84] However, no major changes in investment activities are evident to date, though a reported review of the NPRA's investment guidelines was initiated in 2016. The Ghanaian pension fund industry has much potential to increase its investment in infrastructure and eventually formalise it as an asset class; however, its investments also need to be more transparent.

Ghana has taken concrete steps to mobilise foreign exchange reserves from oil specifically for infrastructure development. In 2014, the Ghana Infrastructure Investment Fund Act (877) established the Ghana Infrastructure Investment Fund (GIIF) with seed funding of $250 million.[85] This followed the establishment of the Ghana Heritage Fund and the Ghana Stabilisation Fund (now combined as the Ghana Petroleum Fund) in 2011, with $450 million in assets.

The mandate of the GIIF is broad. Though the Fund operates outside of the annual budget, it is intended to be guided by domestic development plans.[86] The GIIF's investment decisions are made by its Board of Directors. According to its investment policy, it can invest directly in projects and skills development activities relating to infrastructure development. The permitted sectors encompass both social and economic infrastructure. The fund targets a 5% return on investments (excluding social impact projects). Though the fund seeks to generate commercial returns like a traditional bank, a key difference from commercial investors is its long-term investment horizon of 10–25 years.[87]

Since the fund's operationalisation in 2015, there has been little concrete evidence of projects that it has supported. In the 2015 budget speech, the government indicated its intention to transfer appropriate projects from the government balance sheet to the GIIF, including gas and hydropower projects.[88] However, to date, the only two investments announced by the GIIF have been a $30 million corporate loan

84 Making Finance Work for Africa, 'Ghana Pension Fund Dialogue', https://www.mfw4a.org/events/event-details/browse/1/article/8/ghana-pension-fund-dialogue.html, accessed 19 July 2018.

85 Arthur-Mensa G, 'Ghana to raise more funds through asset leverage', *GNA (Ghana News Agency)*, 2 June 2018, http://www.ghananewsagency.org/print/133529, accessed 19 July 2018.

86 Amoako-Tuffour J, 'Should countries invest resource revenues abroad when demands for public infrastructure are pressing at home? The dilemma of sovereign wealth funds in sub-Saharan Africa', *Journal of African Economies*, 25, 2, 27 September 2016, pp. ii41–ii58.

87 Ghana, Ministry of Finance and Planning, 'Ghana Infrastructure Investment Fund Investment Policy Statement', April 2017, https://www.mofep.gov.gh/sites/default/files/reports/economic/GIIF%20Investment%20Policy%20Statement_April2017.pdf, accessed 19 July 2018.

88 Ghana, Ministry of Finance and Planning, '2015 budget statement', https://www.mofep.gov.gh/budget-statements/2015, accessed 19 July 2018; Ghana, Ministry of Finance, 'Budget speech of the budget statement and economic policy of the Government of Ghana for the 2015 financial year', 19 November 2014, https://www.mofep.gov.gh/sites/default/files/budget-statements/Budget-Speech-2015.pdf, accessed 19 July 2018.

to Ghana's Airports Company's Capital Investment Programme in 2017, to be used to expand and rehabilitate airports in Ghana, and an unspecified amount of funding for the expansion of the Port of Takoradi in 2018.[89] Given the scant publicly available information on actual projects that the GIIF has funded, there is little specific information on the operational procedures of the fund (such as standards for procurement, economic/financial assessments, and environmental and social governance considerations). However, a clear distinction between the GIIF and the Nigeria Infrastructure Fund is that the GIIF's scope of projects and general guidelines are much broader.

IN SUMMARY

- Ghana's pension industry is growing rapidly, expanding by 400% between 2008 and 2014.
- Though not an explicit asset class, infrastructure investments fall under the ETI asset class of the SSNIT. The SSNIT has been investing in infrastructure for several decades.
- There is a drive to invest more in infrastructure in Ghana, although to date there have been no significant changes in investment activities.
- The GIIF is a good initiative, but the tangible benefits are scarce.

KEY CHALLENGES FOR PENSION AND SOVEREIGN WEALTH FUNDS INVESTING IN INFRASTRUCTURE

Drawing on the country narratives, this section highlights key challenges for pension funds and SWFs when considering infrastructure investments. The findings reflect a balance between the analytical research and the interviews conducted. Five key findings were identified, namely: the limited number of financial instruments and funds; a preference for traditional asset classes and a lack of expertise in analysing infrastructure projects; the limited number of available investable infrastructure projects; a mismatch between available projects and requirements; and regulatory thresholds for infrastructure investments. Each of these is discussed below.

Limited number of financial instruments and funds

The 2017 Bank of Botswana Annual Report indicates that there is a need to create financial instruments that allow for more liquid investment opportunities. These sentiments are backed by extensive literature on the primary constraints relating to pension fund investments in infrastructure, as well as interviews conducted in

89 GhanaWeb, 'Ghana infrastructure investment fund approves us$30 million corporate loan to Ghana Airports Company Limited', http://www.ghwebs.com/giif/mediaroom/press-releases/item/11-ghana-infrastructure-investment-fund-approves-us-30-million-corporate-loan-to-ghana-airports-company-limited.html, accessed 19 July 2018.

Ghana, South Africa, Kenya and Nigeria.[90] For example, in Ghana, the lack of publicly listed infrastructure securities was stated in interviews as a major constraint inhibiting investments. This speaks to the broader challenge in most African countries of underdeveloped capital markets with less liquidity, which do not satisfy the preferences of institutional investors.[91]

Private equity infrastructure funds represent an instrument that has attracted institutional investors. Examples of successful infrastructure funds include the Pan African Infrastructure Development Fund (PAIDF), the Meridiam Africa Infrastructure Fund and various funds managed by African Infrastructure Investment Managers (AIIM). The PAIDF 1, established in 2007, is managed by Harith in South Africa and comprises solely African investors, including development finance institutions (DFIs) and private actors. Both the South African GEPF and the Ghanaian SSNIT are invested in the PAIDF, with 40% and approximately 2% shareholding respectively. The PAIDF closed at $625 million in 2009, having invested in energy, transport, water and ICT projects in Africa, with the PAIDF 2 subsequently being established in 2014. AIIM has been managing funds with support from African institutional investors since 2000. To date, it has invested $1.7 billion in 55 portfolio companies making infrastructure investments in South Africa and other parts of Africa, with 14 partial and full exits. The Meridiam Africa Infrastructure Fund was launched more recently and closed in 2015 at EUR 205 million. In 2016 the Fund partnered with the Senegalese Sovereign Wealth Fund, FONSIS, to finance a 30 MW photovoltaic power plant in Senegal. Additional funds such as AP Moller's Africa Infrastructure Fund 1 and Actis Energy IV channel investments from global pension funds and institutional investors into African infrastructure. These private equity infrastructure funds represent a more feasible option for institutional investors' initial diversification into infrastructure, as the funds have a proven track record and the terms are amenable to pension funds.

The two infrastructure funds in Nigeria mentioned above, ie, ARM-Harith Infrastructure Fund and Nigeria Infrastructure Debt Fund – Chapel Hill Denham, are both relatively new. The ARM-Harith Infrastructure Fund was established in 2013[92] and the Nigeria Infrastructure Debt Fund in 2017.[93] Based on interviews with PenCom, these two funds and the Viathan Funding PLC Special Purpose Vehicle (SPV) are the main infrastructure vehicles available in which to invest.[94] This significantly limits the infrastructure investment options for Nigerian pension funds; however, it signals progress when compared to many other African countries. Interviews highlighted that the GIIF's more flexible mandate as an infrastructure

90 Personal interview, African pension publication, 29 May 2018; personal interview, Ghana public pension regulator, Johannesburg, 28 August 2018.

91 Personal interview, Ghana pension fund regulator, 23 May 2018; personal interview, Ghana private pension fund actor, Johannesburg, 13 July 2018.

92 ARM-Harith Infrastructure, *op. cit*.

93 Chapel Hill Denham, *op. cit*.

94 Personal interview, Nigerian pension regulator, Johannesburg, 22 May 2018.

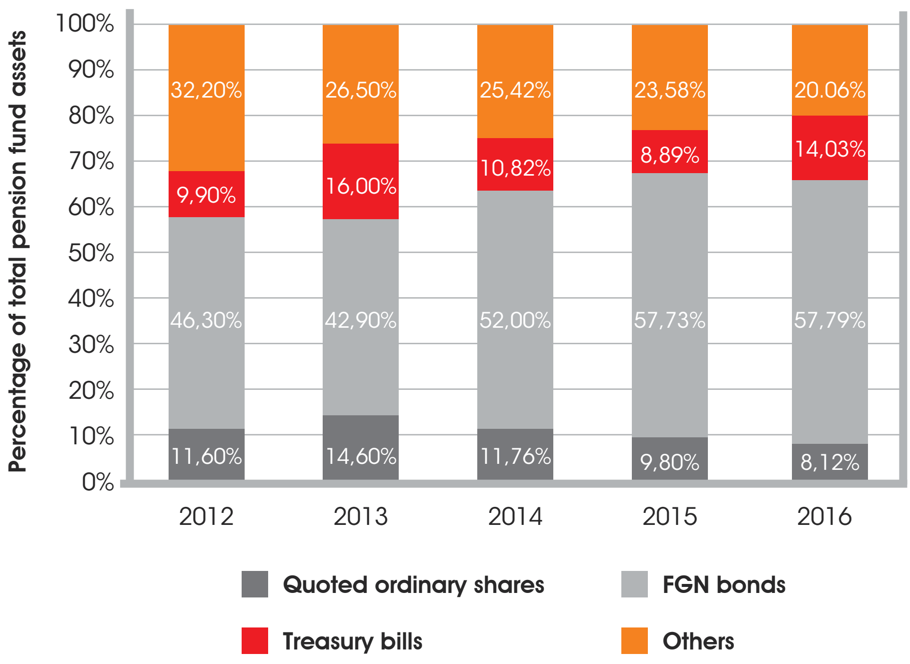
SWF can potentially stimulate investments from more conservative pension funds. If the GIIF issues well-structured and trusted securities, pension funds can feel comfortable about investing at a later stage after seeing the track record.

In addition, Nigerian pension funds have an allowable infrastructure investment threshold of 5% (see below), but currently only invest about 0.03% (Table 3) of their assets in infrastructure.[95] Similarly, the Ghanaian pension fund industry consistently invests in levels below the asset allocation target. Both these cases could imply that there are difficulties in finding suitable infrastructure-related financial instruments that investors can trust.

Preference and affinity for traditional asset classes

One of the key factors limiting pension fund investments in infrastructure is the preference for the allocation of pension fund assets in traditional asset classes. When looking at the Nigerian pension fund industry, it is evident that a large portion of pension fund assets are invested in three types of asset classes.

FIGURE 11 PERCENTAGE OF QUOTED ORDINARY SHARES, FGN BONDS AND TREASURY BILLS IN NIGERIAN PENSION FUNDS, 2012–2016



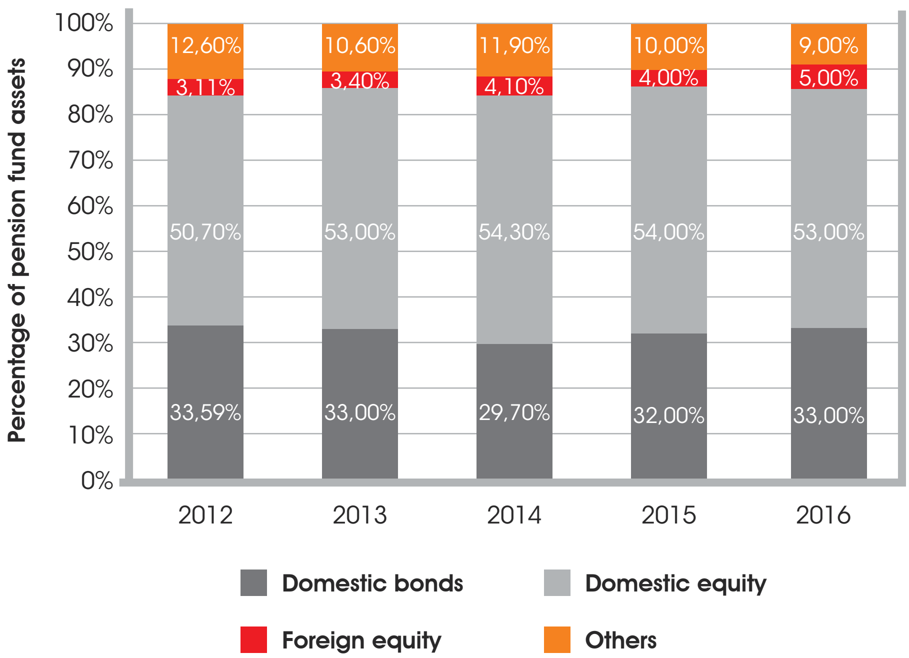
Source: PenCom, 'Annual Reports 2012 to 2016', https://www.pencom.gov.ng/category/publications/annual-reports/, accessed 16 May 2018

95 PenCom, '2016 Annual Report', *op. cit.*

Figure 11 shows the total percentage of quoted ordinary shares, Federal Government of Nigeria (FGN) bonds and treasury bills in Nigerian pension fund portfolios. Over the period 2012–2016, these three asset classes consisted of, on average, 74.45% of Nigerian pension funds.

Figure 12 points to a similar trend for the Government Employees Pension Fund (GEPF) in South Africa. Investments in domestic bonds, domestic equity and foreign equity far exceed the other asset classes. On average, over the period 2012–2016, these three asset classes consisted of about 89.18% of the GEPF assets.

FIGURE 12 PERCENTAGE OF DOMESTIC BONDS, DOMESTIC EQUITY AND FOREIGN EQUITY IN THE GOVERNMENT EMPLOYEES PENSION FUND (GPEF) IN SOUTH AFRICA, 2012–2016



Source: GEPF (Government Employees Pension Fund), 'Annual Reports 2012 to 2016', http://www.gepf.gov.za/index.php/annual_reports, accessed 16 May 2018

In addition to Nigerian and South African pension funds, the Kenyan NSSF is substantially invested in quoted and unquoted stocks and immovable property.[96]

96 RBA (Retirement Benefits Authority), 'Retirement Benefits Industry Report 2016', http://www.rba.go.ke/index.php/en/statistics/industry-performance-report?download=211:retirement-benefits-industry-report-for-2016, accessed 26 June 2018.

According to the NSSF 2013 annual report,[97] its quoted and unquoted stocks comprised 40% of the NSSF's assets, treasury bills 24% and immovable property 15%.[98] This is similar to the asset split in the South African and Nigerian pension funds with the exception of immovable property.

The Botswana Public Officers Pension Fund (BPOPF), according to its 2015–2016 annual report,[99] showed that Botswanan pension funds' asset allocations in 2016 comprised 56.30% offshore equities and equity funds, 22.26% local equities, 18.47% local fixed interest and 2.98% offshore bonds.[100] This was also the case with Botswana's SWF, which invests only in financial instruments and values safety of assets over developmental outcomes.[101]

Although not all pension funds in Nigeria, South Africa, Kenya and Botswana invest in the exact same asset classes (though they are closely aligned), each of these country's pension funds invests a large portion of its assets in specific asset classes (such as government bonds, equity and treasury bills). The preference for these instruments is understandable as they are well understood by investment managers.[102] Infrastructure is more complex than traditional assets, and there is also less centralised and standardised data available on infrastructure assets to predict returns. Interviews highlighted that PFAs prefer government and money market securities because guaranteed fund performance is paramount in attracting new customers. Changes in investment policies or diversification into alternative assets also require approval from trustee boards in most countries. Making the case for such investments can be difficult, especially given that the longer-term returns are mismatched with trustees' short tenures.[103]

Figure 13 provides more detail on the wide range of risks inherent in infrastructure projects, many of which are not a concern for traditional asset classes, and which create uncertainty.

97 Latest annual report available for the NSSF.

98 NSSF, 'Annual Report & Financial Statements 2013', http://www.nssf.or.ke/?wpdmact=process&did=NDcuaG90bGluaw, accessed 26 June 2018.

99 The latest BPOPF trustee report showing asset allocation.

100 BPOPF, 'Annual Report 2015/16', http://www.bpopf.co.bw/sites/default/files/publications/BPOPF%20Abridged%20Report%202016.pdf, accessed 26 June 2018.

101 Personal interview, Botswana private sector pension actor, Johannesburg, 12 July 2018.

102 Comment from personal interview, South African asset management industry association, Johannesburg, 24 May 2018.

103 Ashiagbor D *et al.* (eds), *op. cit.*

FIGURE 13 RISKS LINKED TO INFRASTRUCTURE PROJECT CYCLES

<table>
<tr><th>RISK CATEGORIES</th><th>DEVELOPMENT PHASE</th><th>CONSTRUCTION PHASE</th><th>OPERATION PHASE</th><th>TERMINATION PHASE</th></tr>
<tr><td rowspan="8">POLITICAL AND REGULATORY</td><td rowspan="2">Environmental review</td><td rowspan="2">Cancellation of permits</td><td rowspan="3">Change in tariff regulation</td><td>Contract duration</td></tr>
<tr><td>Decommission</td></tr>
<tr><td rowspan="2">Rise in pre-construction costs (longer permitting prcoess)</td><td rowspan="2">Contract renegotiation</td><td>Asset transfer</td></tr>
<tr><td colspan="2">Currency convertability</td></tr>
<tr><td colspan="4">Change in taxation</td></tr>
<tr><td colspan="4">Social acceptance</td></tr>
<tr><td colspan="4">Change in regulatory or legal environment</td></tr>
<tr><td colspan="4">Enforceability of contracts, collateral and security</td></tr>
<tr><td rowspan="7">MACRO-ECONOMIC AND BUSINESS</td><td>Prefunding</td><td colspan="3">Default of counterparty</td></tr>
<tr><td colspan="2" rowspan="3">Financing availability</td><td colspan="2">Refinancing risk</td></tr>
<tr><td colspan="2">Liquidity</td></tr>
<tr><td colspan="2">Volatility of demand/market risk</td></tr>
<tr><td colspan="4">Inflation</td></tr>
<tr><td colspan="4">Real interest rates</td></tr>
<tr><td colspan="4">Exchange rate fluctuation</td></tr>
<tr><td rowspan="6">TECHNICAL</td><td colspan="3">Governance and management of the project</td><td rowspan="5">Termination value different from expected</td></tr>
<tr><td colspan="3">Environmental</td></tr>
<tr><td>Project feasibility</td><td rowspan="2">Construction delays and cost overuns</td><td rowspan="2">Qualitative deficit of the physical structure/ service</td></tr>
<tr><td>Archaeological</td></tr>
<tr><td colspan="3">Technology and obsolescence</td></tr>
<tr><td colspan="4">Force majeure</td></tr>
</table>

Source: NEPAD, 'CBN report on de-risking infrastructure and PIDA projects in Africa', http://nepad.org/resource/cbn-report-de-risking-infrastructure-and-pida-projects-africa, accessed 17 July 2018

Various mechanisms have been developed by DFIs and private institutions to address some of these risks for investors, specifically political and macroeconomic risks. Examples of these mechanisms are detailed in Table 4 below.

TABLE 4	POLITICAL AND MACROECONOMIC DE-RISKING MECHANISMS
World Bank Partial Risk Guarantees	The World Bank provides different types of partial guarantees to protect private-sector funders from risks associated with public infrastructure projects. The common risks are payment default by government and the risk of government failing to deliver in accordance with contractual obligations.
MIGA	MIGA is a World Bank institution that provides political risk insurance guarantees to private sector financiers. MIGA's risk insurance objectives are the same as the World Bank's partial guarantees; however, the lending requirements and application processes are separate from the other partial guarantee facilities. MIGA offers security against specific, non-commercial risks for a wide range of investors and projects. Examples of risks covered include loss due to civil unrest, change of legislation, inability to convert currency, cross-border payments and breach of contract by government, among others.
IFC MCPP Infrastructure	MCPP Infrastructure is a product of the World Bank's private sector arm, the International Finance Corporation (IFC). It seeks to increase institutional investments in emerging market infrastructure by creating an emerging market loan portfolio for investors. The IFC has partnered with the Swedish International Development Agency (SIDA) to offer a risk-sharing guarantee that covers the first loss on a portion of the loan.
AfDB partial guarantees	The AfDB provides partial risk guarantees and partial credit guarantees. The former generally insulate investors against non-commercial risks while the latter offer security against the risk of non-performance by borrowers on debt-servicing obligations. There are 13 types of partial credit guarantees and one partial risk guarantee instrument available under the African Development Fund (ADF).
GuarantCo	GuarantCo is a commercially managed guarantee facility, funded primarily by OECD governments, which provides risk transfer largely by offering partial credit guarantees.

Sources: World Bank, 'World Bank Guarantee Products: IDA Partial Risk Guarantee (PRG)', 2013, http://siteresources.worldbank.org/INTGUARANTEES/Resources/IDA_PRG.pdf, accessed 6 June 2018; MIGA (Multilateral Investment Guarantee Agency), 'Who we are', https://www.miga.org/who-we-are, accessed 17 July 2018; MIGA, 'Types of coverage', https://www.miga.org/investment-guarantees/overview/types-of-coverage/, accessed 15 August 2018; IFC, 'IFC MCPP Infrastructure', 2016, https://www.ifc.org/wps/wcm/connect/2baa8fbe-f08a-43e1-b1e0-9095d5c085ac/MCPP+Infrastructure_FINAL_10-5-2016.pdf?MOD=AJPERES, accessed 30 August 2018; AfDB, 'Guarantees', https://www.afdb.org/en/projects-and-operations/financial-products/african-development-fund/guarantees/, accessed 17 July 2018

Ultimately, infrastructure investment as an asset class is a relatively new concept and various pension funds in the surveyed countries do not yet have the expertise to analyse and understand infrastructure projects.[104] The Botswanan NBFIRA suggests that there is an urgent need to upskill local asset managers to better identify local investment opportunities in infrastructure. An effective structure could be set in place comprising, for example, tax incentives and rebates for pension funds that invest in infrastructure with a view to motivating pension funds to gain the necessary skills to analyse and understand infrastructure projects.[105] Pension funds might then deviate from traditional asset classes and start exploring other infrastructure investment opportunities.

However, some interviewees suggested that it might not be feasible to have in-house infrastructure experts to analyse infrastructure projects. They proposed that this challenge be overcome through the implementation of appropriate investment instruments linked to infrastructure, which non-infrastructure experts could understand, similar to the types of funds identified under the previous key challenge, such as the ARM-Harith Infrastructure Fund.[106]

In addition, knowledge and capacity-building initiatives can be put forward at a broader level where in-house capacity building may not be feasible. For example, both the Emerging Markets Private Equity Association (EMPEA) and African Private Equity and Venture Capital Association (AVCA) currently offer private equity master classes for fund managers, with some classes specifically directed at pension funds. An industry association driving institutional investments in infrastructure, such as the Long Term Infrastructure Investors Association (LTIIA), could also consider this model and develop master classes for infrastructure, focused on emerging markets such as Africa.[107] These and other initiatives such as the upcoming Africa Investment Forum[108] and the G20's 'Compact With Africa[109] can also create space to bring regulators and fund managers together so that regulatory issues can be addressed. One of the three focus areas of the G20's 'Compact with Africa' relates to business framework reforms. Supporting capacity-building forums to improve knowledge and regulations, and thereby encourage investments, would fit directly into this G20 objective. Of the five case study countries, Ghana is already part of the CWA.[110]

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104 Personal interview, Nigerian pension fund regulator, Johannesburg, 22 May 2018.

105 Personal interview, private pension actor in Botswana, Johannesburg, 12 July 2018.

106 Personal interview, Nigerian pension fund regulator, Johannesburg, 22 May 2018.

107 Ashiagbor D *et al.* (eds), *op. cit.*; Ashiagbor D & O Vidal, 'Pension funds in Botswana, Kenya, Namibia and Nigeria: New avenues for funding private equity', *Making Finance Work for Africa*, February 2014.

108 See forthcoming Africa Investment Forum, 7–9 November 2018, Gauteng, South Africa.

109 G20 Compact with Africa, 'Compact Monitoring Report', April 2018, https://www.compactwithafrica.org/content/dam/Compact%20with%20Africa/reports/G20-CWA-%20Full%20Report.pdf, accessed 20 August 2018.

110 *Ibid*.

Such forums could benefit from cross-country insights into the challenges and successes of countries' experiences with infrastructure investments. For example, in South Africa, the REIPPP was structured with multiple phases of procurement which allowed investors to plan for a pipeline of investments and climb the learning curve using the initial investment to test the investment thesis, including pricing risk/return expectations. The procurement structure also allowed investors to witness the de-risking from the construction phase to operational assets, which helped build confidence for investment in later rounds.[111]

In Ghana, the SSNIT's experience with full ownership of the national grid-linked 126 MW Cenit Energy power plant also provides valuable lessons. The investment, initiated in 2012, faced significant challenges when the debt-ridden Electricity Company of Ghana (ECG) could not pay money owed to the SSNIT, causing the SSNIT to put a hold on its funds. To resolve this, the government restructured the ECG's energy debt in 2017 by issuing a long-term bond as an SPV, to be serviced by energy sector levies. This renewed the SSNIT's confidence in the investment. However, the bond does not target the underlying state owned enterprise inefficiencies which caused the sector's debt and speaks directly to investor concerns surrounding project risk. Field interviews indicated that the SSNIT is now exercising more conservatism in its investments. While the SSNIT's direct ownership model represents a bold and innovative approach for pension funds to invest in infrastructure, it also reiterates the importance of sound investment vehicles to ensure fiscal prudence.

Limited number of available investable infrastructure projects

There is a strong consensus that one of the key constraints to infrastructure development in Africa is the lack of a strong project pipeline.[112] This can be defined as a list of well-prepared, bankable projects. Project bankability is determined at an early stage and comes down to project preparation. The cost associated with project preparation for large projects in Africa could reach 5%–10% of the total project cost.

Policymakers, development partners and project developers have emphasised the need to enhance the effectiveness of project preparation to unlock additional sources of finance for infrastructure.[113] Existing project preparation funding is fragmented

111 Personal interview, private equity firm,17 Johannesburg, August 2018.

112 ICA, 2017, *op. cit*.; Personal interview, South African asset management industry association, Johannesburg, 24 May 2018; personal interview, Botswana private pension actor, Johannesburg, 12 July 2018.

113 Gutman J, Sy A & S Chattopadhyay, Financing African Infrastructure: Can the World Deliver?', Brookings, March 2015, https://www.brookings.edu/wp-content/uploads/2016/07/AGIFinancingAfricanInfrastructure_FinalWebv2.pdf, accessed 30 May 2018; Maier T & M Jordan-Tank, 'Accelerating Infrastructure Delivery: New Evidence from International Financial Institutions', WEF (World Economic Forum), April 2014; WEF & BCG (Boston Consulting Group), 'Africa Strategic Infrastructure Initiative: A Principled Approach to Infrastructure Project Preparation Facilities', June 2015; Danso H & B Samuels, 'Private sector project developers scaling investable infrastructure in Africa: Benchmarking project development practices to mobilize private capital', *Africa Investor*, May 2017.

across many (primarily donor-funded) facilities, with different requirements contributing to a difficult and bureaucratic process to access these funds. Initiatives such as the Project Preparation Facilities Network (PPFN) launched by the ICA in 2014 is one example of attempts to improve the effectiveness of project preparation in Africa[114] by creating a centralised repository of project preparation facilities and a forum for cooperation; however, meaningful procedural collaboration has yet to be achieved.[115] The recently launched PIDA Service Delivery Mechanism (SDM) also aims to target these issues by availing concessional finance for the earliest pre-project preparation challenges (ie, applying for feasibility funding, securing project sponsors, among others) which often prevent projects from progressing past project definition to preparation activities.[116]

Figure 14 below shows the number of infrastructure projects that reached financial close, where the private party assumed operating risks, between 2010 and 2016. The assumption here is that projects with Private Participation in Infrastructure (PPI) investments are infrastructure projects that would generate the level and type of returns that pension funds are interested in (bankable projects) and meet other necessary requirements. Figure 14 compares Nigeria, South Africa and Kenya with Brazil, Turkey, Ghana and Zambia. Botswana has been omitted due to a lack of data.

Figure 14 seems to indicate that the number of infrastructure projects in which pension funds would potentially invest are limited in Ghana, Kenya, Nigeria and South Africa, judging by the number of investable projects in these countries. In addition, the Botswanan NBFIRA has indicated an intention to reduce offshore investments to 30% by 2030, suggesting that there is an urgent need to create local investment opportunities. Interviews underlined that bankable projects create the track record that is necessary to build confidence in a new asset class such as infrastructure. For example, an infrastructure project must be built on time, within budget and to required standards. Without a history of national projects consistently meeting these requirements, asset managers do not have the confidence needed to assure risk-adjusted returns for investors.[117]

These dynamics are complicated by limited domestic private sector activity/capabilities to invest in infrastructure projects in many African countries. Private-sector participation is critical for enhancing project efficiency and bankability. Interviews confirmed that PPPs would be the ideal structure for pension fund infrastructure investments. In both Ghana and Botswana, domestic private-sector

114 ICA, 'Project Preparation Facilities Network (PPFN)', https://www.icafrica.org/en/project-preparation/project-preparation-facilities-network-ppfn/, accessed 7 June 2018.

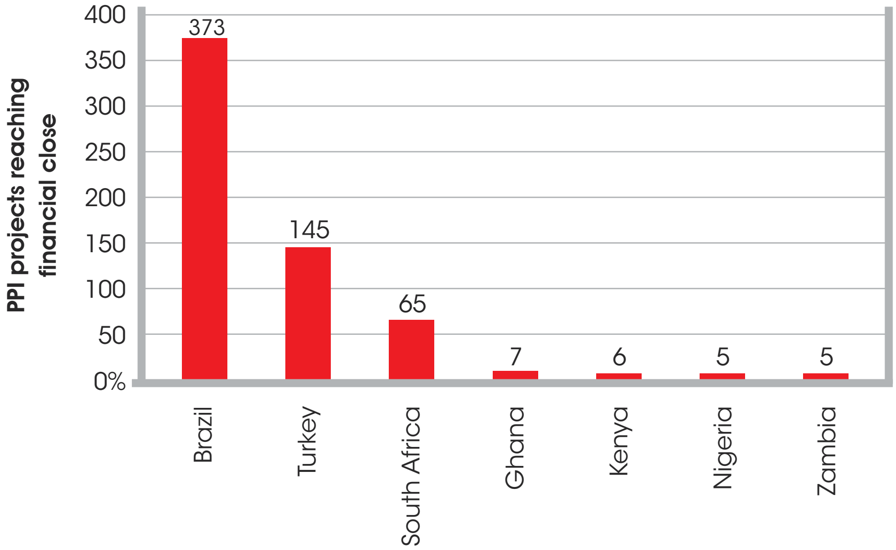
115 Interview, African regional institution, Johannesburg, 23 February 2018.

116 PIDA, 'Service Delivery Mechanism (SDM), http://www.au-pida.org/service-delivery-mechanism-sdm/, accessed 25 October 2018.

117 Personal interview, private pension actor in Botswana, Johannesburg, 9 July 2018; Sy ANR, *op. cit*.

underdevelopment was said to be a more binding constraint than, for example, a lack of sufficient PPP legislation.[118]

FIGURE 14 PROJECTS WITH PPI INVESTMENTS IN WHICH THE PRIVATE PARTY ASSUMED THE OPERATING RISK, 2010–2016



Note: The World Bank Private Participation in Infrastructure Database records contractual arrangements for public infrastructure projects in low- and middle-income countries. The recorded projects include those that have reached financial closure and private parties have assumed operating risks.

Source: World Bank, Private Participation in Infrastructure Database, http://ppi.worldbank.org/, accessed 12 June 2018

One way that African regulatory institutions can address these challenges is by temporarily decreasing national pension funds' local investment requirements for their first few infrastructure project or fund allocations. This can address learning curve challenges while there is still a shortage of domestic investable projects and private sector capabilities, ultimately increasing pension fund readiness for domestic infrastructure investments in the longer term when international limits are again increased.[119]

118 Personal interview, private pension actor in Botswana, Johannesburg, 9 July 2018; personal interview, private pension fund actor in Ghana, Johannesburg, 13 July 2018.

119 Personal interview, African private equity firm, Johannesburg, 23 August 2018.

Mismatch between available projects and requirements

In April 2017, PenCom issued an updated set of regulations for Nigerian pension funds. According to these regulations, Nigerian pension funds have two main routes through which they can invest in infrastructure projects: eligible bonds (or debt instruments) and infrastructure funds which are registered with the Security Exchange Commission (SEC) Nigeria. Table 5 shows key aspects relevant to infrastructure investment in the PenCom April 2017 regulations.

TABLE 5 KEY POINTS IN THE PENCOM REGULATIONS ON INVESTMENT OF PENSION FUND ASSETS

MAXIMUM PERCENTAGE (% OF TOTAL ASSETS OF A FUND)	
	Per issuer/entity
5%	**25%**
Listed on an exchange	5%
Not listed on an exchange	5%
Other assets (excluding a hedge fund or private equity fund)	

Source: Nigeria Pension Funds Act, 1956, Amendment Regulation 28, 2011, https://www.gov.za/sites/default/files/34070_rg9485_gon183_a.pdf, accessed 1 June 2018

South African pension funds can invest in 'other debt instruments' either listed or not listed on an exchange. In Nigeria, Regulation 28 also allows for investments in 'other assets, described as investments not listed in Regulation 28, of' up to 2.5%.[120] The generality of this asset class enhances the viability of using it for infrastructure investments.

Similarly, the Kenyan investment guidelines in the Retirement Benefits Regulations also provide regulations on various investment categories.[121] The category stating 'any other assets' allows up to 10% of pension fund assets to be invested under this category and could include infrastructure investing.[122]

Although the regulations for South African and Kenyan pension funds do allow for infrastructure investment, the key challenge for these funds is uncertainty about whether infrastructure investments are safe and reliable. In Nigeria's case, there are clear guidelines with which infrastructure projects and investable infrastructure

120 South Africa, Treasury 'Regulation 28 Amendment', Regulation 28 Amendment, http://www.treasury.gov.za/publications/other/Reg28/Reg%2028%20-%20for%20Budget%202011.pdf.

121 Retirement Benefits (Forms and Fees) Regulations, 2000, Regulation 18A.

122 OECD, 'Annual Survey of Investment Regulation of Pension Funds', 2017, https://www.oecd.org/daf/fin/private-pensions/2017-Survey-Investment-Regulation-Pension-Funds.pdf, accessed 25 October 2018.

products must comply. Hence, Nigerian pension funds can invest with confidence in infrastructure, the only challenge being ensuring that infrastructure projects and investable instruments align with the requirements.

These challenges are echoed in Ghana, where options for pension funds to invest in corporate, national or local infrastructure bonds have been included in the regulations for some time. However, the requirements have not yet been met and no investments have occurred. An example of this mismatch is a legislative requirement that such bonds have to be issued through the 'Municipal Financing Authorities', which have not yet been set up. This indicates a need across the board for improved sensitisation and capacity-building to ensure that existing regulations can be met and do not deter investors, or alternatively that a review of inhibiting regulation be conducted.

Regulatory thresholds for infrastructure investments

Nigeria's regulatory framework allows only a maximum of 5% of the total pension fund's assets to be invested in infrastructure. When compared to, for example, federal government bonds and money market instruments, the limits are 80% and 35% respectively.[123] Even if the number of investable infrastructure assets were to increase, pension funds are limited in terms of how much they can invest in these instruments. Australian pension funds, in contrast, have an average infrastructure investment of 6.4%,[124] working towards a 9.0%[125] target allocation.

The lack of specificity in Botswana's pension legislation deters investments in infrastructure. More targeted legislation and regulations are paramount in increasing investor confidence. In contrast to other African countries, the lack of any infrastructure investments by the BPOPF could potentially be a sign of resistance or conservatism in the country's financial entities and investment strategies or a lack of investable projects in the face of poor policy coordination.

In the case of South Africa, Regulation 28 allows for infrastructure investments in various forms (as discussed above).[126] However, only 2.5% of a pension fund's assets may be invested in the 'other assets' category, which is lower than in Nigeria. Yet South African pension funds have other options for investing in infrastructure (such as bonds), where the threshold limits are much higher. South African pension funds will have to ensure that infrastructure investments through these other instruments (bonds, equities, hedge funds and private equity) meet the very specific

123 PenCom, '2016 Annual Report', *op. cit*.

124 OECD, 'Pension Fund Investment in Infrastructure: A Comparison between Australia and Canada', 2013, http://www.oecd.org/pensions/pensionfundinfrastructureaustralia canada2013.pdf, accessed 12 June 2018.

125 *Ibid*.

126 South Africa, 'Regulation 28 Amendment', *Government Gazette*, 549, 4 March 2011, http://www.treasury.gov.za/publications/other/Reg28/Reg%2028%20-%20for%20Budget %202011.pdf, accessed 5 July 2018.

requirements stipulated in Regulation 28. A separate asset class in Regulation 28 (similar to Nigeria's) would be highly beneficial, as this would simplify the process of investing in infrastructure.

CASE STUDIES

This section discusses two case studies in which pension funds and/or SWFs invested in infrastructure and examines key factors that could have prompted these investments. The first case involves Viathan Funding Plc in Nigeria and the second involves the Nairobi-Nakuru-Mau Summit Road in Kenya.

Viathan Funding SPV (infrastructure bond)

Viathan Engineering Limited (Viathan Group) issued Nigeria's first 10-year corporate infrastructure bond in January 2018. The Viathan Group, owned by the private equity firm Synergy Private Equity, specialises in developing and operating captive and off-grid power solutions. The group also manages long-term power distribution agreements for governments, and commercial and residential stakeholders across Nigeria.[127]

The Viathan bonds were raised through Viathan Funding Plc, a special purpose vehicle established to raise the debt capital. Viathan bonds are completely backed by InfraCredit, a triple A-rated credit enhancement facility established by Nigeria's SWF and GuarantCo, a private infrastructure development company.[128] The bonds were subscribed by 16 institutional investors, of which 12 were pension funds.[129] A total of NGN 10.5 billion was raised, resulting in a 105% subscription or over-subscription of 5% (NGN 0.5 billion or $1.4 million).[130] The nominal yield of the bonds was 16%.

Some key aspects that may have contributed to the success of this bond issue are:

- The bond issuer, the Viathan Group, is a specialist provider of power solutions and power distribution agreements. The proceeds of the bonds will be used by the Viathan Group to further expand its power generation capacity by 7.5 MW

127 Synergy Capital Managers, 'Viathan Engineering Limited', 2018, http://www.synergycapitalmanagers.com/portfolio/viathan-engineering-limited/, accessed 5 July 2018.

128 *Reuters*, 'US private equity-backed Viathan issues Nigeria's debut 10-year', 3 January 2018, https://www.reuters.com/article/nigeria-corpbonds/private-equity-backed-viathan-issues-nigerias-debut-10-year-guaranteed-naira-bond-idUSL8N1OY3DM, accessed 5 July 2018.

129 Infracredit, 'Infracredit issues maiden guarantee, supports the first 10-year corporate infrastructure bond in the Nigeria market', January 2018, http://infracredit.ng/infracredit-issues-maiden-guarantee-supports-the-first-10-year-corporate-infrastructure-bond-in-the-nigerian-debt-capital-markets/, accessed 5 July 2018.

130 *Ibid*.

and to construct a new compressed natural gas (CNG) plant with a 104 800 SCM/day capacity. Investors see this as a good opportunity to make a long-term investment with a firm with a proven and successful track record in the energy sector.

- An increase in energy-generating capacity is vital for Nigeria, as the country needs at least 160 000 MW of electricity to meet local demand, but only has capacity for 12 132 MW.[131] The energy that will be generated by the infrastructure will thus be in high demand, making the investment in these bonds very attractive.
- The Viathan bonds have the irrevocable and unconditional guarantee of InfraCredit, a triple A-rated credit enhancement facility.[132] If anything goes wrong in the project or the Viathan Group defaults on its payments, the investors will be fully compensated by InfraCredit.
- The nominal yield of the bonds is 16%[133] — a good return for investors.

Nairobi-Nakuru-Mau Summit Road

The Nairobi-Nakuru-Mau Summit Road project is an expansion of and improvement to an existing highway (part of the A8 highway and the Northern Corridor) in Kenya. The highway connects the Port of Mombasa via Nairobi to Malaba, close to the border with Uganda.[134] The Northern Corridor is one of the busiest transport corridors in East and Central Africa because it provides access to landlocked Uganda, Burundi, Eastern DRC and South Sudan. The increase in traffic on the A8 highway has resulted in worsening road safety and an inability to adequately accommodate road users.[135] The Government of Kenya (GoK), through the contracting authority, the Kenya National Highway Authority (KeNHA), aims to improve the road through a PPP scheme.[136]

KeNHA has designed the project as a 30-year Design-Build-Finance-Operate-Maintain-Transfer (DBFOMT) arrangement. The private party (the concessionaire) will use an SPV to improve and widen the 175 km road into a four-lane dual carriageway and operate and maintain the highway.

131 Reuters, *op. cit.*

132 Infracredit, *op. cit.*

133 *Ibid.*

134 Kenya, Treasury, 'Nairobi–Nakuru–Mau Summit Highway Projects: Information Memorandum', November 2016, http://www.treasury.go.ke/tenders/Project%20Information%20Memorandum%20Nairobi%20Nakuru.pdf, accessed 5 July 2018.

135 World Bank, Project Information Document: Integrated Safeguards Data Sheet', 2018, http://documents.worldbank.org/curated/en/879181518107642253/pdf/123325-PSDS-P165545-Concept-Stage-PUBLIC.pdf, accessed 5 July 2018.

136 *Ibid.*

KeNHA will make regular performance-related service payments to the SPV, which will be stipulated in a project agreement. The service payments will be linked to road availability and compliance with contractual performance standards. In order to fund the service payments, the GoK is implementing tolling arrangements throughout the country. A third-party private toll operator will be responsible for operating the tolling system and all tolling revenues will be collected through a special fund (National Toll Fund). Preliminary assessments suggest that the revenue accumulated through the tolling system will be sufficient to cover all service payments, but any shortfalls will be covered by the GoK.[137]

Key to this project is an International Development Association (IDA) guarantee product. The IDA guarantee aims to mitigate the risk of payment default either by the National Toll Fund or by the GoK to the SPV (the private party concessionaire). This guarantee provides adequate comfort to both the SPV and its financiers that all service payments will be made on time. The IDA payment guarantee will be offered in the form of a standby letter of credit (SBLC) by a commercial bank which is a beneficiary of these IDA guarantees.

The project is commercially attractive and has a risk mitigation product, which enhances the attractiveness of the project to institutional investors. In-country engagements revealed that significant consultations have been undertaken by international donors to encourage investment by both public and private Kenyan pension funds in the project.[138] The objective of crowding in collective investments appears to have gained traction as a number of pension funds have shown significant interest, with five signing a letter of intent to invest in the project. [139]

Some key aspects that may have attracted pension fund interest thus far include:

- Each of the lead partners in the consortium agreement has extensive experience in these types of projects. Investors may see this as a good opportunity to make a long-term investment in a project with a consortium that has significant experience and expertise in the transport field.
- There is a high demand for this road due to its location and therefore the chance of the road being used to its full potential is high.
- The SPV's service payments are guaranteed, even if the National Toll Fund or the GoK default on their payments, because of the IDA guarantee. This was made possible by the pooling of resources.

137 World Bank, 2018, *op. cit.*

138 Personal interview, multilateral development bank operating in Kenya, 5 July 2018; personal interview, Kenyan project developer/financier, Nairobi, 2 August 2018.

139 Insight from interview. The five pension funds are private funds with a further four pension funds showing an interest.

CONCLUSION – SUGGESTIONS FOR THE WAY FORWARD

Investment in infrastructure can go a long way towards fostering economic growth. With an annual infrastructure investment deficit running into billions of dollars, Africa is in dire need of such investment. However, despite its potential to significantly enhance economic growth and well-being, institutional investment in infrastructure is very limited on the continent. This highlights the importance of institutional investors developing a better understanding of infrastructure as an asset class in Africa, including potential impediments to such investment – be they of a technical, regulatory or commercial nature. By being better informed, they could become more enthusiastic and confident about investment in infrastructure.

The aim of this paper was to investigate the establishment of infrastructure as an asset class in Africa. The paper analysed the features of infrastructure as an asset and revealed an alignment with what institutional investors look for in an investment, namely: potentially attractive returns, long-term and predicable cash flows and low default rates. The paper then focused on public pension funds and SWFs in South Africa, Nigeria, Kenya, Botswana and Ghana as representatives of institutional investors and Africa as a whole in order to understand the cross-cutting issues affecting the lack of institutional investment in infrastructure in Africa. Across the five selected countries, the public pension industries were shown to be performing well and there is a distinct political will to encourage infrastructure investment. However, five key challenges were identified, namely: a limited number of financial instruments and funds; a preference for traditional asset classes and a lack of expertise in analysing infrastructure projects; a limited number of available investable infrastructure projects; a mismatch between available projects and requirements; and regulatory thresholds for infrastructure investments. Two infrastructure projects, where institutional investors had invested, were examined to determine what had attracted them.

To drive investments by pension funds and SWFs into infrastructure, a number of important enabling engagements are required:

- Further engagement between regulatory institutions and international institutions active in the sector, with the aim of reducing the regulatory hurdles that pension funds face in terms of infrastructure investments (eg, the investment threshold of 2% for most pension funds).
- A concerted effort to enhance the capacity within public pension funds and SWFs to appraise and invest in infrastructure projects. If feasible, a support fund or capacity-building programme should be developed to achieve this objective.
- Encouragement of pension funds (public, private and across countries) to pool resources to jointly invest in viable projects. This will encourage greater investments in projects, while reducing the exposure of any individual fund.
- Constructive engagement with infrastructure project developers and government institutions undertaking significant infrastructure initiatives (usually through a PPP). Early engagement in the project development is required with pension

funds and SWFs to better understand the requirements and regulatory hurdles that these institutional investors must overcome in order to invest in the project and to acquire a better understanding of the project's technical and commercial structure.

- Monitoring, capturing and publishing the returns and socio-economic benefits to hopefully entice further interest in and appetite for this asset class as an investment.

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