

The Case For African Social Infrastructure

by Tom Koch





AFRICA CENTER

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Preface

Hydroelectric projects, port expansions, modernization of railway lines, fiber optics, gas pipelines: the number of infrastructure projects across the African continent has never been greater. Indeed, from the African Development Bank to the World Bank Group, development institutions recognize that the needs are approaching \$100 billion per year. However, even if investments are growing, they are not yet sufficient to meet the continent's pressing development needs.

Social infrastructure is a niche that investors underestimate. Little discussed in development circles, it is nevertheless part of people's daily lives and essential to their well-being. Infrastructure often includes urban facilities conducive to social and civic life, such as collective housing including for students, public buildings (e.g., schools, justice courts, hospitals), libraries, sports facilities, theaters, markets and shopping malls, and religious spaces. These spaces, which make cities great places to live and work, are lagging behind. Meanwhile, the need is huge on a continent whose popu-

lation will double in the next thirty years, and the growth in urban areas with increasingly demanding consumers poses enormous real-estate challenges. And this is far from being just a financial problem.

Tom Koch's report sheds light on the causes of this underperformance, from land rights to the missing regulatory framework and the lack of local expertise, while stressing the profitability of African real estate for potential investors in a sector with a high environmental, social, and economic impact. As Africa experiments with the first generation of green cities and smart cities, this timely report offers an ambitious and realistic roadmap for public and private investors eager to merge profitability and impact investment.

Rama Yade
Africa Center Senior Director,
Atlantic Council

1. Introduction

There has never been a bigger need, nor a more critical time, for social infrastructure in sub-Saharan Africa. Over just the past few years, the impacts of COVID-19, climate change, supply-chain disruptions, food insecurity, and rapid population growth have shown that social infrastructure is desperately needed.

Simply put, social infrastructure is real estate or real assets that serve an essential societal purpose, from student housing to hospitals to recycling centers. Defining social infrastructure as a type of real estate helps investors and development professionals analyze and understand the challenges and opportunities inherent in these assets.

Despite a clear need for social infrastructure, structural factors ranging from complex land-tenure rules to long development timelines make the development of new social

infrastructure difficult. Lack of debt and equity financing, in particular, constitutes a significant barrier to development.

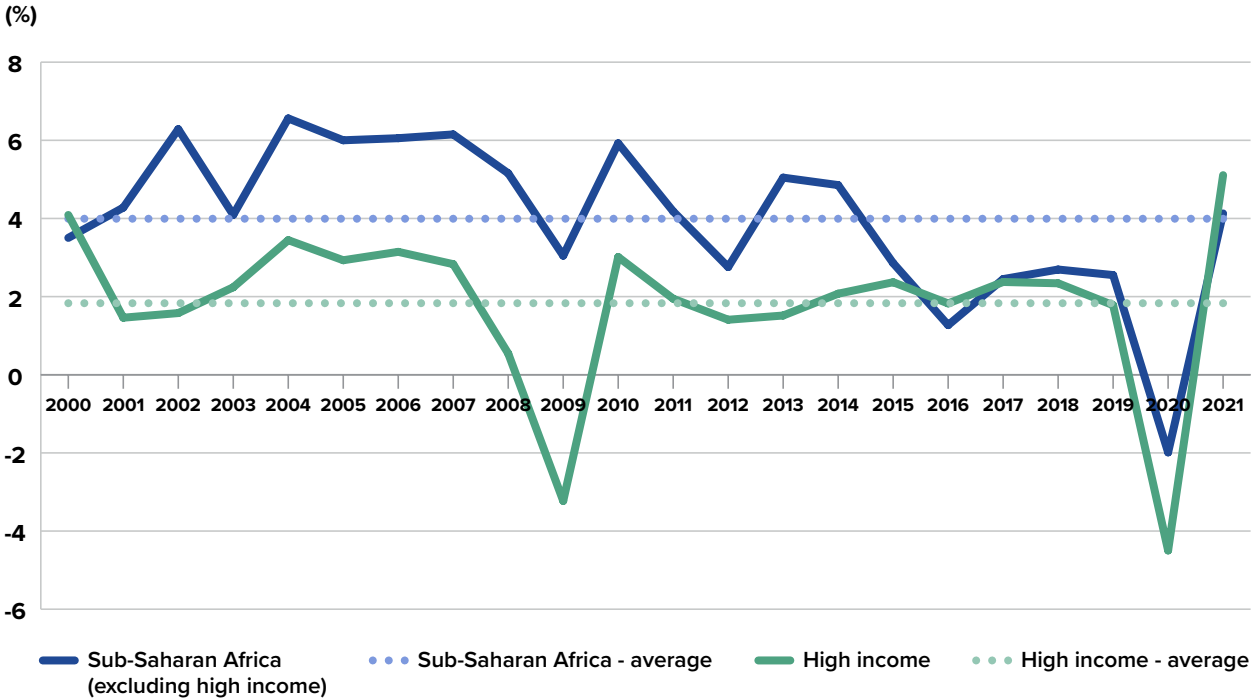
Even so, certain attributes of African real estate overall, including relatively higher yields and lower relative correlations with real estate in other global regions, may provide investment opportunities for the discerning and sophisticated investor. International fund managers wishing to harness these opportunities should develop a deliberate, eyes-wide-open investment strategy that focuses on the long-term upside while guarding against some of the near-term risks inherent in underdeveloped markets. Innovative and informed strategies, along with increased support from development-finance institutions and a reminder that this specific type of real estate can deliver social and economic impact, can help channel needed capital toward African social infrastructure and deliver positive developmental outcomes.

2. Africa’s Compelling Macroeconomic Fundamentals

Understanding the potential of African social infrastructure first requires a top-down understanding of certain secular macro-trends impacting nearly every African country. As we will later see, African social infrastructure, as an asset class, is niche, small, and hindered by limited available data. Because of this, a broader conceptual framework that defines social infrastructure as a type of real estate and looks at real estate across the continent is a helpful place to start, even though real estate everywhere is hyperlocal and each country faces unique political, economic, and development challenges.

First, consider steady long-term real gross domestic product (GDP) growth compared to the developed world. Even amid all of the current economic turmoil, sub-Saharan Africa’s real GDP growth is expected to hit 4.1 percent in 2024, higher than any other world region except emerging and developing Asia.¹ In fact, the average real GDP growth rate for sub-Saharan Africa from 2000 to 2021 was 4 percent, compared to just 1.8 percent for high-income countries, as defined by the World Bank.²

Real GDP Growth Rate, Sub-Saharan Africa and High Income Countries (2000 to Present)

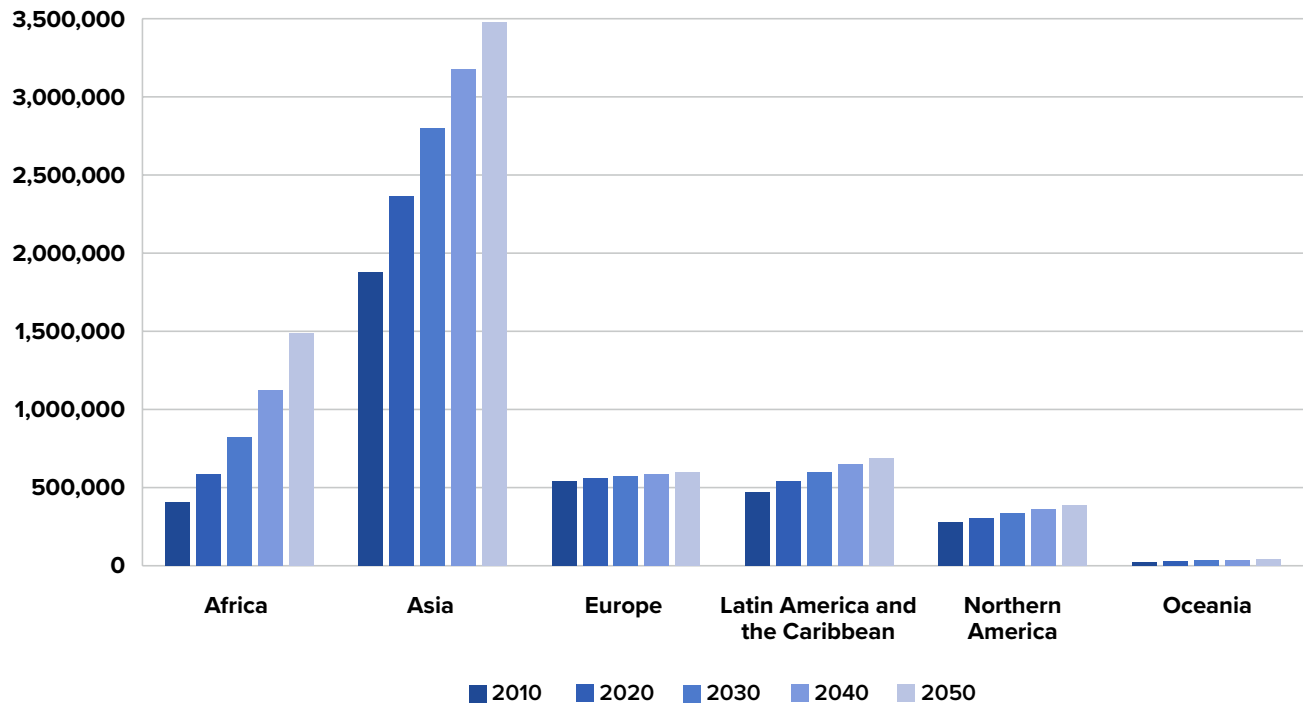


Source: World Bank

1 "World Economic Outlook Update," International Monetary Fund, last visited July 10, 2023, <https://www.imf.org/en/Publications/WEO/Issues/2023/07/10/world-economic-outlook-update-july-2023>.

2 "GDP Growth (Annual %)—High Income, Sub-Saharan Africa," World Bank Data, last visited July 30, 2023, <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?end=2021&locations=XD-ZG&start=2000>.

Global Annual Urban Population at Mid-Year



Source: UN

Second, there is a rapidly growing population. By 2050, Africa’s population is expected to double to roughly 2.5 billion people, becoming roughly a quarter of the world’s population.³ This coming population boom will result in a much more youthful population, with African youth accounting for 42 percent of the world’s total by 2030.⁴

Third, there is a growing consumer class. Spending by African consumers is forecast to reach \$2.1 trillion by 2025, leading to new demand for various goods and services.⁵

The fourth factor is increased urbanization. Africa’s total urban population is projected to be nearly 1.5 billion in 2050, which would be a roughly 150-percent increase from 2020 levels, and certain cities in Africa are projected to become some of the largest in the world by mid-century.⁶ In contrast, the next fastest-growing region, Asia, is projected to

increase its urban population to nearly 3.5 billion by 2050, but that jump only represents a 47-percent increase from 2020 levels.

While an understanding of these long-term structural trends is a helpful analytical “first pass,” they don’t fully capture country, city, neighborhood, or street specific trends that may also have a significant impact on real-estate demand. For example, future global growth fueled by natural-resource exports from resource-rich African countries will undoubtedly shape local real-estate demand. Education levels vary significantly across Africa, which impacts the nature and sophistication of a country’s labor force and what types of industries—and the real assets that support them—that labor force requires. Secular trends around electrification, transportation, and security at the country and city levels will also shape long-term real-estate demand.

3 “Africa’s Population Will Double by 2050,” *Economist*, March 26, 2020, <https://www.economist.com/special-report/2020/03/26/africas-population-will-double-by-2050>.
 4 Sydney Perlotto, “Africa’s Future: Youth and the Data Defining their Lives,” Population Reference Bureau, September 2019, <https://www.prb.org/resources/africas-future-youth-and-the-data-defining-their-lives/>.
 5 Damian Hattingh, Acha Leke, and Bill Russo, “Lions (Still) on the Move: Growth in Africa’s Consumer Sector,” McKinsey and Company, October 2017, <https://www.mckinsey.com/~/media/McKinsey/Industries/Consumer%20Packaged%20Goods/Our%20Insights/Lions%20still%20on%20the%20move%20Growth%20in%20Africas%20consumer%20sector/Lions-still-on-the-move-Growth-in-Africas-consumer-sector.pdf>.
 6 “World Urbanization Prospects 2018,” United Nations Department of Economic and Social Affairs, Population Dynamics, 2018, <https://population.un.org/wup/>; Daniel Hoornweg and Kevin Pope, “Socioeconomic Pathways and Regional Distribution of the World’s 100 Largest Cities,” Global Cities Institute, University of Toronto, January 2014, <https://shared.ontariotechu.ca/shared/faculty-sites/sustainability-today/publications/population-predictions-of-the-101-largest-cities-in-the-21st-century.pdf>; Victor Oluwole, “African Cities with the Highest Population Growth Rate,” *Business Insider Africa*, last updated January 24, 2022, <https://africa.businessinsider.com/local/lifestyle/african-cities-with-the-highest-population-growth-rate/lpvkr58>.

3. Social Infrastructure Is Real Estate that Serves a Societal Purpose

Generally speaking, at the macroeconomic level, all of these trends tend to drive demand for various kinds of real estate, including: residential, or single-family and-multifamily homes and apartments in which people live; commercial, or office space for people to work; retail, or places from which people and businesses sell goods and services; and industrial, or facilities where businesses make and store things.

These trends also lead to demand for social-infrastructure assets that don't fit neatly into those aforementioned buckets. A growing population must be educated. This means demand for student accommodations and schools.⁷ This same population also needs increased access to health-care and elderly care. This means demand for hospitals and clinics, life-sciences facilities, and retirement and nursing homes.⁸

A bigger consumer class means more demand for goods and services. This requires more manufacturing facilities, distribution centers, warehouses, and cold-storage facilities to sup-

port the movement of things, and petrol stations, electric-vehicle charging stations, and hotels to support the movement of people.⁹ More consumers need a place for their "stuff" and also produce more trash. As a result, they require more self-storage facilities, recycling facilities, and trash-collection and sorting facilities.¹⁰ Also, more Africans are getting connected to the internet, driving demand for more data centers and cellular towers.¹¹

As we can see, all of these examples of social infrastructure or social property are assets that facilitate the delivery of public or quasi-public services.¹² These assets should be conceptually separate and distinct from hard infrastructure like roads, bridges, ports, dams, airports, railways, power plants, and water-treatment facilities. While there is no generally agreed-upon definition, many of these assets fall within existing common categories of real estate dubbed "alternatives," "specialty," "industrial," or "other."¹³ Thus, we define social infrastructure as a type of real estate that serves an essential societal purpose.

7 "Student Housing," JLL, last visited July 30, 2023, <https://www.us.jll.com/en/solutions/student-housing>.

8 "IFC's Work in Health," International Finance Corporation, last visited July 30, 2023, <https://www.ifc.org/en/what-we-do/sector-expertise/health>; "Seniors Housing," JLL, last visited July 30, 2023, <https://www.us.jll.com/en/industries/seniors-housing>.

9 Nicola Twilley, "Africa's Cold Rush and the Promise of Refrigeration," *New Yorker*, August 15, 2022, <https://www.newyorker.com/magazine/2022/08/22/africas-cold-rush-and-the-promise-of-refrigeration>; "A Hotel is Not Just a Place to Sleep," International Finance Corporation, March 2016, <https://documents1.worldbank.org/curated/en/844291467995052269/pdf/106088-WP-IFC-PUBLIC-Tourism-FINAL-web.pdf>.

10 "Self Storage," JLL, last visited July 30, 2023, <https://www.us.jll.com/en/industries/self-storage>.

11 "Data Centers," JLL, last visited July 30, 2023, <https://www.us.jll.com/en/industries/data-centers>; Timothy Riddiough, "Wireless Real Estate: Business Model, Real Estate Attributes, and Competitive Market Structure," University of Wisconsin and NAREIT, December 2021, <https://www.reit.com/sites/default/files/2021-12/Tower-REIT-Paper-Dec-2021.pdf>.

12 Alan Latham and Jack Layton, "Social Infrastructure and the Public Life of Cities: Studying Urban Sociality and Public Spaces," *Geography Compass* 13, 7 (2019), <https://compass.onlinelibrary.wiley.com/doi/10.1111/gec3.12444>; Bert Teuben, "Beginning to Understand the Performance of Social Properties," MSCI, November 22, 2021, <https://www.msci.com/www/blog-posts/beginning-to-understand-the/02867831275>.

13 "REIT Sectors," NAREIT, last visited July 30, 2023, <https://www.reit.com/what-reit/reit-sectors>; "Asset Types and Industry Sectors," CBRE, last visited July 30, 2023, <https://www.cbre.us/real-estate-services/real-estate-industries>; "Specialty," NAREIT, last visited July 30, 2023, <https://www.reit.com/what-reit/reit-sectors/specialty>; "What Are the Types of Industrial Real Estate Buildings?" Prologis, last visited July 30, 2023, <https://www.prologis.com/what-we-do/resources/industrial-real-estate-building-types>; "Alternative Investments," JLL, last visited July 30, 2023, <https://www.us.jll.com/en/industries/alternatives>.

4. Quantifying Demand Depends on Availability of Data

While, qualitatively, long-term demand clearly exists for social infrastructure, quantifying that demand is more challenging. Fortunately, firms like JLL, Knight Frank, CBRE, and Estate Intel are taking worthy steps toward quantifying demand for assets like student housing and industrial properties. For example, in 2016, JLL estimated that more than five hundred thousand new student-housing beds

would be required to meet new student demand across sub-Saharan Africa, at a potential total cost of more than \$3 billion.¹⁴ In and around Lagos, Knight Frank estimated that one million square meters (sqm) of warehousing is required, versus current stock of 300,000 sqm.¹⁵ And in Nairobi, Estate Intel estimates current industrial stock of roughly 1.6 million sqm, and suggests that 170,000 sqm of new development in the pipeline still leaves the market “largely undersupplied.”¹⁶



Shoppers leave after shopping at an outlet of retailer Checkers in Sandton, near Johannesburg, South Africa, July 27, 2023. REUTERS/Siphiwe Sibeko

14 “Student Housing: A New Asset Class in Sub-Saharan Africa,” JLL, August 2016, <https://propertywheel.co.za/wp-content/uploads/2016/08/Student-housing-a-new-asset-class-in-SSA-August-2016.pdf>.

15 “Africa Logistics and Industrial Review H2 2021,” Knight Frank, 2021, <https://content.knightfrank.com/research/1114/documents/en/africa-logistics-industrial-review-h2-2021-8474.pdf>.

16 “Nairobi Development Pipeline Report,” Estate Intel, 2022, <https://estateintel.com/reports/nairobi-development-pipeline-report>.

Estimated Gross Lettable Area Owned by Equity Securities Listed on African Stock Exchanges as of 2022

	Commercial	Healthcare	Industrial	Mixed Use	Residential	Retail	Specialty	Storage Units	Grand Total
Africa	7,938,954	125,829	12,311,637	677,688	2,151,480	11,419,479	226,210	384,000	35,235,277
West Africa	143,025				0	138,099			281,125
Ghana	64,063					68,187			132,250
Nigeria	78,962				0	69,912			148,875
East Africa	122,106		123,416	0		294,435			539,957
Kenya	41,312		83,848			161,185			286,345
Mauritius	80,794		39,568	0		76,880			197,242
Tanzania						56,370			56,370
Southern Africa	368,184	2,083	477,514	10,955	229,169	810,899			1,898,804
Botswana	99,831		274,014	10,955	36,185	285,866			706,851
Malawi	96,477		23,995		11,035	32,296			163,803
Mozambique	26,407		19,729		43,955	35,642			125,733
Namibia	14,274		65,136		7,961	267,956			355,327
Zambia	22,817		9,500		3,769	154,128			190,214
Zimbabwe	108,378	2,083	85,140		126,265	35,011			356,877
SA	7,305,639	123,746	11,710,707	666,733	1,922,311	10,176,045	226,210	384,000	32,515,390
South Africa	7,305,639	123,746	11,710,707	666,733	1,922,311	10,176,045	226,210	384,000	32,515,390
Australia	345,835		715,619						1,061,454
Australia	345,835		715,619						1,061,454
Australia	345,835		715,619						1,061,454
Europe	487,445		2,402,491	542,100		3,911,226		101,000	7,444,262
Eastern Europe	475,059		1,245,943	542,100		2,006,663			4,269,765
Austria						92,252			92,252
Bulgaria						122,496			122,496
Croatia	12,259		5,975			115,300			133,534
Cyprus						39,160			39,160
North Macedonia						36,264			36,264
Poland			949,091	542,100		1,232,400			2,723,591
Romania	462,800		290,877			344,100			1,097,777
Slovakia						24,691			24,691
Northern Europe	12,386		455,094			1,554,292		101,000	2,122,772
Belgium			104,502						104,502
Netherlands			165,870						165,870
United Kingdom	12,386		184,722			1,554,292		101,000	1,852,400
Western Europe			701,454			350,271			1,051,725
France			289,419						289,419
Germany			251,231						251,231
Italy			77,789						77,789
Spain			83,015			350,271			433,286
Middle East						1,245			1,245
Dubai						1,245			1,245
Dubai						1,245			1,245
North America	7,383					2,941,151			2,948,534
United States	7,383					2,941,151			2,948,534
United States	7,383					2,941,151			2,948,534
Grand Total	8,779,617	125,829	15,429,747	1,219,788	2,151,480	18,273,101	226,210	485,000	46,690,772

SOURCE: Company reports

Estimating Demand for African Real Estate Using United States as a Proxy

	United States		Africa (implied estimates)
	Square Feet (millions)	Square Meters (millions)	Square Meters (millions)
Multifamily	16,383	1,522	
Office	11,780	1,094	
Retail	14,040	1,304	
Health Care	2,705	251	
Specialty, Sports, and other	0	0	
Hospitality	2,625	244	
Industrial	21,698	2,016	
Data Centers	0	0	
Self-Storage	0	0	
Towers	0	0	
Total	69,231	6,432	
Population (millions) Date: 12/31/2021	332	332	1,367
Total estimated GLA demand (millions)	69,231	6,432	26,451
÷ Population (millions)	332	332	1,367
= GLA per capita	208	19	19
GDP (\$ millions) Date: 12/31/2021	23,000,000	23,000,000	2,700,000
GDP (\$ millions)	23,000,000	23,000,000	2,700,000
÷ Total estimated GLA demand (millions)	69,231	6,432	755
= GLA per dollar of GDP	332	3,576	3,576

SOURCE: Nareit, World Bank, UN

It is also instructive to understand the current physical amount of real estate of any type, including social infrastructure, across the continent. But, due to limitations on the availability and quality of data, one of the only ways to estimate this is through an analysis of publicly listed real-estate securities on African stock exchanges.

As of the most recently available data on each of these companies, retrievable in the third quarter of 2022 (Q3 2022), the total gross lettable area (GLA) of real estate present on the African continent and owned by securities listed on African exchanges is estimated to be about 35 million sqm, with 32 million of that based in South Africa.

While this is a helpful datapoint, there are three major drawbacks. First, this only represents listed real estate. Further extrapolation and estimation would have to be applied to estimate total commercial real estate across Africa. Second, confidently estimating current stock does not provide clarity on whether the current stock is sufficient to meet current demand. Third, because it is not common practice to use the construct and category of social infrastructure, understanding what assets would fall under this framework is left to interpretation and estimation.

Making comparisons with other developed and developing countries can also help inform a baseline view of cur-

rent stock, but here, too, there are challenges. Chinese commercial floor space in 1996 was estimated to be roughly 5 billion square meters, growing to roughly 10 billion square meters by 2014.¹⁷ Estimates put India's office stock at 70 million square meters in 2021, while other estimates put India's total commercial floor area in 2017 at roughly 1.1 billion sqm.¹⁸ Estimates of African real-estate demand—using estimates of real-estate stock in the United States and assuming that it meets current market demand, for example—produce widely varying results depending on what comparison metric one uses, like GLA per capita or GLA per dollar of GDP.¹⁹ This method of extrapolation is a much cruder approach, with results highly dependent on subjective inputs and choice of metric. These comparisons also implicitly assume that African markets, including culture and preferences, are similar to developed markets, which may not be true.

Compared to retail, residential, and commercial demand analysis, social-infrastructure demand analysis may require a fundamentally different analytical framework, and the data that feed this analysis are sometimes harder to come by. Specifically, demand forecasts rely on understanding the individual industries, sectors, or social activities that these assets support.

For example, to assess the demand for student housing, one would likely want to understand, by country, things like the percentage of a population that is university aged, the percentage of those who are enrolled in school now and in the future, and what subset of students would prefer student accommodations at certain price points and locations.²⁰

This “top-down macro” approach could then be matched with a “bottom-up micro” analysis consisting of inputs from student preference surveys, analysis of existing accommodation rents and vacancies, and discussions with specific schools and local governments regarding growth plans or regulatory restrictions.

This kind of structured and disciplined approach to demand analysis can be replicated, with tweaks, for other social-infrastructure types like warehousing, where one would examine exports and imports, value chains, the impact of e-commerce, consumption levels, and manufacturing trends; healthcare, where one would consider healthcare policy, insurance markets, and available skilled labor; and so on to develop views on demand.

Regardless of the approach used, specific investment decisions should always be supported by in-depth, targeted, and comprehensive analysis of the specific market and sub-market. Gathering these data often requires bespoke local knowledge, sometimes from local statistical bureaus or professional associations, or access to certain service providers, which can be more expensive and time consuming, and can have higher search costs for non-African investors.

But, it is important to note that the clearest demand signal is also the simplest, most obvious, and least risky: the unambiguous demand of a specific tenant needing a specific property.

17 Linwei Pan, et al., “What is the Amount of China’s Building Floor Space from 1996 to 2014?” *International Journal of Environmental Research and Public Health* 17, 16 (2020), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7460047/>.

18 Kailash Babar, “India’s Office Stock Surpasses 773 Million Square Feet, Leasing 41 Million Square Feet in 2021: Report,” *Economic Times*, January 14, 2022, <https://economictimes.indiatimes.com/industry/services/property/-/construction/indias-office-stock-surpasses-773-million-sq-ft-leasing-41-million-sq-ft-in-2021-report/articleshow/88893368.cms>; Satish Kumar, et al., “Estimating India’s Commercial Building Stock to Address the Energy Data Challenge,” *Building Research and Information*, September 12, 2018, <https://www.tandfonline.com/doi/abs/10.1080/09613218.2018.1515304?journalCode=rbri20>.

19 “Estimating the Size of the Commercial Real Estate Market in the U.S.,” NAREIT, July 2019, <https://www.reit.com/data-research/research/nareit-research/estimating-size-commercial-real-estate-market-us>; Mark Eppli, et al., “A Descriptive Analysis of the Retail Real Estate Markets at the Metropolitan Level,” *Journal of Real Estate Research* 14, 3 (1997), 321–338, https://epublications.marquette.edu/cgi/viewcontent.cgi?article=1032&context=fin_fac.

20 Paige Mueller, et al., “The Future of U.S. Student Housing Demand,” National Multifamily Housing Council, July 2021, <https://www.nmhc.org/globalassets/research--insight/research-reports/student-housing/future-of-student-housing-demand-07-07-2021.pdf>.

5. Key Factors Influence Supply

Notwithstanding the level of demand for real estate overall, and social infrastructure in particular, various structural factors influence the supply of potential real-estate assets in Africa. These factors are similar to those that impact supply in developed markets, but with crucial differences endemic to the developing world. As we will see, all of these factors ultimately impact the financing available for African social infrastructure.

Land rights: The ability to secure proper land title is a prerequisite for any real-estate project globally, let alone in Africa. However, various legal frameworks and systems for land rights exist across Africa.²¹ These procedures are some-

times opaque, take a long time, and don't provide the legal comfort to which non-African investors may be accustomed.

Availability and existence of public utilities: Given the generally low level of development across Africa, certain areas may not have suitable installed public infrastructure and utilities like water, electricity, sewage, trash collection, and fire and safety services.²² The availability of these services impacts both where new developments can occur and the total cost to develop them. For example, intermittent public power may require auxiliary power sources like generators or solar to be factored into design, increasing cost.²³

Comparing Real Estate Related Activities and Costs in Africa and OECD

	Construction Permits			Getting Electricity		Registering Property			Enforcing Contracts	
	Procedures (number)	Time (days)	Cost (% of warehouse value)	Procedures (number)	Time (days)	Procedures (number)	Time (days)	Cost (% of property value)	Total time (days)	Total cost (% of claim)
AFRICA										
Mean	15	143.4	8.7	5.2	109.1	6.3	52.6	7.5	645.8	41.3
Median	15	139.5	6.0	5.0	95.0	6.0	44.0	7.4	567.5	38.8
Min	10	67.0	0.3	3.0	30.0	3.0	7.0	0.1	228.0	14.3
Max	25	275.0	35.2	8.0	482.0	12.0	190.0	14.6	1,785.0	89.4
OECD										
Mean	13	152.3	1.5	4.4	74.8	4.7	23.6	4.2	589.6	21.5
Median	12	155.5	1.0	5.0	65.5	4.2	16.5	4.4	492.0	22.4
Min	7	27.5	0.2	2.4	13.0	1.0	2.5	0.0	216.0	9.0
Max	22	300.0	4.7	7.0	257.0	11.0	135.0	12.7	1,711.0	45.7
United States										
Mean	16	80.6	0.7	4.8	89.6	4.4	15.2	2.4	444	30.5

SOURCE: World Bank Doing Business Report

21 "The Quest for Secure Property Rights in Africa," *Economist*, September 12, 2020, <https://www.economist.com/middle-east-and-africa/2020/09/12/the-quest-for-secure-property-rights-in-africa>; "How Africa Can Transform Land Tenure, Revolutionize Agriculture, and End Poverty," World Bank, July 22, 2013, <https://www.worldbank.org/en/news/press-release/2013/07/22/how-africa-can-transform-land-tenure-revolutionize-agriculture-end-poverty>; Thomas Koch, *Property Rights, Data, and Prosperity in Africa*, Atlantic Council, December 17, 2020, <https://www.atlanticcouncil.org/blogs/geotech-cues/property-rights-data-and-prosperity-in-africa/>.

22 Luis Andres, "Eight Things We Know about Water and Electricity Utilities in Africa," World Bank, October 7, 2016, <https://blogs.worldbank.org/water/eight-things-we-know-about-water-and-electricity-utilities-africa>.

23 Dhruv Gandhi, "Figure of the Week: Deployment and Use of Back-up Generators in Sub-Saharan Africa," Brookings, October 2, 2019, <https://www.brookings.edu/articles/figure-of-the-week-deployment-and-use-of-back-up-generators-in-sub-saharan-africa/>; Ben Radley, "Expanded Access to Solar Power in Africa Can Stimulate Economic Development—but There Are Risks," *Conversation*, August 12, 2022, <https://theconversation.com/expanded-access-to-solar-power-in-africa-can-stimulate-economic-development-but-there-are-risks-188414>; Nirav Patel, "Figure of the week: Electricity Access in Africa," Brookings, March 29, 2019, <https://www.brookings.edu/articles/figure-of-the-week-electricity-access-in-africa/>.

Legal and regulatory frameworks: Similar to the opaqueness found regarding land rights, differing laws and regulations governing tax regimes, how inbound investments are registered, the deductibility of building depreciation on taxes, and how dividends and capital gains are repatriated impact the attractiveness of the real-estate sector.²⁴ In addition, laws and regulations governing lease agreements may have varying stipulations regarding lease length, currency, and escalation caps. According to JLL, Africa unfortunately has some of the least transparent markets in the world when it comes to regulation.²⁵ The relative opaqueness may have a material impact on an investment strategy for international investors.

Depth and breadth of local expertise: The presence and expertise of local professional-service providers, like appraisers, tax experts, transaction advisers, developers, engineers, design consultants, architects, quantity surveyors, and construction companies with skilled trades may be of varying quality and quantity, depending on geography. Certain certifications, like those for appraisers or valuation experts, may require both international and local accreditation.²⁶ If this local expertise doesn't exist or is of low quality, then potential developers may need to incur additional costs to import these skills or services, resulting in decreased potential returns compared to those possible in developed markets.

Lack of urban-planning frameworks: Many urban-planning schools in Africa promote ideas transferred from the Global North. As a result, these programs fail to prepare planners for problems they will encounter in African cities, such as rapid growth, poverty, and informal employment. Excluding South Africa, only a handful of African countries allow subnational authorities to control 5 percent or more of the national budget.²⁷ Because settlement planning and development have remained under the control of many central governments, many African cities face funding shortages and are unable to manage rapid urbanization using static-blueprint master plans.²⁸

Cost of construction: The cost of construction is important for a number of reasons, the most important of which is the ability to build profitable projects. Organizations like AECOM, RLB, and the Centre for Affordable Housing Finance in Africa publish high-level cost estimates, which are helpful screening tools for Africa-focused investors and real-estate developers.²⁹

While a comparison of global construction costs suggests some African cities may have cheaper construction costs, in other cases, construction materials like steel and finishes may need to be imported from other regions of Africa or from outside the continent, increasing the cost of construction.³⁰

24 Bernadine Adkins, et al., "Foreign Direct Investment Regimes Fourth Edition," International Comparative Legal Guides, last visited July 30, 2023, https://bowmanslaw.com/wp-content/uploads/2022/12/FDI23-Chapter-2_Bowmans.pdf.

25 "Global Real Estate Transparency Index, 2022," JLL, last visited July 30, 2023, <https://www.us.jll.com/en/trends-and-insights/research/global-real-estate-transparency-index>.

26 "Chartered Member (MRICS)," RICS, last visited July 30, 2023, <https://www.rics.org/join-rics/rics-member-grades/chartered-member-mrics>.

27 Sam Sturgis, "Why Africa's Booming Cities Need More Autonomy in Urban Planning," Bloomberg, March 3, 2015, <https://www.bloomberg.com/news/articles/2015-03-03/supporting-africa-s-growing-cities-means-discarding-colonial-era-urban-planning-and-focusing-on-autonomy>.

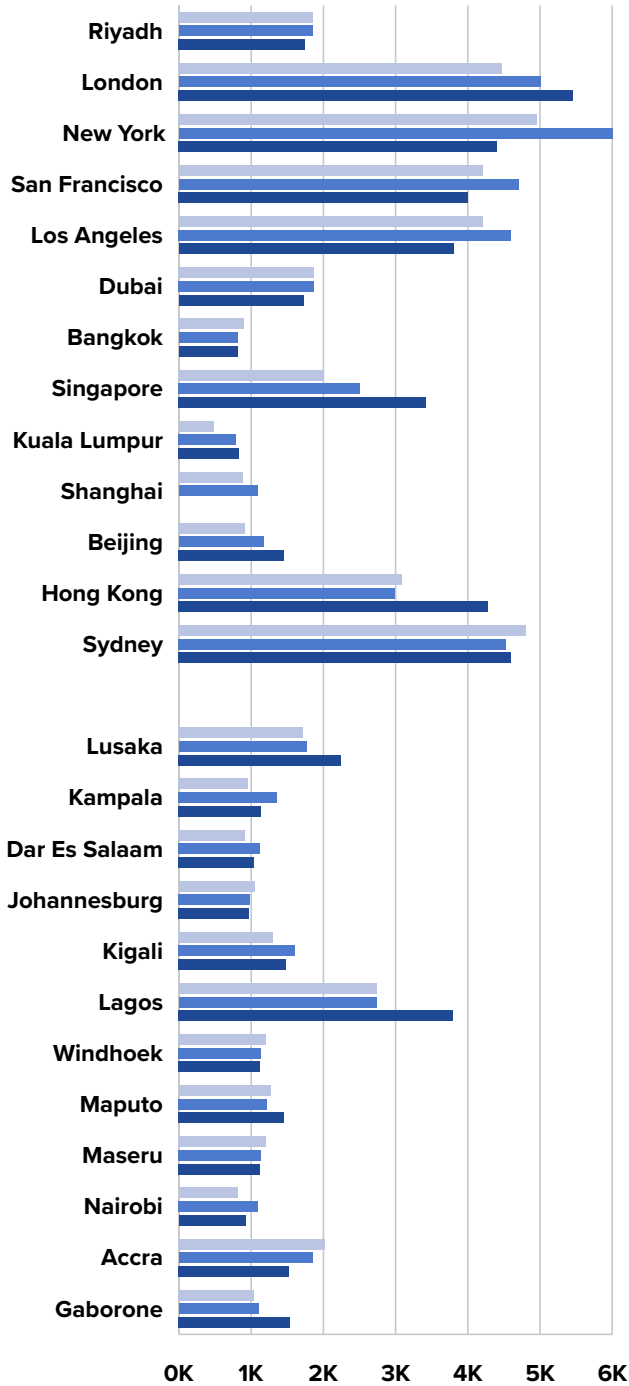
28 "The State of Planning in Africa," UN Habitat, last visited July 30, 2023, <https://unhabitat.org/sites/default/files/download-manager-files/The%20State%20of%20Planning%20in%20Africa%20%2C%20An%20Overview%20.pdf>.

29 "Africa Property and Construction Guide," AECOM, last visited August 7, 2023, https://aecom.com/africa_property_construction_cost_guide/; "The Cost of Building in Africa," Rider Levett Bucknall, April 8, 2022, <https://www.rlb.com/asia/insight/perspective-2022-vol-1/the-cost-of-building-in-africa/>; "Benchmarking Housing Construction Costs in Africa," Centre for Affordable Housing Finance in Africa, May 19, 2017, <https://housingfinanceafrica.org/documents/benchmarking-housing-construction-costs-africa/>.

30 El-hadj M. Bah, et al., "The Construction Cost Conundrum in Africa" in *Housing Market Dynamics in Africa* (London: Palgrave Macmillan, 2018), 159–214.

Comparison of Retail, Office, and Residential Construction Costs Across Various Cities

USD\$ per square meter

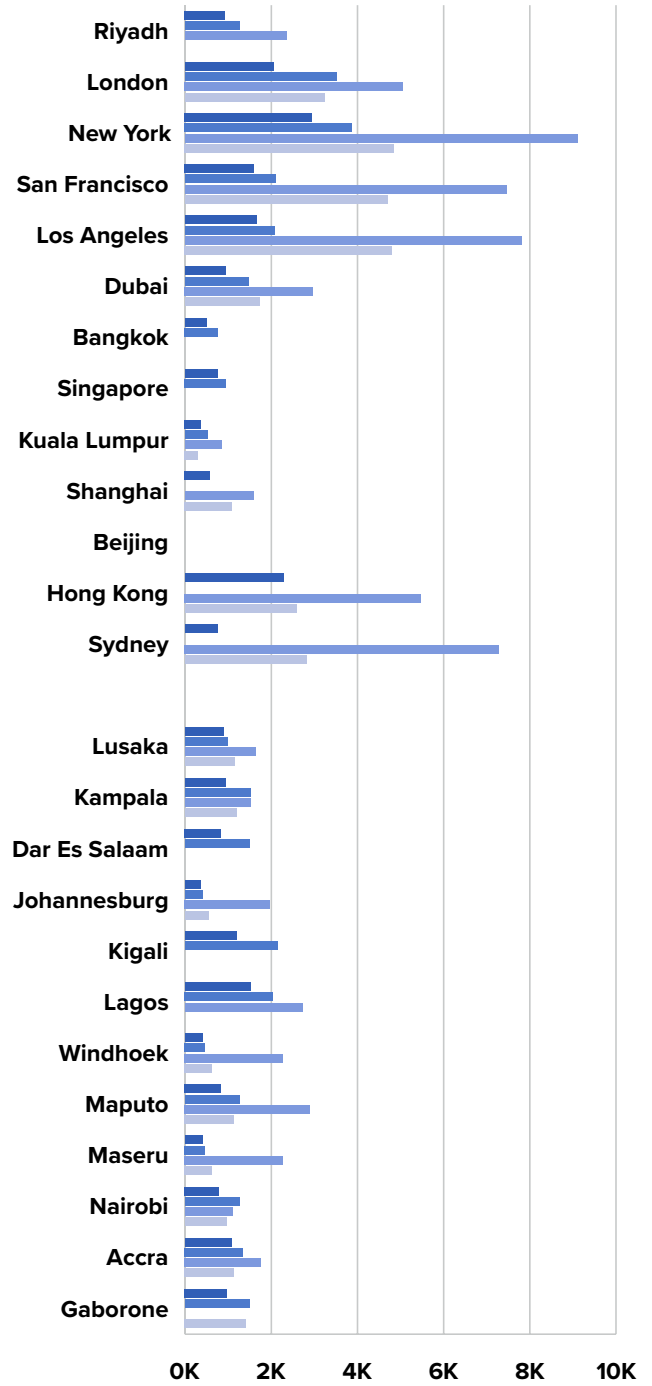


Major Shopping Centre Standard Offices High Rise
Average Multi Unit High Rise

Source: AECOM

Comparison of Social Infrastructure Construction Costs Across Various Cities

USD\$ per square meter



Primary and Secondary Schools District Hospital
Heavy Duty Factory Light Duty Factory

Source: ACEOM

6. Access to Financing Is Essential

One of the most important factors impacting the supply of all real estate, not just social infrastructure, is access to financing. The same financing considerations facing an investor underwriting real-estate investments in developed markets face those looking across Africa, but within a much more challenging economic framework. In short, finance for African real estate—and, by extension, social infrastructure—is very limited.

First, the global macro environment impacts available liquidity for emerging and frontier market assets, regardless of type.³¹ Periods of high global growth tend to draw capital into Africa.³² As the world demands commodities to fuel growth, and as international investors seek emerging-market risk investments, foreign direct investment into Africa increases.³³ These capital flows can vary wildly between countries, often differing among those that export commodities, including minerals and hydrocarbons, and among those that do not. Generally speaking, more local liquidity fuels local development and growth, bids up asset prices, strengthens currencies, lowers costs of capital, and increases available financing for local projects like real estate.

Conversely, periods of sluggish global growth or market volatility tend to cause non-African investors to seek safe havens for their capital.³⁴ As many non-African investors don't view Africa as such a haven, capital leaves the continent for the developed world, sometimes resulting in harmful "sudden stops."³⁵ Local currencies tend to weaken, inflation tends

to increase, and asset prices tend to fall.³⁶ Central banks increase interest rates to combat exchange-rate depreciation and inflation, increasing the cost of capital and limiting access to and affordability of debt financing, a key ingredient in the capital structure of real estate. The net result of these cycles is significant constraints to real-estate finance in countries like Nigeria.³⁷

Second, just like in the developed world, various business and economic cycles at the country, city, and neighborhood levels play an important role in determining the availability of financing in Africa. The country- or region-specific real-estate cycles drive tenant and developer decisions and actions, including when and where to build, and what financing may be available.³⁸ For example, a snapshot of the real-estate cycles in Lagos, Accra, Nairobi, Cairo, and Lusaka suggests that two sectors—healthcare and industrial—appear to be in the nascent phase of their respective cycles, suggesting possible attractive upside and future growth, which may entice new development.³⁹

Closely linked to the real-estate cycle is the credit cycle. Real estate everywhere is debt and, thus, interest-rate sensitive. Persistently high local currency-lending rates in many African markets make debt prohibitively expensive.⁴⁰ The lack of construction finance, in particular, causes many to incrementally put money into physical bricks and mortar, resulting in unfinished buildings in many parts of Africa.⁴¹

31 Stijn Claessens and Swati Ghosh, "Capital Flow Volatility and Systemic Risk in Emerging Markets: The Policy Toolkit," in Otaviano Canuto and Swati Ghosh, eds., *Dealing With the Challenges of Macro Financial Linkages in Emerging Markets* (Washington, DC: World Bank Group, 2013), chapter 3.

32 "Investment Flows to Africa Reached a Record \$83 Billion in 2021," United Nations Conference on Trade and Development, June 9, 2022, <https://unctad.org/news/investment-flows-africa-reached-record-83-billion-2021>.

33 Reinout De Bock, et al., "Managing Volatile Portfolio Flows," in *Global Financial Stability Report: Markets in the Time of COVID 19* (Washington, DC: International Monetary Fund, 2020), chapter 3.

34 Patturaja Murugaboopathy and Gaurav Dogra, "Investors Dump Emerging Market Funds on Slowdown Worries," Reuters, March 25, 2022, <https://www.reuters.com/business/finance/global-markets-emerging-graphics-2022-03-25/>.

35 Jonathan Wheatley, "Emerging Markets Hit by Record Streak of Withdrawals by Foreign Investors," *Financial Times*, July 31, 2022, <https://www.ft.com/content/35969b19-86db-4197-a419-b4a761094e9a>; Barry Eichengreen and Poonam Gupta, "Managing Sudden Stops," World Bank Group, April 2016, <https://openknowledge.worldbank.org/server/api/core/bitstreams/a3b9ba47-62fb-5406-a94a-f3835ed1b1f4/content>.

36 Jonathan Wheatley, "Should Investors Step Back into Emerging Markets?" *Financial Times*, June 16, 2022, <https://www.ft.com/content/b491dde4-ccc7-4e27-bf92-aa4569433faa>.

37 Kalu Nwojo Awa, Jovita Nnametu, and Fidelis I. Emoh, "Global Determinants of Direct Real Estate Investment Returns in Nigeria," *PM World Journal*, November 2019, <https://pmworldlibrary.net/wp-content/uploads/2019/11/pmwj87-Nov2019-Awa-Nnametu-Emoh-global-determinants-of-real-estate-returns-in-nigeria.pdf>.

38 Tilda Mwai, "African Real Estate Market Cycles: A Developer's Perspective," Estate Intel, last visited July 30, 2023, <https://estateintel.com/insights/african-real-estate-market-cycles-a-developers-perspective>.

39 "African Real Estate Market Cycles," Estate Intel, 2022, <https://estateintel.com/reports/african-real-estate-market-cycles>.

40 "Why Interest Rates Are So High in Africa," *Economist*, May 21, 2020, <https://www.economist.com/finance-and-economics/2020/05/21/why-interest-rates-are-so-high-in-africa>.

41 "Why Are There So Many Unfinished Buildings in Africa?" *Economist*, April 29, 2021, <https://www.economist.com/middle-east-and-africa/2021/04/29/why-are-there-so-many-unfinished-buildings-in-africa>.

All of these macro factors significantly constrain available real-estate financing.

Foreign direct investment (FDI) into Africa dropped to \$45 billion in 2022 after hitting a record of more than \$80 billion in 2021.⁴² But, this amount represents a mere 5 percent of global FDI inflows in 2021, and may be skewed upward by large natural-resource projects. More specifically, inflows into commercial real estate in Africa were only \$274 million in 2021, compared to global-real estate flows of \$38 billion in just the second half of 2022.⁴³

As of December 2021, the market capitalization of public real-estate securities in Botswana, Egypt, Kenya, Mauritius, Morocco, Nigeria, South Africa, and Tunisia, as tracked by the European Public Real Estate Association (EPRA), was roughly \$25 billion, while the total value of commercial real estate in those eight countries was estimated to be about \$330 billion.⁴⁴ By comparison, the EPRA's estimate of the value of listed real estate in the United States alone was nearly \$1.6 trillion.

Extrapolating to all of Africa, using the average ratio of commercial real estate to GDP, yields an estimated value of com-

mercial real estate across Africa of roughly \$500 billion. Unfortunately, this figure represents only about 1 percent of the value of commercial real estate globally, as calculated by EPRA.

Data on publicly listed African real-estate debt products is limited, but suggests public debt markets are also small.

One example of an innovation in the debt markets is Kenyan company Acorn Holdings' issuance of a highly publicized green bond in 2019 to support the development of student accommodations in Nairobi.⁴⁵

Capital available in private markets, particularly private equity, is also similarly limited. According to PitchBook, since 2006, there have been forty-two private-equity funds focused on African real estate. The vast majority of these funds have been domiciled outside of the United States and aren't managed by US-based fund managers. They've tended to focus on retail, office, and residential sectors rather than industrial, the latter category including many of the assets under the social-infrastructure umbrella. They've also tended to focus geographically on Nigeria, Zambia, Ghana, Kenya, South Africa, and Egypt.

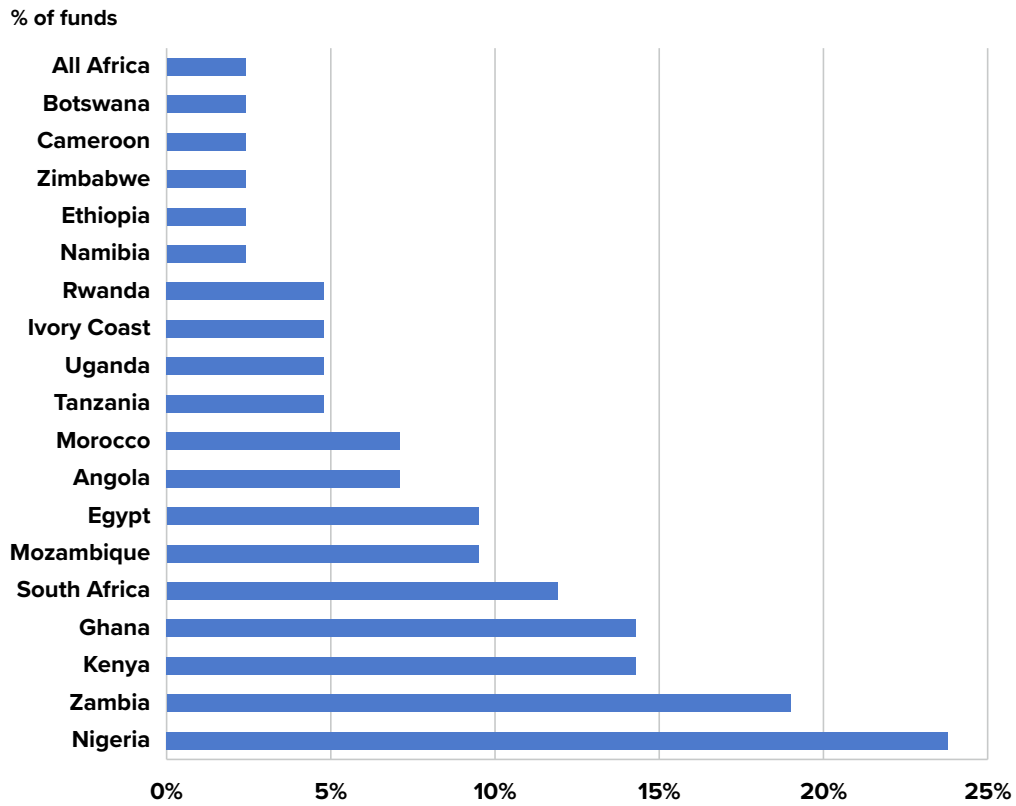
42 "Investment Flows to Africa Dropped to \$45B in 2022," United Nations Conference on Trade and Development, July 5, 2023, <https://unctad.org/news/investment-flows-africa-dropped-45-billion-2022>.

43 "The Africa Report 2022/2023," Knight Frank, 2022, <https://content.knightfrank.com/resources/knightfrank.com/reports/africareport/the-africa-report-2022.pdf>; "Global Real Estate Capital Flows H2 2022," CBRE, April 28, 2023, <https://www.cbre.com/insights/reports/global-real-estate-capital-flows-h2-2022>.

44 "Global Real Estate Total Markets Table," European Public Real Estate Association, last visited July 30, 2023, https://prodapp.epra.com/media/EPRA_Total_Markets_Table_-_Q1-2022_1649681531420.pdf.

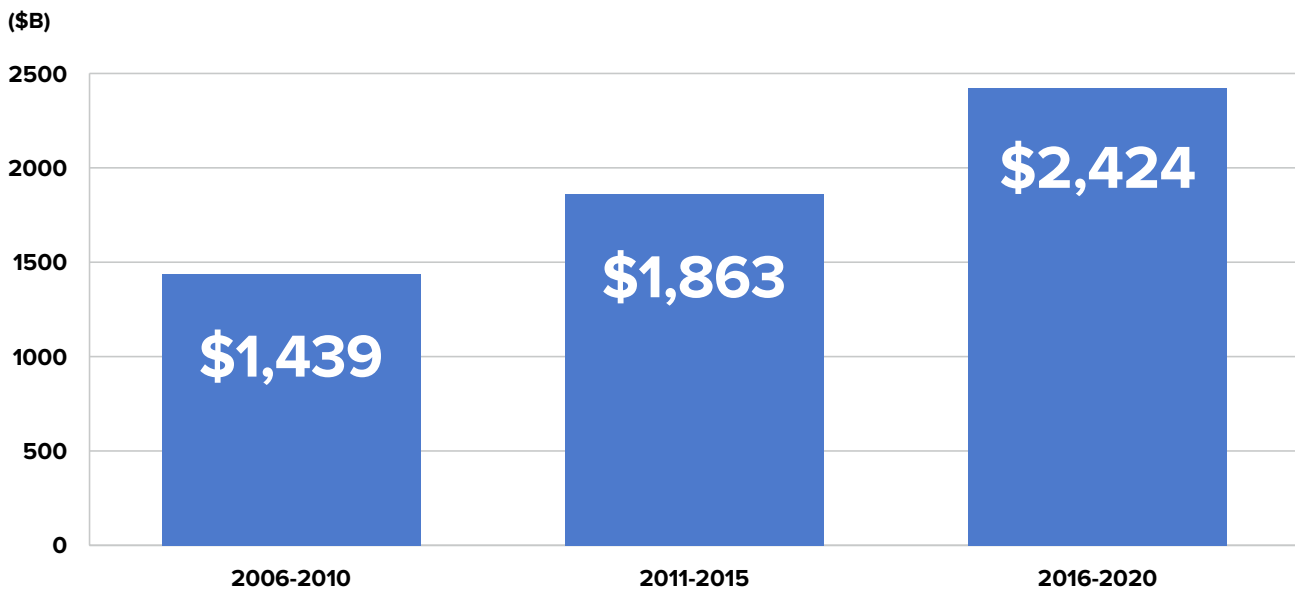
45 "Our Achievements," Acorn, last visited August 7, 2023, <https://acornholdingsafrica.com>; Vimal Parmar, "Kenyan Green Bond Programme the Acorn Bond—Case Study," FSD Africa, last visited August 7, 2023, https://unfccc.int/ttclear/misc_/StaticFiles/gnwoerk_static/2020_event03/03ec57134b164c7e8ffb3af446808469/9ef04e29de164d8fab4c4701e8be083.pdf.

Percentage of funds naming specific country targets



Source: PitchBook

Total Amounts Raised by Private Equity Real Estate Funds by Year of Close



Source: PitchBook

Unfortunately, over the past ten years, Africa-focused real-estate funds have cumulatively raised only \$4.2 billion. This equates to less than 1 percent of the \$1.5 trillion raised globally for real estate over the same period.⁴⁶

Looking at the underlying investments within these funds, the percentage share of both volume and value of real-estate deals has been declining since 2016, according to AVCA. From 2016 to 2018, real estate constituted roughly 9 percent of the volume and 4 percent of the value of deals. In 2021, real estate declined to only 1 percent of the volume and less than 1 percent of the value of deals.

Finally, the availability of private debt financing is also low. Private debt financing from development-finance institutions, multilateral development banks, and private debt funds for African real-estate projects between 2015 and the first half of 2021 was roughly \$2 billion, equating to just 5 percent of the total private debt disbursed by this group of lenders to projects and businesses in Africa over the same period.⁴⁷

Other pools of capital are available, but don't fully meet the challenge. In particular, African pension funds would seem to be a natural source of capital, given their long-term investment horizon and need for consistent, stable yield.⁴⁸ However, many African pension funds have asset allocations that tilt toward fixed-income securities, particularly government debt, rather than direct real estate, further starving the asset class of capital.⁴⁹ Increased African institutional interest in local real-estate investment trusts (REITs), for example, is constrained by a limited number of products, declining property values, and relative illiquidity.⁵⁰

46 "Global Real Estate Report H1 2022," Pitchbook, last visited July 30, 2023, https://files.pitchbook.com/website/files/pdf/H1_2022_Global_Real_Estate_Report.pdf.

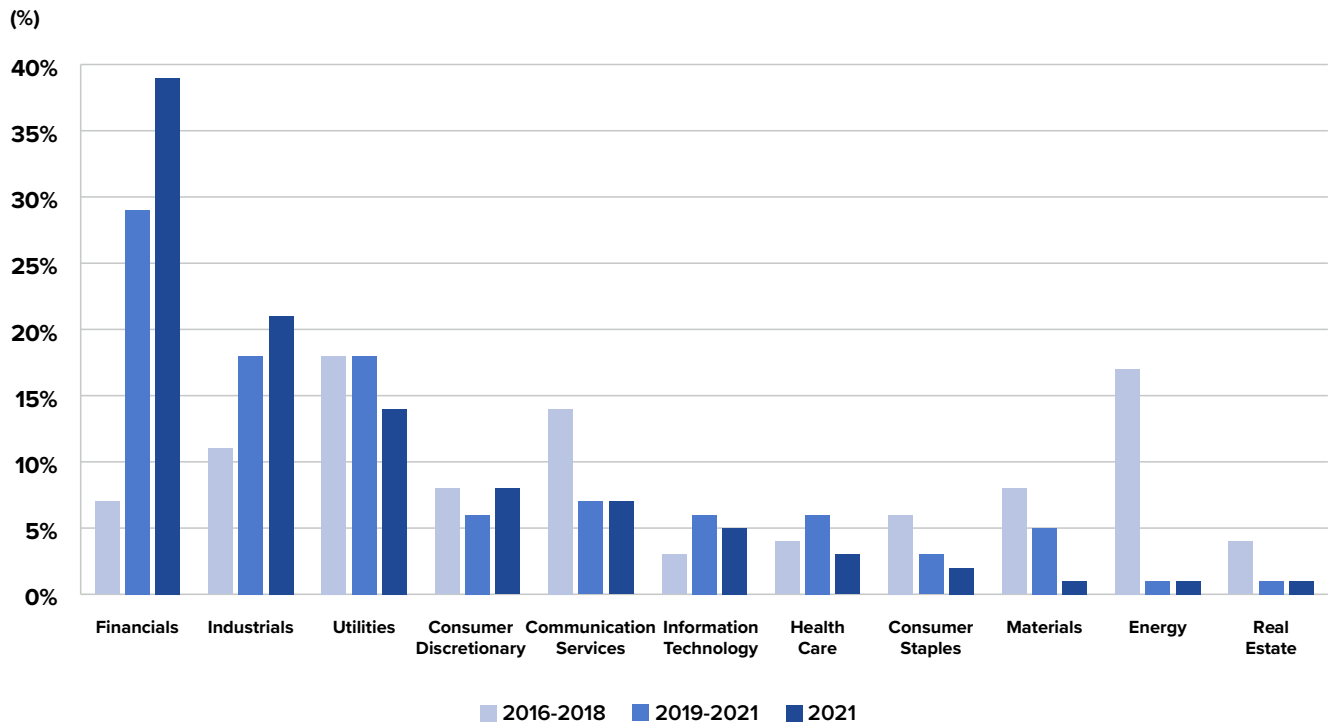
47 "Study on Private Debt Markets in Africa," FSD Africa, September 2022, <https://fsdafrica.org/wp-content/uploads/2022/10/FSD-Africa-Private-Debt-Markets-Study-Report.pdf>.

48 Amadou N. R. Sy, "Leveraging African Pension Funds for Financing Infrastructure Development," Brookings, March 2017, https://www.brookings.edu/wp-content/uploads/2017/03/global_20170314_african-pension-funds.pdf; "African Pension Funds Have Grown Impressively," *Economist*, October 2, 2021, <https://www.economist.com/middle-east-and-africa/2021/10/02/african-pension-funds-have-grown-impressively>.

49 "Pension Fund Asset Allocation (2018/2019)," Bright Africa, last visited August 7, 2023, <https://brightafrica.riscura.com/pension-industry/asset-allocation/#scroll>; "Study on Private Debt Markets in Africa," FSD Africa, UKaid, and LGHP, September 2022, <https://fsdafrica.org/wp-content/uploads/2022/10/FSD-Africa-Private-Debt-Markets-Study-Report.pdf>.

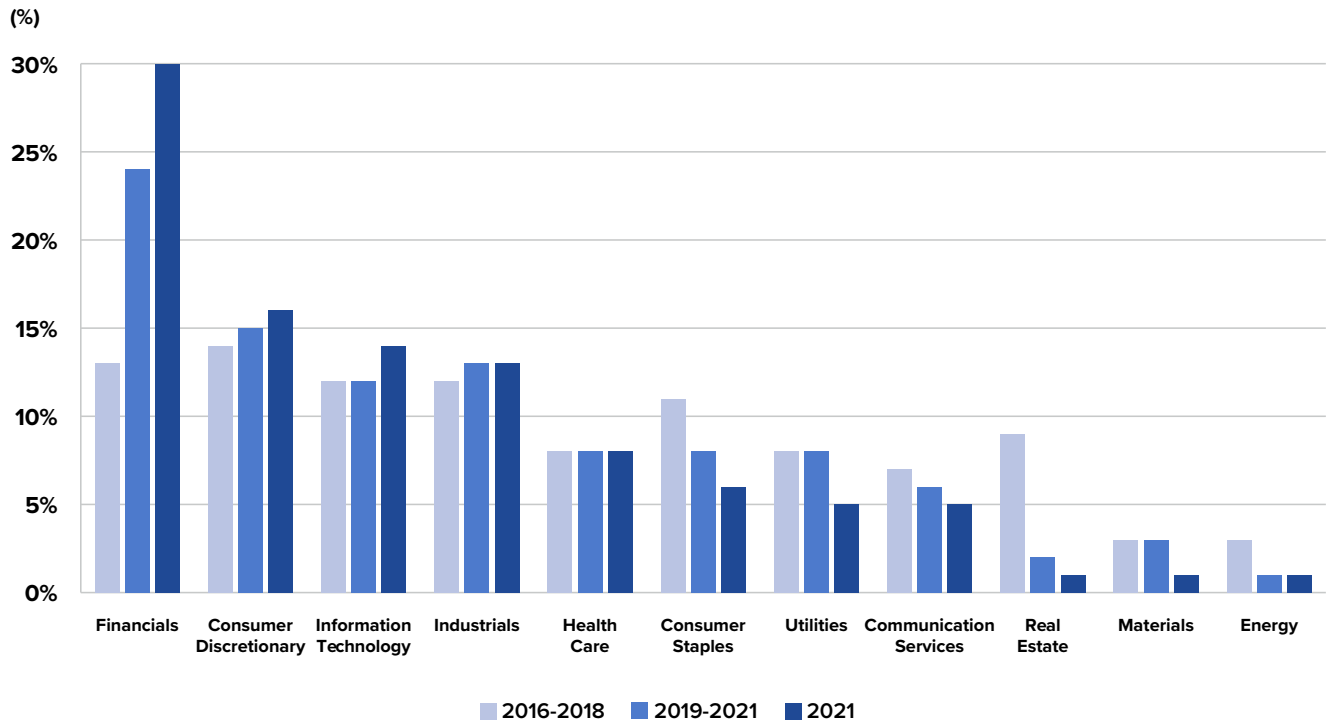
50 "Harvesting a Better Future for Ethiopia's Barley Farmers," International Finance Corporation, 2023, <https://www.ifc.org/en/stories/2023/harvesting-better-future-ethiopia-barley-farmers>.

Share of value of private capital deals reported in Africa, by sector



Source: ACVA

Share of volume of private capital deals reported in Africa, by sector



Source: ACVA

7. Mixed Performance, Attractive Yields

In general, international private-sector investors will allocate capital to African social infrastructure if it meets their return expectations. However, return data for African real estate, as a proxy for social infrastructure, are quite limited. The data that exist suggest mixed overall performance, but are generally inconclusive. This relative inability to determine performance may be a core reason why available capital has remained low.

When considering broad global asset classes, a comparison of the performance of global stocks, corporate bonds, government bonds, and real-estate securities shows that—historically and over the long term—real estate has produced attractive annualized returns.

Annualized average total return for various asset classes, December 31, 2022

	Stocks ¹	Corporate Bonds ²	Government Bonds ³	Real Estate Securities ⁴
6 months	5.75%	-5.24%	-7.64%	-9.32%
1 year	-17.74%	-16.02%	-17.91%	-24.05%
3 years	4.65%	-4.42%	-5.64%	-3.78%
5 years	5.82%	-1.64%	-2.50%	0.77%
10 years	8.57%	-0.43%	-1.20%	3.93%
20 years	8.63%	2.72%	2.36%	7.94%

1 MSCI ACWI Gross Total Return Index in USD

2 Bloomberg Global-Aggregate Total Return Index in USD

3 FTSE World Government Bond Index in USD

4 FTSE EPRA NAREIT Developed Index in USD

More specific regional analysis of real-estate performance as detailed in Appendix C shows that yields in the “Middle East and Africa” region are generally higher than those in other regions globally, and that correlations between geog-

raphies are relatively low, suggesting a benefit to be gained from geographic diversification.⁵¹

An analysis of publicly listed real-estate securities on African stock exchanges suggests two conclusions. First, average annual local-currency total returns by geography seem to be pretty poor. Second, the extent to which illiquidity helped or hindered performance, or the appearance of performance, is unclear. In short, even with this analysis, there does not seem to be enough quality public-markets data to understand the specific performance of African social infrastructure. The statistical summary of the performance of African public real-estate securities by geography, using available data and methodology, appears in Appendix D.

Private markets are the next place to look for performance measures, but they provide even fewer data. Of the forty-two African real-estate funds ever tracked by PitchBook, for instance, only two self-reported their performance, and both of these funds had negative internal rates of return. Since inception, gross internal rates of return on real estate for Africa, as reported by AVCA in early 2021, hover around 2 percent.

A Global Impact Investing Network-produced report on “real asset impact investments” concluded that real-estate “impact” funds performed less favorably than their non-impact peers, but the analysis did not break out performance in Africa, nor for social infrastructure.⁵²

While determining the investment performance of African social infrastructure is, thus, fairly elusive, insights from developed markets may provide reasons for optimism. A CBRE analysis of the global performance of “alternatives” in the industrial space indicates that many of the assets that could fit under the social-infrastructure umbrella have yields that are higher than those of general industrial. Even though Africa wasn’t called out specifically, an MSCI analysis of the returns of social property globally suggested they outper-

51 Brad Case, “A Comparison of U.S. and Global REIT Returns,” NAREIT, September 25, 2017, <https://www.reit.com/news/blog/market-commentary/a-comparison-of-us-and-global-reit-returns>. While these are compelling data points, analysis using the FTSE EPRA NAREIT indices presents two major drawbacks to understanding the performance of African social infrastructure in particular. First, the only African country included within “Middle East and Africa” is South Africa, whose nine constituents make up about one-third of the index. Second, the index does not segregate performance of different types of real estate. Other indices, like the real-estate indices on the Johannesburg Stock Exchange, the largest and most liquid capital market on the continent, tend to only capture performance of real estate in South Africa.

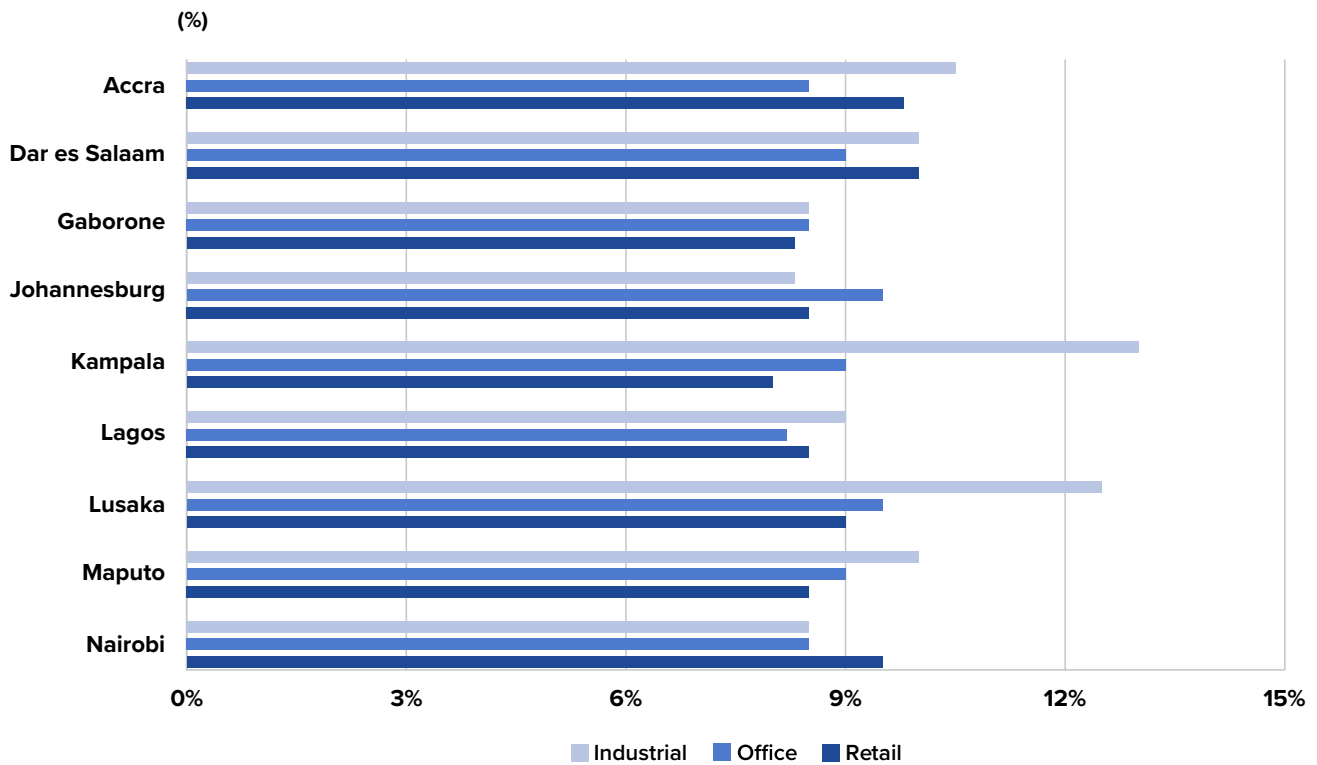
52 “The Financial Performance of Real Assets Impact Investments,” Cambridge Associates and Global Impact Investing Network, 2017, https://theigiin.org/assets/The%20Financial%20Performance%20of%20Real%20Assets%20Impact%20Investments_webfile.pdf.

Alternative Asset Yields Compared with General Industrial

Class A Yield Comparison	2018	2019	2020	2021F
R&D	5.1%	4.9%	4.7%	4.7%
Student Housing	5.5%	5.3%	5.3%	5.3%
Cold Storage	5.9%	5.7%	5.7%	5.4%
Health Care	6.0%	5.8%	5.8%	5.9%
Data Centers	6.5%	6.0%	5.8%	5.0%
Self Storage	6.0%	5.8%	6.1%	5.9%
Senior Housing	6.2%	6.2%	6.3%	6.2%
General Industrial	4.6%	4.5%	4.3%	4.1%

SOURCE: CBRE

Prime Yields in Select African Cities, 2022



Source: Knight Frank

formed the MSCI Global Annual Property Index by one hundred basis points.⁵³

In summary, from all the publicly available performance data for fund managers to consider, two general attributes of

African real estate may be attractive to investors. First, as supported by additional research, African real estate has relatively high yields.⁵⁴ Second, African real estate may provide diversification benefits to a portfolio.

53 Ben Teuben, "Beginning to Understand the Performance of Social Properties," November 22, 2021, <https://www.msci.com/www/blog-posts/beginning-to-understand-the/02867831275>.

54 "The Africa Report 2022/2023."

8. Structural Challenges Facing the Real Estate Market

African real estate, and social infrastructure along with it, will continue to face challenges to achieving more investment and scale for several reasons.

A lack of data. As we examined earlier, data deficiencies in everything from performance to market size create information asymmetries between investors and potential assets, which drive up transaction costs and create barriers to investment. Diligence, market research, and valuations, for example, become much more expensive and time consuming to conduct. In addition, the nontransparent nature of the market means that investors are forced to structure deals in ways that compensate for the lack of data and increased uncer-

tainty. These include the use of various types of insurance, forced liquidity mechanisms, a preference for hard-currency investments, a preference for control, and the like.

Higher perceived risk compared to developed markets. Higher perceptions of risk drive up expectations for returns, increasing the cost of capital, and, quite simply, act as barriers to new investment. Limited partners looking at emerging-market private equity as a whole listed “risk aversion” within their top three greatest obstacles to allocating a larger portion to emerging-market private equity.⁵⁵ Limited partners comparing various emerging-market investment destinations also generally perceive Africa as a region as riskier than others.



Workers are seen building housing units at a construction site as coronavirus disease (COVID-19) lockdown regulations ease in Fleurhof, near Johannesburg, South Africa, October 6, 2020. REUTERS/Siphiwe Sibeko

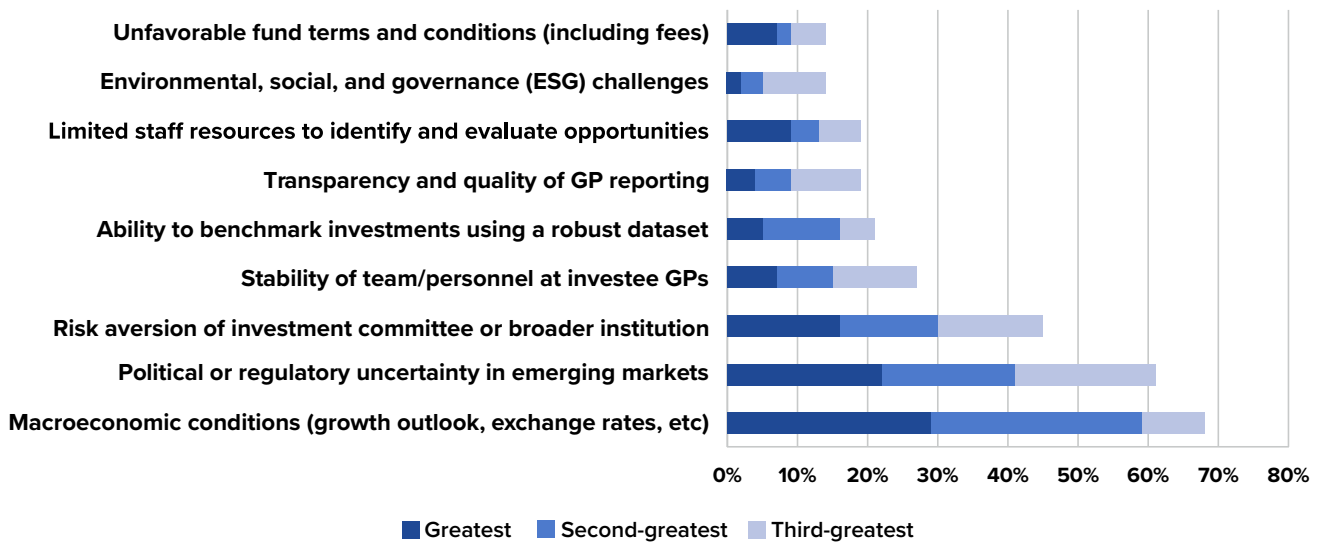
55 “Global Limited Partners Survey 2020: Investor Perspectives on Private Capital in Emerging Markets,” EMPEA, last visited July 30, 2023, <https://www.globalprivatecapital.org/app/uploads/2020/06/FINAL-2020-EMPEA-Global-LP-Survey-06.25.20-web.pdf>.

Factors Likely to Deter LPs from Investing in Individual EM Countries/Regions Within the Next Two Years

	Already at recommended exposure	Historical performance	Limited number of established fund managers	Oversupply of funds (too competitive)	Scale of opportunity to invest is too small	Entry valuations are too high	Weak exit environments	Challenging regulatory/tax issues	Prefer exposure via other asset classes	Political risk	Currency risk
Africa	14%	37%	39%	0%	26%	11%	42%	21%	16%	53%	40%
China	27%	7%	0%	15%	5%	5%	5%	24%	20%	37%	15%
India	27%	21%	8%	2%	6%	13%	17%	17%	25%	19%	33%
Southeast Asia	21%	29%	21%	6%	12%	3%	15%	9%	29%	24%	35%
Russia/CIS	10%	15%	24%	0%	15%	0%	22%	26%	15%	66%	34%
Turkey	10%	13%	23%	0%	20%	3%	21%	13%	18%	59%	48%
CEE	15%	10%	25%	0%	19%	6%	15%	8%	33%	25%	15%
Brazil	24%	16%	16%	2%	12%	4%	12%	8%	22%	31%	47%
LatAm (excluding Brazil)	24%	20%	22%	0%	14%	2%	22%	6%	18%	43%	43%
Middle East	10%	16%	26%	3%	29%	5%	24%	18%	21%	53%	27%

SOURCE: Global Private Capital Association

Greatest Obstacles to Allocating a Larger Portion of AUM to EM Private Capital, 2020



Source: Global Private Capital Association

Competition with other investable sectors in Africa. When ranking the sectors most attractive to African-focused private-equity limited partners (LPs), real estate comes up last.⁵⁶ When ranking the sectors most attractive to African-focused

private-equity general partners (GPs), real estate is again toward the bottom.⁵⁷ Among the private credit strategies in Africa that LPs could pursue, real-estate debt ranked toward the bottom in a 2019 survey.⁵⁸

56 "2021 African Private Equity Industry Survey," AVCA, April, 2021, <https://www.atc.org.tn/wp-content/uploads/2021/04/avca-private-equity-industry-survey-2021.pdf>.

57 Ibid.

58

Most attractive sectors for PE investment in Africa over the next three years, 2021

Rank	LP preferences	GP preferences
1	Healthcare and Life Sciences	Healthcare and Life Sciences
2	Financial Services	Technology
3	Technology	Agribusiness
4	Consumer Goods	Financial Services
5	Agribusiness	Consumer Goods
	Infrastructure	
6	Education	Infrastructure
	Telecommunications	Telecommunications
7	Business Services	Business Services
		Education
8	Retail	Mining and Natural Resources
		Hotels and Leisure
9	Industrial Goods	Real Estate
	Mining and Natural Resources	Utilities
	Real Estate	
10		Media and Publishing
11		Retail
		Industrial Goods

SOURCE: AVCA

While the underlying causes are unclear, some potential reasons for the relative unattractiveness of real estate seem intuitive. In general, real-estate investments require larger absolute amounts of money, while venture-type investments require much less capital, and these smaller sums of money may be more palatable for “Africa-curious” investors. Negative perceptions of performance vis-à-vis other sectors like fintech may also hurt the attractiveness of real estate.

Persistently high cost of debt. Developed-market real estate, in general, relies upon significant amounts of cheap debt to generate leveraged returns to equity. In Africa, the relatively high cost of debt financing from local commercial banks may limit these potential returns. In addition, the potential for higher volatility in cash flows negatively impacts generally acceptable debt-service coverage ratios, which reduces the level of debt that can be applied to a property, decreasing potential returns in a structural way.

Complex and time-consuming development processes. Extra time needed for permitting, the development of plans, land titling, and government approvals, for example, can negatively impact potential returns. The requirement for upfront risk capital to cover soft development costs like renderings, feasibility, engineering, and design may be higher than similar costs in developed markets.

Difficult exit environment. Among limited partners who already invest in Africa, the biggest challenge toward further investment in African private equity overall, not simply real estate, is exit difficulty. The magnitude, frequency, and duration of economic cycles, and their impact on real-estate assets, are much more difficult to predict in Africa, leading to greater uncertainty and difficulty in timing exits. Potential buyers are also harder to come by. For example, REITs, a natural off-taker for stabilized assets in developed markets, are still immature in Africa, and, not many exist outside of South Africa.⁵⁹ Secondary markets in general remain underdeveloped, particularly for private-equity funds.

Perceptions that real estate, in general, is not impactful. Impact-motivated investors may have perceptions that real estate is not as impactful as other investment opportunities in sectors like agriculture, healthcare, or energy.

59 “Worldwide Real Estate Investment Trust (REIT) Regimes,” PricewaterhouseCoopers, June 2021, <https://www.pwc.com/gx/en/asset-management/assets/pdf/worldwide-reit-regimes-june-2021.pdf>; “What Is a REIT and How to Invest in One?” SAREIT, last visited August 7, 2023, <https://sareit.co.za>.

9. Meaningful Impact

On the contrary, plenty of frameworks exist that can help fund managers, fund investors, and others in the real-estate ecosystem understand and measure the environmental, social, and governance impact of real estate. The United Nations-sponsored Principles for Responsible Investment (PRI) has a comprehensive list of considerations specifically relating to real estate and meant to guide investors through the investment process while keeping an eye on environmental, social, and governance issues.⁶⁰ The Sustainability Accounting Standards Board (SASB) has outlined standards meant to support an audit-like review of players in the real-estate industry, with a particular focus on “energy management, water management, climate change adaptation, and management of tenant sustainability impacts.”⁶¹ The Global Impact Investing Network (GIIN) has established the IRIS+ to support investment measurement and impact, and offers several real-estate metrics.⁶² All of these frameworks touch on similar themes, including energy efficiency, resource management, carbon emissions, and tenant impacts, and any is suitable for measuring the impact of African social infrastructure.

Building certifications, in particular, are helpful signaling tools that tell investors and tenants about the “greenness” of a building. The International Finance Corporation’s (IFC’s) EDGE is the most used framework in emerging markets, and it focuses on achieving “savings in energy, water, and embodied energy in materials.”⁶³ According to Estate Intel, there are more than three hundred “green buildings” in Africa outside of South Africa, with the EDGE certification achieved on three-quarters of those buildings.⁶⁴ However, these buildings only represent about 12 percent of the average total stock in major cities, suggesting there is far more green building to go.

New technologies offer the opportunity to change the character and trajectory of African real-estate development and its overall impact. Advances in property technology, or “proptech”—including 3D printing, prefabrication, and use of innovative building materials—can help reduce carbon footprints, increase the speed of development, lower the cost of construction, and upskill local workers.⁶⁵ The application of these new technologies could allow African cities to leapfrog their developed-world peers, and possibly to act as an example of sustainable development for the rest of the developing world.

General economic development is the final aspect of the impact of social infrastructure. The creation and maturation of both supply chains for building materials and professional services for engineering, design, property management, and the like can all be supported by the development of social infrastructure. Job creation is perhaps the most important aspect of economic development.

While no specific data detail the number of jobs created by the real-estate sector across Africa, using developed-market proxies can be informative. For example, in the United States, the real-estate sector, defined as NAICS code 531, employs roughly 1.7 million people. If we assume that the percentage of the US population employed in the real-estate sector is a global constant, then the potential for related jobs across Africa is more than six million. However, estimating employment across the continent is nearly impossible due to the difficulties in data gathering, the prevalence of the informal economy, and difficulties defining the real-estate sector outside of the United States. Even so, it is an instructive thought experiment to consider the potential jobs that could be created.

60 “Real Estate,” Principles for Responsible Investment, July 18, 2022, <https://www.unpri.org/introductory-guides-to-responsible-investment/an-introduction-to-responsible-investment-real-estate/5628.article>.

61 “Real Estate Owners, Developers & Investment Trusts: Sustainability Accounting Standard,” Sustainability Accounting Standards Board, March 2016, <https://www.reit.com/sites/default/files/meetings/REITWise17/Sustainability/SASB%20Standard.pdf>.

62 “About,” IRIS+ System, last visited September 9, 2023, <https://iris.thegiin.org/about/>; “IRIS Catalog of Metrics,” IRIS+ System, last visited September 9, 2023, <https://iris.thegiin.org/metrics/?search=&category%5B0%5D=cat-real-estate&sortby=alphabetical>.

63 “EDGE: Excellence in Design for Greater Efficiencies (EN),” EDGE, last visited September 9, 2023, <https://edgebuildings.com/edge-excellence-in-design-for-greater-efficiencies/>.

64 “2022 Africa Green Building Fact Sheet,” Estate Intel, 2022, <https://estateintel.com/reports/2022-africa-green-building-fact-sheet>.

65 “PropTech 2020: The Future of Real Estate,” University of Oxford, February 2020, <https://www.sbs.ox.ac.uk/sites/default/files/2020-02/proptech2020.pdf>; Sean Fleming, “The Affordable 3D-Printed Home that Could Transform African Urbanization,” World Economic Forum, June 30, 2021, <https://www.weforum.org/agenda/2021/06/3d-printed-home-african-urbanization/>; “Top 4 Reasons Why Modular Construction in Africa Is Gaining Pace,” Constructionreview, May 24, 2022, <https://constructionreviewonline.com/modular-and-prefabs/top-4-reasons-why-modular-construction-in-africa-is-gaining-pace/>; “Holcim Delivers Africa’s Largest 3D-Printed Affordable Housing Project,” Holcim, December 6, 2021, <https://www.holcim.com/media/media-releases/largest-3d-printed-affordable-housing-project-africa>.

Estimating Potential for Job Creation in Real Estate in Africa

	United States	Africa (implied estimates)
Employment in real estate NAICS 531000	1,671,940	
Total population Date: 12/31/2021	332,402,978	1,367,000,000
Employment in real estate	1,671,940	
÷ Total population	332,402,978	
= Percentage of population employed in real estate	0.5%	0.5%
Hypothetical potential employment in real estate		6,875,817

SOURCE: UN, BLS

10. Recommendations for GPs: Guiding Principles for Developing a Practical and Risk-Conscious Investment Strategy

Given the challenges described above, investment managers—specifically, private-equity fund managers—would be well served to deploy a well-designed strategic framework to account for the nuances, risks, and opportunities available in African social infrastructure. At the center must be an approach that balances the needs of fund managers, fund investors, and the underlying assets in the given environment. The suggested principles laid out below touch on specific items that fund managers should consider when designing an effective African investment strategy, although they are not all-encompassing nor universally applicable.

Use inefficient markets to your advantage. While the lack of data, in general, creates many challenges, it also creates opportunities for skilled investors to capture “alpha,” or above-average, returns.⁶⁶ For example, niche knowledge about local-market opportunities due to proprietary relationships and networks could result in purchasing an asset at well below market value, or being able to exit into a favorable market environment. In short, if you happen to have access to relevant data in a data-deficient environment, that can give you a competitive advantage.

Take advantage of the lack of properties. The long-term structural demand for property clearly means there is opportunity for greenfield development. Consider a build-to-core strategy that blends development risk with stabilized property risk.⁶⁷ This strategy builds greenfield properties, holds them for income, and sells them at a time both convenient to all parties and when valuations are attractive. Returns are, thus, generated from a combination of capital appre-

ciation from development to stabilized yield compression and income from stabilized asset yield. For example, Africa Logistics Properties builds to suit for prospective tenants, and then has the option of holding those properties on its own balance sheet to generate income.⁶⁸

Harness the attractive yield. Speaking of yield, the higher relative yields from African real estate create opportunities for yield-focused investment vehicles like private REITs, permanent capital vehicles, and long-duration funds.⁶⁹ These structures can help create attractive yield-producing investment products that cater to longer-term, yield-focused investors. For example, Actis’ new West Africa Real Estate Income Fund was designed specifically as an income fund to cater to yield-hungry African institutional investors, including Stanbic IBTC Pensions Managers, FCMB Pensions Limited, and Pensions Alliance Limited.⁷⁰ Sanlam Africa Core Real Estate Investments Limited, or SACREIL, pursues a similar strategy focused on stabilized, income-producing assets.⁷¹

Maintain exit flexibility. The traditional private-equity fund structure employed in many developed markets, often consisting of limited-life vehicles of ten or so years, is largely ill suited for African real estate.⁷² This is because of the increased cyclicity of these markets, and the need to survive across often-unpredictable market cycles. In this environment, closed-end, limited-life fund structures force fund managers to liquidate assets regardless of the external macro environment. Using longer-duration or permanent capital vehicles can help provide exit flexibility.⁷³ For example, Lango uses a structure similar to that of a private REIT.

66 James Chen, “Alpha: What It Means in Investing, with Examples,” Investopedia, last updated May 25, 2023, <https://www.investopedia.com/terms/a/alpha.asp>.

67 Margarita Foster, “Understanding the ‘Build-to-Core’ Strategy,” LoopNet, July 11, 2022, <https://www.loopnet.com/learn/understanding-the-build-to-core-strategy/1345258879/>;

68 “About Us,” Africa Logistics Properties, last visited September 9, 2023, <https://africawarehouses.com/about-us>.

69 “Permanent Capital Vehicles: An Overview of Alternative Structures and Terms,” Global Private Capital Association, January 10, 2022, <https://www.globalprivatecapital.org/research/permanent-capital-vehicles-an-overview-of-alternative-structures-and-terms/>.

70 Deborah Jesusegun, “Actis Concludes First Close of Its \$US 45 Million Fund; NREIF,” Estate Intel, 2022, <https://estateintel.com/actis-concludes-first-close-of-its-us-45-million-fund-nreif>.

71 “About Us,” SACREIL, last visited September 9, 2023, <https://www.sacreil.com/about/>.

72 “Private Equity Funds: Key Business, Legal, and Tax Issues,” Debevoise & Plimpton, 2020, https://www.debevoise.com/-/media/files/pdf/the_private_equity_cookbook.pdf.

73 “Permanent Capital Vehicles.”



A worker secures the bales of different categories of waste, after being sorted at the Waste Want waste management plant, on World Environment Day in Cape Town, South Africa June 5, 2023. REUTERS/Nic Bothma

African institutional investors with long-term liabilities, like pension funds and insurance companies, are naturally suited to directly own stabilized, yielding real-estate assets.⁷⁴ This natural fit creates an opportunity for fund managers to exit to local institutional investors directly. Alternatively, in green-field developments or acquisitions, fund managers and local institutional investors may desire to co-invest alongside each other to finance and close a deal, but they may have different expectations and motivations for the duration of the

hold period. In this case, fund managers could structure a “put,” in which they agree to sell their portion of the deal to the local institutional investor, achieving a manufactured exit and enabling the local institutional investor to gain complete ownership of the stabilized, yielding asset—a win-win situation for both parties.⁷⁵ Similarly, the use of investment instruments that self-liquidate, like self-liquidating dividends and debt instruments, eliminate the requirement to sell an asset and, thus, avoid exit risk.⁷⁶

74 Meredith Despina, “The Role of Real Estate in Pension Funds,” NAREIT, August 7, 2019, <https://www.reit.com/news/blog/nareit-developments/role-real-estate-pension-funds>; Gerard-Jan van Berckel, “The Evolution of Real Estate and Real Assets Investment by Insurers,” Aon, last visited September 9, 2023, <https://www.aon.com/unitedkingdom/insights/evolution-of-real-estate.jsp>.

75 James Chen, “Put Option: What It Is, How It Works, and How to Trade Them,” Investopedia, last updated September 7, 2023, <https://www.investopedia.com/terms/p/putoption.asp>.

76 “Repository of Alternative Financing Structures for Early-Stage Impact Investing,” Global Impact Investing Network, last visited September 9, 2023, <https://thegiin.org/repository-of-alternative-financing-structures-for-early-stage-impact-investing/>; “Demand Dividend: Creating Reliable Returns in Impact Investment,” Santa Clara University, June 2013, https://thegiin.org/assets/Santa%20Clara%20U_Demand-Dividend-Description.pdf.

Expect and work within the volatility. Surviving and thriving within a more volatile environment means taking extra steps to mitigate potential risks, and employing strategies that reflect current macro conditions. During upswings in the cycle, fund managers could consider offensive strategies that take advantage of structural demand, including pursuing greenfield development. During downswings in the cycle, fund managers could consider defensive strategies that focus on diversification and income generation from high-quality stabilized properties. Downswings, often characterized by a stronger dollar, may also mark an attractive time to deploy capital into new projects or acquisitions to take advantage of currency strengths.

Consideration should also be given to structuring deals to handle downside risk. For example, the use of back-to-back guarantees or letters of credit can help buyers and sellers—or developers, financiers, and tenants—have increased confidence in each other and the desired outcomes of a transaction.

Minimize foreign-exchange (FX) risk. Currency risk is one of the primary barriers to larger investment in Africa writ large. Where permissible under local regulations, fund managers should seek lease agreements in hard currencies. Where available, fund managers should seek local, rather than hard-currency, debt financing. If property cash flows are predictable in terms of size and timing, fund managers could consider FX hedges, although they may be expensive and impractical.

Construct a durable portfolio. Within the objectives of a fund, fund managers should seek to construct a portfolio of assets that achieves diversification across property types, locations, currencies, and tenants. As suggested earlier, diversification can also be achieved by blending income-producing properties with developments.

Partner with strong tenants. Quality tenants can be tremendously helpful to development-project viability and performance. For example, the fact that a blue-chip, credit-worthy corporation may be the tenant may unlock the ability to use local bank debt on affordable terms. Tenants with strong balance sheets may also be willing to fund presales that help finance initial development costs. For example, GRIT Real Estate Income Group, along with its development subsidiary Gateway Real Estate Africa, focuses on partnerships with high-quality, multinational tenants who lock in hard-currency, inflation-linked leases.⁷⁷

Projects with lower-quality tenants, or no tenant at all, should be assessed with caution. While some speculative building strategies work out, they may carry more risk and should be carefully studied.⁷⁸

Seek trusted local partners. Projects anywhere will often succeed or fail by the strength of the team, but the requirement for competent local partners is magnified in Africa. Fund managers should spend extra time and money identifying and vetting quality service providers, including developers, construction companies, transaction advisers, consultants, and the like. Due diligence that includes referral-network assessments, regulatory know-your-partner checks, and reviews of previous work are extremely important when vetting potential partners.

Set clear and realistic expectations with potential investors. Expectation management can set the right conditions for a mutually beneficial relationship between fund managers and fund investors. Speak to potential investors early and often to understand and address their concerns, including being prepared to answer questions about various categories of risk that are high on the minds of potential investors. In addition, plan for a longer fundraising cycle, and one that includes an educational component for investors who are new to Africa.

Develop the ecosystem. A rising tide lifts all boats, and actions that individual fund managers take to enhance the ecosystem benefit others as well as them. Fund managers with significant prior experience in developed markets or other emerging markets should seek to transfer knowledge to local partners during the development or acquisition process, thereby enhancing their capability, capacity, and quality. In addition, fund managers should push capital-market innovations that expand sources of capital and exit mechanisms for real estate, including establishing more publicly listed REITs and advocating for the ability of institutional investors to own real-estate assets directly. Finally, fund managers should seek to publish as many data as possible on items such as performance, job creation, and environmental impact, in order to reinforce the opportunity and benefits to be gained from real estate and social infrastructure.

77 "About Us," GRIT Group, last visited September 9, 2023, <https://grit.group>; "Projects," Gateway Real Estate Africa, last visited September 9, 2023, <https://greafrika.group>.

78 "Africa Logistics & Industrial Review: H2 2021," Knight Frank, 2021, <https://content.knightfrank.com/research/1114/documents/en/africa-logistics-industrial-review-h2-2021-8474.pdf>.

11. Recommendations for DFIs: DFIs Continue to Play an Important Role, but Can Do More

D FIs have always played an important role in the development of African real estate. Because real estate relies on affordable debt financing, and because local lending rates are often prohibitively expensive, DFIs play a crucial role in the provision of credit on below-market, or concessional, terms. In addition, DFI involvement in projects creates a positive signaling effect for private-sector investors, helping to crowd-in other commercial capital.

But there is still more to do.

Expand local-currency lending. In general, DFIs prefer to lend to the public and private sector in hard currencies.⁷⁹ While hard-currency lending is advantageous for DFIs, this type of lending simply transfers the currency risk onto the borrower. When project cash flows are in local currency and debt is in a hard currency, there is greater potential for financial distress during periods of market volatility and exchange-rate movements. DFIs should work to expand the use of local-currency, or “synthetic-currency” lending, and accept the currency risk.⁸⁰

Publish more data on defaults and performance. DFIs are notoriously bad about making performance data public.⁸¹ The IFC, in particular, sometimes tucks away certain private-equity investment performance statistics in various reports, but these are rarely segregated by geography or sector, and sometimes lead to conflicting conclusions.⁸²

Lending data are even more difficult to get. For example, a consortium of DFIs recently released a report on default rates

for private and sub-sovereign lenders.⁸³ While helpful, it does not break out default rates by sector, such as real estate. In short, more performance data would help investors assess risk, develop benchmarks, and set expectations.

Support further research into the sector. As has been pointed out, understanding the scale and scope of social infrastructure and real estate is difficult. DFIs should fund and support further primary research into the asset class in ways that help identify the actual size of the opportunity, barriers to investment, and ways to unlock financing.

Increase available technical-assistance funds. Getting a project investment ready and determining feasibility sometimes require large amounts of upfront risk capital that project sponsors are wary of spending, primarily because there is a risk they won’t get it back. To help de-risk projects, DFIs should increase their available technical-assistance mechanisms for social-infrastructure project sponsors. Feasibility studies, architectural renderings, surveys, land-titling fees, permit fees, and other legal structuring items should be eligible for DFI technical-assistance funding.

Embrace real estate as impactful. Perceptions of impact may hinder deeper DFI focus and support for the sector. The International Finance Corporation and British International Investment note a focus on real estate publicly on their websites, but they are among the exceptions to the rule. While Proparco indicates that it may look at low-income housing and hotels, and Swedfund doesn’t mention real estate as a focus sector but has previously invested in a few hotels, the Swiss development institution notes a single real-es-

79 “Local Currency Lending Is a Double Win: Sustainability and Lower Financing Costs,” Currency Exchange Fund (TCX), April 2022, <https://www.tcxfund.com/wp-content/uploads/2022/04/Local-currency-lending-is-a-double-win.pdf>; “Why Hard-Currency Infrastructure Funding Is So Last Century,” Development Finance, December 13, 2018, <https://www.devfinance.net/industry/why-hard-currency-infrastructure-funding-is-so-last-century/>.

80 Alexander Kozul-Wright and Ruurd Brouwer, “Development Banks Should Reform Their Lending Practices,” Inter Press Service, October 11, 2022, <https://www.tcxfund.com/wp-content/uploads/2022/10/Development-banks-should-reform-their-lending-practices.pdf>.

81 Nancy Lee, Gary Forster, and Sally Paxton, “MDBs Could Do More to Build Markets Just by Releasing More Data,” Center for Global Development, June 29, 2021, <https://www.cgdev.org/blog/mdbs-could-do-more-build-markets-just-releasing-more-data>.

82 “Creating Impact—The Promise of Impact Investing,” International Finance Corporation, April 7, 2019, <https://www.ifc.org/en/insights-reports/2019/promise-of-impact-investing>; “Report: Moving Toward Gender Balance in Private Equity and Venture Capital,” International Finance Corporation, March 6, 2019, <https://www.ifc.org/en/insights-reports/2019/gender-balance-in-emerging-markets>; “IFC SME Ventures: Investing in Private Equity in Sub-Saharan African Fragile and Conflict-Affected Situations,” International Finance Corporation, November 26, 2018, <https://www.ifc.org/en/insights-reports/2018/sme-ventures-nov-2018>.

83 “Default Statistics: Private and Sub-Sovereign Lending 2001–2019,” Global Emerging Markets Risk Database, 2021, https://www.gemriskdatabase.org/wp-content/uploads/2021/04/gems_default_statistics_private_and_sub-sovereign_lending_2001_2021_en.pdf.

tate investment over the past two decades and KfW doesn't mention real estate at all on its website.⁸⁴ Thematic focuses around sustainable agriculture, access to energy, and growth of the banking sector are very important, but nearly all of these pillars have a real-estate nexus as well.

84 "Infrastructures," Proparco Groupe, last visited September 9, 2023, <https://www.proparco.fr/en/page-thematique-axe/infrastructures>; "The Model," Swedfund, last visited September 9, 2023, <https://www.swedfund.se/en/the-model/#Sectors>; "About Us," Swiss Investment Fund for Emerging Markets, last visited September 9, 2023, <https://sifem.ch/investments/portfolio>; "Die Angeforderte Seite Wurde Leider Nicht Gefunden," KfW, last visited September 9, 2023, <https://www.kfw-entwicklungsbank.de/International-financing/KfW-Development-Bank/Our-topics/SDGs/>.

12. Conclusion

Although increased investment in African social infrastructure faces strong headwinds, there are reasons for optimism and areas of opportunity. Structural demand for social infrastructure is there, but quantifying it is difficult. Structural factors make development difficult, with a severe lack of capital being the most problematic. From the limited available data, total return performance seems poor, but yields seem attractive and the assets may provide diversification benefits.

For fund managers, there may be ways to construct strategies that simultaneously guard against downside risk while harvesting the best attributes of African social infrastructure.

Development-finance institutions have an important role to play in the maturation of the space, starting with recognizing and reinforcing the positive economic and social impact that real estate of all shapes and sizes can have on development. Finally, data about African real estate, in the most general and broad sense, are lacking, negatively impacting the ability to study the asset class, form definitive conclusions, and ultimately make risk-informed investments.

With an open understanding of these challenges and opportunities, investors, development professionals, and policymakers can get to work helping construct the future of African social infrastructure.

APPENDIX A

These charts and the data behind them.

Correlation matrix for various real estate indices, December 31, 2022

Correlation Matrix	ENXGUS Index ¹	ENHPU Index ²	TEREEU Index ³	ENHMU Index ⁴	ENHAU Index ⁵
ENXGUS Index	1.00	0.48	0.79	0.42	0.96
ENHPU Index	0.48	1.00	0.69	0.37	0.29
TEREEU Index	0.79	0.69	1.00	0.54	0.62
ENHMU Index	0.42	0.37	0.54	1.00	0.24
ENHAU Index	0.96	0.29	0.62	0.24	1.00

- 1 FTSE EPRA NAREIT Global Index
- 2 FTSE EPRA NAREIT Asia Pacific Index
- 3 FTSE EPRA NAREIT Europe Index
- 4 FTSE EPRA NAREIT Middle East and Africa Index
- 5 FTSE EPRA NAREIT Americas Index

FTSE/EPRA NAREIT Global Real Estate Index Series Historical Returns

	Global				Americas				Asia/Pacific				Europe				Middle East/Africa			
	Total Return (%)	Price Return (%)	Income Return (%)	Dividend Yield (%)	Total Return (%)	Price Return (%)	Income Return (%)	Dividend Yield (%)	Total Return (%)	Price Return (%)	Income Return (%)	Dividend Yield (%)	Total Return (%)	Price Return (%)	Income Return (%)	Dividend Yield (%)	Total Return (%)	Price Return (%)	Income Return (%)	Dividend Yield (%)
12/31/02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/31/03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/31/04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/30/05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/29/06	43.72	38.55	5.18	-	36.63	31.06	5.57	-	39.72	34.92	4.81	-	69.69	65.28	4.41	-	13.20	4.78	8.42	-
12/31/07	-4.65	-7.87	3.21	-	-13.98	-17.64	3.66	-	18.60	15.41	3.19	-	-24.46	-26.54	2.08	-	33.35	26.36	6.99	-
12/31/08	-48.90	-51.28	2.39	6.70	-42.37	-45.48	3.11	7.57	-53.99	-55.81	1.82	5.59	-51.18	-53.31	2.13	7.09	-34.48	-39.37	4.89	7.89
12/31/09	41.25	34.76	6.50	3.79	37.31	30.33	6.98	3.60	44.91	39.45	5.46	3.58	40.94	33.53	7.41	4.44	43.30	31.35	11.96	7.83
12/31/10	20.03	15.65	4.38	3.54	28.00	23.28	4.72	3.49	16.25	12.47	3.78	3.24	8.68	3.94	4.74	4.12	37.17	27.50	9.67	6.27
12/30/11	-8.14	-11.56	3.42	4.12	3.99	0.23	3.76	3.83	-19.74	-22.57	2.82	4.09	-13.38	-16.95	3.57	4.98	-18.20	-23.60	5.39	6.89
12/31/12	29.85	25.07	4.78	3.49	17.65	13.48	4.17	3.67	48.10	43.04	5.05	2.93	31.31	25.12	6.19	4.23	33.20	25.95	7.26	5.27
12/31/13	2.24	-1.28	3.52	3.67	-0.72	-4.41	3.69	4.12	1.34	-1.62	2.96	2.97	14.78	10.30	4.48	3.86	10.46	4.92	5.54	4.50
12/31/14	14.73	10.57	4.16	3.40	26.19	21.28	4.92	3.71	2.08	-1.22	3.30	2.95	9.47	5.65	3.82	3.19	14.96	10.17	4.78	4.12
12/31/15	-0.41	-3.86	3.45	3.61	0.71	-3.06	3.78	3.95	-4.58	-7.58	3.00	3.27	6.06	2.79	3.27	3.07	-15.31	-19.03	3.72	4.74
12/30/16	4.62	0.89	3.72	3.81	8.20	4.29	3.91	4.05	3.74	0.19	3.55	3.42	-7.22	-10.35	3.13	3.53	25.07	18.00	7.07	5.77
12/29/17	15.01	10.65	4.36	3.79	4.87	0.65	4.22	4.21	26.79	22.49	4.30	3.24	28.78	24.14	4.64	3.40	18.52	10.93	7.59	6.43
12/31/18	-5.55	-9.18	3.64	4.38	-4.12	-7.89	3.77	4.63	-3.66	-7.18	3.52	3.86	-12.42	-15.71	3.29	4.35	-20.87	-26.37	5.50	8.09
12/31/19	23.58	18.82	4.76	3.89	25.06	20.15	4.91	4.02	20.22	15.89	4.33	3.66	27.33	22.42	4.91	3.63	4.40	-3.80	8.19	8.25
12/31/20	-9.16	-12.72	3.56	4.02	-10.23	-13.78	3.55	3.95	-10.43	-14.13	3.70	4.27	-1.67	-5.05	3.38	3.60	-34.94	-38.02	3.08	7.41
12/31/21	23.04	18.98	4.06	3.15	41.38	37.08	4.30	2.74	-1.82	-5.78	3.96	4.39	10.06	7.01	3.06	2.68	28.55	21.65	6.90	5.13
9/30/22	-28.91	-30.91	2.00	4.49	-28.20	-30.01	1.82	4.22	-20.38	-22.97	2.60	4.83	-47.71	-49.35	1.64	4.96	-9.91	-13.26	3.35	6.37
Arithmetic Mean	8.8%			4.0%	9.9%			4.1%	8.0%			3.7%	8.5%			4.0%	8.6%			6.3%
Geometric Mean	6.1%				7.5%				4.5%				4.7%				5.4%			
Max	43.7%			6.7%	41.4%			7.6%	48.1%			5.6%	69.7%			7.1%	43.3%			8.3%
Min	-48.9%			3.2%	-42.4%			2.7%	-54.0%			2.9%	-51.2%			2.7%	-34.9%			4.1%

SOURCE: NAERIT

APPENDIX D

Examining individual public real-estate securities offers an avenue to assess performance of African social infrastructure. According to Bloomberg, there are roughly one hundred public-equity real-estate securities listed on African exchanges. The exchanges where public real-estate securities are listed are often not the same places where the underlying properties are located. As such, a review of company reports to determine, first, the types of property the security owns and, second, where those properties are predominantly located, produces the below table.

As expected, companies don't use the category "social infrastructure" to describe their properties, so getting a specific, isolated view of its performance is difficult without making assumptions. There are too few securities to isolate and analyze performance for specific African countries, so broader geographic bins must be used. Assessing performance by both geography and asset type is nearly impossible because the population of securities at each "node," often constituting five or fewer securities, is too small to draw meaningful conclusions. Likewise, assessing performance by asset type, regardless of geography, is also too difficult for the same reason, as the populations of these securities are often below ten.

However, when securities are sorted by geography, regardless of asset type, a large enough population is produced (greater than ten) to permit further analysis. These securities are represented in the blue boxes in the table. Average annual local-currency returns for securities arranged by geography derived from a ten-year lookback at available data in Bloomberg are arranged on histograms in the panels below.

Return distributions are shown equally weighted as is, weighted by market capitalization, and weighted by market capitalization with a liquidity screen to illustrate challenges around quality and availability of data. Many of these securities are so illiquid that their public market price does not reflect their true fair value (or true volatility, a topic that we do not discuss in this article). Thus, performance analysis using past-returns data from illiquid securities may be incomplete at best, or completely wrong at worst. To compensate for this, a liquidity screen based on the ratio of shares traded versus floated on the exchange was applied to the securities to narrow down the analysis to securities that were more liquid. The smaller relative size of the black "Market Cap Weight + Liquidity Screen" data series in all of the panels illustrates the result.

Real Estate Securities Listed on African Stock Exchanges

Count of Security	Diversified	Retail	Industrial	Commercial	Land	Residential	Specialty	Unknown	Grand Total
>90% in South Africa	9	4	1	1		2	3		20
Between 50% and 90% in South Africa	5	4	3	1			1		14
Africa (ex-South Africa, ex-North Africa)	12	4	2	3		1	3		25
Europe		1	1						2
United States		1		1					2
North Africa	3			1	2	2	1	28	37
Grand Total	29	14	7	7	2	5	8	28	100

DEFINITIONS

Diversified = No single asset type comprising more than 60% of the total GLA to which the security is exposed

Retail = 60% or more of the properties are retail

Industrial = 60% or more of the properties are industrial

Commercial = 60% or more of the properties are commercial

Residential = 60% or more of the properties are residential

Specialty = Securities of predominantly a single asset type, including petrol stations, healthcare, storage units, hotels

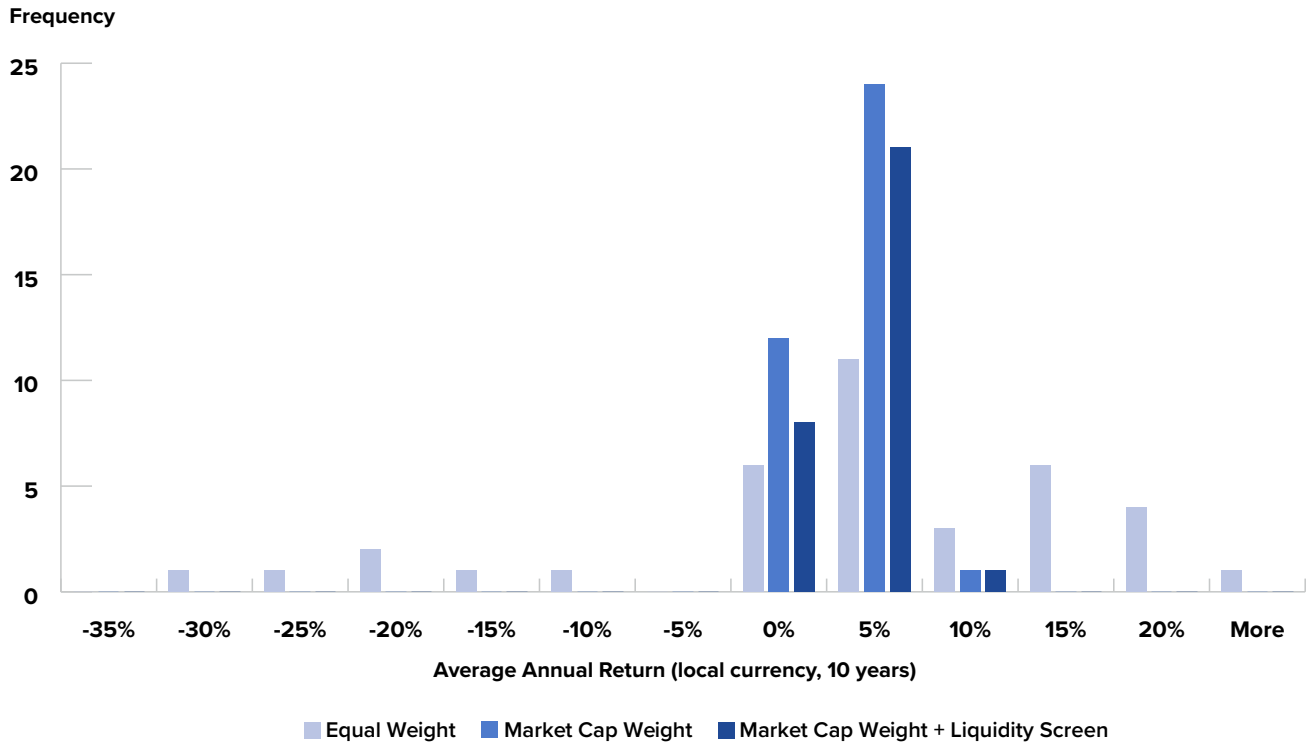
Africa (ex-South Africa, ex-North Africa) = majority of assets located in Africa but not South Africa or North Africa

North Africa = Egypt, Morocco, Tunisia

NOTE: (7) securities excluded due to not enough data or not relating to real estate

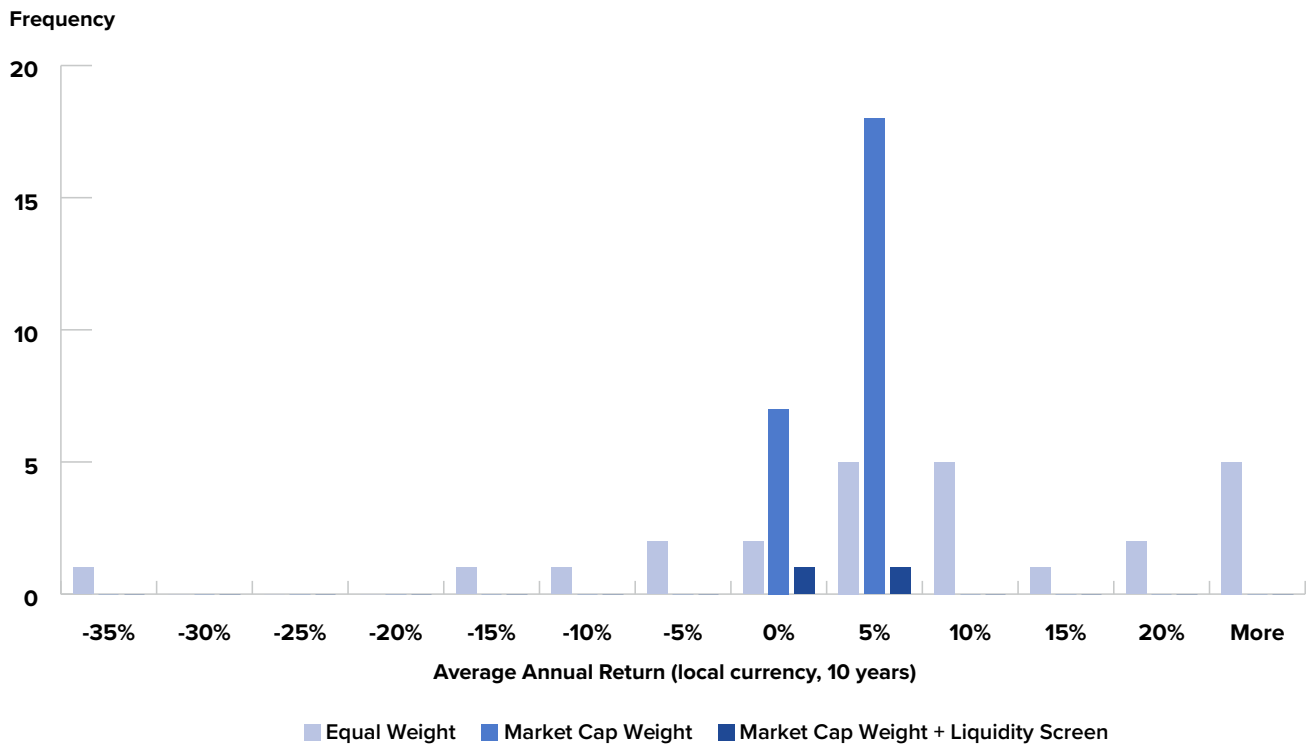
SOURCE: Company reports

Securities with properties in North Africa



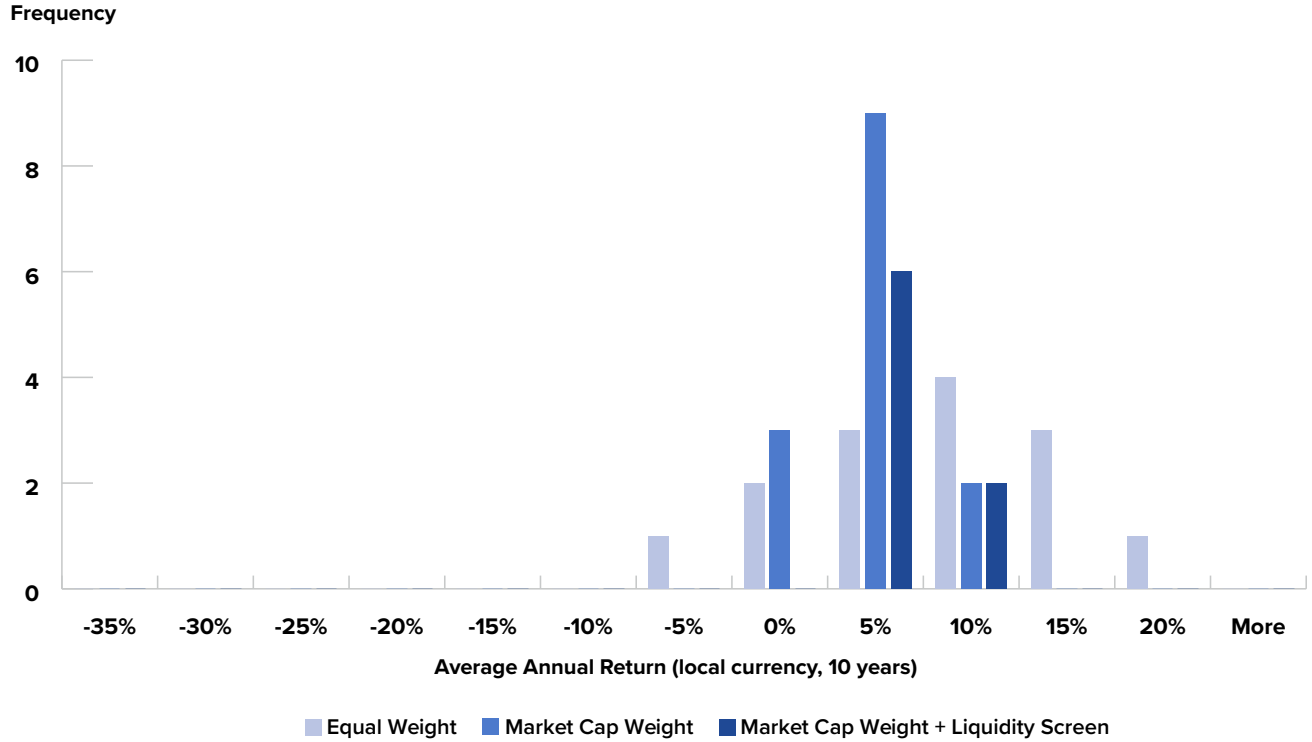
Source: Bloomberg data and authors analysis

Securities with properties across Africa, excluding South Africa and North Africa



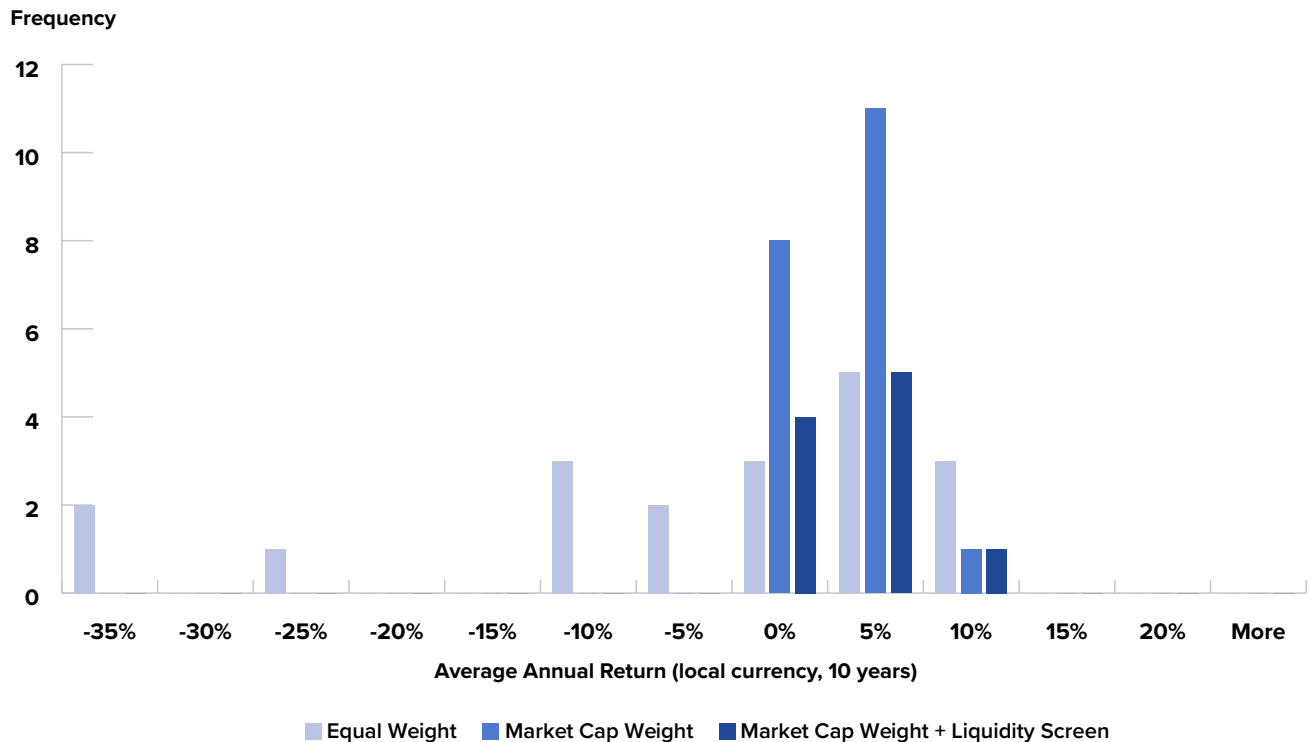
Source: Bloomberg data and authors analysis

Securities with 50-90% of properties in South Africa



Source: Bloomberg data and authors analysis

Securities with >90% of properties in South Africa



Source: Bloomberg data and authors analysis

About the Author



Tom Koch is a nonresident fellow at the Atlantic Council's Africa Center and is an emerging markets investment professional. He was previously director of global capital and strategy at FCA Corp, the advisor to a multi-sector Africa-focused private equity fund. Prior to that, he worked within Deloitte Consulting's mergers and acquisitions group.

Prior to entering the finance industry, Koch had a career in the US Marine Corps. He is currently a major in the Marine Reserves and works within the Marine Innovation Unit, an organization whose mission is to bring new technology, thinking, and ways of working into the Marine Corps. He previously served for nearly ten years on active duty in the Marines.

Koch's last active-duty assignment was working as the Marine Corps representative to the US Department of

Defense Business Board in the Pentagon, where he teamed up with business executives to provide strategic advice to senior defense leaders. Prior to that, he worked in the Marine Corps Office of Legislative Affairs, where he helped shape policy between the Marine Corps and the US Congress and accompanied members of Congress on high-level bilateral engagements overseas. Koch began his time in Washington, DC, as a Department of Defense legislative fellow in the personal office of a senior member of Congress where he gave advice on various national-security and foreign-policy issues. Koch began his time in the Marines with two deployments to Helmand Province, Afghanistan: one as a detachment commander and the other as a company commander.

Koch earned an MBA in finance with honors from the University of Pennsylvania's Wharton School and a bachelor's degree from the US Naval Academy. Koch is a former Marshall Memorial fellow with the German Marshall Fund of the United States and a Council on Foreign Relations term member.



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