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Into Africa
The continent's Cities of Opportunity

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This report is based on the above 20 cities

Nigeria West Africa Lagos Cityscape Skyline Aerial view of the Capital City and road bridges

Contents

Context for an urbanising continent – Toward a useful and sustaining vision for African cities

PwC is very proud to present you with Into Africa: The Continent's Cities of Opportunity. Based on the methodology, research, and analytical framework of our global Cities of Opportunity report – the seventh edition of which will be released next year – Into Africa concentrates on 20 of the cities that we judge to be among the most dynamic and focused on the future.

As with our global *Cities of Opportunity* report, this one is specifically designed for three sets of readers. The entire purpose of this analysis, of course, is to facilitate the decisions and actions of both investors and policymakers. Therefore, we've structured this report, as much as possible, around the critical issues of the business community, as well as those of the officeholders and other public authorities who are responsible for improving the collective life of each city examined here.

And that leads to our third – and, we believe, most important – group of readers, the actual citizens of the 20 cities in this report. Every element of this study – from infrastructure and human capital to the economy and society – directly concerns the more than 97 million people who live in the cities described here. In that sense, this report is about and for them – and we hope that some citizens will use it as a guide and encouragement to municipal improvement, no matter where they live.

It is by now generally accepted – and confirmed by the economic data – that cities are the world's engines of growth, and strikingly so in the developing world. In the words of the World Bank's director of sustainable development for Africa, Jamal Saghir, urbanisation will prove to be "the single most important transformation" for the continent in the 21st century.*

Over the last few years, PwC has taken the insights gained from the key indicators and variables developed for its global report to expand the investigative reach of *Cities of Opportunity.* In fact, we believe that the diagnostic tools developed for our global report are particularly useful in analysing the social and economic performance of Africa's cities.

This is especially so as almost all the issues lying at the heart of urban policymaking in *any* city, old or new, developed or developing – infrastructure, employment, population growth, economic sustainability, environmental viability – are even more acute in Africa. Needless to say, the classic urban challenges since time immemorial – overcrowding, unplanned and chaotic growth, insufficient provision of municipal services, from policing to healthcare to education to electricity and sewage – are top of the agenda in many African cities, primarily because of their dynamic expansion.

But we have also carefully scrutinised – and consequently adjusted and refined – the criteria used in our global *Cities of Opportunity* to take into account African cities' specific contexts, current issues, and prospective strategies. As United Nations Under-Secretary General Joan Clos, the executive director of UN-Habitat, has warned, "the conditions and circumstances that prevailed in the world's industrialised societies during the 20th century – and which shaped their cities' form and function – are no longer the same in today's world." That is why, in his judgment, we should be wary of approaching African cities "from a perspective that sees urbanism and urban living as progressing towards the example set by Western paradigms."[†]

Our approach here is very different. We've designed our report to focus on specifically *African* urban issues. The fact that Johannesburg has been a participant in our global report from the very beginning ensures that we understand – and have spent many years defining and refining our analysis of – Africa's urban realities, and of how they differ from (or occasionally are the same as) those in Asia or Latin America, and even Europe or North America.

The growing and universally recognised importance of Africa in the global economy, and the massive increase of interest in the continent, makes this report not only necessary but extremely timely. With its cities undoubtedly playing the critical role in Africa's development over the next couple of decades at least, we have sought to assess, based upon our *Cities of Opportunity* model, how they are performing, not only from a regional perspective, but also from an international one, seeing that each city here must ultimately compete – and therefore prosper – not only in a local economic environment, but in a global one.

As you will read in the overview of this report, we believe that investment, and the search for business opportunities generally, in each city is best determined by a perspective that is informed by five factors: whether the investment is aimed at current or potential development; location; the nature of the opportunity; "must-have" or "knock-out" factors; and the investment's time scale. We explain each element in detail.

Suffice it to say here that African cities, in the unusually robust diversity and adaptability of their economic environment, both individually and as part of broader urban networks, offer extraordinary opportunities in the short, medium, and longer term, and for virtually any kind of economic enterprise, from commodities to manufacture to consumer goods to telecommunications and high tech. The consistent growth of its cities as a whole over the next decade will surely alter the continent's socioeconomic landscape. We also believe that it will permanently alter the rest of the world's perception of Africa in an historic and transformative way.

Signed by

Paul Monekosso Cleal **Pierre-Antoine Balu** **Jonathan Cawood**

* See the "Foreword" to *Harnessing Urbanization to End Poverty and Boost Prosperity in Africa:* An Action Agenda for Transformation, Africa Region Sustainable Development Series, World Bank, 2013. Jamal Saghir also states that, "There is global evidence that there are strong correlations between urbanization, economic growth and poverty reduction – in fact, middle income status is always accompanied by urbanization."

† See "Foreword by UN-Habitat," *The State of African Cities 2014:* Re-imagining sustainable urban transitions, United Nations Human Settlements Programme (UN-Habitat), 2014, p. 3.

Into Africa
The continent's Cities of Opportunity

Sometimes it seems that the story of "Africa rising"[1] – that is, of the robust and steady continental strength of Africa's economy (and, therefore, of the genuine attraction of African investment) – has been with us for a long time. But taking a step back, it was less than a decade ago that The Economist pointed its readers to the "flicker of a brighter future" for the continent, while also warning that "doing business in Africa is a gamble" and that "African countries have thrown away past opportunities."[2]

But now the consensus appears to be turning toward a new reality: namely, of an Africa laying down solid economic roots beyond economies based exclusively on commodities, and establishing a momentum of growth driven by an increasingly strong middle class, as the Financial Times pointed out in its recent special report on the continent, "The New Africa."[3]

This is not to say that Africa still doesn't have fundamental problems. We are fully aware of, and take into account, Africa's history and still fraught future. Challenges range from disease (whether AIDS, Ebola, or river blindness) to internecine conflict (from past civil wars to current threats to civil peace from various terrorist groupings) to a serious decline in commodity prices (so important to many African economies) to the most basic requirements of urban infrastructure (clean water, ample electricity, comprehensive public transport). But we're also conscious of the differences between just a few years ago and today, and what we think the differences will be only a few years hence. And detailed knowledge of the continent is helping to maintain the momentum toward greater, shared wellbeing.

Accurately predicting Africa's urban potential calls for one eye on a city's tangible building blocks and both feet on the ground locally.

That is primarily because we know from experience that doing business in Africa entails a deep understanding, not only of the continent's economic factors and variables, but – perhaps even more important – of each investor's own needs and strategy. For that reason, PwC has identified five essential criteria that need to be met before a decision about where to invest is made. The point, in the end, is: What makes a city suitable to exploit an opportunity?

5 lenses for investors in a dynamic, urban landscape	
1 Current development or future potential	Current standings and future potential tell different city stories. So **when measuring today remember to overlay tomorrow.**
2 Location	Location decision can provide access to wider markets, and **good choices require knowledge on the ground as well as objective analysis.**
3 Nature of the opportunity	**Look inward, then outward, as focusing on the needs** of your own business will help carve out your direction into Africa.
4 "Must-have" or "Knock-out" factors	**Know your deal breakers, and makers as** critical city criteria's can deliver knockouts
5 Time scale	**Money now or investments for the future?** Align decisions with your time horizons for results.

What defines an African City of Opportunity

1. **Current development or future potential.** Obviously, our report, and the four indicators that constitute its core, is based on the current levels of development in each of the 20 African Cities of Opportunity. That is not to say that we're not aware of the extraordinary potential development and possibilities of the continent, and of the many countries that compose it. In fact, a major function of this report is precisely to serve as a guidepost to the unusually productive and flourishing economic landscape opening up in Africa during the coming decade. But we can only base current analysis on current data. For that reason, for many investors, comparisons within regions between countries with similar levels of development may be more telling, and prudent, than those between one region and another. In any case, most investors will undoubtedly need to look at both current and potential development before making any final decisions, based on individual business strategies. That is precisely why we developed our opportunity indicator (see page 9), selecting a few telling variables from the full group of 29.

2. **Location.** Cities are geographic, economic and transportation access points to markets, not only in themselves but also in regard to the respective countries and regions to which they are gateways. Our final list of 20 cities is the result of the systematic examination of many factors. Africa has at least 120 cities of over half a million residents and 47 of over a million, spread out among 54 countries.[4] Refining that list is challenging; it is often difficult to determine what to measure and how to do so. Here, we have not only used PwC's analytical infrastructure – continually enhanced over the six editions of the global edition of Cities of Opportunity – but, more important, the institutional wisdom of the many PwC women and men who live and work in Africa. We've distilled these results from a methodology that assesses the relative merits of our 20 cities across 29 variables. At the end of the day, we believe that these cities demonstrate the relative strengths and weaknesses of Africa's urban future. Our evaluation and re-evaluation of that future is, of course, a continual work in progress.

Intelligent investment will be determined in the long run by access to a growing middle-class and not to rich natural resources.

1 *The Economist* firmly lodged itself in the pro-African camp in early 2013, when it published its report praising a "rising" Africa that was quickly becoming the "hopeful continent" (see Special report: Emerging Africa, "Africa rising: A hopeful continent," *The Economist,* March 2, 2013).

2 See Special report: Business in Africa, "The flicker of a brighter future," *The Economist,* September 7, 2006.

3 See *The New Africa,* FT Special Report, Financial Times, October 6, 2014, in particular, William Wallis, "Investors discover routes to riches beyond commodities."

4 For cities of over half a million, see *Demographia World Urban Areas:* 11th Annual Edition: 2015:01, Table 5: Summary: Urban Areas 500,000 & Over, p. 132, Demographia, January 2015, at http://www.demographia.com/db-worldua.pdf; for cities of over a million, see the infographic by Future Cape Town on its Website at http://futurecapetown.com/2013/07/infographic-fastest-growing-african-cities/#.VMqShqlv3dl.

3. **Nature of the opportunity.** The nature of the investment will always determine how, where, and why it is made. Mass consumer goods require a different market from that for luxury goods. Investments in extractive industries require a different economic context from those in media or telecommunications. The focus, in all cases, needs to be on those financial, economic, and even social variables that will determine the viability of the particular investment.

4. **"Must-have" or "knock-out" factors.** To be successful, African urban investments require "must-have features." Size of market is a good example, without which many cities simply won't be attractive. Equally, there is always the issue of a deal-breaker: a negative factor that is so dominant as to make doing business virtually impossible, such as the perceived level of corruption. Simply put, there might be a city, or a country that makes up a city's larger socioeconomic context, in which it is just too difficult to do business – at least for the time being – regardless of market size or any theoretical opportunities that seem unimpeachable on paper. In that case, prudence again dictates that one look elsewhere. For many investors, for example, the political instability of the Arab Spring may "knock out" many of the African cities that are most developed according to our index.

5. **Time scale**. Finally, timing is critical. It usually is for most investments. If the time frame is relatively short-term and therefore restrictive, many investments might simply not prove profitable. On the other hand, for those interested in a market's long-term potential, the time frame might be much more open-ended and of a considerably longer duration, allowing for a relatively expansive view of the period needed to turn a business plan into a viable operation.

The big picture

An overview of the rankings produces a picture that is both surprising in its consistency and – after only a moment's pause for reflection – not at all surprising, given the historical context behind the data. Our overall rankings show that four of the top 5 cities are North African and the fifth is Johannesburg – the one permanent African member of our global Cities of Opportunity report. The preponderance of North African cities in this group is self-evident when one simply considers that the origins of #1 Cairo go back (at least) to the fourth century AD, of #2 Tunis to the fourth century BC, of #4 Casablanca to the seventh century AD, and of #5 Algiers to the fifth century AD.

To make a long (and ancient) story short: Being there for many years – but also building and renovating over time – plays a large part in a city's success. Or, as we've pointed out over the many editions of our global report, a fundamental reason that mature cities rank so highly against most developing cities is precisely the fact they are mature. Often, the notion of "maturity" carries with it all the negative connotations of aging. However, in the case of socioeconomic organisation and development, maturity also means having had the time to put infrastructure into place (not only for roads and public transport, but for schools and hospitals); to establish regulatory frameworks and rules of the road (not only for public health or the environment, but also for the transparency and inviolability of contracts and the legal regime as a whole); and to create a social and cultural ecology in which human capital can expand and thrive (not only through libraries and universities, but the cinemas, theaters, and concert halls that make urban life so appealing and desirable beyond the obvious attraction of personal economic advance).

5 For Accra's population in 1910, see the entry under "Accra," The Encyclopaedia Britannica, eleventh edition, 1910, Volume I: A-Androphagi, p. 125, The Encyclopaedia Britannica On openlibrary.org, at http://archive.org/stream/encyclopaediabri01chisrich#page/125/mode/1up; for its population in 1960, see the official portal of the Government of Ghana, *Greater Accra*, at http://www.ghana.gov.gh/index.php/about-ghana/regions/greater-accra.

6 For Dar es Salaam and Douala, see *An Integrated Approach to Infrastructure Provision In Africa,* Statistics Department, Africa Infrastructure Knowledge Program, African Development Bank, April 2013, pp. 14 and 30, respectively; for Accra, Lagos, Nairobi, and capital cities, see *The State of African Cities 2014:* Re-imagining sustainable urban transitions, United Nations Human Settlements Programme (UN-Habitat), 2014, pp. 12, 107, 136 (caption), 137, 153, and 195.

Johannesburg, ranked third among our 20 cities here, is indeed the exception that proves the rule. Although it is a relatively recent city, having been officially founded in 1886, it quickly developed, for historical reasons, a wide-ranging urban infrastructure and municipal organisation that was comparable to more mature, and much larger and more affluent, cities. Johannesburg's first theater opened a year after the city's creation, its first library three years after that, its electric tram in 1906, the University of the Witwatersrand in 1922, its symphony orchestra five years later, the city's first airport four years after that, its botanical gardens in 1964, and its university-level film and television school in 1994. Meanwhile, the Johannesburg Stock Exchange is 128 years old – just a year younger than the city itself. The point, obviously, is that Johannesburg was never just an economic and financial centre (born out of the Witwatersrand Gold Rush). It was also, literally from the first moment of its municipal existence, a city that diligently planned and put into place an infrastructural, social, and cultural base that would allow it to thrive and prosper in the future.

A marathon, not a sprint

While there are few genuine surprises hidden behind our top 5 cities, therefore, a closer reading of the results will confirm that maturity in itself is a fleeting advantage if it leads to complacency. All one need do is look at our #6 city, Accra, which finds itself just a hair's breadth away from #5 Algiers. Just one hundred years ago, Accra contained only 20,000 residents – less than 1/100 of its size today – and, even in 1960, as the capital of the new Republic of Ghana, it numbered under half a million people, less than a quarter of its current size.[5] The fact is that cities (and societies in general) with a forceful and energetic present, coupled to a dynamic vision of the future, will, sooner rather than later, overcome those whose accomplishments are all (or mostly) in the past.

In Accra's case, it would only have to improve its overall score by 1.5% to surpass Algiers in the top 5. As it is, it now ranks first among the 20 cities for its communications infrastructure, as well as for its low levels of crime. On the economic front, it ranks second in both attracting FDI (behind another up-and-comer, #7 Nairobi) and GDP diversity (trailing Casablanca) – two markers that not only point to a vigorous economy, but also, in the case of the second variable, a well-balanced one. Lastly, Accra also ranks third continentally for its political environment, fourth for ease of doing business, fifth for its international clout, and sixth – again, just under the cities that make up the top 5 overall – in graduates enrolled. It is obvious that the Ghanaian capital ranks among Africa's best and most successful cities over a wide range of indicators.

What is, in fact, notable about the cities below the top 5 is how close so many of them are to that select group. Nairobi and Lagos, tied for #7, would only have to increase their cumulative scores by less than 5% to join it. Ninth-ranked Addis Ababa would have to improve by less than 8%, #10 Kampala by just over 9%, and Dakar and Abidjan, tied for #11, by just under 12.5%. Not that this is easy to do. Our variables represent concrete and pragmatic determinants of a city's social and economic development: for instance, housing, transport, water and power, healthcare, education, public safety, on the one hand; and GDP, inequality, middle-class growth, ease of doing business, and FDI, on the other. As any economist (or elected official) knows, raising GDP by just 1% is a Herculean task. It is just as arduous and formidable a mission to enhance and improve housing, transport and roads, hospitals, and schools (from the primary to the tertiary level), not to mention attracting foreign investment, diversifying an economy, and expanding economic opportunities so that a city's middle class not only grows in absolute numbers but prospers in actual fact.

Moving toward a better future

Most of our African Cities of Opportunity are on a path of real achievement, however, and can rise to the highest levels in our rankings with some effort and planning. Many, indeed, have become regional hubs in a variety of areas: Dar es Salaam and Douala as ports (and the latter as a transshipment centre); Accra for telecommunications; Lagos in culture (music, as well as an essential venue for Nollywood); and Nairobi in financial services (along with the more obvious Johannesburg). This list does not include cities such as Cairo, which have famously been regional urban centres throughout their history, or capital cities in general, which are usually national hubs.[6]

Outside our top 5 cities, Kigali finishes at the very top in both ease of doing business and health spending; Abidjan ranks #1 in both middle-class growth and diversity; Dar es Salaam is first in GDP growth; and, as we mentioned above, Nairobi outscores all African cities in FDI. These are all critical variables that point to substantive success in major determinants of a city's future. Again, the data underneath the individual indicator headlines in the succeeding pages confirm that many of the cities in this report are following a successful path of development and, in many cases, redevelopment and reinvention. This is confirmed, moreover, by the fact that Kigali, Abidjan, Nairobi, and Dar es Salaam all rank very comfortably in the top half of our opportunity indicator below, with Tanzania's largest city finishing first overall.

Shops and restaurants, Avenue Habib Bourguiba, Tunis, Tunis Governorate, Tunisia

Overall summary table
Sum of all 29 variables

Rank	City	Infrastructure	Human capital	Economics	Society and demographics	Score
20	Cairo	137	80	114	107	438
19	Tunis	134	93	119	71	417
18	Johannesburg	107	81	115	74	377
17	Casablanca	104	72	123	65	364
16	Algiers	95	77	77	87	336
15	Accra	69	56	109	98	332
14	Nairobi	82	46	95	98	321
14	Lagos	77	43	109	92	321
12	Addis Ababa	112	39	68	93	312
11	Kampala	68	59	73	108	308
10	Dakar	98	37	78	86	299
10	Abidjan	80	38	95	86	299
8	Kigali	97	62	66	69	294
7	Lusaka	74	40	83	90	287
6	Dar es Salaam	45	44	89	100	278
5	Douala	82	51	72	65	270
4	Antananarivo	90	32	45	61	228
3	Maputo	49	32	63	79	223
2	Kinshasa	44	36	46	80	206
1	Luanda	38	32	57	71	198

High
Medium
Low

Highest rank in each variable

Each city's score (here 438 to 198) is the sum of its rankings across variables. The city order from 20 to 1 is based on these scores.

North Africa

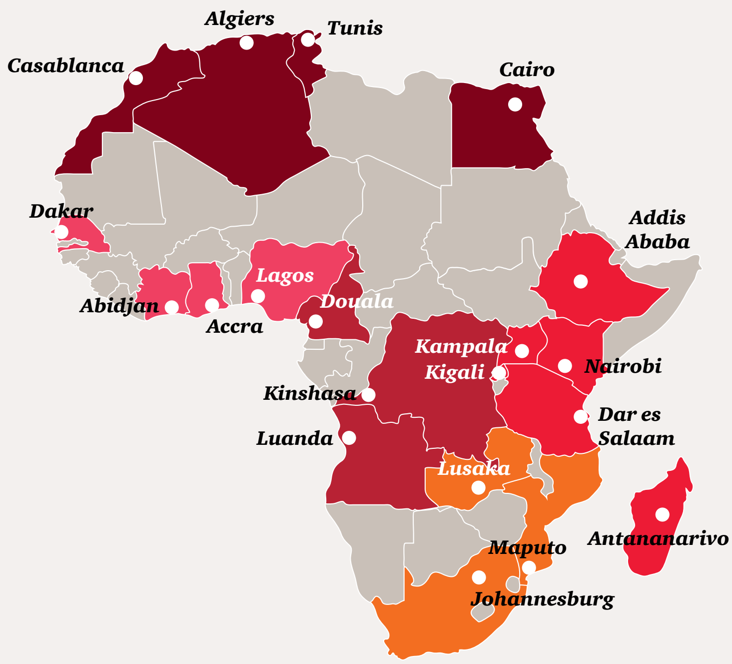
Cairo – ***1st***
Tunis – ***2nd***
Casablanca – ***4th***
Algiers – ***5th***

West Africa

Accra – ***6th***
Lagos – ***8th***
Dakar – ***11th***
Abidjan – ***12th***

Central Africa

Douala – ***16th***
Kinshasa – ***19th***
Luanda – ***20th***



East Africa

Nairobi – ***7th***
Addis Ababa – ***9th***
Kampala – ***10th***
Kigali – ***13th***
Dar es Salaam – ***15th***
Antananarivo – ***17th***

Southern Africa

Johannesburg – ***3rd***
Lusaka – ***14th***
Maputo – ***18th***

Gauging Opportunity
Seeing African urbanisation through a different lens

The question we asked at the outset of this report was, 'What makes a city suitable to exploit an opportunity?' And we answered that query with our five criteria (see pages 4 – 5). The point, in a nutshell, is that to discover different opportunities, investors often need to look through different lenses: different strategies demand different perspectives.

To illustrate the point, we've constructed an "opportunity indicator" – both as a thought experiment, but also as a gauge of the actual results of the five out of our 29 variables that we think, taken together, represent the best estimation of those cities that currently display the strongest trajectory in purely investment terms. The results confirm what we've argued above: that most African cities are on a steady course of brisk economic growth and broad social development.

Moreover, there are particular economically dynamic variables – the ones in this indicator, certainly – that point to cities that are conspicuous sites for investment at the moment. Dar es Salaam, Lusaka, Nairobi, Lagos, and Accra (in descending order) not only lead in this indicator, but do so in a highly competitive and vigorous manner given that only four points divide them. As we've argued, the margins separating many cities from the top 5 in the overall rankings are not especially daunting. The opportunity indicator's perspective is even more robust. It illustrates how cities that are still developing, and enhancing their municipal assets and resources – chiefly in infrastructure and social well-being – are competitive against more developed cities that might be facing other serious issues (such as the ramifications of the Arab Spring).

Above all, what this opportunity indicator points to is the fact that development in an urban context is never static. A viable city is always developing, by definition. The assumption, therefore, that those cities that have a historical advantage in infrastructure (or human capital or social development) carry that advantage with them continually has been proven to be wrongheaded time and time again. A quick historical glance backward to, say, New York (or London or Paris) in the Seventies proves the point.

In the end, one city's present development does not preclude the future development of another city. Nor does it keep a less developed but much more dynamic city from being more competitive – and surely much more investment-worthy – than a city that might be more developed historically, but is also economically weaker and, as a result, less competitive globally.

Gauging opportunity

Another perspective on African Urbanisation

Rank	City	Rate of real GDP growth	Ease of doing business**	Attracting FDI	City middle-class growth	Population growth	Score
20	Dar es Salaam	20	9	8	15	19	71
19	Lusaka	16	16	11	10	17	70
18	Nairobi	9	12	20	13	14	68
17	Lagos	11	8	18	18	13	68
16	Accra	8	17	19	12	11	67
15	Abidjan	18	5	14	20	8	65
14	Kigali	13	20	9	4	15	61
13	Addis Ababa	17	14	6	17	6	60
12	Kampala	14	11	5	9	20	59
11	Cairo	2	13	16	19	3	53
10	Kinshasa	19	1	2	16	12	50
9	Johannesburg	3	19	18	6	1	47
8	Douala	15	4	3	14	10	46
7	Casablanca	5	15	16	7	2	45
6	Maputo	12	10	11	5	7	45
5	Luanda	10	2	4	11	16	43
4	Tunis	1	18	14	1	4	38
3	Dakar	7	3	8	8	9	35
2	Antananarivo	6	7	1	3	18	35
1	Algiers	4	6	14	2	5	31

High

Medium

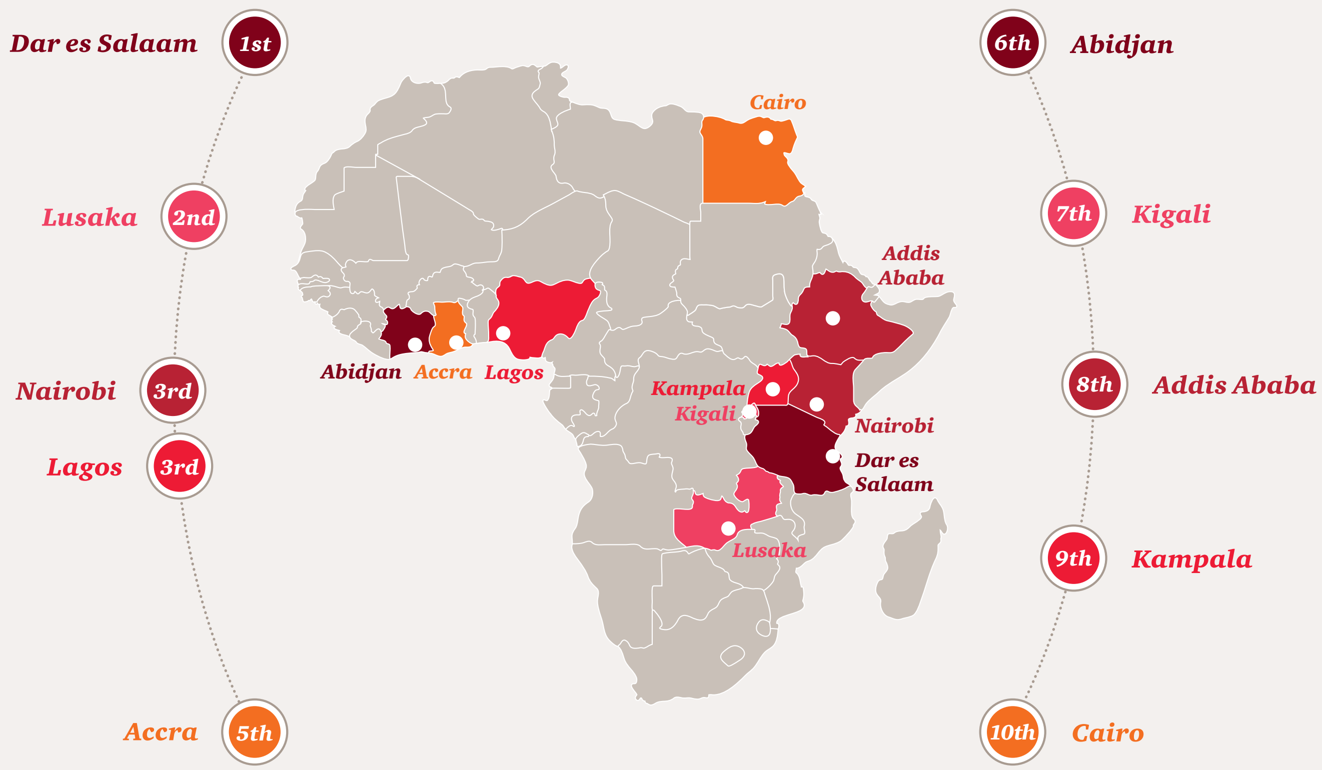
Low

Highest rank in each variable

**Published as country-level data based on the most populous city

Each city's score (here 71 to 31) is the sum of its rankings across variables.

The city order from 20-1 is based on these scores.



Good infrastructure leads to even better cities

In the indicator discussions that follow (see pages 17 – 20), we point out that there seems to be a strong correlation between infrastructure, human capital, and economics – or, at least, that the cities that score well in infrastructure also score well in human capital, and, unsurprisingly, go on to score well in economics. This relationship makes sense. Civilisation – that is, a city's life – is literally built on infrastructure. The World Bank has estimated that while sub-Saharan Africa needs infrastructure investment of nearly $100 billion annually, it currently gets less than half of that.[7]

Infrastructure investment needs to expand. Africa's cities cannot maintain their current levels of growth without enhancing their infrastructure. This is not a theoretical problem; it is a practical one. The obvious connection between infrastructure and economic development is generally recognised and is long standing.[8] The point is not simply that better infrastructure leads to better – and more consistent – economic growth. The deeper point, as we explain in our discussion of human capital, is that state-of-the-art infrastructure leads to rich human capital, if for no other reason than the fact that smart, creative, ambitious human beings will congregate where it is easy for them to do so. And nothing makes life easier in a big city than good and efficient infrastructure.

Putting the pieces together for growing urban well-being

As the accompanying graphic of infrastructure evolution illustrates, the developmental trajectory of successful cities from antiquity to the present has followed a certain course. Put schematically, it proceeds from infrastructure to human capital to, finally, a robust and self-perpetuating economy, some of whose profits finance urban life at its peak: from the arts and culture to environmental sustainability.

As the accompanying graphic that depicts urban entertainment and media (E&M) spending shows, Africa's urban centres are reaching that highest level of development in which quality of life matters – and begins to define a city. According to PwC's data, Nairobi has the highest growth rate of all the cities surveyed in our global E&M study (Cities of Opportunity: The urban rhythm of entertainment and media). With a projected increase in spending of 12.5% in the five years between 2013 and 2018, the city is obviously catering to a continually increasing population consuming these services – namely, a briskly growing middle class. Another of our African Cities of Opportunity, Johannesburg, comes in third in global E&M spending, just behind Beijing and Mumbai (and ahead of Shanghai).

These numbers point to a powerful demographic and economic dynamic. Of course, African cities start from a lower base – and, in Nairobi's case, from the lowest base of all 30 cities. But, as so often in statistical analysis, it's not the absolute numbers that matter so much as the trend. Clearly, what PwC's E&M data is pointing to is a discernible and, more importantly, constant rise in discretionary spending of a kind that did not exist even a decade or two ago. Based on all the evidence we have of the source of that spending in every other urban economy over the last two centuries, we can safely say it is the result of Africa's rapidly expanding urban middle classes.

Cities of real opportunity need to hurdle human capital and infrastructure challenges, and stay the course.

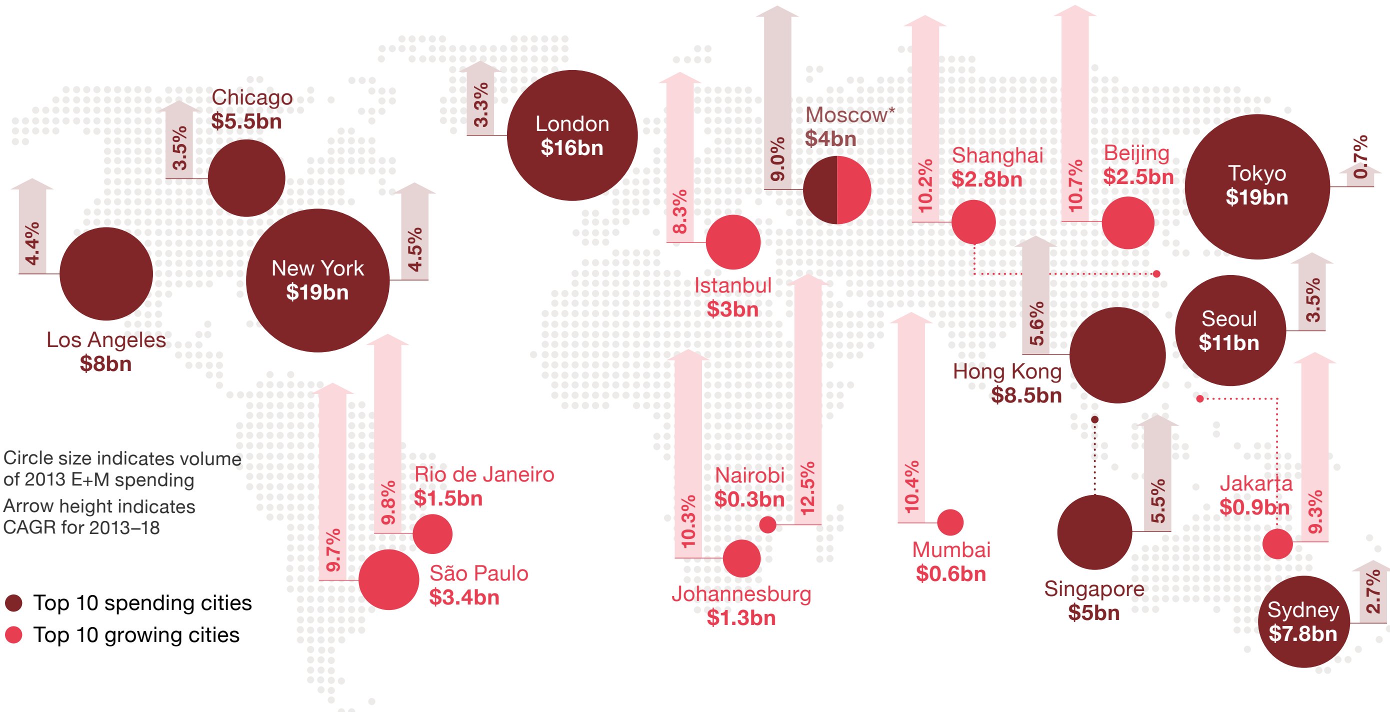
7 See *Africa's Infrastructure: A Time for Transformation,* a co-publication of the Agence Française de Développement and the World Bank, edited by Vivien Foster and Cecilia Briceno-Garmendia, pp. 7-9.

8 See PwC's report, *Cities of Opportunity: Building the future,* November 2013, as well as the series of reports issued by the OECD (Organisation for Economic Co-operation and Development): *Infrastructure to 2030, Telecom, Land Transport, Water and Electricity (2006), Infrastructure to 2030, Volume 2: Mapping Policy for Electricity, Water and Transport (2007), and Strategic Transport Infrastructure Needs* to 2030 (2012).

Indeed, there is no deeper and more organic sign of Africa's increasing economic maturation than this expansion, and ever-increasing prosperity, of its middle classes. It is a signal event in its economic development. Domestic consumption, after all, is a basic driver of all economies progressing from developing to developed stages. In the case of Africa, it also helps to strengthen the sustainability of those economies that are more dependent on commodity extraction and trade. As such, it is probably not a coincidence that several cities that make up the bottom of our overall rankings are urban centres of "gold rush" economies overly reliant on extractive economic models.

A global perspective on Africa's rapid urbanisation and middle-class growth

Entertainment and media: Top 10 spending and top 10 spending-growth cities
2013 advertising and consumer spending and 2013 – 2018 growth rate



* Moscow is in both the top 10 spending and growth categories
Source: PwC Global E&M Outlook 2014 — 18, NICEP

It is an indication of Nairobi's dynamic development, and that of many other African cities, that its companies and consumers have the highest rate of growth in entertainment and media spending of any other city in the world among the 30 covered in PwC's recent study, Cities of Opportunity: The urban rhythm of media and entertainment.

Youngest of all the 30 Cities of Opportunity in our global report with an average age of 25, we project Nairobi's 12.5% pace will be the fastest compound annual growth rate in E+M sales between 2013 and 2018 as a new Nairobian middle class seeks to catch up on many of the products and services that developed urbanites take for granted. For example, our survey of 15,000 PwC people in the 30 cities (including 116 in Nairobi) gives a good sense of the potential for entertainment and media. Nairobians are #1 among the 30 cities in discretionary spending for either technology (32%) or the home (37%). They are tied for #2 in prioritising spending on books, movies, and games – with 24% citing that category among their top 3 choices for discretionary spending.

Nelson Mandela Square in Sandton City, Shopping and Hotel complex near Johannesburg

Implications for policymakers: Planning and consistency

In the end, the developmental point is that urban advance is a matter of many (larger or smaller) steps over a long period of time. But they must all be coordinated, and they require a consistency of practice. We believe that the analysis developed in *Cities of Opportunity* allows both policymakers, on the one hand, and businesspeople and investors, on the other, to move forward prudently and effectively in their respective urban landscape(s).

The specific benefit of our *Cities of Opportunity* methodology is that it allows urban policymakers to consider a vast range of issues. Every one of our 29 variables represents an aspect of public policy. By seeing what needs to be strengthened (and, if many things at once, with what priority), municipal authorities can plan wisely, and in a timely fashion, to address shortcomings and improvements, as well as current requirements and future demands from citizens and businesses alike.

For policymakers, this analysis can help to set the framework for future policy formulation through the specific evidence of (relative) failure or success in current policies. It can thus serve short-term goals of improving all those aspects of public policy represented by our wide range of variables. But it can also help to devise a more integrated, long-term strategy for a city by meticulously constructing a "big picture" that demonstrates how each part interacts with, and ultimately contributes to, the greater whole. In every case, whether short or longer term, each city should try to do whatever it can in the areas in which it has the greatest deficiency or need.

For businesspeople, our analysis here, to echo our five investment criteria described above, essentially comes down to the "Five W's" of any thorough investigation: *who* (or what type of enterprise) should invest; *what* should the nature of the investment be; *when* should it be made; *where* should it be made; and, above all, *why* should it be made – or not made. What, in other words, is the overall plan behind the investment and what is the strategy to transform that plan into reality?

In addition, the chances for successful investment can be increased by remembering:

- **Accurately predicting Africa's** urban potential calls for one eye on a city's tangible building blocks and both feet on the ground locally.
- **Rewards will be determined** in the long run by access to a growing middle-class and not to rich natural resources.
- **Cities of real opportunity need** to hurdle human capital and infrastructure challenges, and stay the course.
- **Shared urban wellbeing** in Africa depends on the public and private sectors collaborating on the foundations of healthy city life—infrastructure, human capital and security.

Finally, it is important to close with a last comment. During the previous decade, Africa as a whole has achieved annual GDP growth of over 5%. That growth has, of course, come from a very low baseline. Nevertheless, it is equal to the economic growth achieved in the developed world during what has now come to be known by economic historians as the "golden age of capitalism," that is, the 30 years following the Second World War. That singular era saw the blossoming of endless national "miracles," primarily in the US, but also almost everywhere else as well: the Japanese postwar economic miracle, the Italian economic miracle, the German *Wirtschaftswunder,* the French *Trente Glorieuse* (thirty glorious years), and, of course, the great rise in British living standards, unforgettably celebrated by Prime Minister Harold Macmillan, who famously declared in 1957 that "our people have never had it so good."[9]

Africa is at an exceptional historical crossroad. It is capable of continuing on a course of economic expansion not often seen in human history. But it is an extremely unusual opportunity, and it will probably not come around again. These momentous periods of major economic change – and especially of economic progress – rarely do. Africa should therefore take advantage of its current prospects while it can, and extend the good fortune for as long as it can, for all its citizens. If there was ever a moment for an entire continent to seize the day, this is it.

Shared urban wellbeing in Africa depends on the public and private sectors collaborating on the cornerstones – infrastructure, human capital and security.

9 According to the African Economic Outlook, for the decade from 2005 through 2014, the continent as a whole grew by an average of 5.07% (see Table 2 – Real GDP Growth Rates, 2005-2015, at http://www.africaneconomicoutlook.org/statistics/table-2-real-gdp-growth-rates-2003-2013). The World Trade Organization states that "during the first 25 years" after the Second World War, "world economic growth averaged about 5% a year," which it describes as a "high rate" (see "Understanding the WTO: Basics: The case for open trade" at http://www.wto.org/english/thewto_e/whatis_e/tif_e/fact3_e.htm). *The Golden Age of Capitalism: Reinterpreting the Postwar Experience* is the title of the classic 1992 study by then-Harvard economists Stephen A. Marglin and Juliet B. Schor (Oxford University Press). Finally, for the Macmillan quote, see Peter Hennessy, Having It So Good: Britain in the Fifties, Allen Lane/Penguin, 2006, p. 1.

Solutions advance but roadblocks remain in Africa's Cities of Opportunity

Several cities in our report have concluded or initiated significant modernisation projects. Specifically:

- In 2012, **Casablanca** inaugurated both the largest mall in Africa and a tram network. A new train station has also opened, which will begin high-speed rail service this year to Tangier. Also awaiting completion in 2015 is a new marina, another mall, and the 24,000-square-metre Grand Théâtre de Casablanca.

- A regional business hub called Tunisia Economic City is planned about 100 kilometres from **Tunis**; it aims at building a global city with a strong base in culture, tourism, education, and commerce.

- **Abidjan** is planning a new airport, moving ahead with its "Aerocity" city-within-an-airport project, renovating its flagship educational institution, the Université Félix Houphouët-Boigny, and beginning construction of a third bridge to ease traffic congestion.

- **Dakar** has a new airport under construction, as well. In 2011, it also launched CTIC Dakar, the first incubator in West Africa for ICT and mobile technologies

- Finally, although **Algiers** has one of the very few metro systems in Africa, with two lines now operating, it is also developing a tramway in order to enhance its public transport.

However, many cities still have ongoing, immediate need for infrastructure in a number of areas. In our analysis, we've identified many examples of infrastructural "obstructions" that, if they were removed, would substantially enhance the daily life, and future prospects, of the cities involved. They include:

- **Constraints on river crossings.** The inability to access central business districts over rivers is often a major cause of congestion. Although Lagos, for example, has three bridges to the mainland, a journey to the airport that only takes 20 minutes on a Sunday morning can easily take three hours or more on a weekday evening, especially in the rainy season. Douala, for one, is currently constructing a second bridge across the Wouri estuary.

- **Clogged city centres.** Congestion in urban centres is also caused by the inability of heavy, long-distance traffic to bypass a city. Douala and Nairobi are good examples of cities in which long-distance, through traffic has to use what are, in fact, the main commuter routes into the city centres.

- **Rail infrastructure.** Rail is in principle the answer to the notorious conundrum of road building: namely, that if you build a road, it will be used, which will only lead to overuse and the inevitable need to build yet more roads. Johannesburg's Gautrain now provides rail access, among other places, to the key business suburb of Sandton. However, rail is very costly to build and maintain (and sometimes to use, for the passenger). Lagos has therefore begun to implement Bus Rapid Transit, which provides some separation of buses from other traffic to improve journey times. There are plans to improve dedicated lanes and extend the system.

- **Highways.** As interurban highways are often poor in Africa today, new roads are being planned that will link many key cities within countries: the Accra-Kumasi toll road in Ghana and, in Kenya, the road from Nairobi to Mombasa, for instance. Nonetheless, many projects remain on the drawing board awaiting detailed planning and funding. As for public-private partnerships, they are often difficult to develop due to funding shortages, conservative risk appetite from Western financiers, and legal frameworks. (For example, tolls charged on the recently constructed Lekki-Ikoyi Link Bridge in Lagos have been declared illegal following a challenge in the courts.)

- **Regional infrastructure.** Infrastructure development across country boundaries is often the key to unlocking trade. There are a number of proposed projects in East Africa such as the LAPSSET (Lamu Port Southern Sudan-Ethiopia Transport) Corridor, which is aimed at improving regional integration and transporting goods to and from Kenya's landlocked neighbours through Lamu port. It is actually a collection of projects within a transport corridor that is planned to include an oil pipeline, highways, rail, port infrastructure, power, and water.

- **Power.** Electricity is one of the biggest constraints everywhere in Sub-Saharan Africa. An often-quoted statistic is that all of Sub-Saharan Africa generates less electricity than Spain (with a population of 47 million). In Lagos, for example, apartment blocks advertise the "benefit" of connection to the grid for 63% of the time, while many businesses suffer the extra cost of paying for their electricity through diesel-powered generators.

* See, for example, David Owen, *The Conundrum: How Scientific Innovation, Increased Efficiency, and Good Intentions Can Make Our Energy and Climate Problems Worse*, Riverhead Books, 2011, especially Chapter 13, "Traffic Congestion is not an Environmental Problem."

†See An Integrated Approach to Infrastructure Provision In Africa, p. 17.

Our approach

It was challenging to choose 20 cities deliberately spread across various regions of Africa as representatives of the continent's Cities of Opportunity. Our guiding principle was to choose only one city per country. While this excluded some obvious candidates, such as Cape Town and Kano, we judged this a prudent, and reasonable, methodological cost.

With the global *Cities of Opportunity* methodology and measures as a guide, a range of indicators and variables was identified that we thought was particularly relevant to the African continent. While it was simply not possible to replicate some global measures for all of our African cities (such as, for example, the UBS prices and earnings report, which does not publish relevant "purchasing power" figures), global measures were utilised whenever possible and new ones were added that we considered to be more pertinent to African economies (such as population growth, middle-class market access, and city scale). And because of the general difficulty of locating uniform data across all of our African cities, country-level data were used (for approximately a third of the variables) when it was not possible to achieve optimal city-level data.

Through a process of extensive review and refinement, 29 variables were finally chosen, grouped under four indicator headings: infrastructure; human capital; economics; and society and demographics. As varying factors will alter the perspective of an investor or urban policymaker, our methodology tries to reflect a wider range of urban reality. Several, more "forward-looking" variables were combined in the opportunity indicator in order to highlight those cities in which future opportunities may lie. While the final choice of variables, and their underlying weightings, is unavoidably subjective, it was made based, on the one hand, on our experience with our global report and, on the other hand, on our knowledge of local markets.

This report is based on publicly available information supported by extensive research. The data were collected during the last quarter of 2014 and the beginning of 2015. The scoring methodology was designed to enable transparency and simplicity for readers, as well as comparability across cities.

For each variable, the 20 cities are sorted from best performing to worst. They are then assigned a score from 20 (best performing) to 1 (worst performing). In the case of a tie, they are assigned the same score. Once all 29 variables are ranked and scored, they are placed into their four indicator groups. Within each group, the variable scores are summed to produce an overall indicator score, producing four indicator tables displaying the relative performance of all 20 cities. The overall table is the sum of performance in all 29 variables.

Infrastructure
Cairo tops the rankings, closely trailed by Tunis

View of the promenade along Nile river in Zamalek island Cairo Egypt

If there is a recipe for success in infrastructure, four critical ingredients include the wealth to build what's needed, the vision to see what that is, the will to get it done and, finally, the longevity to refine and build on the foundations as times and technologies change.

For obvious reasons, older cities often have more extensive infrastructure, if only because they've been around long enough to address their needs, given sufficient resources. Of course, older cities also have older infrastructure – a major issue, for example, in many Western cities in the US and Europe. Nonetheless, mature cities could not have "matured" – that is, become successful urban centres – without putting in place the infrastructure needed to develop and flourish.

The longevity dividend also plays a major role, of course, in building human capital as centres of education grow over time and spread their roots in accomplished citizens who build a city's future. (See page 21). And no city can develop effective highways, railroads, housing, energy, water and waste resources without the resources to fund development.

It's not surprising, therefore, that Cairo and Tunis rank #1 and #2, respectively, in this indicator – or that the top 5 is filled out by Addis Ababa at #3, Johannesburg at #4, and Casablanca at #5. The latter city, like Cairo and Tunis, goes back well over a thousand years. A younger Johannesburg has always been, as we wrote, a municipal centre extremely focused on the quality of its infrastructural network and backed by wealth from its rich mining resources. As for Addis Ababa, while it is a relatively new city (founded, like Johannesburg, in 1886), it was established as the new capital of Ethiopia – or, more accurately, of the then Ethiopian Empire, the oldest independent state in Africa (going back at least to the twelfth century).* Created as it was to function specifically as an imperial centre, it's hardly remarkable that the city has had the chance to continually build and enhance its infrastructure over the last century, despite all of the tumult and conflict it has had to endure.

The advantages of longevity in urban infrastructure are even more evident when we look more deeply at the results and discern the comprehensive nature of the very strong performance in this indicator by both Cairo and Tunis. Egypt's capital finishes first in one out of the eight variables (water risk), second in three (airport connectivity, road safety, and power), third in another (cost of housing), and fourth in two others (communications and transport infrastructure). The city, in other words, finishes in the top 4 in *seven of eight variables,* falling out of the top half of the rankings, finishing #13, in only one, cost of business occupancy.

Tunis also performs impressively. It ranks first in the one variable in which Cairo stumbles, cost of business occupancy, second in cost of housing, third in transport infrastructure and power, and fifth in airport connectivity and communications, thus ranking in the top 5 in six out of eight variables. And it just misses the top 5 in a seventh variable, finishing sixth out of 20 cities in road safety. Its worst performance is in water risk – an admittedly critical variable – but even there, it scores in the top half of the rankings, finishing ninth out of 20.

Addis Ababa also does well in most of the variables here. Although it doesn't finish first in any of the eight, it ranks in the top 5 in three variables, in the top half in another three, and just barely misses the top half, finishing #11, in the other two. Generally, the top 5 cities in this category show a striking consistency: that is, taken as a group, they finish in the top 5 of the eight variables in 60% of cases.

* In actuality, Addis Ababa did not officially become the capital of the empire until three years later, when Menelik II was crowned emperor in 1889.

Nonetheless, there are a couple of glaring inconsistencies among the top 5. Fourth-ranked Johannesburg, for example, ranks in the very top in both airport connectivity and power, finishes second in communications, ranks fifth in transport – but then finishes #19 in road safety. Casablanca, too, finishes first in transport, third in airport connectivity, and fourth in road safety, but in a completely different, albeit fundamental, aspect of infrastructural development – water risk – it ends up #16.

Finally, there are those cities that do particularly well in particular variables: Algiers ranks first in road safety, Antananarivo in cost of housing, and Accra in communications. Algiers also ranks second in transport and fourth in power, while Antananarivo finishes third in communications and fifth in road safety. There is a paradigm here.

Put simply, urban infrastructural development – that is to say, the essential evolution and socioeconomic integration of a city – is not an either/or affair. Cities that are successful over the long run have created and enhanced the *totality* of their infrastructure, not merely parts of it. The remarkable consistency of Cairo and Tunis over the entire range of this indicator, and the success of Algiers and Antananarivo in several areas of infrastructure, points to a clear conclusion: that a robust city, a fundamentally connected city, a thriving city, needs to concentrate on every aspect of its infrastructure – on infrastructure *as a whole* – if it is to progress to the desired level of urban influence, economic prosperity, and social well-being. Infrastructure, in other words, is not water or housing or power or roads or transport or communications, but water *and* housing *and* power *and* roads *and* transport *and* communications. Here, more than in any other aspect of a city's life, the final urban sum is truly greater than the infrastructural parts.

Infrastructure index

	City	Cost of housing	Cost of business occupancy	Airport connectivity	Communications	Transport infrastructure
20	Cairo	18	8	19	17	17
19	Tunis	19	20	16	16	18
18	Addis Ababa	17	17	15	12	10
17	Johannesburg	7	10	20	19	16
16	Casablanca	8	7	18	13	20
15	Dakar	15	18	12	14	12
14	Kigali	13	19	5	15	14
13	Algiers	16	3	14	3	19
12	Antananarivo	20	15	3	18	8
11	Nairobi	10	16	17	9	4
11	Douala	11	14	6	1	7
9	Abidjan	9	9	9	2	9
8	Lagos	6	2	13	10	15
7	Lusaka	12	13	4	8	11
6	Accra	5	4	10	20	5
5	Kampala	14	11	8	7	3
4	Maputo	4	5	1	5	13
3	Dar es Salaam	2	12	7	6	6
2	Kinshasa	3	6	2	4	1
1	Luanda	1	1	11	11	2

High
Medium
Low

Highest rank in each variable

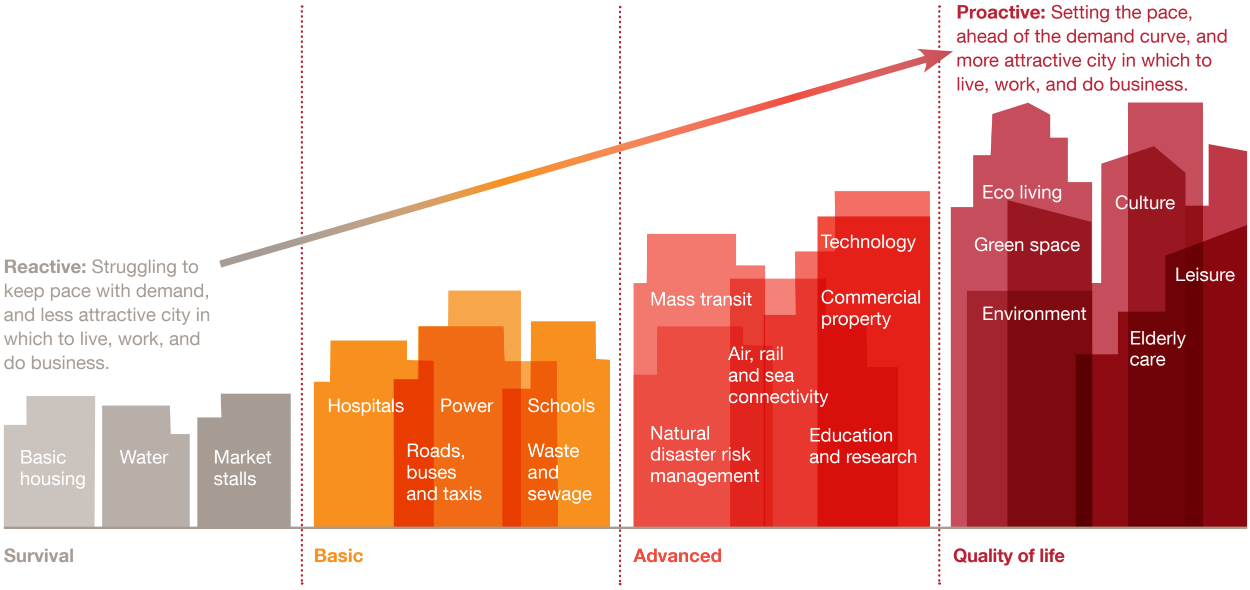
*Country level information

Each city's score (here 137 to 38) is the sum of its rankings across variables. The city order from 20 to 1 is based on these scores.

Urban infrastructure climbs a ladder from survival to sophisticated, quality of life assets

Four-stage urban infrastructure evolution

Where are the Cities of Opportunity positioned today in the evolution of urban infrastructure and what will future infrastructure demands be?



Source: Cities of Opportunity

Road safety*	Water risk	Power	Score
19	20	19	137
15	12	18	134
18	10	13	112
2	13	20	107
17	5	16	104
10	6	11	98
13	17	1	97
20	3	17	95
16	7	3	90
8	9	9	82
14	14	15	82
11	19	12	80
1	16	14	77
5	16	5	74
7	8	10	69
3	18	4	68
12	1	8	49
6	4	2	45
9	12	7	44
4	2	6	38

Human capital
Tunis tops all African cities by a comfortable margin

*It has by now become a commonplace that, in the words of Klaus Schwab, executive chairman of the World Economic Forum, "the key for the future" of any society "lies in the talent, skills and capabilities of its people." If, it is truly "time to recognize," as United Nations Secretary-General Ban Ki-moon has put it, "that human capital…[is] every bit as important as financial capital," then this report also compels recognition that Tunis is considerably ahead of all other African cities in fashioning a genuinely rich and fruitful future.**

The extent of Tunis's across-the-board success in this indicator is arresting: it ranks #1 in two of the five variables (health system performance and graduates enrolled), #2 in a third (literacy and numeracy), #3 in a fourth (density of physicians and hospitals), and #5 in the fifth and last variable (health expenditure). This is a remarkably comprehensive performance. Indeed, the difference between top-ranked Tunis and second-ranked Johannesburg is not just a point or two, but almost 13% of the final tally. In this indicator at least, Tunisia's capital clearly trumps the rest of urban Africa.

What are almost equally striking, however, are the consistently high levels of achievement of most of the cities in the top 5 in this indicator. Johannesburg, Cairo, and Algiers – #2, #3, and #4, respectively – finish in the top 5 in four out of five variables. Johannesburg, for its part, ranks at the very top in literacy and numeracy, comes in second in health expenditures, and ranks third in both physician/hospital-bed density and graduates enrolled. Cairo ranks first in physicians

Square and Bab Bhar in the central part of the Tunis. People on cross of Place de la Victoire and the Medina entrance

and hospital beds and third for its health system, literacy and numeracy, and enrolled graduates, while Algiers takes second place in graduate enrollees, fourth place for its health system, and fifth place in both physicians/hospital beds and literacy and numeracy. Casablanca fills out the top 5 by finishing second in the performance of its health system and fifth in graduates, while ranking in the top half for both its health expenditures and density of physicians and hospital beds.

These are generally very good, and consistent, results – so much so, in fact, that only five other cities out of the remaining 15 score in the top 5 in any variable in this indicator. Kigali rises to the very top in health expenditures, while Kampala finishes third in the same variable and fourth in literacy and numeracy. Addis Ababa ranks second, meanwhile, in physicians and hospital beds, as Abidjan finishes fourth in health expenditures, and Dakar, finally, ranks fifth in the performance of its health system.

Finally, one can't help but notice that the top 5 cities in this indicator are also the top 5 cities overall, although not in the same order. Moreover, four of the top 5 here are also in the top 5 in the infrastructure indicator. Again, the word that immediately comes to mind is consistency: consistency of effort, consistency of success, and, clearly, a consistency of municipal planning, without which the effort would be vain and the success unachievable.

One last point. The success of Cairo, Tunis, Johannesburg, and Casablanca in both infrastructure and human capital confirms another truth about dynamic cities: for all their differences among them, they are all dynamic across the board. Cities with excellent infrastructure lead to cities with rich human capital. Once the equation is made, of course, it seems obvious – but the difficulty is in getting from one point to the other.

* For the quote from Klaus Schwab, see The Human Capital Report, prepared in collaboration with Mercer, World Economic Forum, 2013, p. v, at http://www3.weforum.org/docs/WEF_HumanCapitalReport_2013.pdf; for the quote from Secretary-General Ban, see "Human and natural capital as important as financial capital," United Nations Department of Economic and Social Affairs, May 17, 2012, at http://www.un.org/en/development/desa/news/financing/new-paradigm-job-creation.html. The full quote is: "It is time to recognize that human capital and natural capital are every bit as important as financial capital."

Finance department, Tunis, Tunisia.

Human capital index

Rank	City	Health system performance*	Health expenditure as % of GDP*	Physicians/Hospital bed density*	Literacy and numeracy*	Graduates enrolled*	Score
20	Tunis	20	16	18	19	20	93
19	Johannesburg	8	19	17	20	17	81
18	Cairo	18	6	20	18	18	80
17	Algiers	17	9	16	16	19	77
16	Casablanca	19	12	15	10	16	72
15	Kigali	13	20	12	9	8	62
14	Kampala	7	18	5	17	12	59
13	Accra	11	8	8	14	15	56
12	Douala	6	7	11	13	14	51
11	Nairobi	10	4	13	15	4	46
10	Dar es Salaam	12	15	3	11	3	44
9	Lagos	5	11	10	4	13	43
8	Lusaka	4	14	14	7	1	40
7	Addis Ababa	15	2	19	1	2	39
6	Abidjan	9	17	4	2	6	38
5	Dakar	16	5	1	5	10	37
4	Kinshasa	2	10	7	6	11	36
3	Luanda	1	1	9	12	9	32
3	Antananarivo	14	3	2	8	5	32
3	Maputo	3	13	6	3	7	32

High
Medium
Low

Highest rank in each variable

*Country level information

Each city's score (here 93 to 32) is the sum of its rankings across variables. The city order from 20 to 1 is based on these scores.

Economics
Casablanca #1, with several cities close behind

Modern red tram on the streets of Casablanca, Morocco

Interestingly enough, the results in this indicator mostly confirm the rankings in the previous infrastructure and human capital indicators. Once again, the North African names – and Johannesburg – in the top 5 are familiar, with only the addition of Sub-Saharan Accra and Lagos tied for fifth place altering the geography a bit. What might be more interesting, however, is how tightly bunched up the top 5 in this indicator are, as opposed to the top 5 in the previous two.

In infrastructure, for example, first-place Cairo is 33 points ahead of fifth-place Casablanca, a spread of 24% of the top score; in human capital, #1 Tunis outscores Casablanca, which again ranks fifth, by 21 points, or about 23% of the Tunisian capital's tally. In this indicator, however, the difference between top-ranked Casablanca, on the one hand, and Accra and Lagos, tied for fifth, on the other, is only 14 points, or just over 11% of the Moroccan capital's total score. Clearly, the competition for economic supremacy in urban Africa is extremely tough, and it shows no signs of abating.

As with the previous indicators, those cities ranked highest in the indicator as a whole also do well generally across most variables. First-place Casablanca, for example, finishes in the top 5 in five of eight variables: it ranks first in both number of headquarters of top 500 companies and GDP diversity; third in financial services; fourth in GDP per capita; and tied for fifth in FDI. Second-ranked Tunis and third-ranked Johannesburg also score in the top 5 in five variables. In Tunis's case, it finishes second in financial services; third in GDP per capita, Gini coefficient (measuring the equality of income distribution), and ease of doing business; and fifth in GDP diversity. Johannesburg ranks #1 in two variables, GDP per capita and financial services; second in another two, headquarters of top companies and ease of doing business; and third in FDI. South Africa's largest city also just falls out of the top 5 in GDP diversity, ranking sixth. (This fact might belie the notion of a city over-dependent on extractive resources – and thus point to a more balanced, and therefore healthier, economy – but as our data here are based on country-level results, we need to be wary of any conclusions.)

Fourth-place Cairo scores in the top 5 in half of the variables here. Notably, it has the best Gini coefficient of all the cities in Africa – not an insignificant achievement given the importance of the measure and the central role it is increasingly playing in most discussions of socioeconomic progress, not only in the developing world but (even more so in many ways) in the developed one. Cairo's results in this variable might also be a product of its long history, and therefore of its long experience in dealing with the issue of social imbalance. (In that light, it is also noteworthy that Addis Ababa ranks second in this variable and Tunis third.)

Among the top ranks, finally, Accra and Lagos, tied for fifth, score in the top 5 in three variables each. Accra does particularly well in FDI and GDP diversity, ranking second in both, and it finishes fourth in ease of doing business, while Lagos ranks third in FDI and fourth in both top 500 headquarters and financial services.

Three other cities climb to first place in at least one variable: Nairobi in FDI, Dar es Salaam in GDP growth, and Kigali in ease of doing business. Regarding the latter, it should be added that Rwanda climbed almost 100 places, from 143rd place in 2009 in the World Bank's ease of doing business survey to 46th in 2014 – a genuinely impressive rise.*

*For 2014, see the chart at http://www.doingbusiness.org/rankings; for 2009, see Table 1.3, "Rankings on the ease of doing business," *in Doing Business 2010: Reforming Through Difficult Times,* a co-publication of the World Bank, International Finance Corporation, and Palgrave MacMillan, 2009, p. 4.

But, again, the most important conclusions to be drawn from the data in this indicator are those we mentioned at the end of the discussion on human capital (see pages 21 – 24), namely, that four cities out of the top 5 in this indicator are also in the top 5 cities overall, as well as being in the top 5 in the previous two indicators. To avoid repeating ourselves, we would only add that elements of that consistency we've mentioned before include coherence of purpose, constancy of planning and execution, and, above all, correspondence among all the variables of municipal policymaking, on the one hand, and the final integrated result, on the other.

In closing, while it, too, is obvious, it is wise to repeat as well that urban success in infrastructure and human capital plainly also leads to prosperity and economic development. Indeed, our data speak to that fact in more ways than one. Perhaps the most interesting results concern the cities that do best in (2012-2014) rate of GDP growth: Dar es Salaam, Kinshasa, Abidjan, Addis Ababa, and Lusaka. None of these cities ranks in the top 5 overall, and only Addis Ababa ranks in the top half. What our data might be signaling here, in other words, is that, while it is very important to have a robust economy, it might be even more important for an economy to be based on the infrastructure and human capital that will propel and maintain its robustness through straitened times as well as rich ones. Put another way, a city needs an economic base that will guide it through the business cycles that are the only permanent features of every economy without exception.

Economics index

		GDP per capita	Rate of real GDP growth	GINI coefficient*	Headquarters of the top 500 companies in Africa	Ease of doing business**
20	Casablanca	17	5	12	20	15
19	Tunis	18	1	18	15	18
18	Johannesburg	20	3	1	19	19
17	Cairo	14	2	20	16	13
16	Accra	11	8	10	12	17
16	Lagos	15	11	9	17	8
14	Nairobi	13	9	4	11	12
14	Abidjan	9	18	8	18	5
12	Dar es Salaam	4	20	16	7	9
11	Lusaka	12	16	2	7	16
10	Dakar	6	7	15	13	3
9	Algiers	16	4	17	15	6
8	Kampala	10	14	6	7	11
7	Douala	8	15	13	10	4
6	Addis Ababa	1	17	19	4	14
5	Kigali	5	13	3	2	20
4	Maputo	7	12	5	9	10
3	Luanda	19	10	11	9	2
2	Kinshasa	2	19	7	4	1
1	Antananarivo	3	6	14	2	7

High
Medium
Low

Highest rank in each variable
*Country level information
**Published as country-level data based on the most populous city
Each city's score (here 123 to 45) is the sum of its rankings across variables. The city order from 20 to 1 is based on these scores.

Attracting FDI	GDP diversity*	Financial services strength*	Score
16	20	18	123
14	16	19	119
18	15	20	115
16	18	15	114
19	19	13	109
18	14	17	109
20	10	16	95
14	9	14	95
8	12	13	89
11	8	11	83
8	17	9	78
14	3	2	77
5	11	9	73
3	13	6	72
6	2	5	68
9	4	10	66
11	6	3	63
4	1	1	57
2	7	4	46
1	5	7	45

Mohammed V Square, Casablanca. Morocco

Society and demographics
Kampala #1 by a whisker, with Cairo just behind

This is the only indicator in which the cities of Sub-Saharan Africa rise to the very top, while, with the singular exception of Cairo, those of Northern Africa, and Johannesburg, mostly fall into the bottom half of the rankings (with the exception of Algiers, which finishes ninth among the 20 cities). It's hardly unusual, in any case, that the dynamic spirit of so many Sub-Saharan cities would come to the fore in the one indicator in our report that measures social initiative and demographic vitality.

Kampala scores first overall in this indicator, as well as ranking #1 in population growth and third in diversity. More interestingly, Cairo is an extremely close #2, right on Kampala's heels, just one point behind. Moreover, while the Ugandan capital ranks in the top 5 in only two of the eight variables here, the Egyptian capital ranks first in middle-class market access – a significant marker of future growth and economic viability – as well as in international clout. It also ranks second in both city scale and middle-class growth (thus confirming its top score in the previous gauge of middle-class robustness). Generally, Cairo is only one of two cities (Addis Ababa being the other) that ranks in the top 5 in half of the variables in this indicator, and it does so with distinction, ranking #1 in two variables and #2 in the other two.

Streets of Kampala Uganda

Accra is the only other city in the top 5 that scores first in a variable, in this case a fundamental one for any city, regardless of where it is located. Registering the lowest crime rate of any African city speaks volumes about the Ghanaian capital's success in creating an urban environment conducive to economic progress and social development. In an interview in Cities of Opportunity three years ago, Bill Bratton – who in the intervening years was reappointed police commissioner of New York – said to us that "health, safety, and security" were the "number-one" needs of any city, but that "if you don't have security, you don't have health and safety, and all the other pillars that support democracy will weaken, including education and the economy." Indeed, Bratton argued, "public safety is the first obligation of government in a democracy," and then continued:

"Policing is not a cost. It's an investment." "If you don't have public safety, the money you're apportioning to libraries and parks is wasted: If people don't feel safe, they're not going to use them. If you make it safe, they will come. Businesses… invest, jobs will be created, more taxes will be paid, more schools will be built, more policemen will be hired."*

Accra obviously understands this virtuous circle. In that specific policymaking sense, therefore, it is probably no accident that in addition to ranking first for lowest crime, it also ranks third for its political environment and fifth for international clout. With some marginal improvement in a few other variables, not only in this indicator but in the previous three as well, the city can improve its overall ranking and easily move into the top 5.

*See "Bill Bratton transformed law and order," *Cities of Opportunity*, 2012, pp. 54 and 55.

Two other cities score a first-place in one variable: Addis Ababa for city scale and Johannesburg for its political environment. But only one other city besides Cairo finishes first in two variables: Abidjan rises to the top in both middle-class growth and diversity. Both variables, it must be said, are good markers of a positive economic atmosphere. Put in the context of Abidjan's high scores in several other variables, both social and economic, in other indicators – second in water risk, third in GDP growth and top 500 headquarters, and fourth in health expenditures – it points to a city that, much like Accra, might be ready to rise significantly higher in these rankings in the future.

Finally, mention must be made of Tunis, mostly because its performance in this indicator is unusual. While coming a very close second in infrastructure, first by a good margin in human capital, and, again, a really close second in economics, Tunisia's capital falls to the bottom half of the rankings here, tying Luanda for fifteenth overall. In fact, its very low score in this indicator is what keeps Tunis from finishing #1 in the overall rankings.

The two variables here that stand out are middle-class growth and diversity. (City scale, frankly, is a variable about which the city can do very little given the size of Tunisia's overall population.) To put things simply, if the city had managed to score merely in the very top of the bottom half (in other words, #11), in both variables, it would have risen to ninth place in this indicator and #1 overall. It is difficult to imagine that a city that competes so effectively in every other indicator, with a long history of prosperity and cosmopolitanism, cannot perform better in middle-class growth and diversity – two areas of urban society in which one would think Tunis is a past master.

Society and demographics index

		Middle-class market access	City middle-class growth	Crime	Political environment*	International clout
20	Kampala	11	9	9	12	14
19	Cairo	20	19	13	6	20
18	Dar es Salaam	3	15	8	17	11
17	Nairobi	12	13	6	13	19
17	Accra	8	12	20	18	16
15	Addis Ababa	1	17	10	2	18
14	Lagos	19	18	1	10	4
13	Lusaka	10	10	14	14	6
12	Algiers	17	2	18	7	12
11	Dakar	9	8	17	19	17
11	Abidjan	13	20	3	8	8
9	Kinshasa	2	16	11	1	9
8	Maputo	4	5	15	16	10
7	Johannesburg	15	6	2	20	15
6	Tunis	18	1	16	15	13
6	Luanda	14	11	4	3	7
4	Kigali	6	4	12	9	2
3	Casablanca	16	7	19	4	5
3	Douala	7	14	7	5	1
1	Antananarivo	5	3	5	11	3

High
Medium
Low

Highest rank in each variable

*Country level information

Each city's score (here 108 to 61) is the sum of its rankings across variables. The city order from 20 to 1 is based on these scores.

Garden City shopping mall in Kampala Uganda

Diversity	City scale	Population growth	Score
18	15	20	108
7	19	3	107
15	12	19	100
10	11	14	98
4	9	11	98
19	20	6	93
9	18	13	92
16	3	17	90
13	13	5	87
5	2	9	86
20	6	8	86
12	17	12	80
6	16	7	79
1	14	1	74
3	1	4	71
11	5	16	71
17	4	15	69
2	10	2	65
14	7	10	65
8	8	18	61

Key to the variables

Infrastructure

Cost of housing
A measure of how expensive rent is within a city. Each city receives an index score relative to the cheapest city based on the monthly cost of rent for both expatriate and local housing. Data is sourced from the Knight Frank Africa Report and the Numbeo Property Prices Index.

Cost of business occupancy
Each city receives an index score relative to the cheapest city based on the cost of three types of business rent (in USD per metre sq. per month): office, retail and industrial. Costs are taken from the 2013 Knight Frank Africa Report.

Airport connectivity
Each city receives an index score relative to the best-performing city based on the total number of international direct commercial flights available from an airport servicing a city, along with the corresponding passenger flow figure for that airport.

Communications
Each city receives an index score relative to the highest-performing city for its 30-day average broadband download speed and its country-level mobile broadband subscriptions per 100 of the population.

Transport infrastructure
A measure of the transport infrastructure in each city. Each city receives an index score relative to the best-performing city based on the total length of paved roads (country-level), the existence of multiple modes of transport in each city and the ease of travelling between a city's airport and the central business district (CBD).

Road safety*
A count of the estimated number of road deaths in each country per 100,000 inhabitants. Raw figures are calculated by the World Health Organisation based on 2010 survey data and are published in the Global Status Report on Road Safety 2013. The figures have been normalised against each country's 2010 population figure from the US Census International Database.

Water risk
Water risks in a city related to quality, quantity and regulatory risk. Quality risks are defined as the exposure to changes in water quality that may impact on industrial production systems, resulting in the need for further investment or an increase in the operational costs of water treatment. Risks related to quantity are defined as the exposure to changes in water quantity (e.g. droughts or floods) that may impact a company's direct operations, supply chains and/or logistics. Regulatory risk refers to the unpredictability of regulations within the business environment. These risks arise when an unexpected change in water-related law or regulation increases a business' operating costs, reduces the attractiveness of an investment or changes its competitive landscape. Data produced by World Resources Institute with Aqueduct.

Power
Each city receives an index score relative to the best-performing city based on the percentage of the population in a city's metropolitan area with access to electricity; and electricity power consumption per capita in kWh (kilowatt-hours) in each country. Consumption measures the production of power plants and combined heat and power plants less transmission, distribution, and transformation losses and own use by heat and power plants. Higher consumption has been assumed to indicate a more developed power infrastructure.

* Country level information.

Human Capital

Health system performance*

Measurement of a country's health system performance made by comparing healthy life expectancy with healthcare expenditures per capita in that country, adjusted for average years of education (years of education is strongly associated with the health of populations in both developed and developing countries). PwC Global Healthcare adapted methodology from the 2001 report "Comparative efficiency of national health systems: cross-national econometric analysis".

Health Expenditure as % of GDP*

Total health expenditure (public and private) as a percentage of GDP reported by the World Bank. The measure covers the provision of health services (preventive and curative), family planning activities, nutrition activities, and emergency aid designated for health but does not include provision of water and sanitation.

Physicians/ Hospital bed density*

Each city receives a combined index score based on the number of medical doctors, including generalist and specialist physicians, per 1,000 of the population along with the number of hospital beds per 1,000 people as a measure of inpatient service availability.

Literacy and Numeracy*

Percentage of the adult population (15+) who can, with understanding, read and write a short, simple statement on their everyday life. The World Bank indicates that 'literacy' also encompasses 'numeracy', reflecting the ability to make simple arithmetic calculations. This indicator is calculated by dividing the number of literates aged 15 years and over by the corresponding population and multiplying the result by 100.

Graduates Enrolled*

World Bank tertiary enrollment (total enrollment in tertiary education at ISCED levels 5 and 6), regardless of age, expressed as a percentage of the total population of the five-year age group following on from leaving secondary school (e.g. 19-23 years old).

Economics

GDP per Capita
Distribution of GDP per capita in 2014 expressed in constant 2005 USD. Forecast data sourced from Canback & Company's Global Income Distribution Database.

Rate of real GDP growth
2012-2014 gross domestic product (GDP) percentage growth rate in real terms expressed in constant 2005 USD. Forecast data provided by Canback & Company's Global Income Distribution Database.

GINI coefficient*
The GINI index measures the extent to which the distribution of income or consumption expenditure among individuals or households within an economy deviates from a perfectly equal distribution. A GINI index of zero indicates perfect equality while an index of 100 implies perfect inequality.

Headquarters of the top 500 companies in Africa
The number of headquarters in each city of the top 500 companies in Africa, as per The Africa Report's "Top 500 Companies in Africa" study. These rankings are based on each company's 2013 financial performance.

Ease of doing business**
Each city receives a score based on the Doing Business 2014 report, published by the World Bank. The report is a measure of business regulations and their enforcement across 189 economies. The report reflects each economy's performance across 10 areas: starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts and resolving insolvency.

Attracting FDI
Combined variable ranking the number of greenfield (new job-creating) projects plus the total USD value of greenfield capital investment activities in a city that are funded by foreign direct investment (FDI). Data covers the period from January 2013 through December 2013 and is sourced from fDi Intelligence.

GDP diversity*
A measure of whether an economy is over-reliant on particular sectors. Using the African Economic Outlook's GDP by sector split into ten areas, each country was allocated a concentration ratio to show whether an economy is over-reliant on particular sectors.

Financial services strength*
Each city receives a combined index score relative to the best-performing location according to the strength of its financial services industry. Takes into account the percentage share of national GDP from financial, real estate and business services, along with the total value of stocks traded on the national stock exchange (expressed as a % of national GDP).

* Country level information.
** Published as country-level data based on the most populous city.

Middle-class market
Each city receives an index score relative to the best-performing city based on the percentage of 2014 population who are considered middle-class, along with the absolute size of the middle-class population according to Canback & Company's Global Income Distribution Database. Socio-economic groups D+ (lower middle-class), C (middle-class) and C+ (upper middle-class) are included.

City middle-class growth
Each city receives an index score relative to the best-performing city according to the projected rate of growth (%) and absolute growth in the city's middle-class population from 2012-2015.

Crime
Weighted combination based on the number of homicides per 100,000 in each city, along with a measure of personal safety for each country focusing on political terror, social unrest, safety of the person, police services, violent crime and human trafficking.

Political environment*
A measure of the relationship between government and citizen. Each city receives a score based on the extent to which citizens can participate in and take ownership of the political process in a country, along with taking account of the state's performance in terms of rights and gender issues. Data is sourced from the Mo Ibrahim Index of African Governance 2014.

International Clout
A measure of each city's appeal as an international centre. Each city receives an index score relative to the best-performing city based on the number of embassies and consulates in each city, along with the total number of international meetings held in that city between 2009 and 2013.

Diversity*
Weighted combination of a country's migration balance (the difference between the number of persons entering and leaving a country during the year per 1,000 persons) and the number of foreign born residents in each country as a percentage of the total population.

City scale
Each city receives an index score based on the absolute size of the city population and the proportion of the city to the total country population. Cities which have a larger absolute size and which form a smaller proportion of their country are considered preferential as they have should have higher market access with fewer infrastructure and trade barriers. Population data is from the CIA World Factbook at country level and Canback & Company at city level.

Population growth
The projected annual rate of change between 2010 and 2020, in percentage, of the metro area of a city, according to the UN's Planning and Design for Sustainable Urban Mobility report.

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