actis

Street View
Actis Macro Forum

March 2019

Welcome


Ewen Cameron Watt
Editor-in-Chief
London


Andrew Newington
Chief Investment Officer
London

Macro Forum Members


Hilaire Dongmo
Real Estate
London


Sherif ElKholy
Private Equity
Egypt


Nicolas Escallon
Energy
Mexico


Stuart Jackson
Knowledge & Information
London


Pratik Jain
Private Equity
India


Julian Jung-Wook Kim
Real Estate
Seoul


Max Lin
Private Equity
China


Ali Mazanderani
Private Equity
London


Bruno Moraes
Energy
Brazil


Funke Okubadejo
Real Estate
Nigeria


Lisa Pinsley
Energy
South Africa


John Thompson
Communications
London


Janet van Niekerk
Knowledge & Information
South Africa

Guest Contributors


Archer Kilpatrick
Energy
South Africa


Thomas Liu
Real Estate
China & North Asia


Simon Ogus
CEO, DSG Asia Ltd
Hong Kong


Bemi Otudeko
Energy
London


Ashish Singh
Real Estate
India

Deeper, stronger, faster

Ewen Cameron Watt
Editor-in-Chief, London
ecameronwatt@act.is

Street View is a new name for this publication reflecting the ability of the Macro Forum network to look behind the headlines to deliver local insights and perspectives from colleagues on the ground.

This edition of Street View - is focussed on the presumption that more of everything-people, capital, debt does not represent a sustainable basis for growth.

Our journey begins in China. Our friend Dr Simon Ogus, CEO of DSG Asia, a Hong Kong based economic research and advisory business contributes a guest article looking at the changing growth model of the largest EM economy. Simon highlights that China is running out of 'easy' productivity fixes. Debt accumulation partly reflects an unwillingness to abandon the model of rapid fixed capital growth which served so well in the past. Given the close relationship between China and the rest of Asia, an economic correlation of well over 0.8 JP Morgan claims, the outcome here matters to investors everywhere.

We complement Simon's observations with an article from Thomas Liu, a partner in our Asian real estate team in Hong Kong. Thomas outlines opportunities for property investment in data warehouses, logistics and reconditioned commercial buildings in second and third tier cities. Despite headlines claiming over supply the wide range of opportunity presented by vast domestic demand are still very attractive.

We turn to India as the biggest democracy in the world prepares for national elections in the spring. Narendra Modi's BJP government came to power in 2014 with a clear reform agenda. In the run up to the elections, Pratik Jain and Ashish Singh in our Mumbai office run the ruler over the track record of this government. Their view is that they rate a qualified pass mark for achievements to date but there is plenty more wood to chop if India is really going to continue to emerge as a resilient economy. Our Street View shows us that looking through a focused sector lens there are compelling market opportunities from renewable energy to logistics hubs and payments companies. The common thread is that our investments generally contribute to economic deepening and development rather than the national growth rate.

Africa has the twin problems of insufficient capital -a mere 5% of world FDI-and enormous untapped population reserves. Hilaire Dongmo is our Street View expert on Francophone Africa and through his work on acquisitions and asset management in real estate has a front row seat.

Hilaire shines a light on some important numbers-

In 30 years' time there will be another billion Africans, growth which will dominate world population changes. Absorbing these extra mouths without creating poverty traps means more jobs, more capital, more reforms, more focus on education and literacy.

East Asia harvested a demographic dividend over the last 40 years providing lessons for Africa. At the end of the day per capita income matters more than the total size of the economy.

This opportunity is driven home by Funke Okubadejo who is based in Lagos.

Nigeria is home to Africa's largest population, one which is forecast to exceed 400 million by 2050 overtaking the US to become the 3rd most populous country on the planet .

Yet today 87 million Nigerians live on less than $2 a day. Without progress in areas like literacy, education and healthcare prospects for social stability and peaceful development are at risk. President Buhari's government has been slow moving on the reform front and voter polls indicate that job creation was a major issue in the recent presidential election. Nevertheless, progress is possible as illustrated by the significant divide in literacy and birth rates between poorer Northern regions and the relatively prosperous South.

Finally, Archer Kilpatrick, based in Cape Town and working in our power business reviews the evolving picture for electricity supply and demand in Africa. Approximately 590 million Africans currently have no access to electricity a clear example of the under capitalised nature of this continent. The scope for increased and improved supply often based on technology which can leapfrog that used in older long installed networks lies at the heart of our thesis that investment opportunity in our countries abounds even if headline growth itself slows.

Damon Runyon's bon mot - 'the race is not always to the strongest or the fastest but that's the way to bet' can easily be applied to growth markets.

Jodhpur market

China: Changing nature of growth. Historic growth model and how it is evolving in the future.

Simon Ogus
CEO, DSG Asia Ltd
Hong Kong

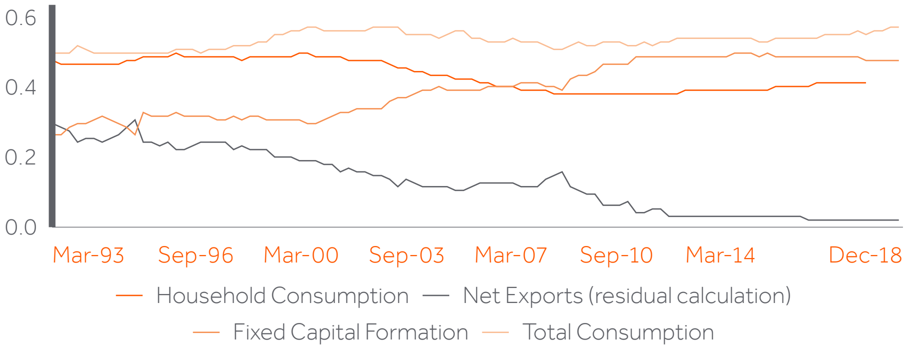
More than a decade has passed since then-Premier, Wen Jiabao, remarked that the Chinese economy was "unbalanced, uncoordinated, unstable, and unsustainable." Yet subsequently Beijing has seemingly lacked the political stomach to follow through on regular statements of rebalancing intent. In the interim, China has become a highly-indebted economy, still heavily reliant on fixed investment and government expenditure emphasising the primacy of the state over the private sector.

As a still-middle income country, China needs to continue to invest significantly for its future and retains ample potential to further boost productivity. Nevertheless, its borrowing binge over the last decade has driven indebtedness to developed world levels, and seen the external surplus cushion all but disappear. Meanwhile, in the context of ongoing and likely persistent trade tensions,[1] the strong trade tailwinds of the past threaten to shift structurally more to the fore.

Arguably this backdrop gives the authorities a strategic opportunity to introduce productivity-rejuvenating reforms under the cover of blaming nefarious outside influences for the slower interim growth that would likely transpire. However, should the appetite for even a modicum of pain remain weak, then a doubling-down on debt-fuelled investment-led growth cannot be ruled out with attendant risks to financial and currency stability. Whichever road Beijing chooses will have major impacts beyond its shores with correlations of China to Asian growth running around 0.8.

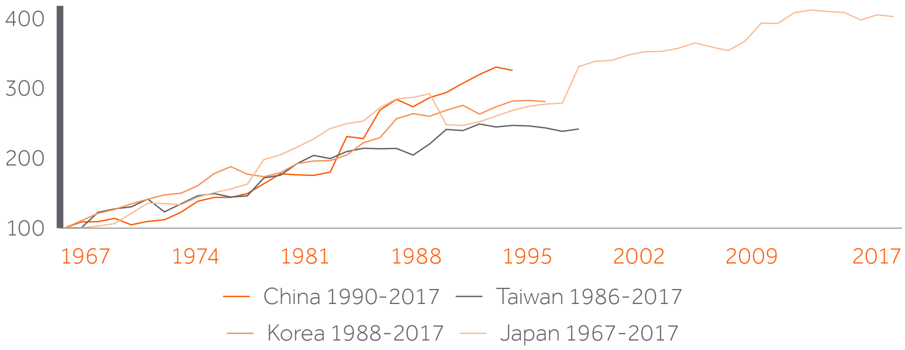
Economic growth can be delivered by employing an increased quantum of different factors of production (land, labour and physical capital), improving the productivity of these factor inputs, and finally by leveraging them up. In the immediate decades following the introduction of the Open-Door Policy in 1978, China was exceptionally successful in delivering on the first and second of

Exhibit 1: China GDP shares



Source: DSG Asia Limited calculations from CEIC database

Exhibit 2: Total debt/GDP per capita index



Source: DSG Asia Limited calculations from CEIC database

these paths. The last decade has seen far more of a focus on the third.

The period from 1978 to the early 1990s was largely a story of recovery and factor re-mobilisation in the aftermath of the chaos – economic and societal – unleashed by Mao's Cultural Revolution. During this time, it took only a single unit of additional credit to deliver a single unit of nominal GDP. The decade-and-a-half from 1994, largely under the auspices of Premier Zhu Rongji, witnessed accelerated reforms and financial deepening, yet credit intensity only rose towards 1.5:1. However, post-2008, it has required three units of increased credit to generate an incremental unit of GDP.

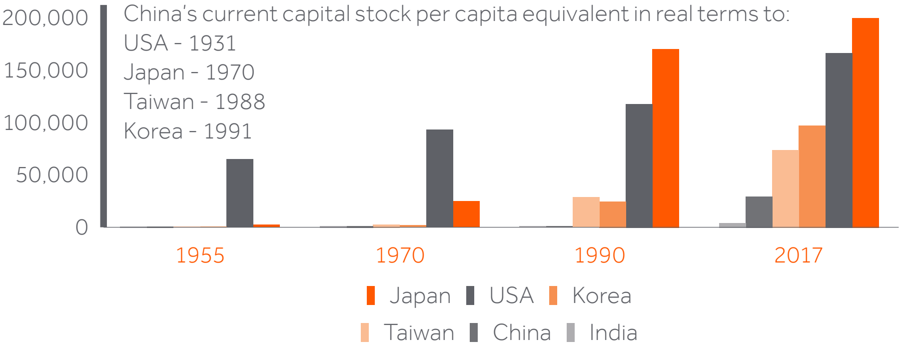
China's response to the 2008 Global Financial Crisis was a massive twin monetary and fiscal stimulus programme which successfully headed-off a severe economic downturn, but left the country with significant industrial overcapacity and high levels of indebtedness. For the next half-decade, the authorities attempted to rein in excesses but when growth again threatened to slow in 2015, the monetary and fiscal taps were again opened wide. This propelled debt ratios beyond those racked up by Japan in 1989 but at a stage of development more akin to Japan's in 1970 (the chart above incorporates both variables).

Such comparisons can never be exact. Nevertheless, it seems questionable whether the financial system, in isolation, can finance growth from today's levels of indebtedness in the absence of a re-commitment to economic reforms aimed at rejuvenating productive potential. This is far from impossible since we must recall that China has generally found the capacity to deliver over the past four decades when faced by potentially existential challenges. Whether Xi Jinping's re-emphasis of Party- and state-led control provides the mechanism to deliver such a productivity rejuvenation remains to be seen.

The media may be awash with stories of wealthy Chinese investors buying up global assets Nevertheless, although a small percentage of 1.3 billion people translates into a large absolute number of rich investors, China remains overall a rather

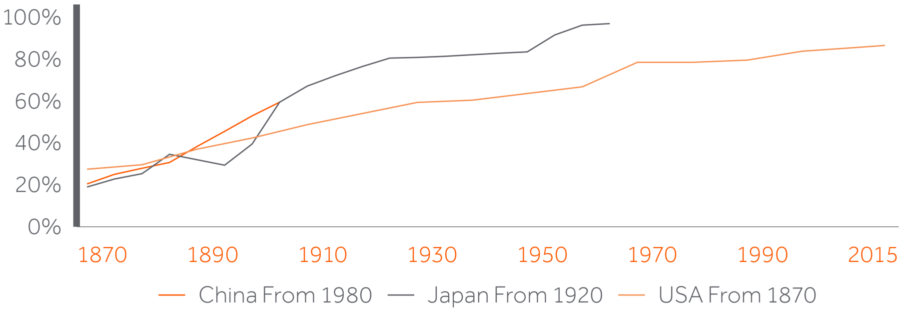
1 See my previous article in the *Actis Macro Forum insights and perspectives October 2018*: "Asia may not be interested in trade wars, but trade wars are interested in Asia."

Exhibit 3: USD capital stock per capita, 2017 prices



Source: DSG Asia Limited calculations from CEIC database

Exhibit 4: Urban populations as a percentage of total



Source: DSG Asia Limited calculations from CEIC database

poor country. In constant US dollars, per capita income and wealth are only at levels achieved in Japan in 1967, and in 1986 and 1988 in Taiwan and Korea, respectively.

It is a similar story with per capita capital stock – the value of a country's physical infrastructure, plant and equipment. A first-time visitor to Beijing, Shanghai or Shenzhen may dispute the comparative figures charted above, but one does not need to travel too far outside of the major urban centres before one soon encounters areas of significant poverty.

Furthermore, as a country matures, the composition of the desired capital stock also changes as the onus shifts from initial accumulation, to productivity and general welfare enhancing investments. Constructing a first road or railway to a remote location will boost productivity and connectivity considerably. Building subsequent duplicate links will deliver, at the margin, rather less of a bang for the renminbi. Middle income countries with decent core infrastructure extract superior medium-term benefits from investing more in higher quality housing and local transport, as well as better education, healthcare and environmental protection. The downside is that such "softer" investments deliver less of an immediate boost to headline growth than do major infrastructure and heavy industry projects.[2]

Beijing is of course not unaware of these challenges and has unveiled a regular flow of policy initiatives and exhortations over the past two decades in an attempt to rebalance its economy away from a reliance on investment, heavy industry and exports, and more towards consumption and services. Some progress has been made for sure but the unwillingness to officially recognise that such a transition has never been achieved elsewhere, absent an extended period of slower headline growth, has remained a fundamental and ultimately overriding contradiction.

Prima facie, a much-reduced current account surplus in the decade following the Global Financial Crisis – from 9% of GDP in 2008 to only 0.4% last year – suggests that significant rebalancing has indeed been taking place. In reality, economic growth has remained significantly reliant on credit-fuelled investment. The household consumption share in GDP meanwhile has only edged up from 36% to a still rather low (by global standards) 39% of GDP.

Furthermore, in the context of President Xi's desire to re-prioritise the leading role of the state sector, while the share of exports in GDP has fallen from 31% to only 18% over the last ten years, state companies now only account for 12% of total exports compared to 21% in 2008 and two-thirds in the mid-1990s. Conversely, foreign and Chinese private companies now comprise 42% and 46% of the total respectively. One might fairly assume that the ascendance of the non-state's export share is a reflection of its superior efficiency and international competitiveness. Curtailed global trade and cross-border investment flows, and increased domestic resource allocation towards less efficient state entities, do not bode well for a productivity renaissance.

Nevertheless, China still has plenty of avenues for expenditure that could drive a resurgence in productivity and help propel the economy towards upper income status. For example, while the PRC has urbanised rapidly over the past four decades, based on the historic trajectories of the US and Japan, it still has significant potential to shift further masses from the countryside to the cities.

Furthermore, a fair proportion of those who have already moved to urban areas are currently housed in sub-standard housing and only have access to sub-standard social services. Ongoing building out of urban transport networks and slum redevelopment programmes, combined with deeper reforms to the household registration or *hukou* system, could unlock significant source of new growth potential. Of the 60% of the population deemed as urban residents, less than 40% have an official urban hukou.

There is no doubt that the range of macro challenges currently facing the Communist Party are daunting. Yet its past record over the past half century gives rise to cautious optimism that when push comes to shove, the Chinese leadership will pursue policies that further deepen and build on previous structural reforms. Xi Jinping has definitively made himself personally responsible for "The Great Rejuvenation of the Chinese Nation." He now has to deliver.

2 They also offer few opportunities for rent extraction.

China: Demographics, Digitisation, Data and Demand

Please watch this podcast at www.act.is

Thomas Liu

Real Estate, China & North Asia

tliu@act.is

The catalogue of China's macro challenges is obvious and well-rehearsed. Trade tensions, a rising debt burden, misallocation of capital and environmental shortcomings are familiar headline grabbers.

Less appreciated - it's a vast country with many sub plots. The collage of cities, regions, climates, income disparities, and cuisine provides different challenges and opportunities on a vast scale. Most of all there is a huge domestic demand - retail sales exceeded the US by nearly $100 bn in 2018 - and low levels of household debt. Close local knowledge of these differences and a differentiated product offering are essential for a successful investment strategy, not least in real estate.

One key benefit of spreading economic growth inland is the income and consumption growth of a much larger portion of the population. The size and sophistication of Chinese e-commerce dwarfs anywhere else on the planet. This in turn is shifting the movement of goods from predominantly export driven to intra-regional. From a real estate perspective, we see the demand for modern logistics warehouses expanding from predominately Tier-1 markets into Tier-2 and Tier-3 cities. With a short development cycle, assured tenant demand, and an abundance of global and domestic capital seeking stabilised logistics assets, we continue to believe returns from build-to-core strategy for modern logistics facilities in key population centres across the country are attractive.

Another plus from e-commerce and the wider adaptation of internet and mobile usages is demand for data centres as an emerging real estate asset class. Despite the mature infrastructure in both broadband and mobile Telecommunications as well as power, the development of truly independent carrier-neutral data centres have lagged due to the higher barrier of entry in terms of technical skills as well as regulatory and licensing requirements. With minimal presence of global data centre operators and only a small number of domestic ones, we believe this is fertile ground for early movers in China.

While industrial asset types such as logistics and data centres are expanding beyond major Tier-1 cities, we continue to keep an eye on these gateway markets. As they have grown to become some of the largest metropolitan zones in the world, old suburban areas have become new commercial districts. Land in prime location is scarce and highly valuable. Fast-paced evolution of these Tier-1 cities over a short period means that many of the older buildings in their prime CBDs are already obsolete, thus presenting a lucrative opportunity for repositioning and refurbishment.

A prime example is Actis' new office in Shanghai. This is located in a newly refurbished mansion built in early 20th century located within one of the city's main CBDs. The same office compound was transformed from a run-down state-owned enterprise office campus to a thriving hub of companies ranging from tech start up to fashion designers and from boutique law firms to domestic and foreign investment firms, including Actis.

Such opportunities in Tier-1 cities are boosted further by the policy driven de-leveraging of private enterprises who own many of these centrally located but underused or underperforming assets. We are already seeing assets being offered at well below replacement cost level by such distressed sellers.

As China goes through much needed structural changes, continuing shifts in intra-regional dynamics will persist. Demand for logistics, data centres, prime location commercial assets and other real estate asset types linked to sustainable unmet demand from a vast domestic population with growing income is exciting and immense. Stay tuned.

India: The reform score card

Pratik Jain

Private Equity, India

pjain@act.is

Please watch this podcast at www.act.is

Ashish Singh

Real Estate, India

asingh@act.is

Please watch this podcast at www.act.is

Three decades ago India began serious economic reforms. In 1991 it was a foreign exchange crisis that forced change, Since then, the country has progressed in fits and starts towards being a market-led economy, albeit one with a strong role for public ownership and significant government intervention. In the spring of 2019 Narendra Modi's government will stand trial with voters in the largest democracy in the world. Here's our view on the scorecard so far.

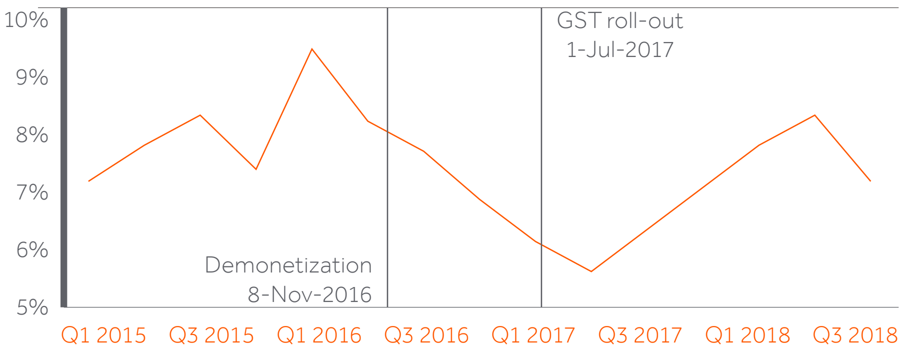
"A fast start but losing momentum"

The current government was voted to power with high expectations in May 2014. PM Modi had built a formidable reputation as a business friendly, reform oriented leader during his tenure of 14 years as the Chief Minister of the state of Gujarat - the state growing its GDP at an average rate of 10% during his tenure. The new Government was expected to make good on its promises to reduce corruption, deregulate the economy, mobilize foreign investment, reduce the role of state-owned enterprises, and strengthen India's trade ties with the world.

The Government delivered on several big reforms early in its tenure. However, it has lost momentum in recent years, reflecting the political reality that big reforms are disruptive in their immediate aftermath, often with negative political consequences, while the payouts accrue only over long term.

Despite legislative hurdles, the Government was able to pass several key reform bills in its early years in office, helping improve business confidence and improving India's position by 65 places in the Global Ranking of World Bank's Ease

Exhibit 1: Real GDP



Source: India Central Statistical Organisation

of Doing Business scorecard. Key reforms implemented by the Government include:

1. Goods and Services Act, 2017

India had a complex indirect taxation system with multi layered taxes on interstate movement of goods, which distorted incentives and created inefficiency. Successive governments tried to introduce a uniform Goods and Services Tax (GST) with limited success. In July 2017, after much legislative debate, India's biggest ever tax reform was finally rolled out by the Government. The GST Act replaced a multitude of indirect taxes at Union and State levels with a simpler code, dismantling regional trade barriers to create a single US$2.6 trillion market. The objective of GST was to simplify the indirect tax system, add more indirect taxpayers, make tax evasion difficult, bring tax transparency to consumers and reduce the tax rates on many mass-use goods and services.

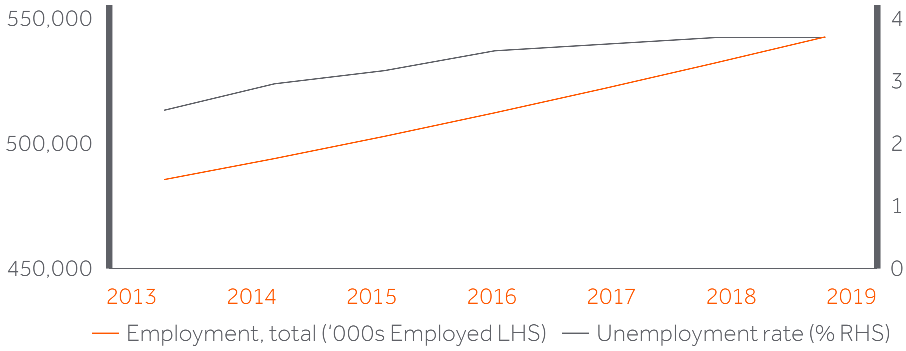
GST implementation had initial teething troubles including an unstable IT platform and complex filing requirements. It also disrupted activity in the months before rollout with businesses cut production and liquidated inventories as they prepared to adjust to the new system. This led to economic growth temporarily slowing to 5.7% in the quarter prior to the rollout from 6.1% in the preceding quarter. Growth subsequently quickly recovered to 6.5% and 7.2% in the following quarters.

After an initial period of instability in the wake of the new law, tax collections have been growing steadily over the last few months driven by higher compliance and lower tax rates. Even though GST implementation caused a short-term disruption, there is all round recognition of its long term benefits to the Indian economy, which are already becoming visible in tax revenue buoyancy. We rate GST as an exam pass.

2. The Insolvency and Bankruptcy Code, 2016

In 2017, India's NPA ratio was higher than any other emerging market (barring Russia) and even exceeded the peak levels seen in Korea during the East Asian crisis. Several sectors as energy, infrastructure, metals and mining, procurement, construction, in particular, were stressed with mounting corporate debt defaults.

Exhibit 2: India Employment and Unemployment



Source: Oxford Economics/National Sample Survey Office (NSSO)

To tackle endless delays in resolving stressed assets and the lack of accountability of promoters of defaulting companies, the Government implemented the Insolvency and Bankruptcy Code (IBC). This consolidated the existing framework of laws related to insolvency and bankruptcy into a comprehensive, strengthened and time bound mechanism for resolution of stressed assets.

The IBC provides a mechanism for the resolution of stressed assets within 270 days from the time of default and filing of application of insolvency under the Act. Before the introduction of IBC, it took companies about four to five years to dissolve operations; this time frame is now compressing to one year. This has not only increased the ease of doing business but also imbibed a stronger sense of trust in lenders and investors.

3. Real Estate Regulation Act:

The Indian real estate sector has evolved rapidly over the course of last two decades. Whilst customer needs have improved transparency and best practice, comprehensive regulation for the sector was missing. The Government plugged this gap by implementing The Real Estate (Regulation and Development) Act, 2016, commonly referred to as RERA. The Act not only lays down a code of conduct for all market participants but also promotes transparency through standardization of metrics, practices and filings while putting in place a regulator to enforce compliance. The Act protects the customer interest and levels the playing field among the developers, paving the way for a fair marketplace. Again, despite complaints from less scrupulous operators this reform rates a clear pass.

4. Digitization of Payments

Prime Minister Narendra Modi was elected on a poll promise of fighting corruption and cleaning up the "black" economy (undeclared transactions outside the tax net), which some estimate to exceed 20% of official GDP. India has a large unorganized sector and cash was used for >95% of all consumer transactions by volume. A number of reform initiatives undertaken by the Government in the first 3 years of its tenure have helped accelerate digitization of payments in India:

- De-monetization of high value notes (~86% of currency value in circulation), which was aimed at reducing informal economy, counterfeiting, terrorism funding. Demonetization had a profound impact on business activity across categories and incomes of the poor. The rural economy, particularly the agrarian part, almost entirely cash driven, saw significant disruptions. The biggest impact was seen across discretionary categories such as consumer durables in which demand declined by 50% in the days following demonetization. Unorganized labor in the country, which is largely paid in cash saw a large drop in incomes and significant layoffs.
- Zero transaction costs on card usage for transactions below US$30 ticket size
- Accelerating the deployment of card acceptance infrastructure. Targets were set by the government for the Banks to increase Point of Sale terminal (PoS) penetration. Banks were directed to deploy 1 million additional PoS terminals in the year after demonetization
- Low balance savings accounts (Jan Dhan accounts) were opened for financial inclusion to ensure access to financial services (>275m accounts opened)


Shimla, Himachal Pradesh

The impact of the push for digital payments has been significant – in case of Actis' portfolio company Pine Labs, the largest processer of retail merchant payments in India, transactions have been growing at c.30% every year. The pain of demonetization though has been considerable and focused on poorer people. Taken together this is a mixed outcome.

"What happens next?"

Over the last two years, India has seen the reform process slow considerably, despite the Government being in a stronger position politically with multiple victories in state elections and higher representation in the Upper House of Parliament. This was driven by the need for the ruling party to strike a balance between its commitment to reforms and political realities, as disruption caused in the economy from the early reforms forced the Government's policy making push to slow down closer to election year. A common view is that the Government will look to resume its reform agenda if it wins a second term in the elections due in the next few months. Key reforms that could get kick started early in its next term include:

Labour Reforms

The Government came to power in 2014 on the back of promises to create 10 million jobs each year for the country's burgeoning youth population. Driving job creation in India requires a significant overhaul of its antiquated labor laws which stifle permanent job creation and encourage industry to hire temporary workers. This complex legislation has held back India's industrial ambitions, and the manufacturing sector accounts for less than a fourth of GDP, and more than 90 percent of workers deployed in the informal sector. The government had an ambitious agenda of streamlining the 44 different labor laws into four codes when it came to power. However, progress on labor reform has been modest so far as it has proved to be a political hot potato. Opposition to labor law reform has been fierce both from the opposition parties and within the ruling party and this crucial reform has remained elusive. Most recently, the Government had to scale back its effort to increase the maximum number of workers that can be laid off without seeking the Government's permission from 100 to 300. In our view, labor law reform will a key area of focus for the Government if it wins another term, in its efforts to unshackle businesses and drive sustainable job creation in the country especially in the area of manufacturing. More wood to cut here.

Direct Taxes

Reforming India's income tax law and making it more taxpayer friendly is another policy objective where progress has been slower than desired. India's income tax law is complex, resulting in inefficient personal interface between taxpayer and officials and, thus also the room for corruption. The Government is keen on both simplifying the law, and making its administration taxpayer-friendly. Simplification of the law itself has been a gradual process through incremental changes in the Annual Budget, while the Government has sought to digitize tax assessment through greater use of technology to reduce processing time. However, there is a lot that remains to be done and acceleration of reform implementation will be the priority for the Government in its next term.

Our verdict-the Modi government rates a pass on reforms to date. A clear mandate would allow further progress. Yet as always with fundamental reform the time horizons for success may well be longer than the attention span of financial markets.

Africa: Delivering on the demographic dividend

Hilaire Dongmo
Real Estate, London
hdongmo@act.is

Please watch this podcast at www.act.is

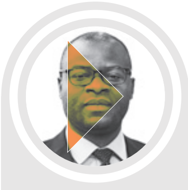
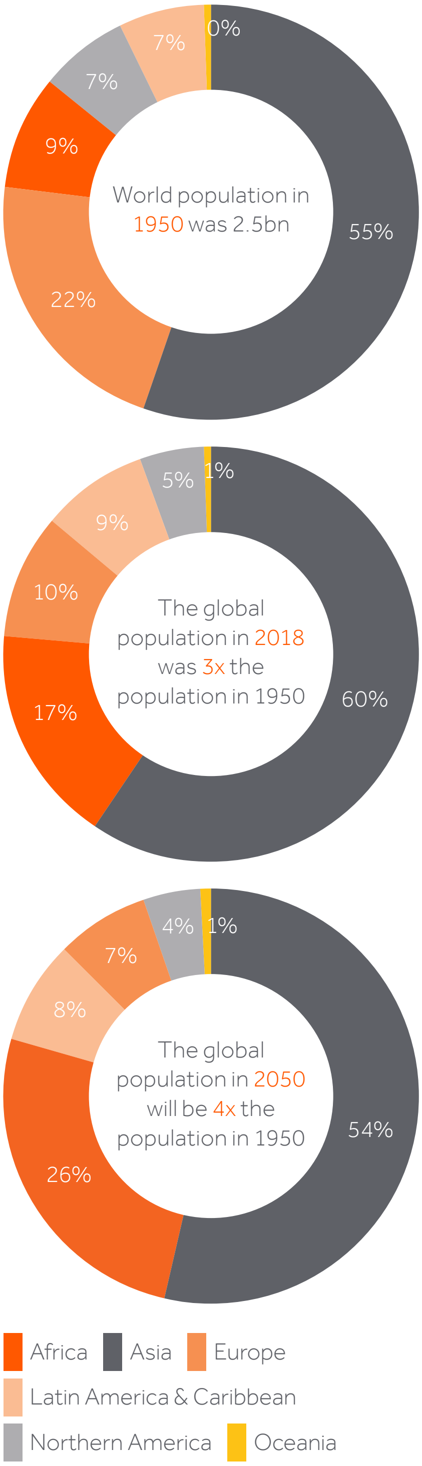


Exhibit 1: World Population



Source: United Nations World Population Prospects: The 2017 Revision

There are more people in the world than ever before, but...population growth is far from even and Africa is going to add another billion or so over the next 20 to 30 years....

This dramatic increase in population will be dominated by the African continent. While population growth slows in the rest of the world, it continues to rise in Africa.

- More than half the additional 2.2 billion people that will be added to the world population by 2050 will be in Africa and most of them within its poorest regions.
- The UN's base case is that the number of Africans will double in 30 years to 2bn and at least double again, to 4bn, by the turn of the century.
- In just 30 years the US will be overtaken by Nigeria to become the world's third most populated country behind India and China.
- By the end of the 2100 century, the 4bn living in Africa will be making up 36% of the total word population.
- In Nigeria alone, there are more babies born every year than in the whole of Western Europe.

It is not just absolute numbers that are important but also the age profile of different continents.

- The median age in Sub-Saharan Africa is 19.5. That compares with 38 in the US, 43 in the EU and 47 in Japan.
- In 1960, roughly one in ten of the world's population was African. By the end of the century that should be more than one in three.

Drivers of population change in Africa

The dynamics at play are straightforward

- Since 1950, improvements in public health have led to an inspiring decrease in infant and child mortality rates.
- Overall life expectancy has also risen. Africans born in 1955 could expect to live only until the age of 37, encouragingly, Africans born in 2018 can expect to live to the age of 60.
- Meanwhile, another key demographic variable defined as the number of children the average African woman is likely to have in her lifetime, (total fertility rate) remains elevated compared to global rates.
- The total fertility rate of Africa is 88% higher than the world standard (2.5 children per woman globally versus 4.7 children per woman in Africa).

Is the demographic boom an opportunity or a risk for Africa? Failure to address Africa's rising population is not an option and if nothing is done the probable effects on food and water security will be dramatic. Success-consistent and dependable growth per capita profoundly alters today's global investment and economic landscapes.

Population trends will fundamentally shape Africa's future development prospects and the continent has space to accommodate more people, so why do investors worry about its demographic boom?

Younger populations should grow faster than ageing societies. But the "demographic dividend" (rapid acceleration in economic growth due to demographic factors) depends, in particular on human, financial and capital deepening. This is particularly true for real growth per capita.

Africa today has the second largest population after Asia and it is far less dense than Europe. But investors believe Africa doesn't have the infrastructure to handle its demographic boom. In Nigeria, the national population commission said this massive demographic boom puts a severe strain on the country to provide enough schools and health facilities. Low incomes tend to equal a limited fiscal base and an inability to self-finance the necessary investment for long term sustainable growth.

Delivering the demographic dividend – a road map.

In many cases, extremely rapid population growth can compound poverty and a lack of economic opportunities. Many African governments do not currently invest adequately in education and training (human capital) or infrastructure and institutional progress (physical capital) and struggle to create jobs for a growing workforce. Unless they do in the future, Africa's demographic boom story will be a tale of missed opportunities.

The challenge is to create jobs and growth in countries with younger populations, that will require significant investment in social services such as health and education as well as infrastructure and business.

A general investment in improving education at all levels will both reduce fertility rates and improve the quality of Africa's growing labour pool.

There will be no demographic dividend without job creation. According to the International Monetary Fund, between 18m and 20m new jobs will be needed annually over the next 25 years on the continent. If these trends are extrapolated until 2050, the new jobs required would be almost equivalent to the entire European population. The prerequisites to meet this huge challenge are education and better healthcare, followed by investment based on stable economic and political conditions.

Investing in basic infrastructure such as the provision of clean water and improved sanitation to reduce infant and female mortality advances Africa's demographic dividend. It is possible to speed up the demographic transition in Africa to create greater opportunities for economic growth and development. If fertility rates are reduced over the coming two decades, Africa could benefit from an earlier onset as well as a larger demographic dividend and, with the right policies, capitalize on it to boost growth and wellbeing.

Political leadership in discussing gender inequality, fertility and family size is critical, as are public media campaigns that demonstrate the health and economic benefits of smaller families. The measures that can reduce fertility rates include improving secondary female education and putting in place family-planning initiatives, including increased availability of contraceptives. Countries in Africa need to eliminate gender inequality, particularly in education, and improving female enrolment and graduation rates relative to those of males at every levels.

Key objectives should be to facilitate urban employment and poverty reduction, to decrease the proliferation of slums and to secure critical urban food, water and energy supplies. Furthermore, in the context of food security, Africa's demographic boom will arguably have to run parallel to an agricultural revolution.

Africa holds 65% of the world's arable land, could generously meet its own food requirements and, under the right policy interventions, could possibly feed the entire planet by 2050 according to the World Bank.

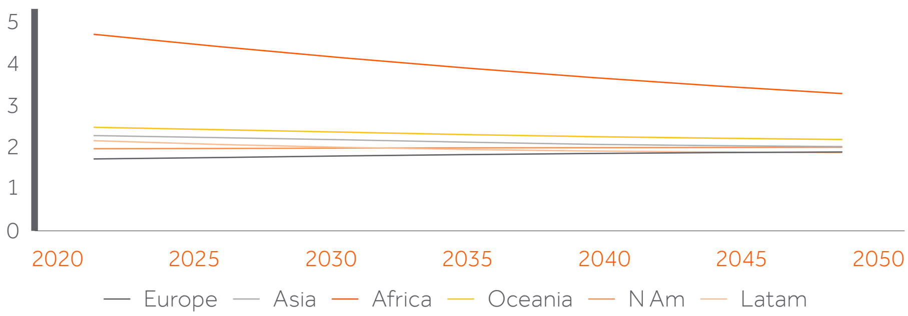
Which countries in Africa will enjoy a meaningful demographic dividend?

Africa's population growth highlights the need for better employment opportunities.

Reduced fertility rates will help African's governments to spend less on health and education, since there are fewer children in addition to reduced spending on basic infrastructure. These countries will be able to strategically invest these savings to improve productivity, invest in technology and eventually prepare for future shifts in demographics when the population start ageing.

Seen from an Asian perspective, Africa's demographic potential is unparalleled. However, seizing the demographic dividend will be critical. If all those new people can find jobs and opportunity, global growth will gradually shift to Africa.

Exhibit 2: Live births per woman



Source: United Nations World Population Prospects: The 2017 Revision

One example of opportunity arising from limited capital stock today is the potential for technology leapfrog.

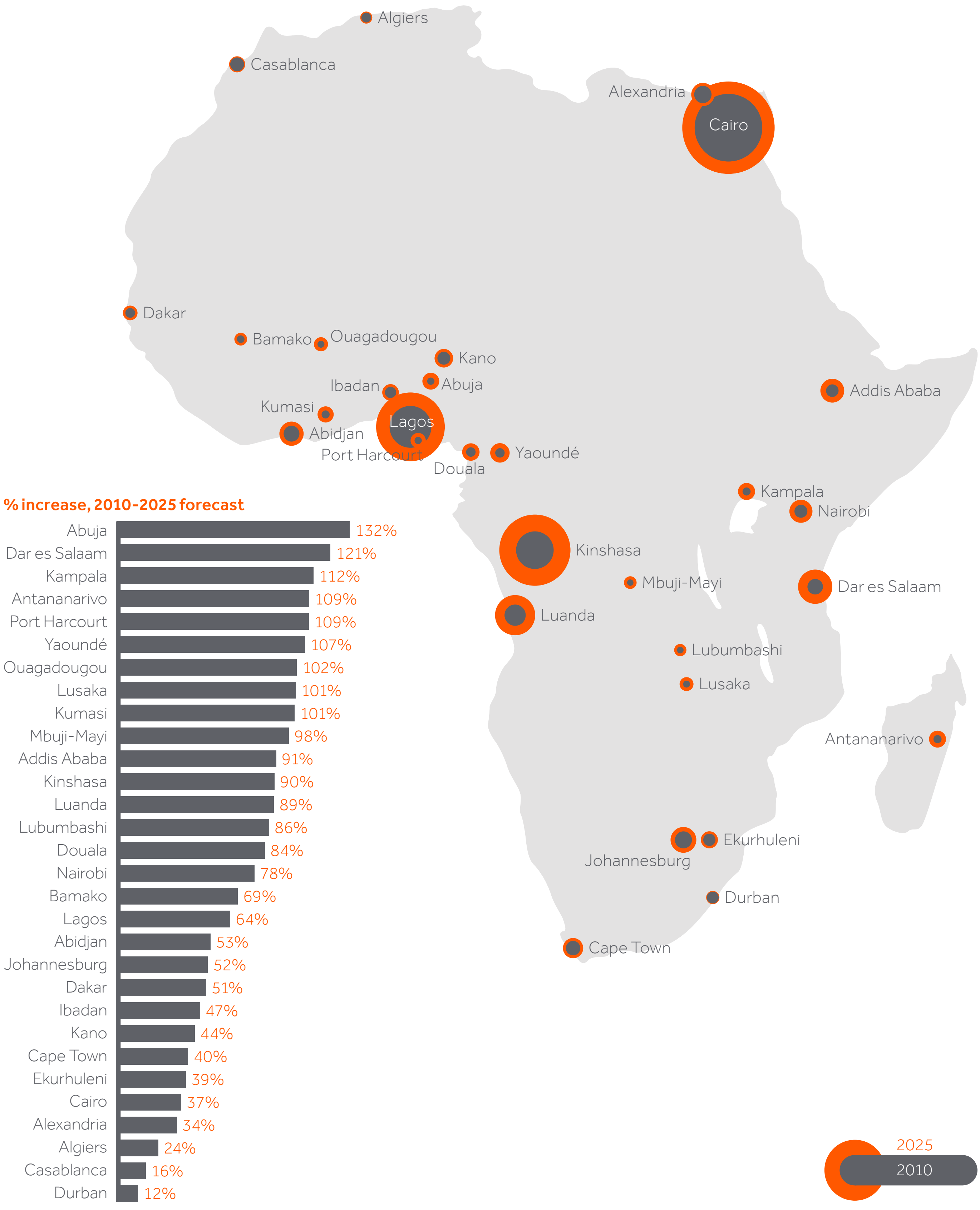
Approximately 590 million Africans have no access to electricity because the continent's enormous renewable energy potential remains essentially unexploited. This is a great opportunity to leapfrog old redundant energy infrastructures and introduce more flexible micro grid solutions.

For investors it is clear that Africa is undercapitalized, despite a growing FDI influx, Africa's share of total world FDI volume remains small, at roughly 5%. This compares poorly to the continent's 15% share of global population. Investing in Africa is a long-term play. In many places it's the same as China was 30 years ago or India was 15 years ago. While the risks are high, Africa is positioned to be the next pillar of growth given demography, natural resources and urbanization potential. Its cities will be the catalysts and could present global investors with a starting point for accessing this long-term growth opportunity.

However, in order for demographic change to be lasting and sustainable, it has to be combined with four other developments: economic, technological, political and ecological.

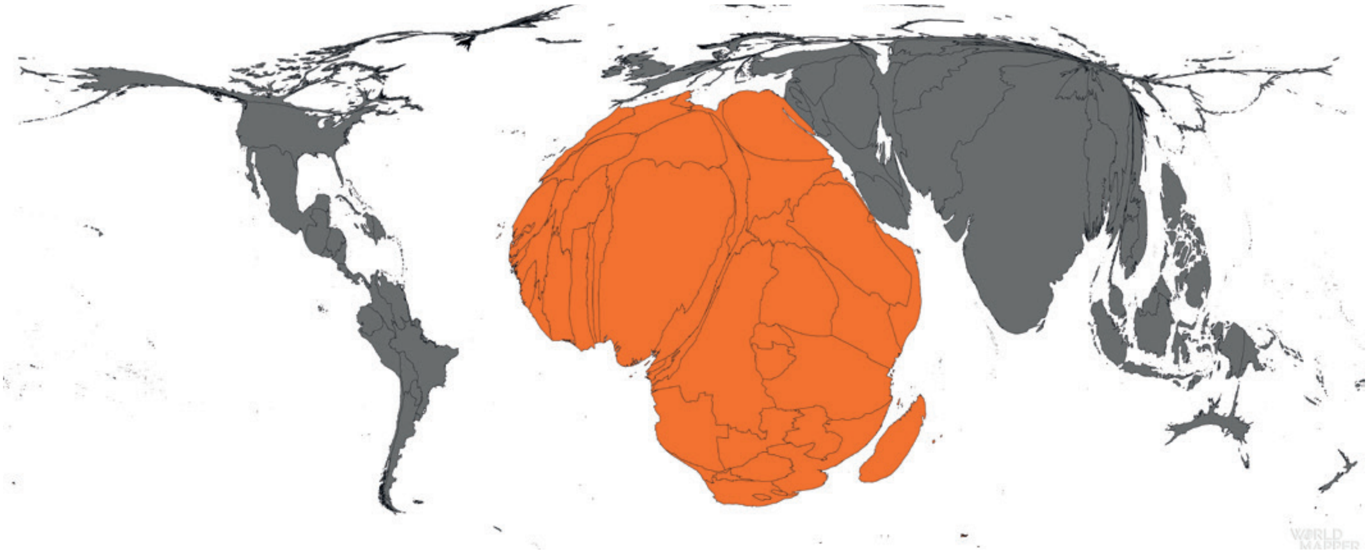
The private sector has a role to play here-financing and delivering electricity through renewables and new technologies, education and healthcare services, payments systems and other financial deepening and physical infrastructure, and through investment stewardship enhanced the lasting value of these investments. Since 2004 for example Actis has completed a total of 70 transactions in the continent, committed US$3.3bn total capital and executed 39 exits. These investments did not depend on demographics but rather on deeper economic and financial conditions.

Exhibit 3: City Growth across Africa 2010-2025



Source: United Nations World Population Prospects: The 2017 Revision

Exhibit 4: Population increase from 2015 – 2050



Source: Worldmapper.org based on UN World Population Prospect data 2017

- Today, the population in Africa is already 1.2 billion and it will double over the next 35 years and reach 2.4 billion by 2050, despite the projected fertility decline (Exhibit 2: Live births per woman on page 11).
- The continent's population will increase from some 229 million in 1950 to more than 2.4 billion people by 2050.
- Africa's population has contributed 965 million to world population growth since 1950. However, over the next 35 years Africa's population will most likely contribute about 1.4 billion people.
- Between 2015 and 2050, the world population will increase by almost 2.4 billion people. More than 56% of this increase will be in Africa (112%) and Asia (35%).
- Latin America and the Caribbean will only contribute some 6.2% to this world population increase and Northern America just 3.3%.
- Europe and Oceania will have a negative balance of -0.3% with Europe losing 25 million of its total population.
- The enormous increase of the world population from 7.4 billion in 2015 to most likely 9.8 billion by 2050 will essentially happen in Africa and Asia.

Lagos, Nigera

Nigeria: So many people, too little reform

Funke Okubadejo

Real Estate, Nigeria

fokubadejo@act.is

Please watch this podcast at www.act.is

Nigeria may lack many things, but people abound. She will be the third most populous country in the world by 2050 with a population of 410m, the World Bank estimates. Current population growth trajectory presents an opportunity for a demographic dividend from the expansion of its productive workforce given its youthful 193m population with 41% below the age of 15. The big question for these many millions - can policy deliver growth per capita rather than growth in mouths to feed?

Job creation and investment in social infrastructure key to unlocking demographic potential

Harnessing the demographic opportunity requires the engagement of the enlarged workforce in productive jobs and a reduction in fertility rates. Concerted investment is needed in social infrastructure - education and healthcare - to reduce the dependency ratio and boost the per capita incomes. The poverty trap must be beaten. Nigeria currently has the highest poverty incidence in the world with 87m or 45% of its population living on less than $2 per day.

Stronger economic growth required for job creation

GDP growth remains fragile with 2019 GDP projected at 2.2%. With population growth at 3.2%, a return to pre-2015 GDP growth levels of 5 - 6% is needed to reverse the contraction in real per capita incomes.

Nearly four years into the Buhari administration, implementation of its comprehensive economic blue print has been slow. Key reforms to diversify the economy away from oil, invest in infrastructure to improve competiveness and provide an enabling environment to attract FDI have yet to materialize. Potential GDP growth remains fragile, highly vulnerable to oil price shocks. Unemployment has risen from 8% in 2015 to 23.1% in Q3 2018 with a combined youth unemployment and underemployment rate of over 55.1% according to data released by the Nigeria Bureau of Statistics. With an estimated 2-3m people joining the workforce every year and job creation severely lagging demand, the impetus for the reforms is crystal clear. This expected growth in the work force underpins our investment thesis for investment in Sigma Pensions, a leading pension fund manager. Currently there are only over 7 million contributors to the regulated mandatory contributory scheme set up in 2014, compared to a current labour force of 90.9m and the regulator is exploring how to expand the scheme to cover informal sector and MSMEs.

Concerted investment in education also critical

Access to education, including for girls, is critical to provide a productive work force and reduce the fertility rate, currently 5.8 live births per woman. The fertility rate is correlated negatively to literacy levels. The longer females remain in education the more fertility rates decline. There is a high level of disparity in the levels of literacy and fertility rates across Nigeria's geopolitical zones as illustrated in the table below, with higher literacy levels and lower fertility rates in the south. The trend is linked to differing cultural attitudes to education and level of access to education for girls.

Race against the clock

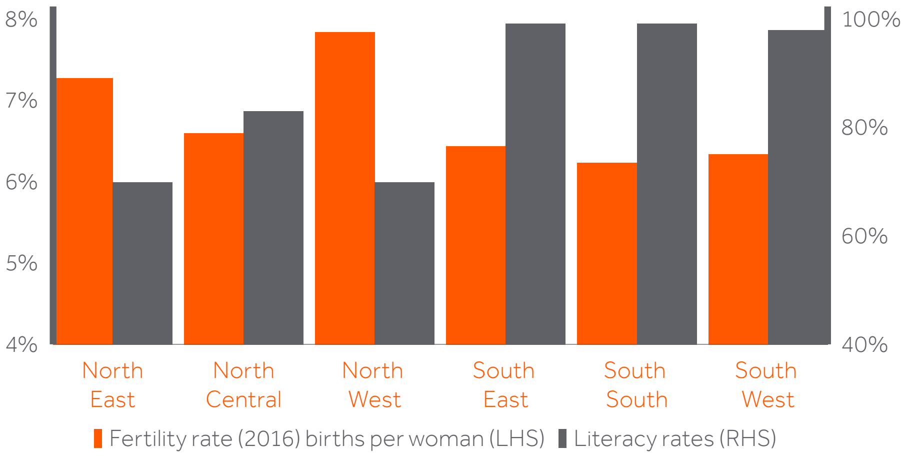
Nigeria has 11.4million children out of school, the highest in the world and the highest incidence of poverty. With GDP growth lower than population growth, there is a race against the clock to put the country on the path of growth and address the dearth of universal access to qualitative education in order to exploit its demographic opportunity. Otherwise, the risk of civil strife and insecurity heighten considerably. High youth unemployment and poverty feed terrorism in the North East region and increased violence in the country including well publicized farmer and herdsmen clashes.

The contrast between North and South can be attributed to educational attainment and availability of more productive economic activities in the South. Lack of opportunity is driving rural-urban migration with over 50% of the population in urban areas and projected to increase to 75% by 2050. Rapid population growth leads to urban sprawl and slum development, and challenges the security of lives and properties in urban areas.

Government response to the demographic opportunity

Government response to these major challenges has been stronger on theory than much needed action. Though the polls indicated that high unemployment and a lack of jobs were major voter concerns ahead of the February 2019 elections. The Buhari administration has prioritized populist and interventionist schemes that are yet to impact the economic indices. These include loan schemes with single digit interest rates for the agricultural (Anchor Borrower scheme) and informal trade (Trader Moni) sectors. Other social schemes include cash transfers to vulnerable people, a school feeding program covering up to 9 million children and graduate employment schemes. These schemes are popular

Exhibit 1: Regional View of Literacy and Fertility



Source data: Nigeria Bureau of Statistics with potential recipients but have weak linkages to growth as beneficiaries remain largely outside the tax net and therefore there is a question on their sustainability. With 37% of government revenues pegged for debt service, it is not clear how all these initiatives will be funded without major reforms, particularly considering pressures from the recent increase in minimum wages to N30,000 ($83) from N18,000 ($50) per month.

With the 2019 elections now behind us and Buhari's mandate renewed; it is hoped that implementation of economic reforms to boost growth should gain momentum. Interest by investors in numerous sectors to address the growing demand for goods and services, ranging from infrastructure, consumer, including healthcare and education, to financial inclusion will contribute to growth and job creation. The government however needs to create the enabling environment to attract FDI and invest in healthcare and education for Nigeria to exploit the demographic opportunity and avoid economic stagnation and a further deterioration of the security situation.

Street view: Powering Africa

Archer Kilpatrick
Energy, South Africa
archerkilpatrick@act.is

Access is a necessary but not sufficient condition for energy demand growth. Without this growth African nations will fail to meet development goals and harvest the demographic dividend covered elsewhere in this publication.

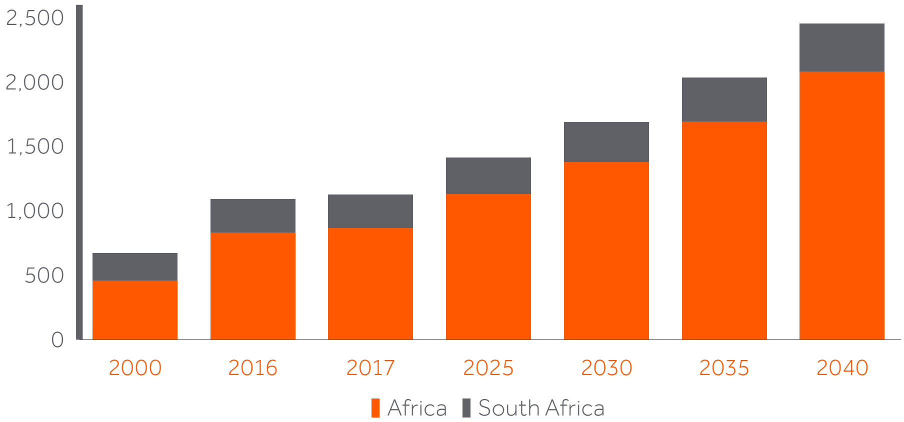
With rapidly expanding populations and maturing regulatory frameworks, headline figures show African demand growth is significantly outstripping developed markets in the next quarter century.

Electrifying the continent has been, and will continue to be a focus of politicians and development aid institutions alike, as is reflected by the UN's SDG 7, to "ensure access to affordable, reliable, sustainable and modern energy for all". In 2013, 640 million people in Africa lacked access to electricity, three years later that figure had shrunk to 590 million.

However, access to electricity does not equal consumption of electricity and whilst the correlation between economic growth and energy usage is clear, the causal relationship between the two is less so.

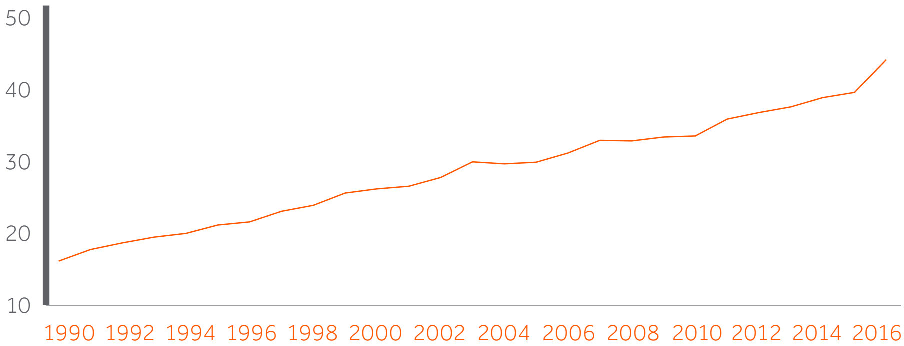
Increased access to electricity enables higher value-add economic activities to advance. However, realisation of these opportunities and improved living standards,

Exhibit 1: Projected electricity generation (TWh)



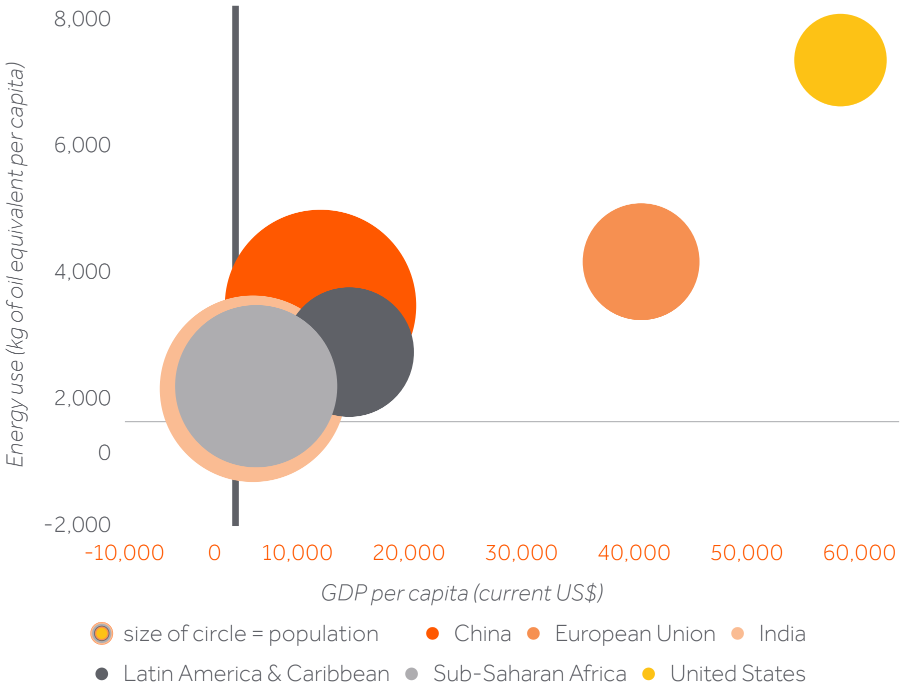
Source: IEA World Energy Outlook 2018

Exhibit 2: Access to electricity in Sub-Saharan Africa, excluding high income countries (% of population)



Source: The World Bank

Exhibit 3: Energy use in tonnes of oil equivalent per capita



Source: The World Bank

depend on many factors. Today, Sub-Saharan Africa's average electricity consumption per capital of 485 kWh is the lowest of any region of the world. For comparison, the India and UK averages are 805 kWh and 5,450 kWh respectively.

At Actis we are confident that demand growth will be achieved in Africa, but the disbursement of this growth will be uneven, requiring careful and well informed investment decisions to capitalise on the macro opportunity.

Some markets have already begun to focus on utility scale grid-based solutions, notably South Africa and Egypt, where to date ~6GW of wind and solar is operating or in construction. However developments in technology and declines in the capital cost of solar in particular, are unlocking alternative electricification options, especially in smaller markets...

Urban demand growth; urban solutions

Urbanisation is one of the mega-trends which is driving change in Africa. In 2017, 39.5% of Sub-Saharan Africa's population lived in cities, up from 27.4% in 1990. The UN forecasts a 50% urban share by 2035. This rapid change creates challenges for electricity infrastructure and opportunities for private sector solutions. For instance, informal settlements create localised loads on power grids which are hard to service by traditional infrastructure due to the density of the population in these areas. Energy storage solutions, including lithium ion batteries may be able to meet these demand surges, without the need to build additional expensive power lines. Roof mounted solar installations coupled with storage solutions will meet the electricity needs of malls and other new real estate projects. An example of this is Actis' Garden City Mall in Nairobi, which hosts the continent's largest carport mounted solar system.

Rural demand growth; rural solutions

Despite urbanisation growth, Africa remains a predominantly rural continent, with low levels of population density and vast and often inhospitable tracts of land separating settlements in many countries.

For these populations, the energy bottleneck is not a lack of generation capacity, but insufficient transmission and distribution lines. The last twenty years have seen large scale build outs of grid infrastructure, most notably in Kenya, but very little progress has been made elsewhere. The capital intensity of such projects suggests more opportunity for private sector participation in grid buildouts. Actis' experience investing in distribution operators in Uganda (Umeme, Actis investment 2009-2014) and Cameroon (Eneo, Actis investment 2014 onwards) makes us well placed to participate in such processes.

For the most rural populations, the costs and time involved in connecting them to the grid means that alternative solutions must be found if universal access is to be achieved. Distributed "mini-grids", offer a cost effective alternative to full grid build out and can also be built much more quickly. These are typically village-scale solar installations paired with batteries and local distribution lines. Mobile phone based pre-payment technologies, coupled with digital metering, mean that these remote grids can be managed centrally and other services, such as Wi-Fi, can also be provided by them. Whilst to date the distributed generation sector has been small, we anticipate that it will have increasing importance going forward.

Momentum in the energy sector in Africa is positive, with a clear need for private sector capital and know how. There will continue to be a demand for new utility scale generation projects, however it would be naïve to presume that Africa will inevitably follow a well-worn path of electrical infrastructure build-out in the future. The continent's challenges are unique and the solutions to meet them will be Africa specific. Technology leapfrog provides the answer to some questions, however we anticipate that evolving business strategies will also be critical. The Actis team is excited about the Great African Switch On.

Please watch this podcast at www.act.is

Macro Forum Live

London

Bemi Otudeko

You can learn more about powering Africa's future in a video of the Actis Macro Forum Live event in June 2018 at www.act.is

For more information, please contact:

Stuart Jackson
+44 (0) 207 234 5154
sjackson@act.is

- Actis office
- Countries in which Actis has invested since 1998
- Other Actis target markets since 1998

Lagos Nigeria