

Combined Scenario

Thematic Futures

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Table of contents	
Summary	3
Introduction: Africa's development potential	5
Impact of the Combined Agenda 2063 scenario on economic size	8
Comparative impact of scenarios on per capita income	9
Impact on extreme poverty	12
Effect of sectoral scenarios on extreme poverty	13
The standard sequencing of development?	15
Structural change of economies in the Combined Agenda 2063 scenario 16	ı
Governance and unlocking Africa's human capital	19
Conclusion: Africa has significant untapped development potential	20
Endnotes	25
Donors and Sponsors	25
Reuse our work	25
Cite this research	25



This theme presents the combined impact of the eight sectoral scenarios modelled in the website and conclude the analysis of Africa's development potential. We compare the Combined scenario with the Current Path and the sectoral scenarios' impact with one another. The sectoral scenarios are on Governance, Demographics and Health, Agriculture, Education, Manufacturing, the African Continental Free Trade Agreement (AfCFTA), Large Infrastructure and Leapfrogging, and Financial Flows. We note progress by 2033 and 2043, representing the end of the Second and Third Ten Year Implementation Plans of the African Union Agenda 2063. The comparisons are across key development indicators, including economic size, GDP per capita and effect on poverty reductions. Where appropriate, comparisons extend to levels of education, infant mortality, life expectancy, and more. The theme considers sequencing, changes in economic structure and the key components of a growth recipe.

Summary

- Given its vast diversity, the development trajectories of Africa's constituent countries will diverge. Africa has
 significant substantial development potential to start closing the gap in average income levels compared to the
 average for the rest of the world forecast.
- In presenting the impact of a Combined scenario, we first focus on the critical variable of **economic size** using gross domestic product (GDP) at market exchange rates (MER). We also compare how different regions perform, with West and East Africa growing particularly rapidly. Central Africa remains the region facing the most significant challenges.
- A third section compares how the Current Path and Combined scenario compare using **gross domestic product per capita** (GDP) in purchasing power parity (PPP). Whereas, in 2023, Africa's average GDP per capita was 25% of the average for the rest of the world (i.e. the World except Africa), increasing to 29% by 2043, it could rise to 31% in the Combined scenario. With some exceptions, the potential of the African Continental Free Trade Area (AfCFTA) scenario positively impacts economic growth and GDP per capita improvements more than any other sectoral scenario.
- Roughly 31% of Africa's total population (or 455 million people) was classified as **extremely poor** in 2023, a ratio that will decline to 17% (or 169 million people) by 2043 in the Current Path. The impact of the Combined scenario is for extreme poverty to decline to 8% in 2043, equivalent to 169 million people.
- Comparing the **impact of the various sectoral scenarios on extreme poverty** provides interesting results. At the continental level, the Manufacturing and Agriculture scenarios marginally reduce poverty more than others, followed by the Education and Large Infrastructure and Leapfrogging scenarios.
- The results hint at an approach that supports the traditional **sequencing of development** from agricultural development to industrialisation and then growth in services whilst recognising the crucial opportunities urbanisation offers.
- African economies need **structural change** to reverse their growing commodity dependency, invest in human capital and diversify their economies, benefiting from modern technologies that are knowledge intensive.
- Strong, developmentally minded governments must provide leadership to regulate, empower and support productive investment. Above all, Africa needs to unlock its vast **human capital potential**. Eventually, the transformation of Africa will be less about grand schemes and ambition and more about good management, African ownership, and policy predictability.
- Development is, eventually, about communities transitioning from dependence on the government's helping hand to unlock their **development potential**.

Introduction: Africa's development potential

The first theme on this website presented Africa's recent history and its Current Path forecast of development — how the continent and its individual member states have done in recent years and how matters are likely to develop by 2043, the end of the Third Ten Year Implementation Plan of the African Union's Agenda 2063 long-term development plan.

The Current Path forecast is a dynamic scenario in the International Futures (IFs) forecasting platform that imitates current policies and environmental conditions. The analysis indicates that, on Africa's Current Path, the 2043 size of the African economy will be 250% (or US\$4 trillion) more significant than in 2023. But because Africa's population will have increased by 156% (or 823 million people), gross domestic product (GDP) per capita will have increased by only 133% (or by US\$1 561). Meanwhile, GDP per capita in the rest of the world, which comes off a much higher level, will have increased by 143%, meaning that the gap between the average GDP per capita for Africa and that of the rest of the world will increase. Things are improving in Africa but more slowly than in the rest of the world.

There are many reasons for this rather uninspiring forecast. The African economy should grow at an average of about 4.7% from 2024 to 2043 while Africa's population increases marginally below 2.3%, translating into slow per capita income growth - at an average of 1.4%.

We then ask the question, what needs to be done to improve the development prospects for Africa? What is possible? To answer this question, we modelled the positive effects across eight sectoral scenarios and simulated their impact separately and then in a combined scenario. Each scenario is explained in a theme on the website (available under themes in the drop-down menu), and the impact of each is compared with the Current Path forecast. The eight sectoral scenarios are:

- · A more rapid demographic transition and investments in better health and WaSH infrastructure
- Better and more education (looking at quantity, quality and relevance)
- Large infrastructure and leapfrogging (the impact of renewables, ICT and the more rapid formalisation of the informal sector)
- · Improved food security reflected in an agriculture revolution scenario
- A low-end manufacturing transition
- The full implementation of the African Continental Free Trade Area (AfCFTA)
- More inward financial flows (consisting of aid, foreign direct investment, remittances and reduction in illicit financial flows) and
- Better governance (consisting of stability, capacity and inclusion).

A specific sectoral scenario is often discussed in an associated separate theme. Still, in two cases, demographics and health and leapfrogging and infrastructure, we use a combined scenario, i.e. demographics/health and leapfrogging/infrastructure. The clustering reflects the close connectedness and interdependence of these sectors.

The various sectors are not isolated but deeply interlinked. A better educated and healthy population is more productive than expected if the separate impact of better education or better health is considered. The relationship applies across

many sectors. For instance, infrastructure and education (human capital) are crucial for industrialisation and economic diversification. Similarly, providing rural roads is vital for food self-sufficiency and agriculture commercialisation. Agriculture can also pave the way to manufacturing through agro-processing while improving governance cuts across all sectors.

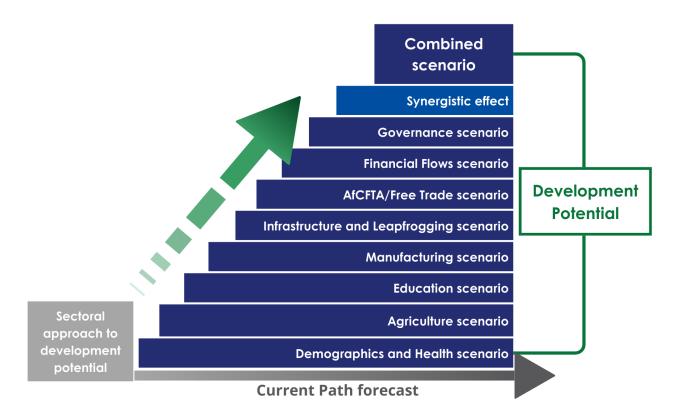
We term the additional economic productivity from combining the different sectoral scenarios a **synergistic effect**.It also means that a coordinated policy push across sectors generally delivers more prosperity than too narrow a focus on a single sector, such as infrastructure alone.

Some interventions also compete with each other. For example, although social grant programmes reduce high levels of poverty and inequality, at very high levels, it could detract from economic growth prospects, such as in South Africa (but the relationship is complex).^[1]

Eventually, development is about balance, although trade-offs and choices must inevitably be made. Governments always need more resources for everything.

The scenario that brings all eight sectoral scenarios together in a single integrated, positive scenario is termed the Combined Agenda 2063 scenario (or simply the Comprehensive scenario), after the comprehensive blueprint that aims to transform Africa into an integrated, prosperous and peaceful continent, 'driven by its citizens, representing a dynamic force in the international arena.'

Chart 1: Scenario structure



The interventions are mostly done at an individual country level and carefully benchmarked to ensure that they are ambitious but realistic, comparable to what has been historically achieved by countries at similar levels of development. All the interventions commence in 2024 and last to 2033, coinciding with the second ten-year implementation plan of the African Union's Agenda 2063. We then measure the scenario's impact to 2043, the end of the third ten-year implementation plan of Agenda 2063.

In addition, we discuss the likely implications of the various scenarios on the future of work, Africa's energy future and the threat of climate change.

Development is a messy affair that seldom follows the smooth forecasts on this website. Instead, it is characterised by 'persistent failure, wastage, exploitation and misery.' [2] Africa is hugely diverse, and the future, as in the past, will reflect significant variations in the development trajectories of its constituent countries. It is also doubtful that Africa will simultaneously advance on all the transitions modelled in the various scenarios. Some countries may progress in some areas, while others may stagnate or regress.

Although recurrent natural disasters such as droughts and floods are 'baked into' forecasts (i.e. they are reflected in forecasts that initialise from historical data that already reflects such disasters), the Current Path and scenarios do not forecast global catastrophes such as the effect of a future global pandemic or an extreme climate tipping point. In a separate theme on Africa in the World, we explore the impact of international politics on Africa's development.

Evidence suggests that Africa's small island countries — Mauritius, Cape Verde and Seychelles — have done particularly well because they had high trade or tourist income relative to their population size and experienced early demographic transitions. It could also be that governance in a small country is easier. As a result, these countries typically reached health, education and income milestones before more populous states; are more likely, with a youthful population, to progress to liberal democracy and maintain it; are less vulnerable to revolutions; and very rarely engage in interstate conflicts. [3]

Africa is diverse, young, and rapidly urbanising, and its population and economy will grow quite quickly. But will it be sufficient to improve well-being? At first glance, the energy levels on the continent are reminiscent of China some decades ago, but with significant differences. Emulating China in Africa may only be possible in some respects, but there is much to learn and take from China. The most important example to take from China is moving from handouts to empowerment and the dedicated effort to understand, document and help each poverty-stricken household.

China has adopted measures that combine poverty alleviation with efforts to improve people's 'will and wisdom' to stimulate the internal motivation of the disadvantaged so that they can take actions more spontaneously,' forming the overall anti-poverty pattern underpinned by 'social mobilisation + individual progress'. [4] In this manner, China has prevented many of its poor people from falling into a welfare trap where individuals remain economically inactive and dependent upon assistance from the government. However, it did so at a significant cost to individual liberties and choice. Eventually, the miracle of authoritarian development in the Asian Tigers and China is likely not available to Africa for reasons we explain in the theme on Governance.

Africa's future will inevitably unfold differently from China's remarkable development experience.

Development is about countries empowering citizens and learning how to help themselves through small businesses and small-holder farming activities. It is generally about communities growing and flourishing, steadily weaning themselves off the state's helping hand on their pathway to greater prosperity.

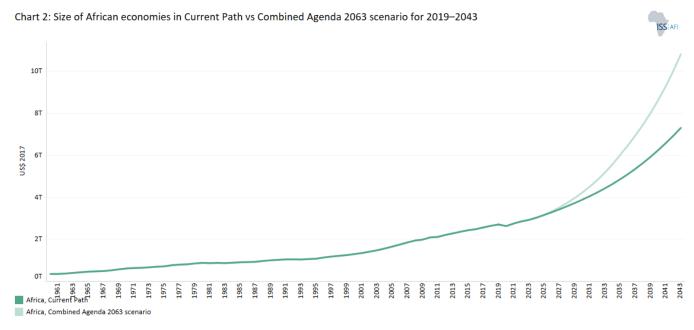
It is best to view societies like living organisms.^[5] To grow, an organism does not need only a single nutrient; it needs a combination of different nutrients in a proper balance. Increasing any one of them provides rapidly diminishing or even negative returns. Societies become productive by linking different inputs and eventually being able to do more with them, although not necessarily in equal amounts. That is why this site has taken a comprehensive approach to development, examining all aspects and sectors.

The first section below presents the impact of the Combined Agenda 2063 scenario, which includes the integrated impact of all eight scenarios and the synergistic effect, comparing Africa with other regions and countries within Africa. We use economic size or gross domestic product (GDP), GDP per capita and poverty rates as key impact indicators. These indicators are imperfect and incomplete development measures, but they remain helpful in gauging Africa's general direction and correlate with numerous other welfare indices. Subsequent sections use other variables as appropriate, such as rates of infant mortality and life expectancy, as measures of general development progress.

After assessing the combined impact, we consider the effect that individual scenarios (representing different priorities) could have. However, much more detailed additional work is required at the national level.

Impact of the Combined Agenda 2063 scenario on economic size

The Combined scenario represents a massive boost to Africa's economic heft. In 2023, the size of Africa's economy was US\$2.7 trillion. On the Current Path, Africa's GDP will likely be approximately US\$6.7 trillion in 2043. The Combined scenario forecasts an economy that is US\$9.9 trillion in size. Instead of 4.2% of the global economy by 2043, Africa's economy would account for 6.1%. The drop-down menu in Chart 2 allows the user to view the impact of the combined scenario on each country, REC or income group.



Source: IFs 8.13 initialising from World Economic Outlook database, International Monetary Fund

Much of Africa's young and rapidly growing populations are in West, East and Central Africa and rates of urbanisation, education, access to healthcare and informality differ within and between these regions. North Africa has the highest levels of development in Africa, followed by Southern Africa while Central Africa seems more challenged than other regions. It does not have a locomotive state (such as Nigeria or South Africa), where the size of a single national economy provides a sufficiently large market that could boost the region as a whole. Instead, the DR Congo, which lies at the heart of the region, is beset by development, stability and governance challenges.

Looking to the future population growth rates in West and East Africa is particularly rapid.

Historically rapid population growth translates into rapid economic growth, although not necessarily into higher income levels. To achieve the latter, economic growth rates need to be significantly above population growth rates. Generally countries coming off a lower base, often with rapid population growth, see the largest proportional economic increases,

evident when comparing the various country-income groups with one another. Thus:

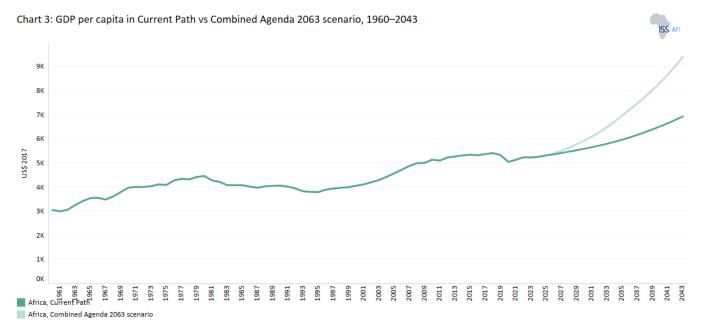
- In the Current Path forecast, Africa's 22 low-income countries will have a 2043 GDP that is 238% higher than in 2023. In the Combined scenario it will be 456%. Average population growth rates from 2024 to 2043 are 2.6% in the Current Path and 2.3% in the Combined scenario.
- In the Current Path forecast, Africa's 24 low-middle-income countries will have a 2043 GDP that is 154% higher than in 2023. In the Combined scenario it will be 258%. Average population growth rates are 1.4% vs 1.8%
- In the Current Path forecast, Africa's seven upper-middle income countries will have a 2043 GDP that is 61% higher than in 2023. In the Combined scenario it will be 115%. Average population growth rates are 0.7% in both the Current Path and the Combined scenario.
- In 2043 Africa's single high-income island state, Seychelles, will have a Current Path GDP that is 59% higher than in 2023. In the Combined scenario it will be 104%.

The economies of Eritrea, Niger, Liberia and the Central African Republic expand particularly rapidly in the Combined scenario compared to the Current Path forecast. All are more than double in size in the 2043 when comparing the Current Path forecast with the Combined scenario. At the other end of the scale, the economies of Seychelles, Mauritius, South Sudan, the Republic of the Congo and Libya also increase in size, but by less than 30% above the Current Path forecast by 2043.

Comparative impact of scenarios on per capita income

For all its deficits, GDP per capita reflects not just the economic productivity of an economy but also the number of people among whom that product must be divided. Chart 3 presents GDP per capita for the World except Africa, Africa and each African grouping and country on the Current Path and in the Combined Agenda 2063 scenario. It shows in a single graph the dramatic change in fortunes that could follow from the combined effect of the various scenarios modelled on this website. Whereas, in 2023, Africa's GDP per capita was 24% of the average rest of the world (i.e. the World except Africa), staying at that portion to 2043, it could increase to 31% in the Combined scenario. In 2023, Africa's GDP per capita was US\$4 801. The average for the rest of the world was US\$19 590, a difference of US\$4 790; on the Current Path, the 2043 difference would be US\$21 600. In the Combined scenario, the difference in 2043 will be US\$19 320.

In the Current Path forecast, GDP per capita increases at a miserly 1.4% from 2024 to 2043. It more than doubles to 3% in the Combined scenario and illustrates that Africa could start turning the widening gap around towards the end of the forecast period. Because of technology, climate change and future shocks, that catch-up will occur in a different world than the one we currently know and occur slowly but gather momentum over time.



Source: IFs 8.13 initialising from UN Population Division World Population Prospects medium-variant life data and World Development Indicator

In the Combined Agenda 2063 scenario, the average GDP per capita in 2043 would be:

- US\$4 786 instead of US\$3 209 in low-income Africa.
- US\$10 840 instead of US\$8 189 in low-middle-income Africa.
- US\$19 770 instead of US\$16 32- in upper-middle-income countries.
- US\$45 340 instead of US\$36 970 in Africa's high-income country (Seychelles).

Although from a lower base, the relative increase is more pronounced in low-income countries than in low-middle or in upper-middle-income countries.

When considering the impressive improvements in GDP per capita is important to recognize that population growth rates in the Current Path and the Combined scenario differ, given the impact of the Demographics/Health scenario on total fertility rates. For example, the average population growth (from 2024 to 2043) for the group of African low-income countries is 2.6% in the Current Path and only 1.5% in the Combined scenario. Rates for low-middle-income countries is 1.8% vs 1.4%

The ten countries that would gain the most in absolute increases in average income levels when comparing the 2043 Current Path forecast with the Combined Agenda 2063 scenario are Seychelles, Eswatini, Djibouti, Egypt, Mauritius, Namibia, Gabon, Libya, Botswana and Eritrea.

The ten countries that show the least improvement in absolute US\$ terms (when comparing the 2043 Current Path forecast with the combined scenario) are the Republic of Congo, Lesotho, Malawi, Mali, Guinea Bissau, CAR, Chad, Somalia, Burundi and South Sudan.

The impact of the various scenarios also changes over time. For example, what contributes most to income growth in the

first decade (to 2033) for low-income countries may change during the second and third decades.

Chart 4 ranks the four scenarios that provide the largest change in GDP per capita in purchasing power parity in 2033 and 2043. The default display compares low-, low-middle- and upper-middle country income groups, but the user can select any three African countries or groups. The analysis does not imply that policymakers should choose one set of interventions above another. Development is organic and context-specific: eventually, a simultaneous and coordinated effort across dimensions produces much better progress than pushing on any single sector to the exclusion of another.

Chart 4: Top four scenarios by impact on increase in GDP per capita, 2033 vs 2043



2033

Source: IFs 8.13

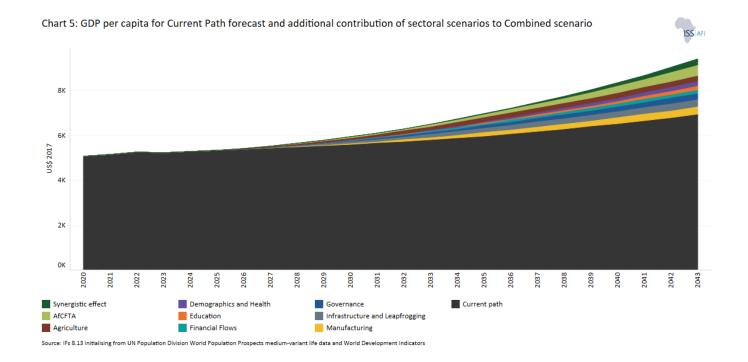
Low-income Africa	Lower-middle-income Africa	Upper-middle-income Africa
1 Agriculture	1 Infrastructure Leapfrogging	1 Manufacturing
2 Infrastructure Leapfrogging	2 Agriculture	2 AfCFTA
3 AfCFTA	3 Manufacturing	3 Governance
4 Manufacturing	4 Governance	4 Financial Flows

From 2024 to 2033, the Agriculture scenario does marginally best among the eight sectoral scenarios, followed by Large Infrastructure/Leapfrogging when considering GDP per capita, followed by the Manufacturing scenario, the full implementation of the AfCFTA and Governance. By 2043, the AfCFTA will do best, followed by Manufacturing and Infrastructure/Leapfrogging. For this reason, the African Development Bank, the UN Economic Commission for Africa (UNECA), the World Bank and development economists are very excited about the potential of the AfCFTA.

The impact changes when considering different income groups.

- For low-income countries, Agriculture and infrastructure/Leapfrogging does best by 2033, and in 2043, it is the AfCFTA and Manufacturing scenarios
- For low-middle-income countries, the Infrastructure/Leapfrogging scenario does best in 2033, followed by Agriculture. In 2043, it is the AfCFTA, followed by Manufacturing
- For upper-middle-income countries, manufacturing does best, followed by the AfCFTA in 2033; by 2043, it will be the AfCFTA followed by manufacturing.

Chart 5 allows the user to compare the impact of the eight sectoral scenarios using GDP per capita on any African country or group.



Because of the fertility characteristics of the different income groupings, the contribution of the Demographic/Health scenario declines with increasing income status. Even then, its impact is underplayed. Like the Governance scenario, the Demographic/Health scenario acts as a force multiplier on all other scenarios, particularly for low- and low-middle-income Africa. For example, it reduces the number of children that need to be educated (and increases the money available for those already in school) and reduces the demand for basic infrastructure such as water and sanitation. When parents have fewer dependents to care for, it frees up resources to invest in human and physical capital.

A critical dynamic to consider here is how the Demographic/Health scenario combines with the Education scenario to reduce total fertility rates rapidly. On the Current Path forecast, the average fertility rate in sub-Saharan Africa will decline from 4.6 children per fertile woman in 2023 to 3.4 by 2043. The decline in the Combined scenario is to 2.5. As a result, in 2043 sub-Saharan Africa will have 98 million fewer people.

The impact of the Education scenario increases with higher income status since a more sophisticated economy requires a more skilled workforce, and its impact steadily increases over time. But it takes a very long time, reflecting the inertia in improving education systems and that the payoffs typically take up to a generation.

As with education, improvements in general health indices and the provision of WaSH facilities are more important (and impactful) for upper-middle-income countries, where the older labour force is better nourished, healthier, and, therefore, more productive.

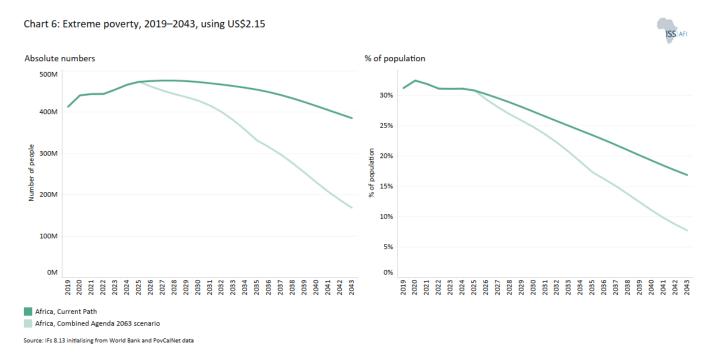
The IMF finds that investment in human capital is more effective in the long run (15 years or more) than investment in infrastructure.

Impact on extreme poverty

The Combined scenario has an even more impressive impact on poverty than on economic size and GDP per capita. The forecast of the number of extremely poor people in Africa presented in Chart 6 (using the US\$2.15 threshold), shows that 31% of Africa's total population (or 455 million people) was considered to be extremely poor in 2023, a ratio that will

decline to 27% by 2030, 25% in 2033 and 17% by 2043 in the Current Path forecast. Owing to rapid population growth, relatively slow economic growth and often high levels of inequality, 386 million Africans would therefore still live in extreme poverty in the Current Path forecast by 2043, meaning that the absolute number of extremely poor Africans will have declined only modestly since 2023.

The impact of the Combined scenario is for extreme poverty to drop to 25% in 2030, 21% in 2033 and 8% in 2043, equivalent to 428, 380 and 169 million poor people, respectively.



The Combined scenario represents a potentially seismic shift in Africa's fortunes, as poverty reduction is perhaps the most critical measure of improved well-being. Although extreme poverty will remain a feature of Africa for the next generations, the portion of extremely poor people in Africa will have dropped dramatically.

It is clear that even in the Combined scenario, Africa will miss the SDG target of eliminating extreme poverty by 2030 by a very large margin. Although the COVID-19 pandemic has contributed to these depressing forecasts, the key reason is that Africa's economies are not growing rapidly enough, given population growth. Although Africa (and Southern Africa in particular) has relatively high levels of inequality, the continent has to find ways of growing its economies much more rapidly if it intends to increase incomes, provide jobs and dramatically reduce poverty.

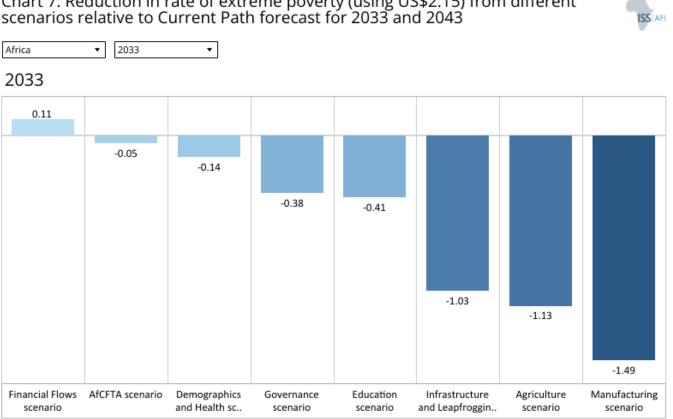
Effect of sectoral scenarios on extreme poverty

In addition to interpreting extreme poverty rates in the Combined scenario, it is also useful to compare the impact of the eight sectoral scenarios on extreme poverty.

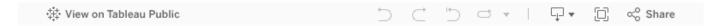
Chart 7 compares the impact on extreme poverty rates for each scenario with the forecast in the Current Path for each African country or group in 2033 or 2043, using the threshold of US\$2.15. These would reflect the end of the second and third ten-year implementation plans of Agenda 2063.

Chart 7: Reduction in rate of extreme poverty (using US\$2.15) from different





Source: IFs 8.13 initialising from World Bank and PovCalNet data



At the continental level, the Manufacturing scenario is particularly powerful in reducing extreme poverty by 2043, followed by the Agriculture and Education scenarios.

In low-income countries, the Manufacturing and the AfCFTA scenarios generally have the largest impact on poverty reduction, narrowly doing better than Agriculture. In low-middle-income countries Education does best followed by Agriculture. In Africa's seven upper-middle-income countries the Manufacturing scenario sees the most rapid reductions in extreme poverty followed by better Governance.

Here it is important to point out that the scenario on Manufacturing includes interventions that emulate cash transfers or social grants, since large increases in inequality and poverty often accompany the early stages of industrialisation. Cash transfers have proven a particularly effective short- to medium-term strategy for reducing poverty and inequality.

The general tendency in many North African countries has been to subsidise fuel and foodstuffs, often linked to foreign exchange payments. Still, these tend to lock governments into expensive programmes they find impossible to retreat from. For this reason, and also because of the market distortions such subsidies can create, the World Bank and the IMF generally target the reduction of fuel and food subsidies as a key component in their assistance strategies and have only grudgingly come around to support cash grant systems in recent years. Poor countries generally have limited financial means to effect substantive transfers to the poor through social grant programmes. It is a policy that is particularly well

suited to countries that discover new mineral resources, such as the gas potential of Tanzania and Mozambique. In these countries, a portion of the associated income can be ring-fenced for allocation as cash grants as an effective and efficient means to alleviate extreme poverty in the short to medium term.

The standard sequencing of development?

Chart 7 reinforces the traditional sequencing of development, which is also discussed in the theme on governance, namely that a governing elite firmly committed to economic growth is needed to start the developmental transformation process from subsistence agriculture to manufacturing.

Underlying much of this is the need for Africa to progress more swiftly through its demographic transition by empowering women, rolling out modern contraceptives, investing in female education and managing deliberate urbanisation. Although Africa is urbanising, it is generally not planned, and instead of serving to boost productivity, it sometimes has the opposite effect. Cities sprawl out further, characterised by low urban density and increasing the cost of providing additional infrastructure, often gobbling up prime agricultural land. Consequently, instead of increasing productivity and access to services, one of the main advantages of urbanisation, these measures start to decrease. [6]

Cities become poverty traps Without economic growth and rising incomes. Some African countries (e.g. Tunisia) are already predominantly urban, but East Africa is the most rural region in the world. Here, the growth of a city such as Addis Ababa has become a significant source of tension as urban sprawl encroaches on surrounding Oromo farmland, eventually contributing to violent riots.

Digital solutions can contribute to providing essential services in poor urban communities through pay-as-you-go models that allow low-income customers to make small, incremental payments towards otherwise unaffordable goods and services, including water, clean cooking gas and sanitation. The result is a sustainable business model able to respond to the challenges of the urban poor and urban poverty traps. Managed correctly, urbanisation represents immense opportunity.

The solutions to Africa's urbanisation challenges are well-known:

- Early infrastructure installation, such as roads, water, sewage, and electricity connections, must happen in anticipation of urbanisation while densities were still low. Where this is not possible, modern technology can help overcome the deficits in crowded settlements but cannot fully compensate for a lack of urban planning and foresight. Urbanisation is an opportunity to build climate resilience and manage the spread of infectious diseases such as COVID-19.
- Cities develop if they can crowd significant inhabitants into formal systems, increasing the tax base and improving efficiencies and productivity. Cities that are overcrowded or characterised by low-rise informal housing and urban sprawl have higher production costs and do not benefit from the concentration of knowledge and traded goods.

Ideally, basic infrastructure must be in place *before* people arrive. Once an informal settlement has reached the size of Khayelitsha in Cape Town or Kibera in Nairobi, it is challenging to uproot populations to install plumbing or build proper roads. Providing water and sewer connections for half a million people is a hard enough task. However, if all these people must be relocated to provide that infrastructure, it is significantly more expensive and complicated. Modern technology can help by combining smart metering, pay-as-you-go services, big data, geolocation and the Internet of Things to establish smart grids, solar home systems, mapping sanitation facilities, monitoring decentralised water points, operating water ATMs in informal settlements, mitigating peak traffic flow and managing waste flows. That is because, as an enabler,

the ICT sector has strong backward and forward linkages, with almost every sector of the African economy needing rapid development ranging from increasing yield in agriculture to electricity and water demand management and e-learning in the educational sector.

Urbanisation, digital transformation, and electrification using pay-as-you-go services should be adopted as deliberate strategies towards providing basic services, better education, and improved healthcare and educational opportunities. The digital transformation of Africa will require massive investment to make the Internet accessible. Still, there is real potential in initiatives such as those from SpaceX that promise global satellite Internet coverage within the next few years.

In addition to managing urbanisation, successful governments typically pursue low-end manufacturing, even as the educational focus now shifts to secondary, vocational and tertiary education. Entry into manufacturing requires participation in regional value chains and the need to attract foreign direct investment and foreign companies, with clear incentives for them to build local capacity and ensure technology transfer.

Because of the dire impact of climate change but also because of the enabling dynamic of digital and other technologies, Africa needs to look at modern manufacturing and seek competitive advantages in areas such as ICT, food processing and so-called "industries without smokestacks" (see below) that can play a role analogous to that of manufacturing in East Asia. As countries go up the manufacturing value chain, the spillovers from manufacturing facilitate and incentivise a more productive agriculture sector and the development of higher-end services such as finance until, in some instances, services start to serve as the main engine of growth or agriculture (such as in the Netherlands). Typically, large-scale commercial agricultural development and exports depend upon the progress of industrialisation. Thus, according to Erik Reinert, 'no country without an industrial sector ... has ever managed to raise the wage level of its farmers.'^[7]

The legacy impact of COVID-19 has significantly advanced the point at which services play a more significant role in economic development. This is similar to the communications and IT revolution that created complex global value chains in the manufacturing sector some decades ago. The service sector will dominate Africa's future, too.

Development requires a capable government committed to growth that pursues strategic integration with the world economy, the mobility of resources, particularly labour, and high savings and investment rates. Patience, pragmatism and experimentation are the key growth ingredients for each country.

Leadership and government are essential at low and middle levels of development. Then, as countries go up the income ladder, economic growth becomes increasingly dependent on the role of the private sector. The government's role remains crucial, although it should shift to a predominantly regulatory and compliance function while ensuring inclusive growth through progressive tax policies, support to rapid growth efforts (particularly manufacturing) and various redistribution measures.

A recent, widely acclaimed study identifies investment as crucial, indicating that it should proactively be directed towards activities with high potential for increasing returns of scale and scope, raising demand for labour, and earning foreign exchange. Elsewhere, the authors argue in favour of rapid export growth, a modestly undervalued exchange rate and an ambitious global trade strategy. They argue that a country's prospects 'are not determined by what that country has and is ... instead, a country's prospects are determined by what a country *does*. For these authors, as in our analysis, leadership, capable government and expanding wage employment (more and better jobs in the formal economy) lie at the heart of improved prospects. Africa needs to enhance efforts in domestic resource mobilisation. In addition, the emerging debt challenges point to the need to focus on investment instead of aid and loan financing in development cooperation engagements.

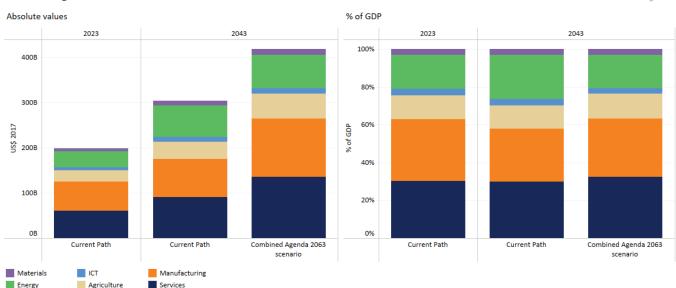
Structural change of economies in the Combined Agenda 2063 scenario

The transitions modelled on this website emulate a developmental path where Africa can reverse its growing commodities dependency and proceed to inclusive and rapid development by building human capital and economic diversification. In this vein, the African Growth Initiative at the Brookings Institution popularised the potential of "industries without smokestacks", pointing to the potential of tourism, agro-processing and other tradeable services as having productivity improvement effects in a modernising economy comparable to traditional industrialisation. Others are more sceptical and argue that services such as tourism are 'quick wins', but cannot serve as a pathway for long-term growth. Although it generates export earnings, growth and employment, specialisation in tourism tends to yield limited growth benefits. To generate growth through tourism, a country has to attract more tourists yearly, placing a higher strain on public services such as security and utilities. Also, tourism comprises low-productivity activities such as hotels and restaurants. Thus a study by the IMF shows that to reach growth of 6% per year, it would need to increase tourism receipts as a share of exports by more than 70%, which is unlikely to happen in most African countries.

To this end, Chart 8 presents the size and changes in the growth of the six economic sectors modelled in IFs: agriculture, energy, materials, manufacturing, services and ICT for African countries and groups.

Chart 8: Size of economic sectors and sectoral composition of African countries and groups in 2019 and 2043 in Current Path vs Combined Agenda 2063

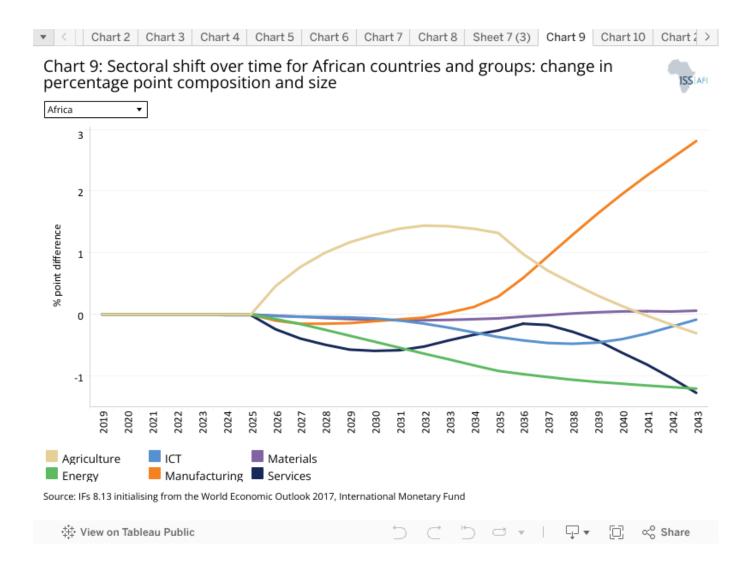




Source: IFs 8.13 initialising from the World Economic Outlook 2017, International Monetary Fund

It is evident from Chart 8 that all sectors in Africa's 2043 economy will be bigger in the Combined Agenda 2063 scenario than in the Current Path forecast for that year.

The sectoral shift in economic composition from 2024 (the start of the interventions) to 2043 for each African country and group is in Chart 9. The scale on the y-axis indicates that the shifts are at a maximum amplitude of five percentage points in either direction. Still, the impact of compound interest is such that these changes have a significant impact over time, evident from the stacked column graph reflecting economic size on the right-hand panel in Chart 8.



Significant country-to-country differences exist, with some, such as Gabon and Equatorial Guinea, having very skewed economic structures, discussed in the geographic country forecasts for those countries. The results of these two out of seven upper-middle-income countries invariably skew the results for the group.

At a continental level (i.e. the average for Africa), the Combined Agenda 2063 scenario modestly constrains the growth of the service sector in favour of growth in the size of the manufacturing sector. If implemented, it would reflect an end to the premature deindustrialisation of Africa, with an increase in the manufacturing sector's contribution to Africa's GDP by more than three percentage points by 2043. However, even in the Combined scenario, Africa will have a growth trajectory dominated by services, which traditionally has lower transformative productivity potential than a manufacturing growth trajectory, although, as discussed, there is some potential for modern services such as transport and communication, financial intermediation and business services to exhibit the same labour productivity improvements as with manufacturing.

Whereas the service sector currently constitutes about half of the African economy, it will be 55% by 2043 in the Combined scenario, closer to the average forecast for the rest of the world (about 59%). The agriculture sector's contribution to GDP in the rest of the world slowly declines (from 4% to 3%). 2023, it was just below 16% in Africa, dropping to 7% on the Current Path and 6% in the Combined Agenda 2063 scenario.

The impact of the scenarios is that African economies become more productive, with considerable growth in the service sector, in line with global trends. But none of this will happen by itself. It requires appropriate policies that support local

industry or at least the transfer of knowledge to local industry, determined implementation and productive investment.

Governance and unlocking Africa's human capital

Africa needs strong, developmentally minded governments and associated leadership that regulate, empower and support small and medium-sized businesses, the primary wealth and employment creator in the 21st century. In poverty alleviation, governments need to offer an enabling hand that shapes the market in a pro-poor manner while alleviating extreme poverty through grants, work schemes, education, housing and other measures for those who cannot adequately provide for themselves. It requires the precise allocation of poverty alleviation resources, such as done in China, seeking to help families and communities in ways that address their immediate needs and enable them to wean themselves out of poverty eventually.

Experience from around the world highlights the need for growth policy not only to emphasise institutions and policies that promote strategic collaboration between the government and the private sector but also on the clear understanding that the market will not resolve poverty. That requires a capable government committed to harnessing and regulating all resources to that end and that monitors and helps directly to the need ^[10]. In many senses, development is about eventual independence from the helping hand of others.

The continent needs governments that consistently invest in knowledge creation. The Norwegian scholar and economic philosopher Erik Reinert concur with others such as Joseph Stiglitz and Bruce Greenwald in describing what lies at the heart of development: 'The global economy,' Reinert writes, 'can in many ways be seen as a pyramid scheme of sorts — a hierarchy of knowledge — where those who continually invest in innovation remain at the apex of welfare.' Reinert points to the importance of 'going up the productivity and technology curve', generally a function of investments in research - development and expanding the manufacturing sector more than others.

In a different context, the McKinsey Global Institute argues that 'all global value chains are becoming more knowledge intensive'.[11] The associated response could take many forms, but only deliberate efforts to unlock the promise of digitisation and the Fourth Industrial Revolution will achieve this in the 21st century.

In the aftermath of the great global recession of 2008/09, globalisation briefly deepened until the COVID-19 pandemic. Then, competition between the US and China changed things even before the disruptive effect of Russia's invasion of Ukraine on global food markets. Today, growth and trade within regional trading blocs (as opposed to between these blocs) have become particularly important. [12] Global value chains are shortened as production moves closer to consumers - partly due to efforts to improve the speed of getting goods to market. It is also a reaction to global tensions caused by a growing sense of nationalism, like the obvious efforts by Europe and the US to constrain technology transfer and competition from China, as well as the reactions to Russia's war on Ukraine. Previously, labour costs were a deciding factor in manufacturing location. But in the last two to three decades, non-labour costs — including the costs of managing complex global value chains — have increased in importance.

Regional value chains and localised production closer to the end market have become more attractive in advanced and emerging economies alike, with some even talking about manufacturing on-demand based on technologies such as 3D printing. This is the emergence of a decentralised, cottage-industry model of industrialisation, referred to in the theme on manufacturing.

Africa must integrate regionally and into global supply chains to facilitate knowledge transfer. To that end, Africans must actively encourage foreign companies to invest and locate on the continent and attract skilled foreigners. Part of that process is to manage debt levels, eradicate financial leakages, mobilise domestic resources, efficiently allocate funds, and curb capital flight. Some refer to instituting 'radical transparency', such as to ensure that all debt — not only sovereign debt

but also debt directly or indirectly guaranteed by African governments such as that held by special financial vehicles — is recorded on the World Bank's Debtor Reporting System.

Technological knowledge transfer and steadily expanding local content requirements are crucial to ensure these companies are embedded in local value chains. Over time, local value chains will allow African companies to become part of international value chains. Whatever the exact point, Africa must subscribe to an approach that enhances the mantra of 'designed in Africa, grown in Africa, made in Africa'.

In this regard, there is much that Africa can learn from China and South Korea, which have perfected the art of setting up a subtle ambush by requiring foreign companies to partner and transfer technology to local partners. In the process, China emerged as the global manufacturing hub. It achieved these goals by making technology transfer and skills requirements of the law, including them in every agreement and then negotiating hard. China intends to rival the US as the technology leader in several key areas, including artificial intelligence. It has been so successful that the West now scrambles to constrain its growth.

Instead, many African countries such as Kenya and Nigeria specialise in so-called 'foreign ambush'. Their primary orientation is not to attract and nurture foreign businesses but to entice and trap them. Once a foreign company has been attracted by a liberal legal framework and fiscal incentives to invest, the rules are changed to extract greater profits and benefit particular nationals or families. Nothing scares private investment more than uncertainty, and the threat of changes to their legal or tax status is often a substantial disincentive. The result is that the companies that do invest eventually capitulate and leave, as many South African (and other) companies have done in these countries. In another example, South Africa has made it particularly difficult for skilled foreign nationals to obtain work permits or for companies to invest while adding one compliance burden on top of another. The result is disinvestment and slow growth.

Many of Africa's post-independence efforts at industrialisation failed because of efforts to effectively create islands of technological sophistication and prestige projects in a sea of informal, low-technology economies. Without forward and backward linkages to the domestic economy, these projects depended on government subsidies and handouts in terms of access to foreign markets, for instance, through the US African Growth and Opportunity Act. Some recent investments in heavy-duty infrastructure (as opposed to basic infrastructure) threaten to replicate these mistakes. When these agreements ended, the investments proved unsustainable, and the company inevitably folded or left. For the same reason, highly capital-intensive projects such as gas and petroleum extraction in northern Mozambique, Angola, Nigeria, Equatorial Guinea and Gabon provide little spillover effect to the wider economy. All provide a money stream to elites fighting to control that money. But oil or gas income does not develop a country, and its importance will decline given the threat of climate change. Above all, Africa needs appropriate government policy, ethical leadership and oversight that unlocks the one thing we have in abundance, our human resources.

Eventually, the transformation of Africa is less about grand schemes and ambitions (of which there have been many) and more about the mundane functions of improving food security through land reform and support of small-scale farming, ensuring a hassle-free and facilitative investment environment, holding one another to account; and facilitating foreign investment in clear terms. It requires a technical and bureaucratic process, where governments must meticulously go through every impediment that deters or inhibits innovation, entrepreneurship and doing business. It is about governments that get behind success, offering support and helping to facilitate growth in a sector already showing potential rather than merely shovelling money in that direction. For long-term growth, policy predictability is a prerequisite.

Conclusion: Africa has significant untapped development potential

The introductory section in this theme indicated that, on Africa's Current Path, the African economy in 2043 will be 250% larger compared to 2023, but because Africa's population will have increased by 156%, gross domestic product (GDP) per

capita will have improved by only 133%.

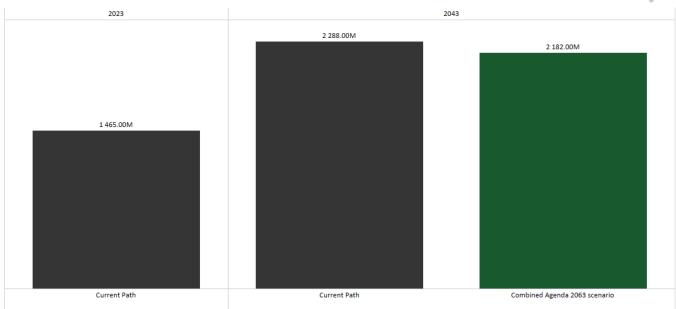
In the Combined scenario things will change. In that scenario African economy in 2043 will have increased by 370% compared to 2023, Africa's population will have increased by only 149%, and as a result, GDP PC will have improved by 180%. The difference is a remarkable US\$2 275.

In 2023, Africa's GDP PC was 25% of the average of the rest of the world, and on the Current Path forecast, that would have declined to 23% in 2043. In the Combined scenario, it would be 31%.

Instead of a 2043 African economy that is 4.2% of the global economy, it could be 6.1%. In 2023 it was 2.9%.







On a structural level, many of Africa's challenges can be traced back to the process of imposed state formation, which started with imperialism and lasted through the colonial period. Decades later, the end of the Cold War released Africa into an international state-based system when its constituent states had not yet been able to consolidate.

Subsequently much of Africa and its amalgamation of unconsolidated 'states in name' struggled. Some have been poorly served by elites who often appear to place their family, tribe or ethnic group ahead of their country's development rather than a commitment to advance equal development for all its citizens. The challenge to deliver is complicated by the fact that in many African states, governing consists of a continuous process of bargaining and patronage among numerous traditional, ethnic, family and other groupings to retain power. That is changing, but slowly.

Eventually, neither Western donors, nor trade with China or India, will develop Africa; only Africans can, but cannot, in isolation. Leaders must accept responsibility for shaping the future, manage debt levels, domestic resource mobilisation and carefully allocate resources to maximise development progress. More capital is key, as is a focussed and deliberate industrial and trade policy and hence efforts to deeper economic integration, macroeconomic convergence and increased levels of intra-African trade are important. Yet even developed countries cannot finance their capital needs from domestic revenues alone and need to borrow, hence the importance of the establishment of an African Rating Agency and domestic borrowing. In levering the benefits from development cooperation, Africans need to emphasise investment as opposed to aid and loan financing.

As a percent of GDP, Africa's finance requirements are high, although eminently achievable when looking at the amounts of capital available globally. There is no silver bullet to this dilemma. It requires a host of responses, starting with the quality of domestic governance, domestic resource mobilisation and use, and extending all the way to boosting concessional loans and grants, as well as restructuring the voting rights of IFIs. Africans must afford much higher debt levels (at least 50% to 60% of GDP) which is only possible at very low concessional rates. This means someone somewhere needs to offset the additional risk premium as Africans work to reduce their risk premium through better governance. The theme on Financial Flows lists recommendations that relate to reductions in the information assymmetry beween borrowers and lenders, and the importance of a global financial architecture that is fair and accountable to all.

Sustained and rapid growth is difficult to achieve. Each African country needs to develop organic practices tailored to that country's domestic conditions. 'Countries become successful,' argues Lant Pritchett, 'by means of an ugly, messy, contested hard slog that takes decades. And then, after they become successful, they create myths about how wonderful it was and the reasons why they did it, when the reality was just that it was a hard slog.' [13]

This website presents a host of policy recommendations that seek to explain and explore the development of Africa. The general result that emerges from the analysis is to recognise the interrelationships between various sectors. In many senses, governments need to fix the basics. For example, they need to invest in core infrastructure such as electricity, sanitation, water and roads, in literacy and primary education, then in lower-secondary and upper-secondary education, and in empowering and helping small-scale farmers and businesses to improve productivity to ensure sufficient nutrition and food security.

Leapfrogging should be seen in this context to allow Africa to benefit from new technologies so that things can progress more rapidly and cheaply, such as by using digital identification systems and electronic payments systems to improve the capacity of governments to deliver more effective programmes or provide electricity to their citizens through decentralised mini-grids using renewables. Access to electricity and the global village (through access to the Internet) offers huge potential to embark on a rapid digitisation process. It has significant potential as a key enabler of more rapid growth. ^[14] Large infrastructure projects are important, but governments must carefully analyse that their investments respond to actual demand before investing in hugely expensive railway lines, for example.

Current forecasts indicate that the rise of India could lead to a global resources boom starting within the next decade, even as the transition to renewables means that a new scramble for Africa's minerals, such as nickel is imminent. As much as African economies need to diversify, it is unlikely that this will be possible by then. Nor is it a given that Africa will be the region to benefit most from this boom, for, according to the Fraser Institute, much of Africa ranks near the bottom in their annual survey of mining and exploration attractiveness.

Resource extraction can provide an opportunity to invest in the efforts required to transform Africa's economies and education systems for greater productivity. However, this is only possible if Africa uses that income and opportunity as a foundation and opportunity for structural economic transformation — going up the productivity value chain. In a separate theme we examine the extent to which that can be based on renewables vs nuclear and fossil fuels given the need to provide a sufficient base load to drive its burgeoning manufacturing industry and unlock productivity from its services sector.

Africa has a large and growing working-age population with the potential to accelerate economic growth, provided the continent can improve on the associated skills base and create the demand to translate that skills base into a knowledge economy. The reverse applies in Europe, and North America where the contribution from labour to growth is declining.

However, the potential contribution from Africa's growing labour pool is insufficient to guarantee productive economic growth without adequate investment in appropriate education for the Fourth Industrial Revolution, sufficient nutrition and

access to healthcare, and industrial policies that incentivise and absorb graduates. Africa trails significantly in all three areas compared to global averages. Since investments in human capital provide the most enduring contribution to sustainable economic growth over long time horizons, the continent needs to invest in the associated enablers.

Even with the best will and good fortune, it is unlikely that all African countries would be able to achieve similar success in advancing across all dimensions. In addition, the type of reforms required to move from low levels of development are quite different from those needed at a middle-income level. Eventually, only individual country studies can indicate the potential growth that is possible.

Apart from everything else, African countries need modern, capable leadership that can connect with the aspirations of their youthful populations. Leaders must move on after a set term, look to the future rather than fixate on the past, and rely on evidence-based policymaking, not ideology. Africa does not need excellent governance, superb education, or top hospitals; what transforms a country is typically governance that is 'good enough', strong local low-tech health programmes, and decent education and jobs for women. That is the essence of the call by Nelson Mandela that we should not 'seek to place blame for our condition elsewhere or to look to others to take responsibility for our development', but to become the masters of our own fate.

Recommendations

- Africans must follow the developmental pathway of others:
 - Invest in food security, then agro-processing
 - Pursue a manufacturing growth path where possible
 - Support the agricultural sector and knowledge-based services
- Modern technology can help but to leapfrog:
 - Prioritise household energy, using off-grid renewable energy in rural areas
 - Provide affordable and fast broadband internet access
 - Invest in a knowledge economy, such as in cottage-industries
 - Reduce commodity export dependence
 - Use pay-as-you-go services and crowd in the informal sector
- Provide modern contraceptives, education and female empowerment to affect a more rapid demographic transition
- Roll out services rapidly to more people through well-planned urbanisation
- Alleviating poverty requires governmental intervention
- Ensure regular political turnover, merit-based appointments and complete transparency on sovereign debt
- Attract FDI with forward and backward linkages to the domestic economy
- Broaden and simplify taxation to adequately fund the government

Endnotes

- 1. On the other hand, over longer time horizons reductions in poverty would improve human capital and eventually have a positive impact on economic growth.
- 2. C Cramer, J Sender and A Oqubay, African Economic Development: Evidence, Theory, Policy, Oxford: Oxford University Press, 2020, 22.
- 3. In 2020, the African countries with populations below five million were: Seychelles, São Tomé and Príncipe, Cape Verde, Comoros, Djibouti, Eswatini, Mauritius, Equatorial Guinea, Guinea Bissau, Lesotho, Gabon, Botswana, The Gambia, Namibia and Eritrea.
- 4. Xinhua, Chinese Poverty Alleviation Studies: A Political Economy Perspective, New China Research, Xinhua News Agency, 28 February 2021, 16.
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- 7. ES Reinert, How Rich Countries Got Rich ... and Why Poor Countries Stay Poor, London: Constable, 2007, 63
- 8. C Cramer, J Sender and A Oqubay, African Economic Development: Evidence, Theory, Policy, Oxford: Oxford University Press, 2020, 9.
- 9. C Cramer, J Sender and A Oqubay, African Economic Development: Evidence, Theory, Policy, Oxford: Oxford University Press, 2020, 10
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- 13. Prof Lant Pritchett in conversation with Ann Bernstein, Centre for Development and Enterprise, June 2021.
- 14. United Nations Economic Commission for Africa, Fiscal policy for financing sustainable development in Africa, Addis Ababa: UNECA, 2019, xiii.

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Dr Jakkie Cilliers is the ISS's founder and former executive director. He currently serves as chair of the ISS Board of Trustees, head of the African Futures and Innovation (AFI) programme at the Pretoria oce of the Institute, and is an extraodinary professor at the University of Pretoria. His 2017 best-seller Fate of the Nation addresses South Africa's futures from political, economic and social perspectives. His three most recent books, Africa First! Igniting a Growth Revolution (March 2020), The Future of Africa: Challenges and Opportunities (April 2021), and Africa Tomorrow: Pathways to Prosperity (June 2022) take a rigorous look at the continent as a whole.

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Scenarios and forecasting can help Africa identify and respond to opportunities and threats. The work of the African Futures & Innovation (AFI) program at the Institute for Security Studies aims to understand and address a widening gap between indices of wellbeing in Africa and elsewhere in the world. The AFI helps stakeholders understand likely future developments. Research findings and their policy implications are widely disseminated, often in collaboration with in-country partners. Forecasting tools inspire debate and provide insights into possible trajectories that inform planning, prioritisation and effective resource allocation. Africa's future depends on today's choices and actions by governments and their non-governmental and international partners. The AFI provides empirical data that informs short- and medium-term decisions with long-term implications. The AFI enhances Africa's capacity to prepare for and respond to future challenges. The program is headed by Dr Jakkie Cilliers.