

Reopening and reimagining Africa:

How the COVID-19 crisis can catalyze change

This article is a collaborative effort by Kartik Jayaram, Kevin Leiby, Acha Leke, Amandla Ooko-Ombaka, and Ying Sunny Sun, representing views from across the McKinsey Africa Practice.



COVID-19 poses a grave threat to lives across Africa, with the World Health Organization (WHO) estimating that the continent could see up to 190,000 deaths over the next year if the pandemic is not controlled.¹ In the face of this challenge, governments have acted fast, both to strengthen the capacity of health systems and to contain the spread of the virus: as of May 19, about half of Africa's population lives in countries imposing some type of lockdown. But despite accelerating case numbers and still-low testing rates in many countries (Exhibit 1), as well as recent reports of a worsening health crisis in hotspots on the continent, some governments have started to ease restrictions with caution as economic pain becomes more acute for households.²

The economic outlook is also bleak. Globally, while some countries are past their peak rate of infections, concerns about virus resurgence continue to raise uncertainty. In a recent McKinsey survey of global executives, 40 percent anticipated

a muted economic recovery. A prolonged global slowdown, combined with continued lockdowns in Africa, could plunge the continent into its first economic recession in 25 years while threatening the jobs or incomes of 150 million Africans—one-third of the entire workforce.³

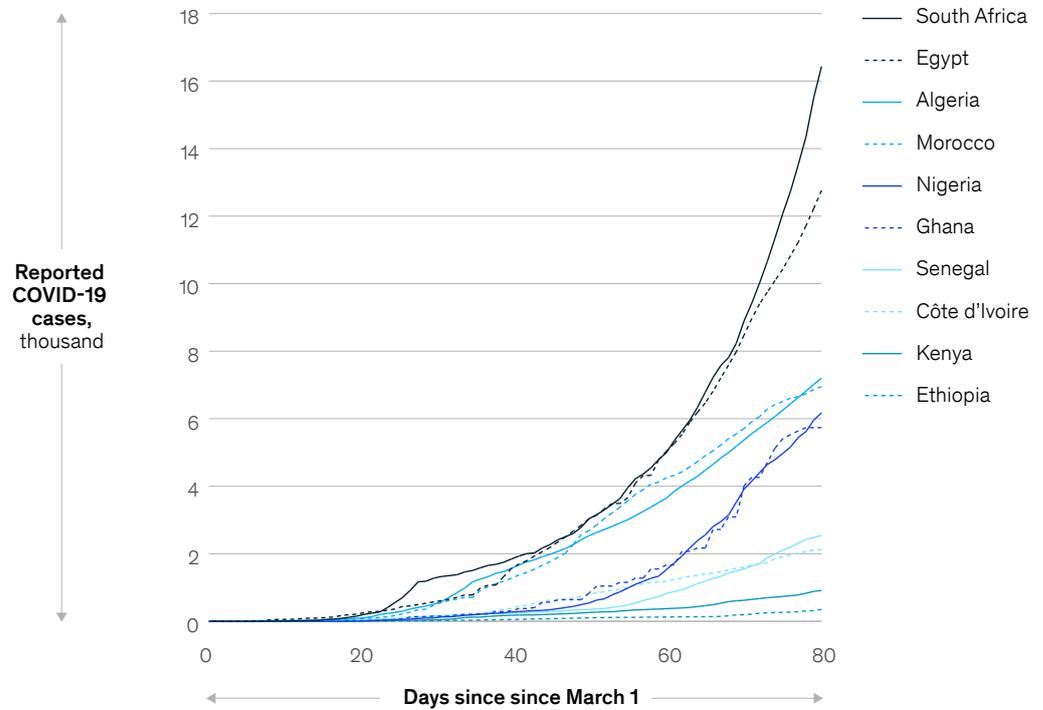
African countries need to find smart approaches to reopen economies in a calibrated way that brings key industries back into operation while ensuring safe ways of working. The COVID-19 crisis will likely persist for some time, and there is serious risk of a resurgence in infections. Accordingly, governments will need to build the capacity to alternate between reopening and restricting economies on a granular, local level—akin to developing and flexing a muscle.⁴ In the first part of this article we shine a spotlight on these approaches to smart reopening, suggesting pathways that countries can adopt to save lives *and* safeguard livelihoods.

Governments will need to build the capacity to alternate between reopening and restricting economies on a granular, local level—akin to developing and flexing a muscle

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- 1 World Health Organization, "New WHO estimates: Up to 190 000 people could die of COVID-19 in Africa if not controlled", May 7, 2020. <https://www.afro.who.int/news/new-who-estimates-190-000-people-could-die-covid-19-africa-if-not-controlled>.
 - 2 Kartik Jayaram, Acha Leke, Amandla Ooko-Ombaka, and Ying Sunny Sun, *Finding Africa's path: Shaping bold solutions to save lives and livelihoods in the COVID-19 crisis*, McKinsey & Company, April 17, 2020.
 - 3 New York Times, "Covid-19 Outbreak in Nigeria Is Just One of Africa's Alarming Hot Spots," May 17, 2020. <https://www.nytimes.com/2020/05/17/world/africa/coronavirus-kano-nigeria-hotspot.html>
 - 4 "Crushing coronavirus uncertainty: The big 'unlock' for our economies", McKinsey & Company, May 13, 2020.

Some African countries are starting to experience exponential growth in cases ...

Cumulative confirmed case count (as of May 19, 2020)



... even though testing levels are still generally low

Tests per thousand people (as of May 19, 2020)

Country	Tests per thousand people	Population, million
Mauritius	11.0	1.3
South Africa	7.1	59
Ghana	5.5	31
Rwanda	3.5	13
Tunisia	3.2	12
Morocco	2.1	37
Senegal	1.6	17
Kenya	0.7	48
Ethiopia	0.4	115
Nigeria	0.2	206
Mozambique	0.2	30
Iceland	166.0	0.3
Italy	47.6	60
United States	32.0	331
United Kingdom	25.7	68
Chile	18.3	19
South Korea	14.2	51
Brazil	0.6	213

Source: European Centre for Disease Prevention and Control; Humanitarian Data Exchange (tests performed by country); World Health Organization

Looking further ahead, however, we believe that the crisis-driven action currently underway contains the seeds of a large-scale reimagining of Africa's economic structure, service-delivery systems, and social contract. The crisis is accelerating trends such as digitization, market consolidation, and regional cooperation, and it is creating important new opportunities—for example, to boost local manufacturing, formalize small businesses, and upgrade urban infrastructure. Just as businesses and governments take immediate steps to strengthen health systems and restart economies, they also need to think ahead and plan for the continent's "next normal".

These changes and opportunities are the focus of the second part of this article, which presents nine big ideas to reimagine Africa. To develop these ideas, we reached out to more than 20 leading thinkers across Africa and beyond—and asked them how the crisis could catalyze long-term change on the continent. These interviews, combined with McKinsey's own analysis, make it clear that a positive transformation is by no means inevitable. A powerful, collaborative effort will be required to ensure that Africa's "next normal" is characterized by inclusive development, effective delivery, and innovative approaches to solve the continent's greatest challenges.

Part 1: Reopening African economies to safeguard lives and livelihoods

Many African countries and cities have been under strict lockdown and other restrictions for over two months. During this time, economic pain has become more acute.⁵

As countries across the continent start to reopen their economies, governments face tough decisions on how best to manage this process in order to protect lives and safeguard livelihoods. To date, different countries have adopted varying approaches: for example, Ghana has largely reopened its economy, subject to physical-distancing measures, while South Africa has taken a more cautious, phased approach to reopening.⁶ Our analysis of reopening strategies globally and in Africa suggests that governments can follow a three-step process in designing local response measures to release restrictions in a calibrated way tailored to their countries' unique circumstances.⁷

Positive transformation is by no means inevitable ... we must ensure that Africa's "next normal" is characterized by inclusive development, effective delivery, and innovative approaches

⁵ *Finding Africa's path*, op. cit.

⁶ Bukola Adebayo, "Ghana lifts lockdown, citing improved testing and 'severe' impact on the poor," CNN, April 20, 2020, edition.cnn.com

⁷ See, for example, Andres Cadena, Felipe Child, Matt Craven, Fernando Ferrari, David Fine, Juan Franco, and Matthew Wilson, *How to restart national economies during the coronavirus crisis*, McKinsey & Company, April 6, 2020

The first step is to **define a tiered set of local response measures**, from the least restrictive to the most restrictive, to be applied to regions across the country. Each tier would include measures to protect both the general population and high-risk populations (the elderly and people who are immuno-compromised), and would also specify which sectors can open and operate. Depending on a country's geographic diversity, a number of tiers can be established; South Africa, for example, has implemented a five-tier system.⁸ In a four-tier system, the following measures might apply:

- *Tier 1* (the least restrictive) would entail no restrictions beyond physical distancing, and would allow all sectors to operate.
- *Tier 2* could involve closure of schools and prohibition of mass gatherings, while high-risk populations would be encouraged to stay at home. A broad set of sectors would be allowed to operate, such as construction, mining, manufacturing, banking, and retail—provided they can comply with health and safety protocols such as use of personal protective equipment (PPE) and temperature checks. But sectors at high risk of transmission would be closed or restricted; those might include

education, transport, food services, and entertainment.

- *Tier 3* could involve restrictions on travel between regions of the country for the general population, and mandatory stay-at-home directives for the at-risk population. A narrower set of sectors would be allowed to operate, including agriculture and information and communication technology (ICT).
- *Tier 4* (the most restrictive) could entail a full lockdown on movement for the general population, and quarantine encouraged for those at risk. Only essential sectors would be allowed to operate, including health and public administration.

We suggest two tools that governments can apply in implementing a tiered system (Exhibit 2). The first is the Population Protection Matrix, which maps the measures governments can use both to protect the general population and to shield high-risk groups. The second is the Sector Tiering Matrix, which can help guide decisions on which sectors of the economy can reopen under each tier, taking into account both their inherent rate of contagion and their economic relevance (Exhibit 3).

The first step is to define a tiered set of local response measures, from the least restrictive to the most restrictive, to be applied to regions across the country

⁸ Cyril Ramaphosa, "President Cyril Ramaphosa: South Africa's response to Coronavirus COVID-19 pandemic," South African Government, April 23, 2020, gov.za.

There is a range of tools available to select local response measures and safely reopen economic activities

Illustrative range of measures to protect populations and reopen economies

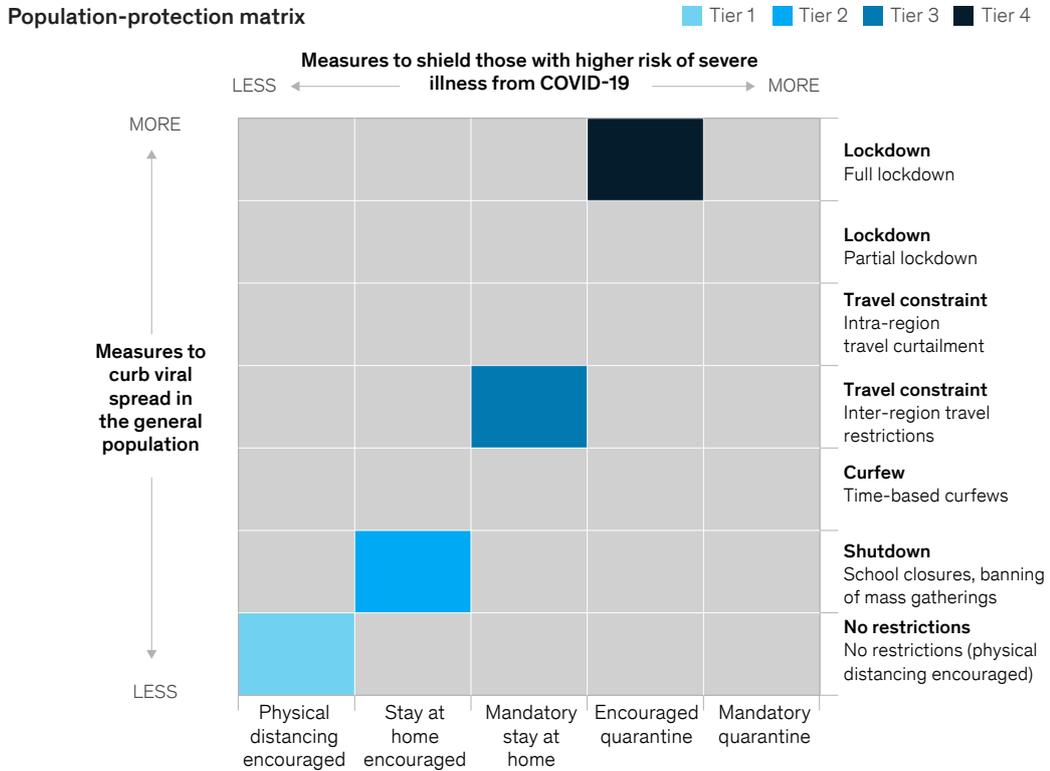
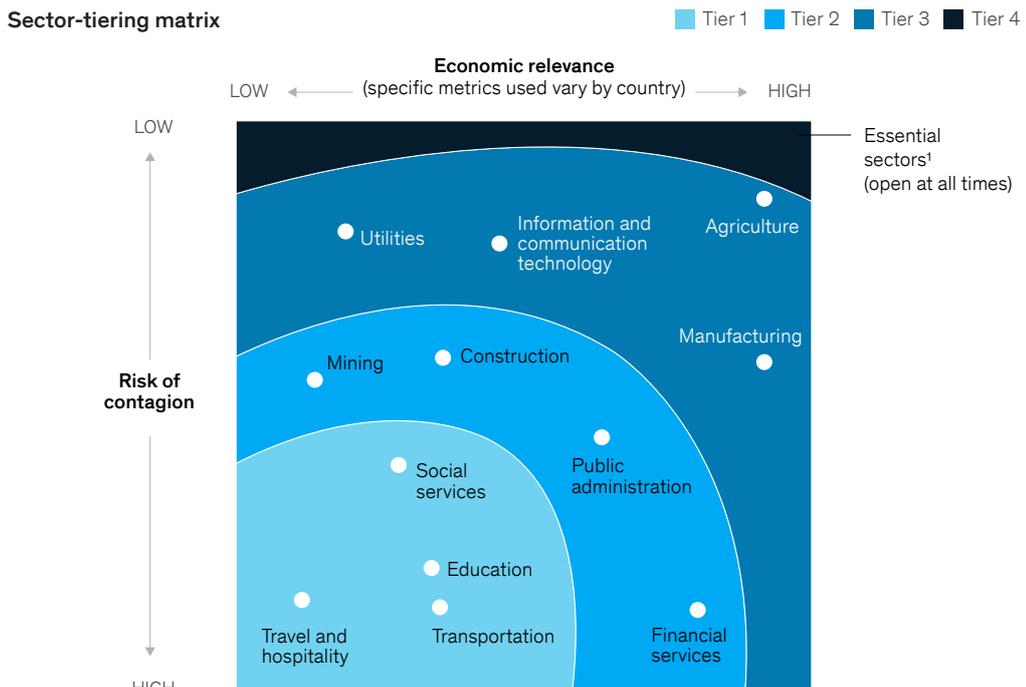


Exhibit 3

Sectors should be reopened in a phased manner, based on their inherent risk of contagion and economic relevance



¹ Essential sectors will be defined by country but could include health (eg, hospitals), grocery stores, utilities, and defense.

The second step is to “**triage**” regions or sub-regions across the country to determine which tier each of these geographic areas would fall into (Exhibit 4). The triage process would be dynamic and would incorporate new data as they emerge. It would be based on two criteria:

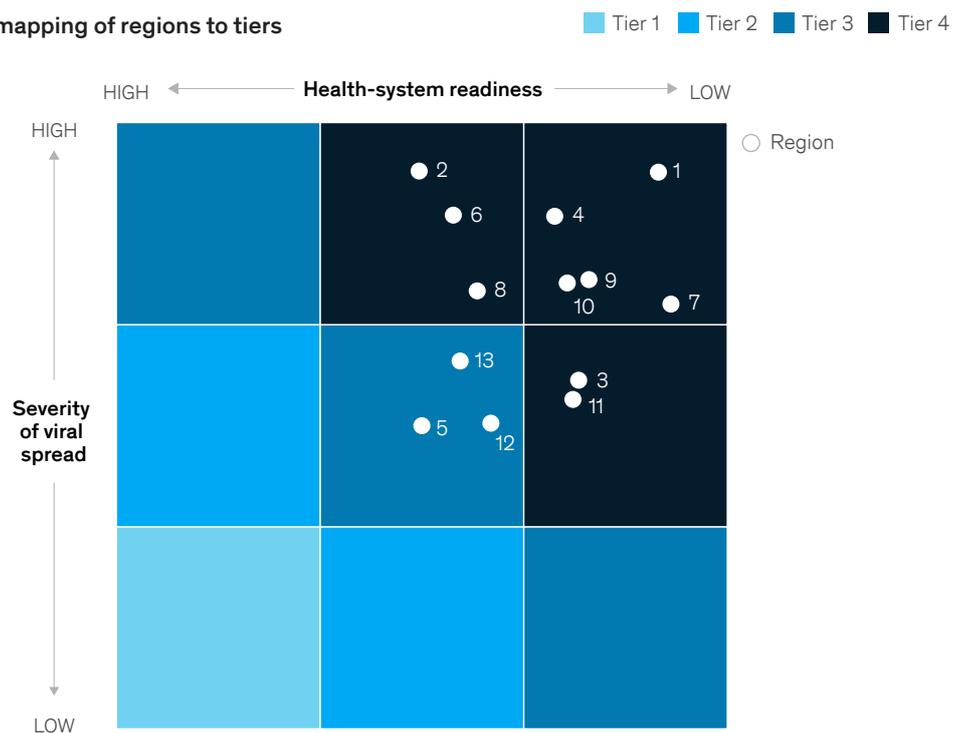
- *The severity of virus spread* in a region, a measure which takes into account the extent of ongoing transmissions as well as the severity of cases should there be high transmission.
- *The readiness of the public-health system* in the region—both the ability of the system to test, trace, and isolate cases and contacts, and its medical capacity to treat severe cases.

Exhibit 4 shows how the regions of a country might be triaged into tiers, based on these factors. The Y-axis covers the severity of virus spread, considering both the day-to-day growth in case counts as well as the clinical severity of cases (as influenced by factors such as demographics and comorbidities in the population). The readiness of the health system (on the X-axis) can be assessed using metrics such as availability of critical hospital supplies and critical-care beds, testing rates, test positivity rates, contacts traced successfully, and confirmed COVID-19 cases isolated.

Exhibit 4

Triage regions into defined tiers based on their severity of viral spread and health-system readiness

Illustrative mapping of regions to tiers



The third and ongoing step is to **monitor progress continuously**. Once regions are triaged and measures are implemented, continuous assessments will be required to ensure that these measures are being adhered to. Governments would need to identify the triggers or thresholds for moving a region into a less restrictive tier—or a more restrictive one. In this regard it is critical that decision making is fact-based and data-driven, with a constant focus on safeguarding both lives and livelihoods.

Governments can guide efforts in three major areas to ensure that regions progress towards the lowest tier:

- *Scale up testing and tracing.* In addition to testing those with symptoms and their contacts, more widespread testing should ideally extend to high-risk groups such as healthcare workers. Moreover, tracing of potential COVID-19 cases would be needed in each region. This may require rapid training of workers to locate and isolate 100 percent of contacts of confirmed cases, in a way that respects individuals' privacy and safety.
- *Experiment with shielding for high-risk populations.* Shielding high-risk populations amidst broader re-opening can help protect lives. Governments can test and deploy different approaches—for example by providing support and incentives for the affected populations to stay at home, or creating quarantine spaces directly within or adjacent to a community, where high-risk groups are relocated temporarily to minimize contact with other residents. While shielding has not been widely used globally, it could be a more relevant tool for the African continent. However, implementation could be particularly challenging in a context where vulnerable

older populations tend to live together with younger members of their family.⁹ Shielding would need to be community-led rather than centrally imposed: governments could empower communities to design, implement, and manage shielding interventions, and could provide the required financial and logistical resources required. They could also allow communities to self-police shielding adherence, including through social pressure and community influencing. Based on our calculations, the cost of shielding would be significantly lower than the negative economic impact of the virus if it is unconstrained.

- *Establish industry-reopening protocols.* As our colleagues have written, “jobs can be redefined in ways that make them safer to restart.”¹⁰ Sectors identified as ready to reopen will need to adopt appropriate safety and physical-distancing protocols, developed in collaboration with public-health experts and labor groups; and they will need to leverage lessons learned from experiences of reopening in other parts of the world. These protocols can be used to prioritize where to implement industry-specific public-health measures—such as limited hours or employee-testing requirements—in order to prevent reinfections as businesses lift operating restrictions.

Reopening economies in the midst of a pandemic will not be a linear, one-time process. Indeed, economies will require ongoing monitoring and management over a prolonged period. The diverse capabilities required to implement and optimize economic opening—at all levels of government—are “muscles” to develop and train, possibly over multiple rounds of “lockdown and restart.” Governments and society need to adopt this mindset to prepare for the long recovery ahead.¹¹

⁹ *Finding Africa's path*, op. cit.

¹⁰ Andres Cadena et al, *How to restart national economies during the coronavirus crisis*, McKinsey & Company, April 6, 2020

¹¹ Rajat Gupta and Anu Madgavkar, “The economy must be managed along with covid-19 for a prolonged period,” *Hindustan Times*, May 7, 2020.

Part 2: Reimagining Africa

Even as governments and businesses respond to the immediate crisis and execute reopening strategies, leadership and foresight will also be required to shape the path to the “next normal”.¹² The COVID-19 crisis provides impetus to reimagine fundamental aspects of African societies, business, and government. In the remainder of this article, we consider each of these opportunities for reimagination in turn (Exhibit 5).

Reimagining African society

The COVID-19 crisis is already transforming African societies in profound ways. If governments, business, development partners, and citizens act with renewed purpose and imagination, they can help ensure that the transformation is

positive, sustained, and widely shared among Africa’s people and institutions. Our research and interviews suggest three key opportunities to reimagine African societies:

- Accelerate Africa’s digital transformation
- Put renewed focus on serving the needs of vulnerable urban populations
- Transform African healthcare systems with a focus on resilience and equity

1. Accelerate Africa’s digital transformation

When the COVID-19 crisis struck, Africa was in the midst of a far-reaching digital transformation. In recent years the continent has seen the world’s fastest rate of new broadband connections, while mobile data traffic was forecast to increase sevenfold between 2017 and 2022. E-commerce has also been growing quickly: online retailers in Nigeria, for example, have experienced a doubling of revenue each year since 2010.¹³

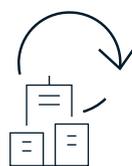
Exhibit 5

Here are 9 bold ideas for reimagining Africa



Reimagine society

- 1** Accelerate Africa’s digital transformation
- 2** Put renewed focus on serving the needs of vulnerable urban populations
- 3** Transform African healthcare systems, with a focus on resilience and equity



Reimagine business

- 4** Strengthen sector competitiveness through consolidation and innovation
- 5** Reshape manufacturing, with a focus on self-reliance
- 6** Catalyze the formalization of African economies



Reimagine government

- 7** Prepare for a more active government role in the economy
- 8** Forge a stronger social contract between citizens and government
- 9** Sustain momentum in regional and pan-African cooperation

¹² Kevin Sneader and Shubham Singal, *Beyond coronavirus: The path to the next normal*, McKinsey & Company, March 23, 2020.
¹³ Acha Leke, Mutsa Chironga and Georges Desvaux, *Africa’s Business Revolution*, Harvard Business Review Press, 2018.

Despite this progress, most sectors of African societies and economies still lag behind the rest of the world in digitization. The COVID-19 crisis could be a catalyst to help close that gap, accelerating digital transformation in sectors as diverse as financial services, retail, education, and government (Exhibit 6).

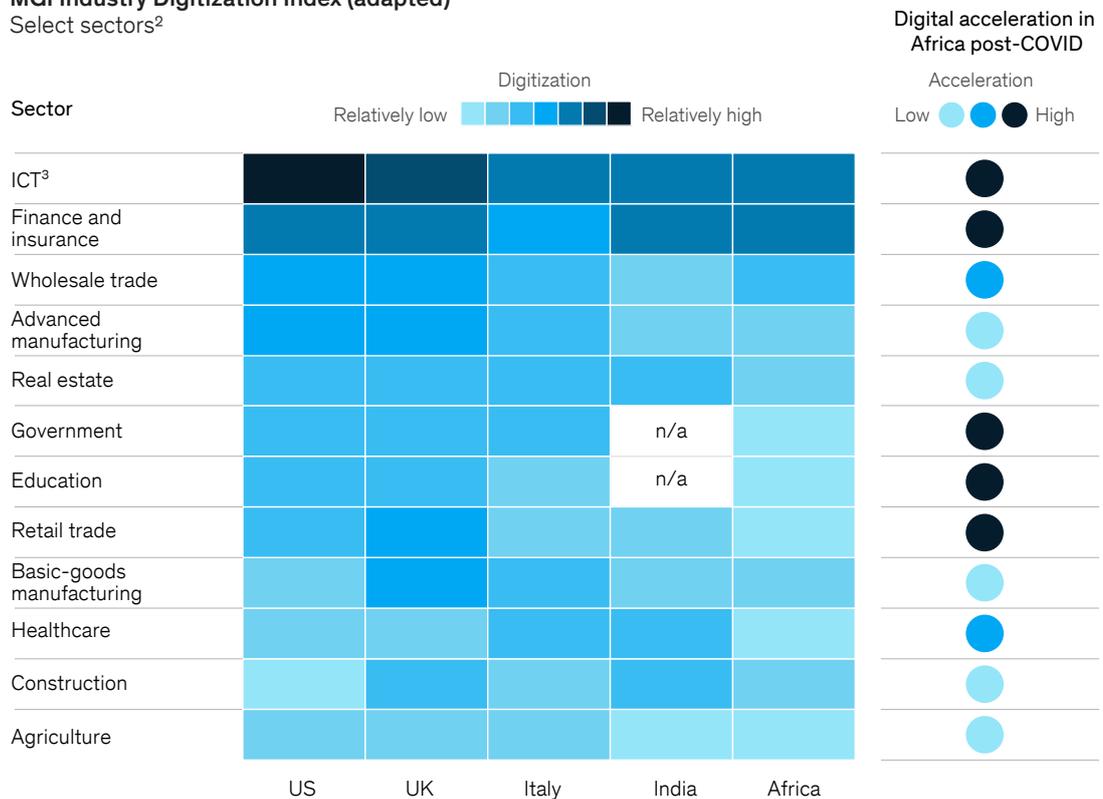
Sacha Poignonnec, co-founder and co-CEO at Jumia, remarked that: “A lasting impact of the crisis could be a change of mentality to transacting and paying online. This will address one of the

barriers to e-commerce in Africa.” His views were echoed by Amandine Lobelle, Head of Business Operations at Paystack, who told us: “We are seeing a massive acceleration in digital payments. For many businesses, the only way they will be able to survive is to accept digital payments.” In a McKinsey survey of consumers in key African economies during the crisis, over 30 percent said they were increasing their use of online and mobile banking tools.

Exhibit 6

Africa lags behind the world in digitization, but the COVID-19 crisis could accelerate transformation in certain sectors

MGI Industry Digitization Index (adapted)¹
Select sectors²



¹ Index is based on assets, usage and labor components, and expert interviews; adapted for inclusion of Africa and comparability.

² Owing to accounting differences, not all sectors can be fairly compared.

³ Information and communication technology.

“Governments need to put ICT at the center of socio-economic development”

Lacina Kone,
Director General, Smart Africa

The crisis also could also trigger a digital transformation in education. Moinina David Sengeh, Sierra Leone's Minister of Basic and Senior Secondary Education, remarked to us that the crisis creates “an opportunity to fundamentally question everything that we assumed previously. For example, what are the explicit roles of schools, homes, and communities in the education of our children?” We heard similar views from Fred Swaniker, founder of the African Leadership Group. He told us: “This crisis provides an opportunity to reimagine education and employment in Africa, but it will take leadership, courage, and imagination. Those who don't seize this opportunity will be left behind.”

Businesses, governments, and social-sector institutions can act decisively to unlock the next stage of Africa's digital transformation. We suggest five key priorities:

- *Expand online presence and broaden digital offerings.* Businesses can move fast to meet customers' increased appetite for digital. For example, insurers can shift to end-to-end digital customer journeys, using video and live chats for customer interaction, while shifting their claims-submission processes to mobile. Retailers can also build up their online presence and develop new logistics solutions.
- *Foster an enabling environment for rapid digitization.* Governments can help to ensure that all key enablers are in place to support digital adoption. For example, governments

and technology companies can make sure that data is affordable, while regulators can take steps such as allowing banks to accept e-signatures. Ismail Douiri, General Manager at Attijariwafa Bank, put it to us starkly: “The problem is not technology; the problem is the legal and regulatory environments.”

- *Bring the public sector into the digital age.* Governments can step up the provision of digital services and information, and harness digital tools to collect, manage, and use data to inform decision making. They can also enable digitization in society and the economy by using the crisis as a spur to accelerate the rollout of digital IDs, signatures, and registries. Lacina Kone, Director General of Smart Africa, told us: “Governments need to put ICT at the center of socio-economic development.”
- *Speed up infrastructure investments.* To support broader digitization, major infrastructure expansions will be required, including those in backbone networks and last-mile connectivity, as well as electricity supply. As Lacina Kone noted: “How digitized Africa is depends on how digitized our infrastructure is—it's not rocket science.” It is estimated that governments, development finance institutions, companies, and investors will need to spend \$100 billion on key ICT infrastructure by 2030 to achieve universal broadband access— including 250,000 new 4G base stations and 250,000 km of fiber cable.¹⁴

¹⁴ “Connecting Africa through broadband,” Broadband Commission for Sustainable Development. October 2019, https://www.broadbandcommission.org/Documents/working-groups/DigitalMoonshotforAfrica_Report.pdf

- *Scale up digital skills.* Africa needs a workforce equipped for the post-COVID “next normal,” in which digital skills will be at the core of many occupations. Countries can ensure that training infrastructure is in place for both basic skills, like mobile transactions, and advanced ones, such as coding and graphic design.

2. Put renewed focus on serving the needs of vulnerable urban populations

COVID-19 has laid bare the vulnerabilities of the 250 million people living in Africa’s poor urban communities, often underserved in the context of greater attention and donor focus on rural poverty. Decisive intervention is needed to support these communities through this crisis and to improve their living conditions in the post-COVID world. Urbanization trends will only deepen the challenge: African cities are expected to double in size over the next 25 years, with two-thirds of that growth forecasted to be in urban slums. Recognizing both the crisis and urbanization trends, Julius Court, the Country Director of DFID in Kenya, told us that “moving the focus of development to include urban areas will be a priority for us.”

While restrictions such as lockdowns and curfews have helped slow the spread of the virus in many countries, they have also created acute economic hardship for a large proportion of the urban poor—most of whose work requires free movement. People in urban slums are also more vulnerable to infection from the virus: population density in slums is more than ten times that of other urban areas, making social distancing nearly

impossible.¹⁵ Moreover, an estimated 65 percent of sub-Saharan Africa’s urban population lacks access to basic sanitation services.¹⁶ And a lack of electricity and refrigeration in many homes means that people cannot store fresh food for long periods.

Kennedy Odede, President and CEO of Shining Hope for Communities, encapsulated the challenge, telling us: “In order to wash your hands, you need the privilege of water and soap. Social distancing is not possible in slums, and you can’t force people to stay at home when there’s no food.”

The crisis can spur bold action to serve the needs of vulnerable urban populations better—not just in the short term, but also to increase their resilience against future health and economic shocks. Governments can work with the private sector and development partners to focus on three big priorities:

- *Scale up delivery of basic services.* Apart from gaps in infrastructure, a lack of access to health, education, and waste-management services increases vulnerability in urban slums. Governments can redouble their efforts to expand access to these basic services, while working with private-sector partners to reduce commuting times, improve connectivity, and increase the availability of business services. They can also encourage businesses to deliver services to a market whose purchasing power we estimate at over \$150 billion per year.¹⁷

2/3

of Africa’s urbanization boom will happen in urban slums

¹⁵ Bird, J., Montebruno, P., & Regan, T. (2017). Life in a slum: understanding living conditions in Nairobi’s slums across time and space. *Oxford Review of Economic Policy*, 33(3), 496-520.

¹⁶ “People using at least basic sanitation services (urban), WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply, Sanitation and Hygiene, World Bank, data.worldbank.org.

¹⁷ Adapted from Jacques Bughin, Mutsa Chironga, Georges Desvaux, Tenbite Ermias, Paul Jacobson, Omid Kassiri, Acha Leke, Susan Lund, Arend van Wamelen, and Yassir Zouaoui, *Lions on the Move II: Realizing the potential of Africa’s economies*, McKinsey & Company, September 2016, McKinsey.com.

- *Leverage mobile data to identify and better serve the vulnerable population.* Given the ubiquity of mobile phones in Africa, several governments are considering working with telecom and technology companies to share anonymized data on vulnerable populations' location, movement, and payments. This could enable them to design better programs and interventions to support these populations' needs.
- *Strengthen urban infrastructure and planning.* Governments can accelerate programs to grant formal recognition to urban settlements that are currently informal. That, in turn, can unlock greater investment in permanent infrastructure for water and electricity provision. The public, private, and social sectors can also shape innovative solutions to broaden access to housing finance.

3. Transform African healthcare systems for resilience and equity

The COVID-19 crisis has exposed longstanding fragilities in Africa's health systems, including gaps in healthcare personnel, infrastructure, supplies and equipment, and data systems. In addition to disrupting livelihoods, the response to the crisis has also contributed to significant disruption of essential healthcare services; for example, the WHO estimates that the number of malaria deaths could double this year as a result of COVID-19.¹⁸

The pandemic has also exacerbated inequality in healthcare access. Some people can safely quarantine at home, afford PPE and hand sanitizers, access testing in private labs, or make use of telehealth services, but the majority of rural and urban poor populations are left with fewer options to access health care or practice self-care.

In light of these challenges, African governments are likely to double down on their health investment commitments; In 2001, the Abuja declaration set a target for countries to spend 15 percent of their annual budgets on health care, but we estimate that fewer than ten African nations have approached this level of spending in the past decade.¹⁹ Development partners have already

pledged significant additional funding for African health systems.²⁰

Our interviews and research underline the critical importance of ensuring that this significant inflow of health funding is not only used for temporary emergency response, but is also invested in making African health systems more resilient and equitable for the long term. John Nkengasong, Director of the Africa Centres for Disease Control and Prevention (Africa CDC), believes that at least \$10 billion of the \$100 billion that African countries are seeking should be invested in health systems on the continent: "We need to prepare our health systems the way we prepare our defenses for war. You need an army-like workforce. For example, the continent needs over 6,000 epidemiologists but we have only 1,500."

As Strive Masiyiwa, Executive Chairman of the Econet Group and one of the African Union's COVID-19 Special Envoys, told us: "Africa has an opportunity to reboot the health sector. There is an important public component to this, but it's also a business opportunity. We can rebuild a really strong sector if we have the right imagination." We suggest six big priorities in reimagining African healthcare systems:

- *Build enduring systems for outbreak prevention and response.* The COVID-19 crisis has enabled many countries to identify and start creating the elements of an effective local outbreak response. Governments and African institutions can prepare for future outbreaks by institutionalizing emergency operation centers, lab networks, disease surveillance systems, and emergency supply chains.
- *Accelerate public-sector investment in primary healthcare.* Governments can accelerate investment in robust primary healthcare systems, including at the community level, tailored to the needs of rural and urban areas. This will contribute to early detection and surveillance of future outbreaks, as well as more equitable access to essential health services needed by millions of people who are underserved by healthcare systems today.

¹⁸ "WHO urges countries to move quickly to save lives from malaria in sub-Saharan Africa," World Health Organization press release, April 23, 2020, who.int.

¹⁹ Estimate using available data from IMF and WHO, accessed via OurWorldInData.org

²⁰ *Finding Africa's path*, op. cit.

“We need to prepare our health systems the way we prepare our defenses for war”

John Nkengasong,
Director, Africa CDC

Cheikh Oumar Seydi, Director for Africa at the Bill & Melinda Gates Foundation, emphasized that “The hospital is just a small part of the solution. Primary healthcare facilities are a key component of a strong system. If you do this right, people shouldn’t need to go to the hospital in most situations.”

- *Develop Africa-wide procurement platforms and end-to-end supply chains.* Pan-African coordination will allow governments to leverage their scale in bulk purchasing and secure supply of critical equipment and medical resources. New crisis-motivated procurement initiatives—such as that of the Africa CDC—can continue to be leveraged in a post-COVID world to complement financing and procurement efforts from multilateral institutions and donors.
- *Facilitate private-sector investment in healthcare systems.* About 45 percent of African health expenditure was financed by governments in 2017.²¹ The majority was funded by private-sector entities and development partners. This non-governmental investment, especially in private care and support systems, will remain critical for addressing the continent’s immense health challenges. Governments can encourage

and channel private-sector involvement and investment in priority areas such as diagnostic services, pharmaceuticals, and healthcare facilities.

- *Facilitate local manufacturing of critical medical supplies.* African pharmaceutical and manufacturing companies are stepping up and innovating to produce critical supplies and drugs in the midst of global shortages, disrupted supply chains, and export bans. African leaders can decide which production capabilities are essential for the continent’s health security going forward and provide those industries with the support needed to survive and develop.
- *Invest in digital health ecosystems and innovations in service delivery.* The crisis has highlighted clear use cases for reaching broad sections of the population through digital services. For example, the South African government is using an interactive WhatsApp chatbot to answer common queries on COVID-19 and has reached over 3.5 million users in five different languages.²² Many African healthcare providers are also accelerating their adoption of tools such as telemedicine and remote patient case management.

²¹ WHO Global Health Expenditure Database, apps.who.int.

²² Emmanuel Paul, “6 amazing African innovations against COVID-19: A cure from physics?” Techpoint Africa, April 2020, techpoint.africa.

Reimagining African business

Although the COVID-19 crisis is negatively impacting the revenue and valuations of many African businesses, it is also sparking extraordinary initiative and innovation as companies help ramp up the health-system response and find new ways to serve the needs of both consumers and business customers. This spirit of entrepreneurship is visible from both large businesses and micro, small and medium-enterprises (MSMEs). Vera Songwe, UN Under Secretary General and Executive Secretary of the Economic Commission for Africa, put it this way: “Across the continent we are seeing a can-do spirit. For example, Ethiopian Airlines is repurposing planes to move cargo. Food and agriculture companies are finding new ways of getting customers.”

We believe that the crisis could prompt fundamental transformation in African business, from the corporate sector through to the informal sector. Our research and interviews highlighted three opportunities to reimagine African business:

- Strengthen sector competitiveness through consolidation and innovation
- Reshape African manufacturing, with a focus on self-reliance
- Catalyze the formalization of African economies

4. Strengthen sector competitiveness through consolidation and innovation

Previous global crises have led to significant market-structure disruptions, with many firms going out of business or being acquired. But some companies have emerged stronger, with crises spurring them to rethink their business models, customer offers, and corporate structures—and to acquire new assets and capabilities. Global McKinsey research after the 2008–9 financial crisis showed that there is a group of companies—the “Resilients”—that deployed such strategies and generated twice the shareholder returns of their non-resilient peers over the next decade (Exhibit 7).²³

“M&A from outside the continent has collapsed. The world's risk appetite has disappeared. Unless that changes, any consolidation will need to happen within the continent”

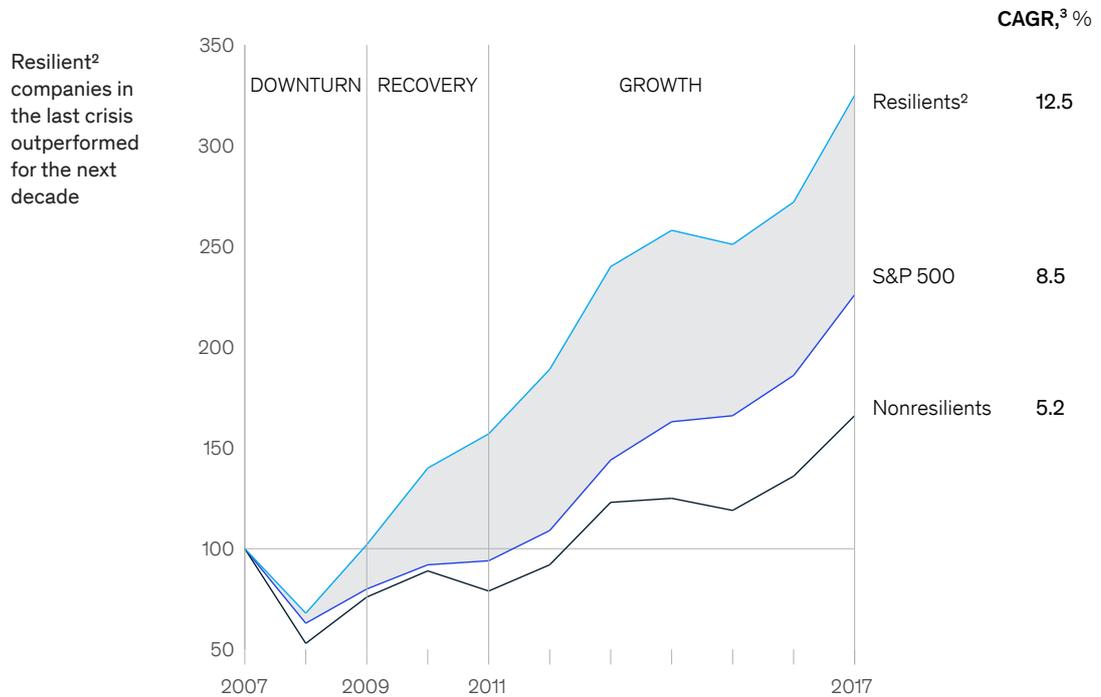
Strive Masiyiwa,

Executive Chairman, Econet Group, and African Union COVID-19 Special Envoy

²³ “Stronger for longer: How top performers thrive through downturns,” McKinsey podcast with Kevin Laczkowski and Mihir Mysore, December 20, 2019, McKinsey.com.

Resilients generate more value both in the recovery and growth phases

Total return to shareholders,¹ % index (2007 = 100)



¹ Analysis based on 1,140 largest companies by revenue in North America and Europe (excludes financial-institutions groups and real-estate investment trusts).

² Resilient companies defined as top-quartile total returns to shareholders in their sector through the downturn and recovery.

³ Compound annual growth rate.

The COVID-19 crisis will be highly disruptive to the business landscape in Africa. Donald Kaberuka, former President of the African Development Bank and one of the African Union's COVID-19 Special Envoys, remarked to us that "there will be lots of bankruptcies worldwide in such industries as tourism and related services." In Africa's hard-hit tourism industry, for example, "many players are not going to survive; people are acknowledging this," said Mohanjeet Brar, Managing Director of Gamewatchers Safaris.

Yet the crisis could also see African Resilients emerge in key sectors of the economy—and,

as they do so, deliver innovations that meet the needs of African customers better, while securing positive long-term returns for investors. The result could be a stronger and more competitive African business sector.

Companies' pathways to resilience will differ significantly by industry, however. Our analysis suggests four distinct postures that firms might adopt, depending on the extent to which the crisis has disrupted both demand and business models in their sectors (Exhibit 8). In sectors that have faced relatively less disruption, such as agriculture, the focus will be on sustaining the business or

restoring operations—for example, by simply rehiring contract workers as business recovers. Sectors such as telecom, which have experienced sustained demand but greater disruption to their business models, will need to shift their approaches—for example, by putting increased focus on digital service delivery channels.

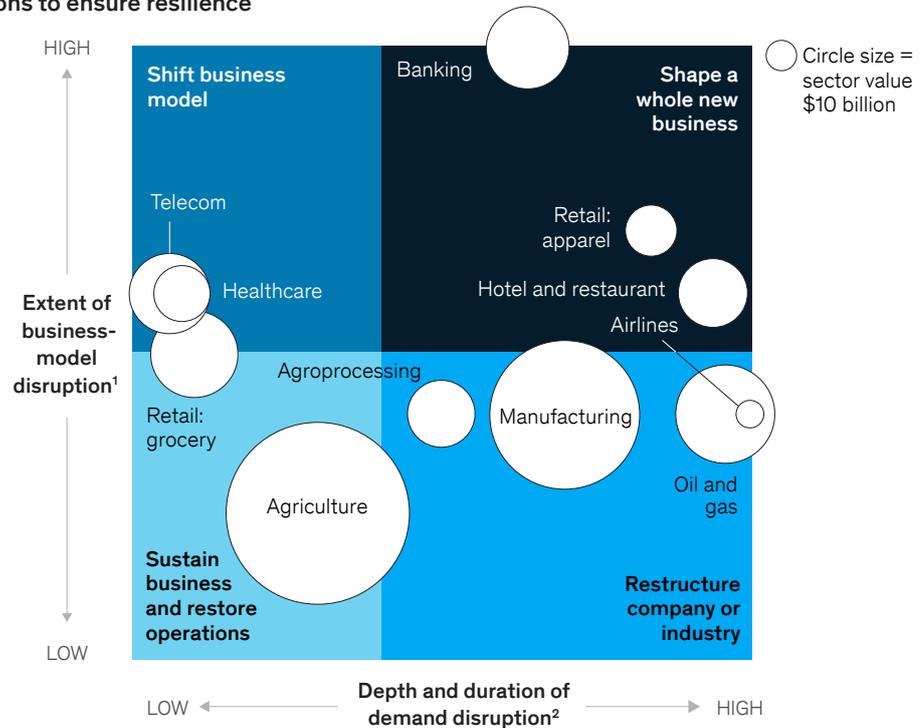
In sectors where demand has been hit hard, such as airlines and oil and gas, we are likely to see restructuring and industry consolidation.

For example, we are likely to see fewer small airlines in Africa, and possibly the rise of bigger carriers with broader networks across the continent. Finally, in sectors that face disruption to both demand and business models, entirely new strategies may be needed. In banking, for example, we could see the emergence of “digital-first” operating models as incumbents resize their branch networks and acquire smaller companies with technology capabilities.

Exhibit 8

COVID-19 is disrupting sectors across Africa, and businesses can take four types of action to be resilient

Four actions to ensure resilience



¹ Extent of business-model disruption (change in product, economic model, delivery model, production model, supply chain) post-COVID-19.

² Extent of negative impact of COVID-19 on the sector measured as estimated reduction in sector value add (over the next 12 months).

Source: African Development Bank; annual reports; IHS Markit; industry expert interviews; McKinsey analysis

Whichever scenario companies face, they can adopt three approaches to emerge from the crisis in a stronger competitive position:

- *Ramp up operating efficiency.* Companies need to look for ways to reduce cost and improve productivity—both during the downturn and in the recovery. The past is prologue: during the 2008–9 crisis, Resilients reduced their operating costs by more than three times their non-resilient peers, for example by digitizing their processes and embarking on lean transformations.
- *Innovate business models.* Companies may need to pivot their product, target-customer, channel, or pricing strategies to adapt to changing market conditions. There are compelling examples to draw on in Africa and around the world. In South Africa, the fintech company Yoco is shifting focus from POS payments to online payments and helping SMEs tap into e-commerce.²⁴ In the United States, restaurant supply companies like Sysco and US Foods have pivoted to serving grocery stores.²⁵ In China, a leading brewery deployed a social-commerce strategy, recruiting more than 40,000 people to serve as "social distributors."
- *Move boldly on divestitures and acquisitions.* In past crises, Resilients have been faster than other firms to divest themselves of assets that were no longer core to their businesses, and bolder in acquiring firms that would help them build new capabilities or expand their footprints in key markets. This is the time for African companies to adopt a similarly aggressive posture on divestitures, mergers

and acquisitions. As Strive Masiyiwa remarked to us, the crisis provides a unique opportunity in this regard: "M&A from outside the continent has collapsed. The world's risk appetite has disappeared. Unless that changes, any consolidation will need to happen within the continent."

5. Reshape manufacturing, with a focus on self-reliance

For African manufacturers, the COVID-19 crisis has greatly depressed demand and disrupted supply chains. Our Africa-wide economic impact analysis suggests that the continent's manufacturing sector output will contract by at least 10 percent (more than \$50 billion) in 2020—with many manufacturers facing much more severe outlooks.

But the crisis could also lead to a reshaped and more resilient manufacturing sector—after a difficult recovery—provided that governments and businesses tackle long-standing barriers to industrialization and cooperate to seize new opportunities. Africa cannot rely on business as usual to come back from the brink.

In the immediate crisis, African manufacturers across the continent are stepping up to produce essential medical supplies. In economic terms, the opportunity may contribute just \$1-1.5 billion to the continent's manufacturing output in 2020. Nevertheless, this is a powerful demonstration of Africa's entrepreneurialism and innovative capacity.

In the longer run, African manufacturing can take advantage of opportunities in intra-African trade and global supply-chain realignments spurred by

As much as

40 cents

of every dollar of manufactured output in Africa is imported

²⁴ <https://www.heavychef.com/articles/2020/4/23/how-8-african-businesses-have-pivoted-due-to-the-covid-19-pandemic>

²⁵ <https://www.cnbc.com/2020/03/27/restaurant-suppliers-pivot-to-grocery-direct-sales-during-coronavirus-pandemic.html>

the crisis. Ngozi Okonjo-Iweala, former Finance Minister of Nigeria and one of the African Union's COVID-19 Special Envoys, told us: "This crisis has shown that globalization may have led us to over-rely on global supply chains. There will be a big re-think worldwide—not just because of politics, but also because of countries' ability to meet their basic needs."

We estimate that, for every dollar of manufactured product, Africa imports approximately 40 cents in inputs from outside the continent—higher than most other regions in the world. Over five years, a serious push to reduce reliance on global supply chains could add an initial \$10-20 billion to the continent's manufacturing output if 5 to 10 percent of imported intermediate goods can be produced within the region. In addition to supply-chain resilience, the shift could also benefit exporters in countries experiencing devaluation, if they could capture the upside of increased export attractiveness with less burden of more expensive imported inputs. As Vera Songwe reminded us: "The crisis shows us that we need to develop stronger supply chains regionally so we can be more competitive globally."

Indeed, strengthening intra-African trade and supply chains could create a springboard for export-oriented growth. As companies globally rethink their supply-chains, Africa could have new export opportunities, particularly to geographically proximate regions. Ismail Douiri told us: "Our value proposition in Morocco would be to convince European corporates that it makes sense to diversify their supply chains. For East Africa, there could be a similar opportunity serving countries in the Middle East."

To unlock these opportunities, governments and private-sector partners can focus on four priorities:

- *Accelerate implementation of the African Continental Free Trade Area.* The crisis provides impetus to accelerate intra-African trade that is essential for regional value chains. Ibrahim Mayaki, CEO of the African Union Development Agency (AUDA-NEPAD), noted that it is time to move beyond "theory" and into practical implementation. "Manufacturing strategy should be part of our integration agenda, and explicitly framed around strategic advantages and priority sectors," he said.
- *Improve ease of doing business across borders.* Catalyzing intra-African commerce will also require other enablers of business and investment. For example, logistics facilitation is a key enabler of productivity, and harmonized standards and regulations are required for trade of products such as pharmaceuticals. Benedict Oramah, President of the African Export-Import Bank, believes the crisis can refocus attention on practical implementation, "including a pan-African payment and settlement system to drive local and regional manufacturing."
- *Coordinate industrial strategy and policy at the regional level.* In addition to integration, Africa's industrial development requires coordination. Regional economic communities, with support from governments and development finance institutions, can identify and develop industries around countries' comparative advantages so that Africa can build truly regional value chains.

“The crisis shows that we need to develop stronger supply chains locally and regionally so we can be more competitive globally”

Vera Songwe,
UN Under Secretary General and Executive Secretary, Economic Commission for Africa

An example is the ECOWAS-led regional healthcare manufacturing strategy, a recent initiative in West Africa.

- *Explore new industries and product-space opportunities.* In response to global disruptions and greater demand for alternative sources of manufacturing inputs, private-sector entrepreneurialism is needed to identify new manufactured goods that can be competitive regionally and eventually globally. Opportunities in agro-processing and pharmaceuticals may be particularly promising in the context of renewed government prioritization of food security and capacity to produce critical drugs.

6. Catalyze the formalization of African economies

Covid-19 has put the survival of many MSMEs under threat. And, by our estimates, the livelihoods of 100 million people working in the informal sector—one-third of the total—are vulnerable due to the crisis.²⁶ The economic consequences could be devastating. “The informal economy is the economy in many African countries,” said Ory Okolloh, former Managing Director of the Omidyar Network and Luminare Group in Africa, “We can afford the collapse of one or two large corporates, but not the informal sector.”

Yet the crisis also creates a real opportunity to accelerate the formalization of African MSMEs—and so improve their productivity, access to finance, and integration into the supply chains of larger businesses and the public sector. Formalization would also create additional protection and opportunities for employees of MSMEs, and eventually contribute additional tax revenues for governments. But the task is mammoth, as only about 15 percent of Africa’s estimated 90 million MSMEs are registered; the barriers include prohibitive costs, bureaucratic processes, and a perceived lack of benefit from formalization.

For formalization to happen at scale, fresh impetus is needed for MSMEs to register with governments and regulators. As Henry Rithaa, CEO of the Micro and Small Enterprises Authority in Kenya, emphasized to us: “There needs to be sufficient incentive for MSMEs to formalize, both from the public sector and through connection to larger corporates in the private sector.” The COVID-19 crisis could provide such an incentive: with their survival in the balance and registration being a prerequisite for accessing government relief, many MSMEs may now see the benefits of entering the formal economy.

The crisis creates a real opportunity to accelerate the formalization of African MSMEs – and so improve their productivity, access to finance, and integration into the supply chains of larger businesses and the public sector

²⁶*Finding Africa's path: op. cit.*

>\$50 billion

funding required over 3 months for Africa's 90 million MSMEs to survive the crisis

There is work to be done in building bridges between government and the informal sector, however. Peter Materu, Chief Program Officer of the MasterCard Foundation, emphasized: “The benefit to enterprises cannot just be temporary, otherwise we will see temporary formalization and then enterprises will disappear again. We also need to make the registration process easier.”

We suggest three key priorities for governments to focus on in order to draw millions of MSMEs into the formal economy:

- *Channel stimulus funding towards MSMEs.* Currently, stimulus packages announced by governments that target MSMEs total only about \$20 billion and, by our analysis, MSMEs across the continent could need in excess of \$50 billion to survive over just the coming three months. This, combined with the fact that MSMEs contribute between 30 and 40 percent of Africa's GDP, means that governments should channel a greater proportion of funding to the informal economy.
- *Create links between MSMEs and the corporate sector.* Governments can encourage more small businesses to enter the formal economy by generating market access schemes for MSMEs. For example, they can strengthen government-guaranteed offtake schemes and incentivize large companies to integrate MSMEs into their supply chains.
- *Launch a targeted campaign to formalize MSMEs.* Small enterprises need to be convinced of the broader benefits of formalization, notably access to finance, markets, and labor. Building on the drive to formalize MSMEs during the crisis, governments can design compelling packages, potentially including access to favorable borrowing terms, multi-year tax holidays, and capability building. As Brahim Coulibaly, Director of the Africa Growth Initiative at the Brookings Institution, told us: “Africa must seize the moment to show that the relationship between government and small and micro firms need not be adversarial.”

Reimagining African government

As African governments have acted to contain the virus and mitigate the economic fallout of the crisis, they have taken on significantly larger roles in the economy and society. Intergovernmental institutions across Africa have also acted with unprecedented speed, decisiveness, and collaboration. In the midst of the crisis, a transformation in government effectiveness is underway—and, if this is sustained in the longer term, the benefits for Africa's people could be immense. Our research and interviews suggest three key priorities:

- Prepare for a more active government role in the economy
- Forge a stronger social contract between citizens and government
- Sustain momentum in regional and pan-African cooperation

7. Prepare for a more active government role in the economy

In the midst of the COVID-19 crisis, we already have a glimpse of a “next normal,” in which African governments play a significantly more active role in economies and societies. Donald Kaberuka put it to us this way: “The invisible hand of the market will now require more than ever before the visible hand of government. The state is coming back in a big way.”

Governments' support to businesses during the crisis might translate into more active industrial policy and intervention in years to come. As stimulus measures are implemented across the continent, a large share of the funds could be directed at small and large businesses. Moreover, as discussed earlier, government efforts to safeguard livelihoods among MSMEs could result in many millions of enterprises being formalized and coming into the ambit of state regulation.

In addition, governments' immediate response to the crisis has demonstrated new levels of decisiveness and speed, with centralized management. Most governments, for example, have set up nerve centers to coordinate a central response to COVID-19, break down silos across agencies, and encourage data sharing. This model could feature more prominently in the

public sector going forward, especially for government priorities.

Governments have also shown increased willingness to collaborate with the private sector. Martin Kingston, Chair of the Business for South Africa Steering Committee, told us: “In just a short time, we have demonstrated a high degree of collaboration between the private and public sectors”. There are examples of such collaboration in many other countries. In Nigeria, for example, the private-sector-led Coalition Against COVID-19 is working with government to boost testing and healthcare capacity.

Both governments and the private sector can look ahead to imagine a society in which the state plays a more active role. There are three key opportunities for government and business to ensure that this shift generates positive impact for all Africans:

- *Governments can prioritize where and how to intervene.* First, governments can outline a strategy for where they want to play a more active role. For example, certain sectors such as manufacturing may be strategically important, or especially vulnerable and relevant to employment. Next, governments can make choices on the appropriate intervention mechanisms to deploy. For example, where service delivery is required, governments could directly provide goods or services and take on new roles, or they could issue mandates or regulations for the private sector to align with government priorities. Finally, they can work to ensure that these interventions deliver the desired outcomes.
- *The private sector can proactively engage with government.* Especially in the context of potentially severe economic recession requiring new and decisive action, governments may want to hear diverse perspectives on the implications of different interventions. Business leaders will need to understand the potential implications of these decisions on their enterprises and sectors, and could offer their support and expertise to government to ensure that interventions and programs are well designed and executed.

- *Both governments and the private sector can scale up public-private partnerships.* The COVID-19 crisis will impose new fiscal constraints on African governments at the same time when new investment is needed most. Governments will need to find new ways to attract investment and private sector participation to deliver critical projects and services. Looking forward, both governments and their partners can innovate on the design of public-private partnerships. For example, long-term concessions could facilitate development of large-scale irrigation projects or diagnostics centers, and build-operate-transfer models could be used to build power transmission projects.
- *Achieve citizen buy-in through transparency and accountability.* A renewed social contract can be forged in the pandemic response if control measures are not just effective, but also broadly supported and sustained by citizens. The crisis presents an opportunity for governments and civil society to invest in new accountability mechanisms and transparency, for example in public health measures and stimulus spending.
- *Invest in efficient and accountable service delivery.* After seeing how quickly governments are able to act under pressure—citizens will have increased appetite for transparency, accountability, and more efficient delivery of services. Governments can step up to meet this expectation.

8. Forge a stronger social contract between citizens and government

A further key shift brought about by the COVID-19 crisis is greater reliance by citizens on their governments. The interventions to strengthen social assistance, which are being rolled out across various countries, are likely to raise citizens' expectations of governments for the long term.

In addition, citizens have become accustomed to regular, transparent, and data-driven communication from governments in recent months. In Morocco, for example, the government has shared daily online and televised updates of coronavirus cases, while Kenya and South Africa have held bi-weekly presidential press conferences.

Citizens have also seen public servants held to higher standards of responsibility and accountability—and are likely to expect these standards to be sustained. For example, officials in countries such as Malawi, Rwanda, and South Africa have taken pay cuts to support local relief measures, and governments have taken action to demonstrate that no one is above the law.

We suggest four key priorities to forge stronger social contracts between governments and citizens:

- *Establish more systematic and coordinated social-protection systems.* Kennedy Odede told us that the crisis is “shedding a light on the injustices faced by informal communities.” In future, vulnerable citizens will have greater expectations of social protection and governments will be challenged to establish more systematic and coordinated systems that build on interventions rolled out during the crisis.
- *Channel money where it is needed most.* Governments can ensure that social-protection schemes truly benefit those in greatest need. As Phumzile Mlambo-Ngcuka, Executive Director of UN Women, told us: “We need to ensure that social protection is gender responsive and where there are cash transfers, the money must go directly to the people it is intended for, be it a disabled person's purse or a single mother's purse.”

9. Sustain momentum in regional and pan-African cooperation

The COVID-19 pandemic threatens international cooperation at precisely a time when global solidarity is needed most. But African unity and cooperation have strengthened during the crisis.

Additionally, some of Africa's institutions—like the Africa CDC—are achieving a new degree of maturity and recognition.

Ibrahim Mayaki remarked to us that African governments realize that “they cannot achieve results alone”—and that the crisis makes Africa's interdependencies clearer. His views were echoed by Brahim Coulibaly, who told us: “The crisis has raised awareness of what we have in common. There is a new sense of solidarity that I hope can continue.” Amina Mohammed, Deputy Secretary General of the UN, summed it up: “African countries will need to come together, take the lead, and work in solidarity to address this human crisis. They will also need to shape the narrative that is our Africa. We have started to see this happening; we need it now for Africa to truly rise.”

This coming together has already delivered benefits to the continent, not least in achieving significant debt relief. There has also been real progress in centralized procurement of critical medical supplies. Ngozi Okonjo-Iweala told us: “People have been very impressed by the idea of unity in Africa, and the quality of the continent's response. This is a revelation to them.” But more will be needed.

We suggest four key priorities to build on the momentum for further pan-African and regional cooperation:

- *Accelerate planned reform of pan-African institutions.* The crisis is helping to clarify which institutions will be most relevant in forging Africa's future. The African Union (AU) and its institutions in particular will be critical in strengthening cooperation, coordination, and economic integration. The reform of the AU, which is ongoing, should be accelerated and completed.
- *Strengthen regional institutions.* Regional bodies can play a critically important role in the continent's recovery. In addition to facilitating economic integration, regional economic communities can serve as resources for member countries in creating and implementing coordinated development strategies, such as in human-capital development. The crisis has also highlighted the importance of other regional institutions

such as the West Africa Health Organization (WAHO), and created a case for strengthening them.

- *Build closer relationships between the public, private, and development sectors.* The crisis has helped to forge stronger relationships and new networks on the continent between governments, institutions, and private sector leaders. For example, the African private sector under the coordination of Strive Masiyiwa, has been working with Africa CDC, Africa Export-Import Bank, and the UN Economic Commission for Africa to set up efficient and effective procurement and distribution systems. These strengthened relationships can translate into cooperation in new areas as the continent reimagines its future.
- *Speak with a more unified voice on the world stage.* The unique conditions of the crisis are creating political alignment around shared needs. The continent can leverage its stronger negotiating powers in new areas, for example, in continuing to shape debt-repayment terms and ensuring that donor funding is aligned with Africa's priorities and needs. Even if Africa is economically weakened in the short term, there is an opportunity for the continent to emerge from the crisis with greater unity and geopolitical weight on the world stage.



Africa's path through and beyond the COVID-19 crisis will be determined to a large extent by the actions that governments, the private sector, and development partners take in the next few weeks and months. In the immediate term, it will be important for African countries to find smart approaches to reopening economies—building “muscle” over time—while ensuring that populations are protected from the virus. This will require innovative thinking, along with decisive action. At the same time, the virus also confronts the continent with an imperative to begin looking ahead and reimagining African societies, business, and government—and to emerge from the crisis with greater inclusion, smarter development, better services, and more competitive enterprises.

Note on methodology

Assessing digitization levels and trajectory

Building on work originally undertaken by the McKinsey Global Institute, we developed our analysis on the relative degree of digitization in different sectors and countries. That assessment analyzed digitization for a sample of companies across three dimensions: Assets (digital spending and asset stock), People (digital spending, capital deepening, and digitization of work), and Usage (transactions, interactions, and processes).

Because the original analysis excluded African countries, we adapted and appended it with a separate assessment for each sector, generalizing for Africa as a region. Instead of using company data, we developed and calibrated sector scores with expert interviews. These interviews combined with conversations with tech leaders and McKinsey global insights informed our estimation of the degree to which digitization in each sector will be accelerated by COVID-19.

Assessing market structure disruptions by sector

McKinsey's global insights developed since the last financial crisis informed our assessment of sector disruption expected from COVID-19. We applied this thinking to African business sectors, with a focus on two dimensions informing the type of action required by companies to prevail:

- *Severity of demand disruption.* Leveraging our GDP impact estimates from our article *Tackling COVID-19 in Africa* we assessed the extent of negative demand disruption by sector.
- *Severity of business model disruption.* Utilizing interviews and input from over 20 experts in Africa, we measured the extent of business-model disruption in each sector resulting from COVID-19 across five dimensions: 1) product or service, 2) economic model, 3) supply chain, 4) production model, 5) delivery model, to arrive at a composite business-model disruption score. We only considered business-model

disruptions that are likely to continue beyond the health crisis.

Assessing manufacturing impact and opportunity

We evaluated implications of the crisis in four areas:

- *Sizing economic impact of crisis on manufacturing output.* To evaluate the economic impact of the crisis on manufacturing, we followed our approach to overall economic-impact modeling presented in our first article in this series (*Tackling Coronavirus in Africa*, April 1, 2020) using four stylized economic scenarios.

For the manufacturing sector, impact was estimated based on two forces: disrupted commercial activity (reduced demand) and supply disruption (resulting in inability to produce). In assessing disrupted demand, we applied our model's assumptions at the sector level using household and business expenditure data reported by our focus countries (Nigeria, Kenya, South Africa, Morocco, and Angola). For supply-chain disruption, we focused our assumptions on the severity (extent and duration) of input non-availability, and how those disruptions translate into impact on output.

- *Estimating imported inputs as a percent of manufacturing output.* Our analysis leverages data on manufacturing output from IHS Markit for eight African countries. We built on previous McKinsey analysis (see full methodology in appendix to *Lions on the Move II*, 2016) which estimated that Africa's manufacturing output was approximately \$500 billion, and we updated that estimate using current country data and trends. 2017 Comtrade trade data and World Customs Organization classification schedules were used to identify goods imported to the African continent by their economic purpose. We then calculated the value of intermediate and primary goods typically used for industrial purposes as a share of total manufacturing output. However, some goods classified as

intermediate goods could still be consumed as final goods.

- *Manufacturing of medical supplies.* We followed a two-step process. First, we estimated the potential cost of Africa's supply needs based on various health scenarios (0.05 to 1 percent confirmed and symptomatic infection rates). For hospital supplies, we leveraged WHO supply-forecasting assumptions. Applying assumptions about the frequency of utilization for different segments of the population we predicted usage of sanitizer and masks by the general public in 2020. Cost estimates were derived from WHO assumptions where possible, supplemented with estimates from the Africa CDC and public information. Next, we applied assumptions, based on expert input regarding the share of the continent's supply requirements that African manufacturers could realistically serve broken down by commodity type.
- *New local production of intermediate goods.* We modeled a scenario where Africa moves towards producing about 5-10 percent of the value of imported intermediate goods through ambitious efforts to reduce global supply chain reliance. The analysis was informed by the estimated replaceability of different categories of industrial inputs by their weighted average "economic complexity" (as calculated in the Harvard Atlas of Economic Complexity).

Sizing of MSMEs, and contribution to employment

In analyzing the potential for MSME formalization in Africa, we primarily relied on data reported by the various countries' national statistics agencies from Africa's largest economies, and reverted to

secondary sources for the remaining economies or where data was not available.

- In determining the number of MSMEs in Africa (which we estimated at 90 million) we relied on country national statistics for Kenya, Nigeria, South Africa, and Tanzania, and used the International Finance Corporation's Enterprise Finance Gap Database for the remaining countries.
- In valuing the size of contribution to employment by MSMEs (which we estimated to be around 70 percent), we relied on country statistics for Kenya, Nigeria, and South Africa, and triangulated for remaining countries using the International Labor Organization's 2019 report "Small Matters".

Sizing and breakdown of stimulus

We obtained data on stimulus spending from the International Monetary Fund's Policy Responses tracker, supplemented by a press search for additional announced measures and detail on where stimulus spending may be allocated.

Sizing of population impacted on by social-protection programs

The World Bank's report ("Social Protection and Jobs Responses to COVID-19: A Real-Time Review of Country Measures") on social protection programs in the continent informed our estimate of the number of people impacted by COVID-19 social-protection programs directly aimed at households in Africa. We took a bottom-up approach, estimating the number of people impacted by each social-protection program from South Africa, Egypt, Kenya, Morocco, and Nigeria and then extrapolated those estimates for other countries in Africa that announced similar programs.

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