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SOUTH AFRICA'S BIG FIVE: BOLD PRIORITIES FOR INCLUSIVE GROWTH

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IN BRIEF

SOUTH AFRICA'S BIG FIVE: BOLD PRIORITIES FOR INCLUSIVE GROWTH

South Africa has travelled a remarkable road in the two decades since its transition to democracy. Since 2008, however, average annual GDP growth has slowed to just 1.8 percent, while unemployment has stubbornly remained at 25 percent. This report identifies five bold opportunities that can reignite South Africa's progress. If the country's government and businesses prioritise them, the "big five" could increase GDP growth by 1.1 percentage points per year, adding one trillion rand (\$87 billion) to annual GDP by 2030 and creating 3.4 million new jobs. These opportunities include:

- Advanced manufacturing. South Africa can draw on its skilled labour to grow into a globally competitive manufacturing hub focussed on high-value added categories such as automotive, industrial machinery and equipment, and chemicals. To realise this opportunity, however, South African manufacturers will have to pursue new markets and step up innovation and productivity.
- Infrastructure productivity. South Africa is investing heavily in infrastructure, but big gaps remain in electricity, water, and sanitation. By forging a true partnership, the public and private sectors can together drive three strategies to make infrastructure spending up to 40 percent more productive: making maximum use of existing assets and increasing maintenance; prioritising the projects with greatest impact; and strengthening management practices to streamline delivery.
- Natural gas. South Africa's electricity shortage has constrained growth, and despite new capacity, another shortfall is projected between 2025 and 2030. Natural gas plants—which are fast to build, entail low capital costs, and have a low carbon footprint—can provide an alternative to diversify the power supply. With the necessary regulatory certainty, we estimate that South Africa could install up to 20GW of gas-fired power plants to diversify base-load capacity by 2030. Gas can be provided through imports, local shale gas resources (if proven), or both.
- Service exports. South Africa has highly developed service industries, yet it currently captures only 2 percent of the rest of sub-Saharan Africa's market for service imports, which is worth nearly half a trillion rand (\$38 billion). With the right investments, service businesses could ramp up exports to the region; and government can help by promoting regional trade deals. In construction, the opportunity ranges from design to construction management to maintenance services. In financial services, promising growth areas include wholesale and retail banking and insurance.
- Raw and processed agricultural exports. With consumption rising in markets throughout sub-Saharan Africa and Asia, South Africa could triple its agricultural exports by 2030. This could be a key driver of rural growth, benefiting the nearly one in ten South Africans who depend on subsistence or smallholder farming. Capturing this potential will require a bold national agriculture plan to ramp up production, productivity, and agro-processing.

Successfully delivering on these priorities will move South Africa closer to realising its long-held vision of a "rainbow nation" characterised by shared prosperity for all. But first the country will need to embrace some fundamental changes to become more globally competitive; not least, it will have to address a serious skills shortage through a dramatic expansion of vocational training. Tackling such foundational issues will require business and government to come together in a new partnership characterised by shared vision, collaboration, and trust.

 $^{^{\}mbox{\scriptsize 1}}$ At an estimated 2015 average exchange rate of 11.52 rand per dollar.

Seize the potential in South Africa

THERE IS TREMENDOUS OPPORTUNITY

- Second-largest economy in Africa (after Nigeria)
- Six dynamic, upwardly mobile cities
- Good business environment compared to peers
- Growing consumer class

BUT

THERE ARE SYSTEMIC CHALLENGES

Poor growth Poor job creation Slowing investment Enduring poverty

- Growing pessimism both domestically and internationally -



Advanced manufacturing

Build a competitive export hub, focusing on autos, machinery, and chemicals



Infrastructure

Make spending more productive and build for the future

REVERSE THESE TRENDS

South Africa can set an ambitious new agenda that will deliver:



Natural gas

Diversify the energy mix, unlock a new set of industries



New jobs



Higher GDP



Agricultural value chain

Expand agricultural exports focusing on high-value crops and food processing



Service exports

Capture the African growth opportunity through exports of services

* R = RAND; B = BILLION IN ADDITIONAL GDP



Support these efforts with **vocational skills training** to build the labour force that South Africa needs for tomorrow.

Goal: 40-60% of labour force with increased skills through apprenticeship programmes by 2030





EXECUTIVE SUMMARY

It has been just over two decades since South Africa's transition from apartheid to democracy captured the world's imagination and brought Nelson Mandela to power as president. Since then, the country's GDP has almost doubled in real terms, millions have emerged from poverty, and an ambitious infrastructure development programme has widened access to water, sanitation, electricity, and transport.

The signs of economic progress are most evident in South Africa's major cities, which are hubs of development and innovation. Many of the country's largest companies have become successful global players, and key industries from agriculture to financial services to telecommunications have achieved impressive growth as part of Africa's economic renaissance.

But a great deal of South Africa's promise remains unrealised, as the country's government and business leaders acknowledge. The economy has slowed dramatically in recent years, and job creation has been disappointing. Since 2008, South Africa has posted average annual GDP growth of just 1.8 percent, less than half the growth rate experienced from 2004 to 2007. The nation's unemployment rate remains among the highest in the world, at 25 percent. Youth unemployment stands at 52 percent, diminishing prospects for the next generation of South Africans.

Accelerating growth and job creation are critical imperatives for South Africa—and the good news is that this goal is attainable. The country has a number of strengths on which to build, including a highly rated business environment, a strong legal and governance framework, excellent transport links, robust investment, and competitive firms. All of these factors position South Africa to boost long-term growth, raise employment, and create a vibrant, inclusive, globally competitive economy for the 21st century.¹

This report identifies five bold priorities that can reignite South Africa's progress. Together, they have the potential to raise annual GDP growth by 1.1 percentage points², adding one trillion rand (\$87 billion) to annual GDP by 2030 and creating 3.4 million new jobs over the same period.³ These opportunities are creating a globally competitive hub in advanced manufacturing; making infrastructure investment more productive to enable growth across the economy; harnessing natural gas for power generation and industrial development; boosting exports of services to the rest of Africa and the world; and unlocking South Africa's full agricultural production and processing potential. Once the country has awakened these "big five", they will stir new life and growth into the entire economy.

This report is the result of a six-month joint research project by the McKinsey Global Institute (MGI) and McKinsey & Company's Johannesburg office, building on our earlier research on Africa's growth and job creation prospects. We have conducted a detailed microeconomic

Other perspectives on South Africa's growth include Ricardo Hausmann, Final recommendations of the International Panel on ASGISA, CID working paper number 161, Harvard University Center for International Development, May 2008; The Oxford companion to the economics of South Africa, Haroon Bhorat et al., eds., Oxford University Press, 2014; Nicky Oppenheimer and Jonathan Oppenheimer, South Africa: Our nation delivers, The Brenthurst Initiative, 2003; Two decades of freedom: What South Africa is doing with it, and what now needs to be done, Goldman Sachs, 2013; and National Development Plan 2030: Our future—make it work, Government of South Africa.

² This is over and above consensus estimates that forecast a return to 3.6 percent growth per annum by 2030.

At an estimated 2015 average exchange rate of 11.52 rand per dollar. All further dollar figures are based on this exchange rate and reported in brackets after the rand value.

analysis of the growth potential of different sectors in South Africa and have interviewed dozens of leaders and experts across government, business, and academia. One common theme stood out in these conversations: to move South Africa onto a path of accelerated growth, the public and private sectors will need to undertake a coordinated and sustained effort to raise productivity and strengthen competitiveness. Moreover, to prepare millions of young people for the jobs of the future, South Africa needs to reshape its system for developing human capital—and, in particular, drive a massive expansion of vocational training programmes that build both the technical and personal skills needed in a more competitive world.

DESPITE MUCH PROGRESS SINCE 1994, SOUTH AFRICA'S GROWTH AND JOB CREATION RECORD HAS BEEN DISAPPOINTING

Since South Africa's historic transition to democracy, its GDP has almost doubled, from 1.6 trillion rand (\$139 billion) in 1994 to 3.0 trillion rand (\$261 billion) in 2014.4 However, real growth during this period averaged only 3.0 percent per year, one-third lower than the 4.5 percent growth rate achieved by sub-Saharan Africa as a whole and far below emerging Asia's 8.1 percent growth.5 Income growth has also been anaemic: GDP per capita has averaged just 1.3 percent annual growth since 1994. Perhaps even more worrisome is South Africa's recent loss of momentum. From 2004 to 2007, the economy averaged brisk annual growth of 5.4 percent (Exhibit E1). This period saw an unprecedented confluence of several positive factors: rising commodity prices, a boom in consumer spending, and increased levels of foreign investment. Since 2008, however, while other emerging markets have maintained good growth, albeit at lower levels, South Africa's growth has stalled at just 1.5 percent in 2014.6

South Africa's performance on job creation has also been poor. Its unemployment rate of approximately 25 percent is among the highest in the world—but that number alone does not capture the full extent of the issue. Using a broader definition of unemployment that includes discouraged workers would bring the rate to 35 percent. More worrying still, 52 percent of South Africans between the ages of 15 and 24 are unemployed, which not only creates economic hardship today but limits their earnings prospects over their entire lifetimes. South Africa's economy has created 2.8 million net new jobs since 2000, but this has simply not been enough to keep pace with growth in the size of the country's labour force, which has expanded by 4.1 million over the same period. Moreover, South Africa's labour force participation—which includes those who are working or looking for work—is low by international standards, at just 57 percent. Low participation is a major driver of poverty: 20 percent of South Africans struggle to get by on less than 15 rand (\$1.30) per day. Joblessness also contributes to South Africa's status as one of the most unequal societies in the world.

⁴ All rand values are quoted in 2010 prices. All dollar figures (in brackets) are estimated using a 2015 average exchange rate of 11.52 rand per dollar.

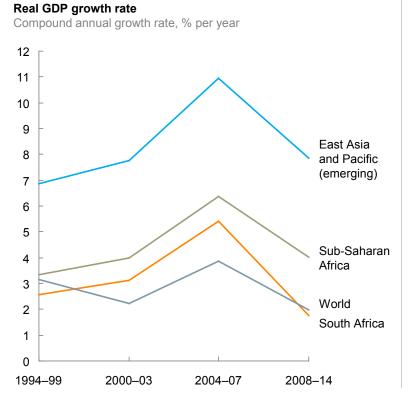
World development indicators 2015, World Bank, July 2015. Growth in these two regions has declined since the 2004–07 period, but they still grew faster from 2008 to 2014 than they did before 2004.

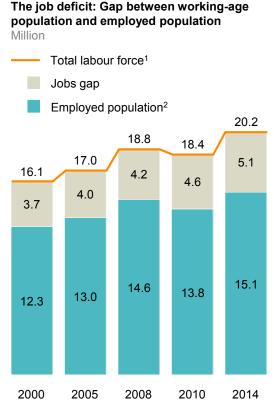
⁶ Ibid

Discouraged workers are people of working age no longer looking for work. Unemployment statistics do not include them. Statistics South Africa, *Quarterly Labour Force Survey: Quarter 1, 2015,* Statistics South Africa, May 2015.

⁸ Poverty trends in South Africa, Statistics South Africa, April 2014.

South Africa's growth and job creation records have been disappointing





- 1 Does not include discouraged job seekers.
- 2 Adults and youth.

NOTE: Numbers may not sum due to rounding

SOURCE: World Bank; Statistics South Africa (Stats SA); McKinsey Global Institute analysis

SOUTH AFRICA HAS REAL STRENGTHS TO BUILD ON

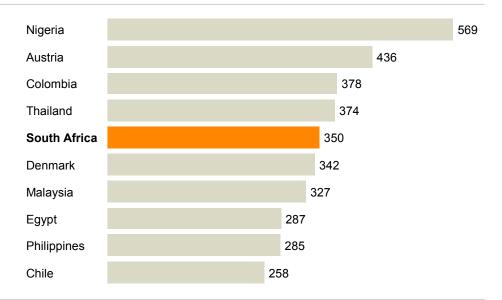
South Africa has no time to waste in jumpstarting economic growth if it hopes to meet its national goals for eliminating poverty and substantially reducing inequality by 2030—and it can build on a number of clear strengths to do so (Exhibits E2 and E3). With 2014 GDP of 3.0 trillion rand (\$261 billion), South Africa is the continent's second-largest economy (after Nigeria); in fact, its economy is larger than that of Malaysia or Chile, two other pivotal emerging markets. South Africa also has one of Africa's most diversified economies. Services, including a sophisticated financial services sector, account for some 62 percent of GDP, although manufacturing is weak at just 13 percent of GDP (in real prices). South Africa's overall economic productivity compares well to that of many of its peers and is similar to China's and Brazil's. Moreover, South African equities and bonds are attractive to international investors. In 2013, the equity market capitalisation of South African companies stood at 132 percent of GDP. This is higher than the figure in most advanced economies, ranking tenth in the world; the level of investment reflects the country's many globally competitive firms. Overall, South Africa has attracted foreign direct investment inflows equalling 2 percent of GDP, and it is the eighth-largest outward investor on the African continent.9

Inward foreign direct investment flows 2007–2012, Economist Intelligence Unit, February 2015; Greenfield and merger and acquisition FDI flows 2003–2013, Dealogic and FDI Markets databases, February 2015.

South Africa: A snapshot

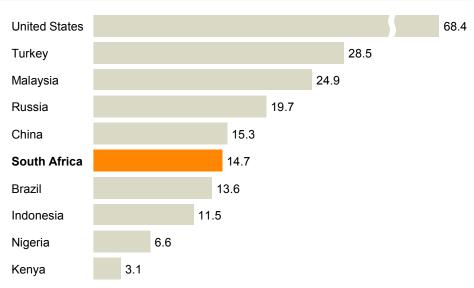
South Africa's economy is the second-largest in Africa, larger than those of Malaysia and Chile

Nominal GDP, 2014 (\$ billion)1



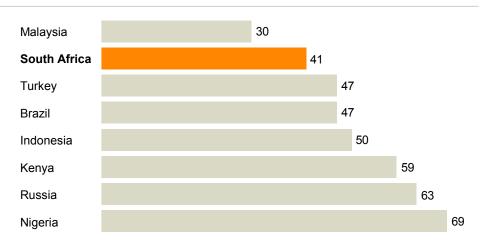
South Africa has comparable productivity to China and Brazil

Real productivity, 2012 (\$ thousand PPP per employee)²



South Africa has a good environment for business compared to its peers³

Overall risk, January 2015 (Lower score = less risk)



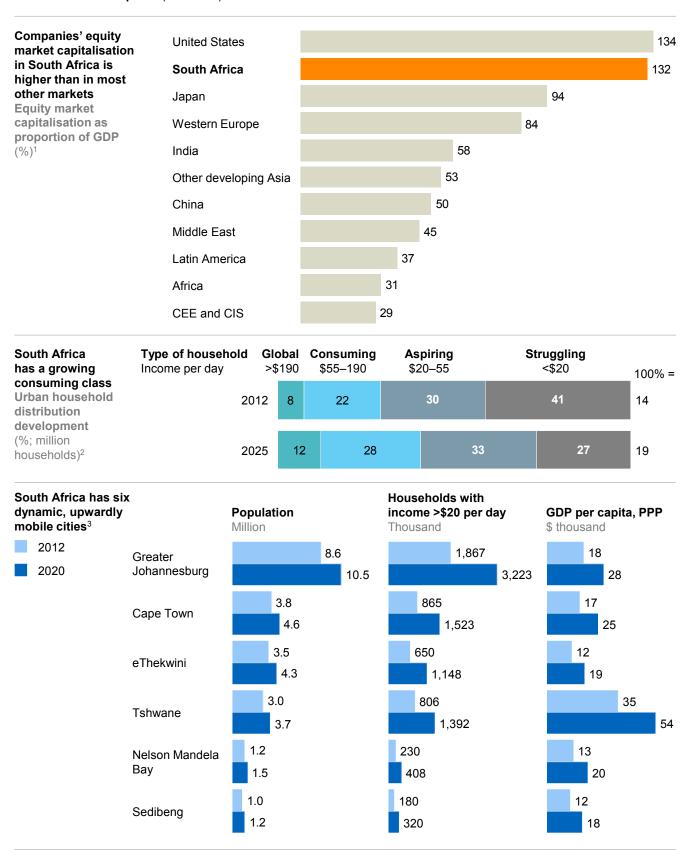
¹ South Africa's GDP in 2014 was \$350 billion in nominal terms and \$261 billion in real terms (or 3 trillion rand converted to dollars at an estimated 2015 average exchange rate of 11.52 rand per dollar).

SOURCE: World Bank World Development Indicators; Economist Intelligence Unit; McKinsey Global Institute analysis

² Productivity is based on GDP contribution per employee; levels in real 1990 purchasing power parity dollars.

³ South Africa's peers are the other emerging markets that are popular with investors.

South Africa: A snapshot (continued)



- 1 Western Europe includes the United Kingdom. CEE = Central and Eastern Europe; CIS = Commonwealth of Independent States.
- 2 Based on data for the 16 largest cities in South Africa, applying a global measure of consumer status.
- 3 Johannesburg includes City of Johannesburg, Ekurhuleni, and the West Rand. eThekwini is the metropolitan area encompassing Durban city. Tshwane includes Pretoria. Nelson Mandela Bay is the metropolitan area encompassing Port Elizabeth. Sedibeng is the municipal area encompassing Vereeniging.

SOURCE: McKinsey Global Institute Capital Markets database; McKinsey Global Institute Cityscope 2.55; McKinsey Global Institute analysis

South Africa has forged new regional and global ties since 1994. O. R. Tambo International Airport, near Johannesburg, is the biggest and busiest freight and passenger hub on the continent. Johannesburg is the only city in sub-Saharan Africa that ranks in the top 100 destinations for international tourists, with 4.5 million arrivals in 2013. Overall, South Africa ranks 49th out of 131 countries on MGI's Global Connectedness Index and has risen four places since 1995. Because stronger global connections correlate with faster growth, it will be critical to continue deepening the country's participation in global flows of goods, services, finance, people, and data and communications.

Moreover, South Africa has a built a solid business environment. It was the highest-performing economy in sub-Saharan Africa for overall competitiveness in the latest World Economic Forum global rankings. It also tops the global rankings for strength in auditing and reporting standards and for regulation of securities exchanges. South Africa ranks seventh in the world for the development of its financial markets and ninth in the world for the efficiency of its legal framework. This environment underpins the country's thriving service sector. A number of competitive local companies have expanded across the continent and internationally; some are listed both in Johannesburg and on the London or New York stock markets. Some prominent South African companies, such as MTN, SABMiller, DeBeers, Sasol, Standard Bank, and Shoprite, have established an international presence.

A growing share of urban households have joined the consuming class, meaning that they have reached a level of income that allows for discretionary spending; the trend is expected to continue, with the number of "struggling" households expected to decrease by a third by 2025. This upward mobility has become the country's biggest driver of growth; private consumption accounted for three percentage points of the 4.3 percent real GDP growth seen between 2000 and 2008 and for almost all of the 1.8 percent real GDP growth seen between 2008 and 2014. Moreover, South Africa has six vibrant, dynamic cities with populations of at least one million people. By 2025, nearly three-quarters of urban households will be members of the consuming class.¹³

FIVE PRIORITIES COULD COMBINE TO RAISE SOUTH AFRICA'S GDP BY ONE TRILLION RAND AND CREATE UP TO 3.4 MILLION NEW JOBS BY 2030

South Africa has immense potential to build on these foundations. We assessed many avenues for growth and ultimately identified five priorities as the most promising. They are creating a globally competitive hub of advanced manufacturing; raising infrastructure productivity; harnessing natural gas for a reliable power supply; increasing service exports; and raising growth along the agricultural value chain. For more detail on our criteria, see Box E1, "How we identified the big five priorities".

¹⁰ Top 100 city destinations ranking, Euromonitor International, January 2014.

MGI's database of global flows of goods, services, finance, people, and data and communications covers 195 countries between 1980 and 2012. The McKinsey Global Institute Connectedness Index measures each country's level of integration into the global network of flows for 131 countries. See Global flows in a digital age: How trade, finance, people, and data connect the world economy, McKinsey Global Institute, April 2014.

¹² The Global Competitiveness Index Historical Dataset, 2005–2014, World Economic Forum.

¹³ McKinsey Global Institute Cityscope 2.55.

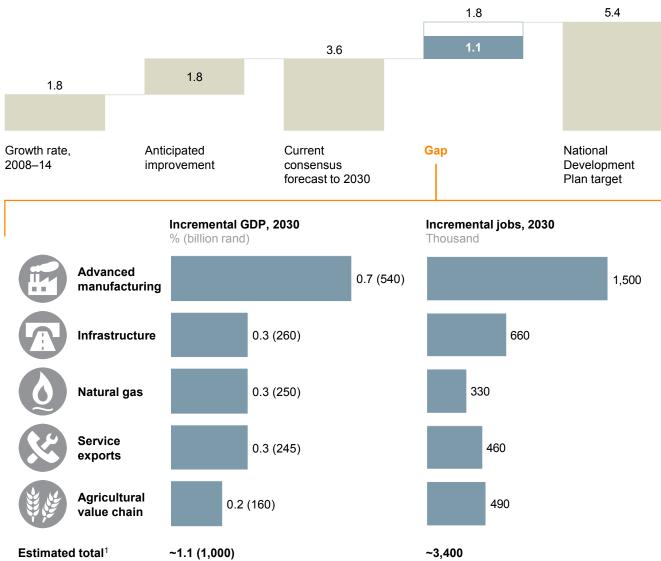
Discussions with economists led us to the conclusion that South Africa's formula for growth, which for many years has been based on increasing domestic consumption, has lost momentum. Raising investment and increasing exports are crucial for accelerating and sustaining growth. The "big five" priorities are aligned with this thinking. Individually, each of them has the potential to boost economic growth significantly and create many thousands of new jobs by 2030 (Exhibit E4). They will also generate substantial additional tax revenue that could be directed to priorities such as increased funding for infrastructure, educational programmes, or welfare grants—all of which are important for creating a more inclusive society and improving South Africans' quality of life.

Exhibit E4

The big five priorities will grow the economy and create jobs

Real GDP growth rate





¹ Gap numbers do not sum. The potential impact of each of the "big five" was modelled in isolation from the others. Because we did not calculate the dynamic interactions between them, we cannot estimate their collective GDP impact by simply adding them.
NOTE: Waterfall numbers may not sum due to rounding.

SOURCE: Oxford Economics; Economist Intelligence Unit; IHS Economics; McKinsey Global Institute analysis

We modelled the potential impact of each of the "big five" in isolation from the others. Because we did not calculate the dynamic interactions between them, we cannot arrive at their collective GDP impact by simply adding them. A rough estimate suggests that the combined GDP impact would likely exceed one trillion rand (\$87 billion) by 2030, which would boost annual GDP by 19 percent above consensus forecasts for that year. This would increase real GDP growth by 1.1 percentage points per year through 2030, lifting it from the current consensus forecast of 3.6 percent to 4.7 percent. Moreover, the five priorities together could create 3.4 million additional jobs by 2030, making major strides in reducing unemployment and poverty.

Between them, the "big five" will also bring important broader societal and economic benefit—such as stimulating investment, increasing productivity, raising innovation, and accelerating rural development—as well as significant direct and indirect impact on other sectors of the economy (Exhibit E5). The "big five" are also mutually reinforcing in nature, and there are likely to be cumulative effects between them. For instance, better infrastructure will be critical to enabling more exports of agricultural products; gas and power will support the energy needs of a growing manufacturing sector; and the infrastructure programme will support short-term job creation.

Box E1. How we identified the big five priorities

We selected the five priorities in this report from a list of more than a hundred ideas, using a rigorous three-stage process. First, we undertook macro-economic analysis of South Africa's growth prospects, which indicated that the country needed to focus on areas that would raise investment and increase exports, rather than relying on domestic consumption and diversification. Second, based on this framing, we generated ideas to boost growth and job creation, drawing on extensive research and discussions with experts and public- and private-sector leaders. Third, we applied in-depth economic modelling, along with further discussions, to prioritise these ideas using criteria that reflected South Africa's complex priorities. These criteria included balancing short-term impact with long-term economic benefits; strengthening South Africa's competitive position; reducing poverty and inequality; raising innovation and entrepreneurship; and promoting rural development.

There are many significant economic sectors not featured in this report, but this is not to ignore their important contribution. Mining is a case in point: the sector is crucial for South Africa's economy today, accounting for 8 percent of GDP. A healthy mining industry will still be essential for South Africa's exports, and should play a shaping role in unlocking globally distinctive capabilities in other sectors, such as in manufacturing, construction and engineering services. Nonetheless, given the projected negative employment outlook in the mining sector, South Africa needs to look to other opportunities if it is to unlock a step change in both growth and job creation.

¹⁴ Consensus is based on forecasts from IHS Economics, Oxford Economic Forecast, and Economist Intelligence Unit, February 2015.

The big five priorities: Benefits and impact

The big five priorities will benefit mult		iple sectors of the		economy Advanced manufac-	Infra-	Natural	Direct Service	Agri- cultural value
		GDP , 2014 ¹ Billion rand	Jobs, 2014 Thousand	turing	structure	gas	exports	chain
Agriculture, forestry, fishing		72	702					
Mining, oil and gas		227	428					
Knowledge-intensive manufacturing ²		138	407					
Resource-intensive manufacturing ²		124	632					
Labour-intensive manufacturing ²		39	343					
Regional manufacturing ²		78	378					
Utilities		68	117					
Construction		103	1,249					
Wholesale, retail, and trade		386	2,625					
Catering and accommodation		25	577					
Transport and communication		253	932					
Finance, real estate, business services		591	2,030					
Government		465	3,351					
Personal services		160	1,237					
and have broad societal and econor		omic imp	act		Pri	imary	Secondary	Other
Economic impact	Impact on GDP by 2020							
	Impact on GDP by 2030							
	Increases productivity							
	Improves trade balance							
	Stimulates investment							
	Stimulates secondary industry development							
Societal impact	Broadens empowerment							
	Stimulates innovation in the economy							
	Develops rural areas							
	Builds workforce capabilities							
	Creates jobs by 2020							
	Creates jobs by 2030							

¹ GDP values in real 2010 prices. All GDP and jobs data are the average of 2014 quarterly figures; the breakdown of manufacturing subsectors and the split of trade from catering and accommodation are based on historical information.

SOURCE: Stats SA; McKinsey Global Institute analysis

Knowledge-intensive manufacturing examples include automobiles, machinery, and chemicals. Resource-intensive manufacturing examples include metals and pulp. Labour-intensive manufacturing examples include apparel and furniture. Regional manufacturing examples include food and beverages.

Advanced manufacturing: Creating a global hub

South Africa's manufacturing sector has been shrinking for years; its share of GDP has fallen by almost half since 1990, reaching 13 percent of GDP in 2014. While this is on par with the contribution of manufacturing in some advanced economies, such as the United States and the United Kingdom, it is far below the average of 20 percent of GDP in other major developing economies such as Brazil, India, Indonesia, Mexico, Thailand, and Turkey.

MGI's analysis suggests that South Africa has the potential to develop a more globally competitive manufacturing base—one focussed on the market for more sophisticated goods such as automobiles; transportation equipment; machinery, process and electrical equipment and parts; and chemicals. These advanced manufacturing industries produce high-value added products that require skilled labour, technology, and a strong business environment, all of which count among South Africa's competitive advantages. They thus provide an opportunity for South Africa to develop a successful global manufacturing niche, despite labour and other input costs that are higher than in many other emerging markets.

South Africa's exports of advanced manufacturing products were valued at more than 190 billion rand (\$16 billion) in 2013, or 44 percent of total manufactured exports that year. Our analysis suggests that by 2030, exports of these products could triple to more than 700 billion rand (\$61 billion). Some 250 billion rand (\$22 billion) of this opportunity is in the market for machinery, equipment, and appliances; 230 billion rand (\$20 billion) is in motor vehicles and transportation equipment; and 220 billion rand (\$19 billion) is in chemicals. This would double South Africa's overall manufactured exports, boosting GDP by 540 billion rand (\$47 billion) and creating some 1.5 million jobs in the broader economy (Exhibit E6). 18

A number of factors position South Africa's advanced manufacturing industries to capture this growth. First, they have a history of global competitiveness. Exports of their products have grown in the past decade, and while South Africa does not have world-leading productivity in these industries, its performance is on par with that of other major emerging markets. Second, the countries that South Africa already exports to are projected to enjoy robust growth through 2030. The other member states of the Southern African Development Community account for 36 percent of current demand for South Africa's advanced manufacturing exports, while Asia-Pacific accounts for 14 percent; both are rapidly growing regional economies.

Finally, these industries will find that the largest share of growth will come from moving into adjacent products, many of which can utilise the same or similar capabilities and production techniques as existing products. We estimate that these adjacencies could account for two-thirds of South Africa's export growth potential in advanced manufacturing. Consider a hypothetical manufacturer of process equipment that focusses on making centrifuges

We also considered South Africa's other manufacturing industries. These can be categorised into regional processing, labour-intensive goods, and energy- and resource-intensive commodities. Labour-intensive goods were not considered further because the opportunities were much smaller, and labour costs in South Africa are not competitive with those in the rest of sub-Saharan Africa. Energy- and resource-intensive commodities were excluded because of their relatively low value added, as well as prevailing power limitations (although in the long term, opportunities such as ferrochrome may prove promising). Some regional processing opportunities do show potential and are discussed as part of the agricultural value chain opportunity.

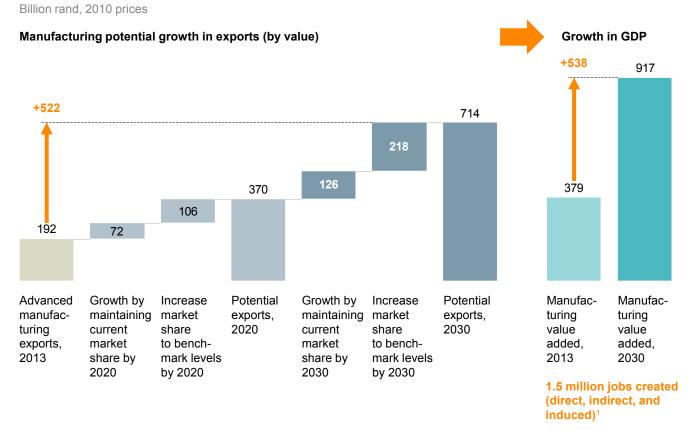
Manufacturing the future: The next era of global growth and innovation, McKinsey Global Institute, November 2012.

¹⁷ In 2010 prices.

We translate the increase in exports into value add to the economy using multipliers from an input-output table for the South African economy (from 2000). This multiplier includes the direct impact on the sector as well as the indirect effect on upstream industries and the induced effect of increased consumption on the broader economy. A similar analysis is done for job creation. See the Technical Notes for more detail on the methodology.

for the mining industry.¹⁹ First, it could expand to a broader range of equipment, including columns and reactors. Then it could diversify further by working with a network of related companies, such as makers of valves and instrumentation, to manufacture complete packages for processing plants. It could then expand into new industries, including oil and gas or petrochemicals, developing a range of new products and forming a dynamic supplier network.

Exhibit E6
Increased advanced manufacturing exports could account for 540 billion rand in GDP and 1.5 million jobs by 2030



¹ Jobs created include 340,000 direct jobs in manufacturing, and 1,153,000 indirect and induced jobs in the broader economy. NOTE: Numbers may not sum due to rounding.

SOURCE: World Bank WITS; IHS Global Insight; McKinsey Global Institute analysis

To realise the full opportunity, advanced manufacturing businesses and the sector as a whole must focus on increasing economies of scale. For business, this means aggressively pursuing export markets, investing in capital equipment, and becoming more innovative in products, manufacturing processes, and materials. For the sector, it means building up strong, close-knit manufacturing clusters with increased depth and cost competitiveness in supply-chain networks; government support through well-designed Special Economic Zones (SEZs) on the coast will be essential. This, in turn, will require both companies and research institutions to step up investment in R&D and create tighter and more collaborative networks with their suppliers, as well as to build up South Africa's skills base. Government can play a role in supporting these initiatives by expanding trade agreements, international partnerships, and technical alliances.²⁰

Process equipment includes fabricated metal equipment such as pumps, centrifuges, and storage vessels. Chemical and mining companies typically use these products in their production plants.

Achieving growth in the organic chemicals industry will require greater access to regional gas supplies and means to transport the gas to coastal processing facilities to make logistics costs competitive.

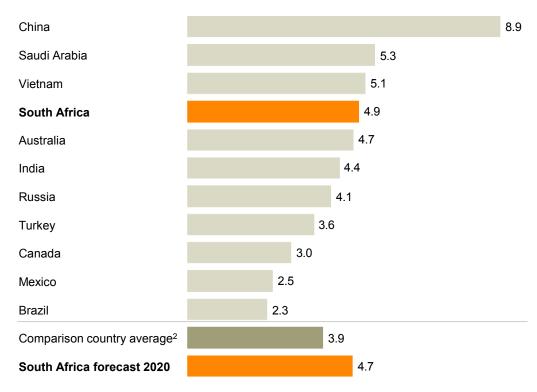
Infrastructure: Partnering for productivity

South Africa has made infrastructure delivery a policy priority. Its investment in infrastructure as a percentage of GDP, at 4.9 percent, is among the highest in the world (Exhibit E7). Its transportation infrastructure compares favourably to that of peer economies in the latest World Economic Forum competitiveness rankings; the modern airports in its major cities score particularly well. But there are still major gaps in electricity supply and access to clean water and sanitation facilities. The country plans to sustain its focus on infrastructure investment for the foreseeable future, with a 2.2 trillion rand (\$191 billion) commitment over the next decade. However, several barriers could hamper the delivery and economic impact of these planned infrastructure investments: constrained public finances, a pattern of cost and schedule overruns in key projects, and a lack of trust between government and its implementing partners in the private sector.

Exhibit E7

South Africa's infrastructure spend level exceeds that of most other economies

Infrastructure spend as percentage of GDP, 1992-20121



- 1 Considers only the four major asset classes—power, water, telecom, and transport.
- 2 Average excludes South Africa and China.

SOURCE: RSA National Treasury; PwC South Africa; McKinsey Global Institute analysis

South Africa can pursue three major strategies to ensure that its infrastructure spending is as productive as possible, translating into successfully completed projects that support growth. First, it can work harder to make maximum use of existing infrastructure. Second, it can optimise its capital portfolio, prioritising the projects with the greatest social and economic impact and bringing greater rigour to planning and monitoring the chosen projects. Third, it can streamline the delivery of projects by adopting more effective management approaches and practices. MGI research into this issue at the global

²¹ All values are quoted in real 2010 prices.

level shows that this three-pronged approach could save 40 percent of the worldwide infrastructure bill.²²

In South Africa, the impact of smarter infrastructure delivery would be tremendous. The country could save up to 1.4 trillion rand (\$122 billion) over the next decade and boost annual GDP by 260 billion rand (\$23 billion) by 2030 if it invests these savings in additional infrastructure, creating up to 660,000 jobs. A more effective approach to domestic infrastructure delivery would also build the capabilities needed to support expanded exports of construction services to the rest of Africa, as outlined above.

To realise this opportunity, however, South Africa will need a true partnership between government and business. The public sector must make its priorities and project pipeline more transparent; build its own capabilities for better specification, project planning, and oversight; and put more effective tendering processes in place. These changes should, in turn, give the private sector greater leeway and incentive to propose innovative solutions, take on greater project management responsibility, and push for better productivity performance in construction projects. In some asset classes, public-private partnerships could also open an important channel for greater private investment.

Natural gas: Powering South Africa's future

South Africa's chronic shortfall in electricity supply has been a constraint on growth. The state-owned power utility, Eskom, is building two new coal-fired power plants that are likely to secure the country's energy needs through 2020. At the same time, the government has plans to diversify the country's energy mix, adding new coal and nuclear power plants to increase its base load, together with some gas and renewable plants. Even with these projects coming on line, however, MGI projects that South Africa will face a power gap of 6GW to 10GW by 2025, as 14GW of aging coal power plants are decommissioned between 2020 and 2030, and electricity demand rises in line with a growing economy.

In this context, natural gas represents an important opportunity for South Africa to meet its power generation needs and support growth across the economy. Natural gas plants could be ready to meet the projected base-load gap within a decade (while the other options remain viable for timelines from 2030 onwards). Compared to other base-load plants, gas-fired plants are faster to build, entail lower capital costs, and have a smaller carbon footprint than coal. Like hydropower plants, they complement renewable energy because of the ease with which production can be ramped up or down to offset fluctuations in renewable energy production. While gas is currently a more expensive fuel, projected increases in coal prices and potential carbon taxes, combined with a potential reduction in gas prices, would reverse this equation, making gas viable for base-load capacity.

MGI estimates that South Africa could gain roughly 20GW of gas-fired power generation capacity by 2030, to provide flexibility to at least 10GW of renewables capacity. This would create demand for one trillion cubic feet of gas annually (similar to Malaysia's demand); to meet that demand, the country could use imports, its own shale gas resources (should they be proven), or both. If these supply options materialise at this scale, they could eventually drive gas prices down—and if prices decrease by 40 percent or more, gas could become a viable commodity for use in downstream petrochemical industries, significantly increasing the scale of the economic opportunity.²³

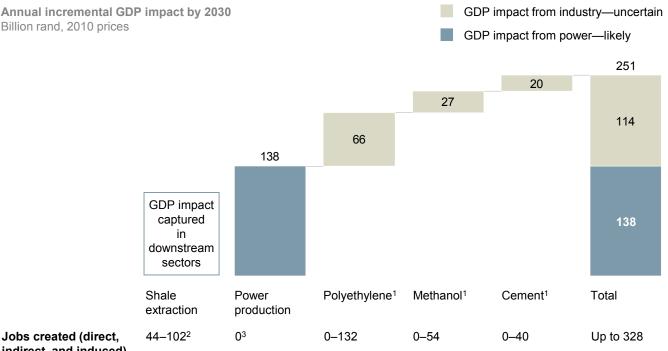
²² Infrastructure productivity: How to save \$1 trillion a year, McKinsey Global Institute and the McKinsey Infrastructure Practice, January 2013.

Liquefied natural gas price forecasts average \$10 per million British thermal units for the next five years, which would be a suitable price for power production economics; estimates indicate a price below \$6 per million British thermal units will be needed to encourage the development of gas-based industries.

Under this scenario, we estimate that the gas-fired power generation opportunity alone could add 140 billion rand (\$12 billion) to South Africa's GDP.²⁴ If the price level becomes favourable, downstream opportunities in gas-based industries and the chemicals sector could add another 110 billion rand (\$9.5 billion) to GDP and create up to 230,000 jobs. Although South Africa's own shale gas resources are yet to be proven or developed, they could potentially create an additional 40,000 to 102,000 jobs (Exhibit E8).

Exhibit E8

By 2030, the gas industry could boost GDP by 140 billion to 250 billion rand annually and create up to 330,000 jobs



indirect, and induced)

Thousand

NOTE: Numbers may not sum due to rounding.

SOURCE: McKinsey Global Institute analysis

The first key step to pursuing the natural gas opportunity is securing sufficient supply. South Africa could tap many emerging supply options, although uncertainty surrounds the details and viability of some possibilities. One option is to import natural gas from Mozambique, potentially as liquefied natural gas (LNG) initially, or through a pipeline that would need to be built for this purpose.²⁵ Fast action by South Africa could make this a reality by the early 2020s. South Africa could also import LNG from the global market as an attractive short- to medium-term option.

¹ These three examples are indicative of the range of opportunities for potential downstream gas use, but none has been confirmed. The downstream use realised after 2030 depends on gas market prices and regional and global demand for final products. Polyethylene and methanol would both be exported; cement would either be consumed locally or exported to neighbouring countries.

Assumes an annual production range of 0.3 trillion to 0.7 trillion cubic feet.

Assumes that jobs will be transferred from existing plants.

²⁴ Assumes that jobs will merely be transferred from existing plants.

²⁵ Both the LNG and pipeline options would need to be assessed and compared based on operational, technical, and cost considerations. The Rovuma fields in the north of Mozambique are remote.

South Africa could also pursue the development of its own shale gas, although these technically recoverable resources still need to be proven, and no full appraisal programme—including pilot well drilling, seismic data acquisition and geological mapping—is yet in place. To go this route, the government would need to quickly finalise and publish the Mining and Petroleum Resources Development Act and amended technical regulations on hydraulic fracturing, issue permits for pilot wells to prove the resources, and simultaneously complete environmental impact assessments. The government could also guarantee purchase of the gas as an end-user for a number of years, given that early production costs are expected to be higher than the costs of LNG imports. In the long run, as South Africa builds up its extraction capabilities, these prices could decrease to sustainable levels. If successful, this approach could yield first gas production by the mid-2020s.

Although developing its own natural gas industry could be a major economic opportunity for South Africa, the investment required for such a programme would be immense. An estimated 600 billion to one trillion rand (\$52 billion to \$87 billion) would be needed by 2030 to drill wells and to build pipelines, LNG facilities, and new gas and renewables power plants. This would make private-sector capital critical, and to attract it, the government would need to take decisive steps to create certainty about demand and regulations. This investment could create 820,000 temporary jobs during the construction phase of the pipelines and power plants.

Service exports: Riding the wave of Africa's growth

South Africa has highly developed service industries, which currently generate 62 percent of the country's total GDP and have created 2.7 million jobs since 2004. Key segments include banking and other financial services, construction services, transportation, telecommunications, and legal and other business services. The country has an opportunity to boost exports of many of these services to meet rising demand in the rest of Africa.

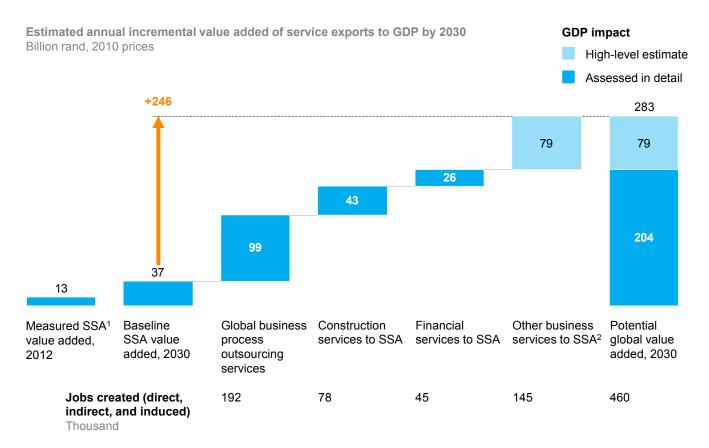
Service imports by sub-Saharan Africa grew at an average of 7.1 percent from 2002 to 2012, reaching 536 billion rand (\$46 billion) in 2012, with the greatest value in transportation, construction, and business and financial services. However, South African exports account for only 2 percent of the region's service imports. By contrast, Brazil—which accounts for a comparable share of GDP in its region—commands a 26 percent market share in providing service imports to Latin America. The service imports are contracted in the service imports are contracted in the service imports and the service imports are contracted in the service i

South Africa has an opening to become a leading service provider to the continent. We calculate that service exports to sub-Saharan Africa could grow from 10 billion rand (\$868 million) in 2012 to 120 billion rand (\$10 billion) in 2030, while international service exports could grow by 75 billion rand (\$6.5 billion). This would generate some 245 billion rand (\$21 billion) in additional GDP and up to 460,000 jobs by 2030 (Exhibit E9). Developing these industries could have even wider benefits. By showcasing a strong South African brand, it could promote intraregional flows of people, services, and goods, even contributing to increased exports of manufactured goods.

²⁶ UN Service Trade database. Figures include South African demand; service imports in 2012 were 439 billion rand (\$38 billion) when excluding South Africa.

²⁷ Figures exclude tourism and government services.

Expanding service exports could increase value added to GDP by 245 billion rand and create 460,000 jobs by 2030



¹ Sub-Saharan Africa.

SOURCE: Stats SA; IHS Economics; UN Service Trade; Gartner; Government of India National Development Council; McKinsey databases: Panorama Global Banking Pools, Global Insurance Pools; Infrastructure Projects Analytical Tool; McKinsey Global Institute analysis

South Africa has many well-regarded service companies, such as MTN in telecommunications and Standard Bank in financial services. It also has skilled talent in fields that are in high demand, including engineers, actuaries, and architects, and the labour costs associated with these professions in South Africa are relatively low compared to those in the developed world. Moreover, the domestic business and financial services environment provides a strong base of operations.

Our analysis focusses on two major opportunities: exporting services to the construction industry in the rest of Africa, and providing financial services across the continent. It also considers the growth potential in building on South Africa's record of providing business process outsourcing services to global markets.

² Includes trade, catering, accommodation, transport, storage, communication, real estate, and business services. NOTE: Numbers may not sum due to rounding.

In providing services to the construction sector, South Africa has a capable domestic industry and already exports its services at a modest scale; total exports were worth 509 million rand (\$44 million) in 2013. But its current market share of foreign-built sub-Saharan African projects stands at only 7 percent. China currently captures 32 percent, although many of its deals involve the trade of infrastructure project delivery for resources or are linked to foreign direct investment. However, a fragmented group of countries win the remaining two-thirds of projects, and South Africa can compete more aggressively for a larger share of these. Capturing roughly one-third of them would yield a market share of 20 percent.

South Africa may be able to achieve this growth if its construction and financial services firms can take a page from China's playbook and package their offerings to both finance and construct projects. Given the significant levels of foreign direct investment already flowing outwards from South Africa, this approach could be feasible. We project that South Africa could capture some 100 billion rand (\$8.7 billion) in project value by 2030, contributing 43 billion rand (\$3.7 billion) to annual GDP.²⁸ The opportunity spans the full range of construction offerings, from design to consulting to maintenance services. To achieve this growth, the construction industry will need to make a concerted effort to develop local market intelligence and expand its footprint across Africa by pursuing local partnerships and sending its best talent into the region.

In financial services, South African firms are ideally positioned to serve the fast-growing demand for banking and insurance in sub-Saharan Africa. There are exciting opportunities in corporate and investment banking that could be worth 320 billion rand (\$28 billion) by 2030, should South African banks increase their market share in sub-Saharan Africa from 12 percent today to 20 percent in 2030. This is also a key moment for South African banks to expand their presence across the continent; we expect retail banking to grow at 16.7 percent per year (in rand terms) in the rest of sub-Saharan Africa. If institutions broaden their offerings to reach low-income customers, particularly through digital channels, the opportunity could be worth 435 billion rand (\$38 billion) by 2030.29 The nascent corporate and retail insurance markets represent a 225 billion rand (\$20 billion) opportunity in premiums for South African firms, which are well positioned to execute bold acquisition moves.³⁰ Although expansion in African banking and insurance would not translate directly into GDP impact for South Africa, it would allow local firms to provide headquarters and shared services for much more extensive operations across the continent. MGI estimates that these combined financial services opportunities could add as much as 26 billion rand (\$2.2 billion) to annual GDP by 2030 while creating up to 45,000 jobs in South Africa.

South Africa's business process outsourcing (BPO) industry posted 18 percent annual growth between 2010 and 2012, and it now commands an estimated 1 percent of the global market. It offers the country's largest job creation potential across all service sectors. Based on benchmarking with other BPO hubs, MGI estimates that South Africa could quadruple its global market share to 4 percent by 2030, adding 100 billion rand (\$8.7 billion) to GDP and creating 190,000 jobs. To do so, industry and government will need to work together by establishing an academy system that could train up to 13,000 people a year in the necessary skills.

This is the potential impact coming back into the South African economy by providing both services to the construction industry and managing construction projects in the rest of Africa.

²⁹ This is an estimate of total revenue earned in nominal terms. Not all of it will have a direct impact on GDP.

³⁰ This is an estimate of total premiums in nominal terms. Not all of it will have a direct impact on GDP.

Agriculture: Unlocking the full value chain

South Africa has productive, internationally competitive agriculture and agro-processing sectors. It is a leading exporter of fruit, nuts, cereals, wine, and fruit juices; its total agricultural exports were worth 67 billion rand (\$5.8 billion) in 2012. Moreover, several of South Africa's existing export markets—notably sub-Saharan Africa and Asia—are growing rapidly as large populations join the consuming class, creating a 145 billion rand (\$13 billion) opportunity (Exhibit E10).

Against this backdrop, MGI estimates that South Africa has the potential to triple its agricultural exports by 2030. This would in turn double the GDP impact of the entire value chain, adding 160 billion rand (\$14 billion) to annual GDP and creating up to 490,000 jobs. This growth would be the result of increased demand in leading export markets as well as South Africa's ability to replicate its current success in particular countries by expanding its market into the wider surrounding region. Increased agricultural exports would be a key driver of rural job growth in addition to representing important societal impact, given that nearly one in ten South Africans depends on subsistence or smallholder farming.

Capturing this potential will require a bold, integrated national agriculture plan focussed on achieving major gains in production and productivity. It will also require a strong shift towards processed products, which create significantly greater GDP impact than agricultural production alone. The opportunity lies primarily in fruits, beverages, animal products, and cereals. South Africa is reasonably cost-competitive in these products, particularly in the rest of sub-Saharan Africa, where it is establishing a strong formal retail presence. But to capture increased market share in Europe and Asia-Pacific, South Africa needs to become more competitive in select products, such as poultry.

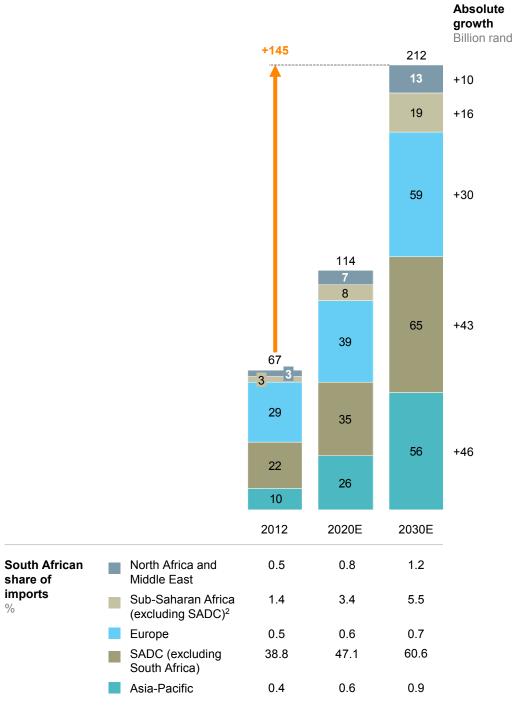
To meet the goal of increased exports, South Africa needs to take several steps to make farming more productive. Commercial farms, which account for close to 90 percent of the country's cultivated farmland, should invest in cutting-edge technology and farming techniques to raise the productivity of crops such as maize and sugar cane, where South Africa's yields currently lag behind those of benchmark countries. Smallholder farmers also have an important role to play in expanding South Africa's agricultural production. They will need support to form cooperatives for better market access and to transition to higher-value crops to strengthen their financial viability.

To support higher production goals, the government will need to clarify land rights, consider models for farm consolidation, strengthen irrigation and water management, and assess opportunities to bring additional unused land into production.

In agro-processing, growth will come from a business focus on market access and diversification, taking South African products beyond the country's immediate neighbours and into sub-Saharan Africa more broadly. Government will need to focus on access to energy, water, and logistics in rural areas. An expanded cold chain will also be critical to the success of exporting fruit and animal products. South African agro-processing businesses should also look for opportunities to bring agricultural production from across the region into their supply chains.

South African agricultural exports could reach 210 billion rand by 2030

Estimated export potential of agro-processing and agricultural products¹ Billion rand, 2010 prices



¹ Based on products South Africa already exports; excludes Latin America and North America, which have lower export prospects.

SOURCE: IHS Economics; World Bank WITS; McKinsey Global Institute analysis

² Southern African Development Community. NOTE: Numbers may not sum due to rounding.

EQUIPPING SOUTH AFRICANS FOR THE JOBS OF THE FUTURE

The big five priorities identified in this report offer tremendous growth potential across the economy. They could also create an additional 3.4 million jobs, contributing to solving South Africa's persistent unemployment challenge. Yet the reality is that much of today's workforce will not be able to fill those jobs. Just 22 percent of the new jobs envisaged in this report will be suitable for people with only a school leaving ("matric") certificate, or secondary education, while an additional 48 percent will require additional trade or clerical skills. The remaining 30 percent of the jobs will require technical, managerial, or professional skills and tertiary education.

Interviews conducted by MGI indicate that employers overwhelmingly find the average South African school leaver unprepared to enter the workforce. They describe verbal and written language skills, mathematics and science proficiency, and general problem-solving capabilities as inadequate, while workplace skills such as teamwork are also often lacking. Employers often deem the risk of hiring someone with these skill deficiencies too high.

Economic growth and employment growth must go hand in hand. Unless South Africa can create the workforce to fill the jobs it creates, manufacturing and services companies will struggle to grow their businesses and may leave new opportunities on the table as a result. And without growth, businesses will be unwilling to hire. Growth and skills development will need to move in tandem to break this cycle.

Building an employment-ready workforce will require investment from both government and the private sector. Five interventions, each with a proven record in other countries, could begin to address this issue quickly and could be scaled up:

- Expanding vocational training. Based on an assessment of the scale of skills development needed, we estimate that 40 to 60 percent of South African youth should graduate through such programmes by 2030.³¹ This would represent a dramatic increase from the 8 percent of 15- to 24-year-olds who completed such programmes in 2013.³²
- Boosting the quality of education. South Africa can enhance the quality of school leaving qualifications for those remaining in the traditional educational system, with a strong focus on strengthening language skills, mathematics, and science.
- Improving the "soft skills" of South Africa's youth. The country can achieve this through coaching on workplace behaviour, interview preparation, customer relations, and communication skills as well as initiatives such as job shadowing. There are also opportunities to foster entrepreneurship among young people; South Africa has among the lowest rates of new business creation in the world. Existing initiatives tackling these issues should be scaled up across the country.
- Inviting business to play a greater role in education and training. The most obvious step of this intervention is to create more apprenticeships, particularly to ensure that vocational training programmes are meaningful for participating youth. Business should also participate in designing curricula.

³¹ The South African government has announced its intention to pursue this type of strategy, with a target of four million scholars by 2030. This is five times the number in 2013.

Statistics on post-school education and training in South Africa: 2013, Department of Higher Education and Training, March 2015; Education statistics in South Africa 2013, Department of Basic Education, March 2015.

Applying technology solutions to connect job seekers to employment. In particular, we estimate that wider use of digital labour platforms, which link unemployed people with vacancies, could greatly increase labour market efficiencies and result in an additional 860,000 people finding jobs.

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Some 20 years ago, South Africa's transformation from a divided to a democratic society inspired the world. Its leaders set out a vision of freedom, dignity, and shared nationhood. Citizens from every walk of life came together to turn that vision into reality. While South Africa has travelled a remarkable road since 1994, it remains a considerable way from its goal of achieving an inclusive society and creating prosperity for all. In recent years, as growth has slowed and unemployment has risen, that goal has become more elusive. Now is the time to raise new aspirations, and to unleash an economic transformation as profound and far-reaching as the political transformation of the 1990s.

The good news is that, with enormous changes reshaping the global economy and rapid growth under way in much of Africa, South Africa has a new set of opportunities to change the footing of its economy—driving exports of goods and services, unleashing talent and productivity, fostering entrepreneurship, and accelerating growth and job creation. By 2030, South Africa can realistically aim to be a country at the core of Africa's economic engine, with a cohort of innovative, dynamic businesses working hand in hand with government to drive sustainably high rates of GDP growth, and millions of skilled, motivated young people playing their part in a vibrant economy.

The big five priorities for jobs and inclusive growth are dramatic, ambitious, and achievable. South Africans in government, in business, and across society have proven that they can come together, but now is the time to step up and forge a new partnership on critical topics from infrastructure to skills development. Implementing the big five will require South Africans to change the nature of their own dialogue, believe in themselves, and take the right risks to deliver the dream of a "rainbow nation" characterised by shared prosperity for all.



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