

# SOUTH AFRICA ECONOMIC UPDATE

World Bank | April 2018 | Edition 11



## JOBS AND INEQUALITY



**THE WORLD BANK**  
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# ACKNOWLEDGEMENTS

The 11th edition of the South Africa Economic Update was produced by a World Bank team comprising Marek Hanusch, Precious Zikhali, Victor Sulla, Vincent Dadam, Gerard Kambou, David Stephan, Charl Jooste, Mokgabo Molibeli and Zandile Ratshitanga, led by Sébastien Dessus. It was internally peer reviewed by Dino Merotto (Lead Economist, Jobs Groups) and Maurizio Bussolo (Lead Economist, Eastern and Central Asia Chief Economist Office). It benefited from comments from Konstantin Makrelov (Chief Director, National Treasury), Duncan Pieterse (Chief Director, National Treasury) and overall guidance from Mathew Verghis (Practice Manager, Macroeconomics, Trade and Investment) and Paul Numba Um (Country Director for South Africa).

Chapter 2 draws heavily on two World Bank reports. The first report, the *Poverty and Inequality Assessment*, was conducted in collaboration with Statistics South Africa and the Department of Planning, Monitoring, and Evaluation. It comprehensively reviews the trends and determinants of poverty and inequality in South Africa for the first time since 1996, with a strong focus on the role of labor markets. The second report, the forthcoming *Systematic Country Diagnostic*, was developed in deep consultation with several government counterparts, including the National Planning Commission and the National Treasury. It aims to selectively identify the most binding constraints to poverty alleviation and inequality reduction, and how to lift these through public intervention.

The report was edited by Clarity Editorial and designed by Cybil Maradza.

# FOREWORD

I am pleased to launch this 11th edition of the South Africa Economic Update, which offers a review of the country's recent economic and social developments and its outlook in the context of global economic prospects.

Since the previous Economic Update of September 2017, a number of important events have improved South Africa's economic outlook. The smooth transition in power, the authorities' reaffirmed adherence to good governance and fiscal consolidation, and an upward revision in national accounts are all contributing to strengthen citizens and business confidence in South Africa's future. These recent developments, combined with the strong rebound in the world economy, provide South Africa now with a unique opportunity to progress towards its National Development Plan's goals of eradicating poverty and reducing inequality by 2030. Most observers, including the World Bank, have been revising their growth projections for 2018 and 2019 upwards.

But deep challenges remain. This Update reviews the evolution and nature of South Africa's inequality – the highest in the world – arguing that it has increasingly been driven by labor market developments that demand skills the country's poor currently lack. Since democracy, social assistance and fiscal redistribution have more generally played a fundamental role in containing the rise in inequality. But the slow growth that generates a mismatch between labor demand and supply makes fiscal redistribution alone grossly insufficient to address the country's inequalities.

Solutions to break out of the mutually reinforcing cycle of low growth and high inequality lie in taking bold actions to giving poor South Africans better access to good jobs. Simulations done in this Update suggest that increasing the skilled labor supply among poor households (through improved education and spatial integration) and labor demand (mainly through strengthened competition) could bring the number of poor people in South Africa down from more than 10 million today to 4 million by 2030. In doing so, the country would strengthen its social contract, where the political rights gained with democracy are met with people sharing in the nation's wealth.

This Update builds on our solid partnerships with the National Treasury, Statistics South Africa, the National Planning Commission, and the Department of Planning, Monitoring, and Evaluation. As the World Bank, we stand ready to work with all stakeholders and support South Africa to fulfill its development agenda and contribute to ending extreme poverty and promoting shared prosperity. It is our hope that the country will continue to use the World Bank's knowledge, global experience, and convening power as a platform for peer-to-peer learning to identify evidenced-based, pragmatic solutions that can contribute towards achieving the National Development Plan's goals.

Paul Numba Um  
World Bank Country Director for South Africa





# ABBREVIATIONS

<b>EMDEs</b>	Emerging markets and developing economies
<b>GDP</b>	Gross domestic product
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>PMI</b>	Purchasing Managers' Index
<b>R</b>	South African rand
<b>SACU</b>	Southern African Customs Union
<b>StatsSA</b>	Statistics South Africa
<b>SME</b>	Small and medium-sized enterprise
<b>\$</b>	United States dollar



# EXECUTIVE SUMMARY

South Africa's economic outlook has improved. A rise in confidence in early 2018 and the recent upward revision of national accounts for the period 2015 to 2017 suggest that the country is recovering from a difficult 2015 and 2016, which marked the end of the super-commodity cycle and severe drought. Gross domestic product (GDP) growth is projected to gather pace, increasing from 1.3 percent in 2017 to 1.4 percent in 2018, 1.8 percent in 2019, and 1.9 percent in 2020. This in turn would contribute to a broader rebound among commodity exporters, emerging markets and developing economies, and overall global growth. Although it provides little space for fiscal stimulus, the 2018 *Budget Review's* reaffirmation of the government's commitment to debt stabilization objectives is expected to generate more private investment.

But South Africa remains constrained by its low growth potential. Slow private investment growth and weak integration into global value chains prevent the country from reaping the new economic opportunities emerging around the globe, and from catching up with living standards in peer economies. South Africa needs to build on its comparative advantages, that of an industrial skilled economy, to develop new domestic and international markets through higher productivity and innovation. At this condition will South Africa reduce its high dependency on commodity price movements, which do not look favorable for the country in the medium term.

Building on two World Bank reports – the *Poverty and Inequality Assessment* and the forthcoming *Systematic Country Diagnostic* – this 11th edition of the South Africa Economic Update argues that significantly raising South Africa's economic potential will require breaking away from the equilibrium of low growth and high inequality in which the country has been trapped for decades. In this equilibrium, slow growth and high inequality reinforce each other: inequality fuels the contestation of resources (through taxation, expropriation, corruption and crime), which discourages the investment needed to accelerate job creation and reduce inequality. Fiscal redistribution through social assistance, while sizeable and effectively targeted, has been unable to redress the rise in inequality since 1994, and is increasingly constrained by narrowing fiscal space. Solutions are needed to foster inclusive growth, which in practice means improving the poor's access to good jobs so they can fully participate in the economy. A credible path to sustainably redress inequalities is needed to reduce policy uncertainty and strengthen the social compact on which authorities plan to build consensus with business, labor, and civil society.

A silver lining in this very challenging social, political and economic environment is the evolving nature of

inequality in South Africa, on which policy interventions could further build. Previously, inequality was largely determined by race and geographical origin (reflecting the country's legacy of exclusion). While race remains a central determinant of inequality, income inequality is now increasingly being determined by jobs status: employed versus unemployed, skilled versus unskilled. Since 1995, wage inequality has risen sharply, reflecting a severe mismatch between a labor market that demands skills and a labor force that is not fully able to respond to such demand, as mostly unskilled and often located far away from economic centers. This is concerning as it maintains inequality at such high levels that fiscal redistribution alone cannot reduce. But it is also a trend against which citizens and the government can now act more forcefully through efforts and policy initiatives, as opposed to intangible factors like race. As a matter of fact, World Bank poverty projections indicate that progress in access to education since democracy is paying off: by 2030, inequality should be back down to its 1994 level, and South Africa should count 8.3 million poor people (at \$1.90 a day), down from almost 10.5 million in 2017.

But the number of poor people could be brought down further, to 4 million by 2030, through selected policy interventions. They include, in the short term, continuing to address corruption, getting free higher education right, restoring policy certainty in mining, improving the competitiveness of strategic state-owned enterprises, further exposing South Africa's large conglomerates to foreign competition, and facilitating skilled immigration. And, in the longer term, improving the quality of basic education delivered to students from poor backgrounds and reinforcing the spatial integration between economic hubs, where jobs are located, and underserved informal settlements. The first set of reforms would raise labor demand and create the fiscal space needed to eventually build labor supply from the poor population through education and spatial integration. The analysis in this report suggests that these reforms would reinforce each other to generate significant positive effects on growth, inequality, and poverty overall. And as inequalities decline, the social contract would strengthen and likely encourage further private investment – a possibility not captured in our projections.

Constructing this new South Africa will take time, and managing expectations will remain a challenge in a country where strong political rights combine with high inequality to demand rapid transformation. In this regard, continued efforts to effectively redistribute wealth to the poorest while protecting economic growth will need to complement the reforms discussed above to create skilled jobs for the poor.



# CHAPTER 1

Recent Economic Developments

# Global Economic Developments

## The global economic recovery continues in early 2018

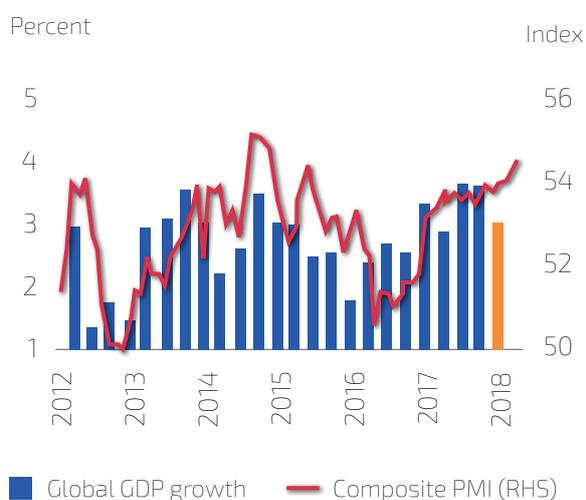
**Global economic activity remains solid.** Global output expanded by an estimated 3 percent in the fourth quarter of 2017.<sup>1</sup> This was substantially above the growth potential of the global economy, but weaker than in previous quarters, as growth moderated in the United States, the Euro area, China, and other large emerging markets and developing economies (EMDEs). However, global industrial production accelerated in November and December, and the global manufacturing Purchasing Managers' Index (PMI) was close to a seven-year high in January 2018. A further rise in services sector activity led the global composite

PMI to hit a 40-month high at the start of 2018 (Figure 1.1 A).

**Momentum in the global goods trade continues.** Despite moderating in the fourth quarter of 2017, the global goods trade continues to grow, supported by the recovery in manufacturing activity and investment. In 2017, growth in the global trade of goods averaged 4.3 percent, nearly three times the pace observed in 2016, and up from an average of 2.6 percent over the last five years. New manufacturing export orders in January indicate that this momentum will continue in 2018 (Figure 1.1 B).

 **Figure 1.1: Global activity indicators**

**A. Global GDP growth and global composite PMI**



**B. Global trade in goods growth and manufacturing export orders**



Source: World Bank staff calculations. A. Global growth in 2017 Q4 (orange bar) is estimated using available country-level data from national sources. Values for PMI above 50 indicate expansion. Last observation is January 2018. B. Values for PMI new export orders above 50 indicate expansion. Last observation is January 2018.

**The economic recovery in advanced economies strengthened at the start of 2018.** U.S. growth moderated toward the end of 2017, but still maintained a robust quarterly pace of 2.6 percent. Labor market conditions were strong in January 2018, with nonfarm payrolls rising by 200,000, the unemployment rate

remaining steady at a 17-year low of 4.1 percent, and average hourly earnings growth increasing to 2.9 percent (year-on-year), demonstrating the strongest annual gains since 2009. Growth in the Euro area moderated slightly to 2.3 percent in the last quarter of 2017, following a marked rebound

<sup>1</sup> Unless otherwise indicated, all quarterly growth rates in this report are seasonally adjusted annualized rates.

in previous quarters. High-frequency indicators suggest a strong start to 2018, with the composite PMI nearly reaching a 12-year high in January. Growth in Japan slowed to 0.5 percent in the fourth quarter of 2017, down from 2.2 percent in the third quarter, but private consumption and exports strengthened, and industrial production remained firm toward the end of the year.

**In China, economic activity indicators point to resilient growth, increasingly led by services.**

Growth moderated to 6.3 percent in the last quarter of 2017, bringing overall growth for the year to 6.9 percent. Recent data suggest a gradual slowdown in 2018, accompanied by a continued shift from manufacturing to service activity, entailing, over time, less demand for metals. The nonmanufacturing PMI increased in January to its highest level since September 2017, while the manufacturing PMI fell to 51.3 in January – the lowest result since May 2017.

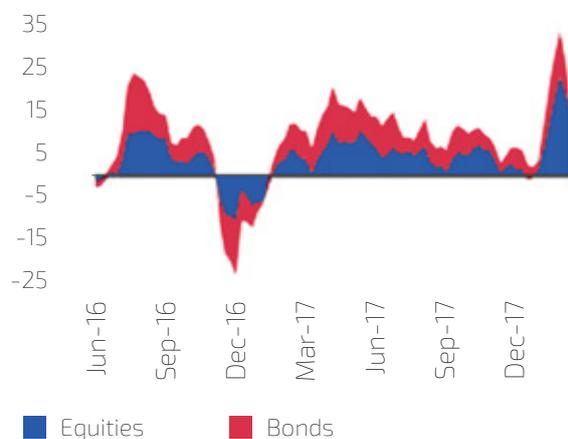
**Economic activity in other major emerging markets and developing economies continues to**

**firm up.** Recent data point to a continued upturn in commodity-exporting EMDEs, apart from Russia, where activity decelerated toward the end of the year, with quarterly growth in retail sales and industrial production contracting. In Brazil, retail sales and industrial production are growing. Policy interest rates were cut in February, extending an easing cycle that started in October 2016. Nigeria's recovery continued, with a pickup in consumer confidence and a rise in oil production in December. The manufacturing and nonmanufacturing PMIs declined slightly in January, but remain elevated, suggesting steady momentum in 2018. Recovery was also observed in Angola as the political transition boosted consumer and business confidence. Growth also picked up in several large commodity-importing EMDEs as domestic headwinds eased, apart from Turkey, where growth likely decelerated in the fourth quarter of 2017. In India, activity continued to recover from the temporary adverse effects of the goods and service tax, which came into effect in July 2017.

**Figure 1.2: Global financial indicators**

**A. Flows to EMDE equity and bond funds**

US\$ billions, 4 week sum



**B. EMDE bond spreads and stock market index**

Basis points

Index, 100=Jan. 2, 2017



Source: World Bank staff calculations. A. Last observation is February 14, 2018. B. Bond spreads are defined as bond yield spreads over U.S. government securities issued by sovereign and quasi-sovereign entities in emerging market economies (in \$). Equity index shows the MSCI emerging market index. The vertical line corresponds to the February 2, 2018, release of U.S. employment and wage growth data. Last observation is February 20, 2018.

**Global financial market volatility spiked amid rising U.S. inflation expectations and bond yields.**

Following a prolonged period of low and stable long-term yields in advanced economies, rallying global equity prices, and compressed volatility, financial markets were turbulent in the first half of February 2018. This was associated

with a continued rise in U.S. long-term yields, driven by rising inflation expectations and prospects of faster normalization of U.S. monetary policy. Following the country's stronger-than-expected wage growth, U.S. and global equity markets tumbled in February, erasing year-to-date gains. The effect on U.S. and global equity

prices was amplified by ongoing concerns about overstretched valuations. Bond spreads and credit default swaps increased, but remained close to the low levels seen throughout 2017. A favorable global economic backdrop likely helped prevent a broader reassessment of credit risks.

**Capital flows to EMDEs remain resilient.** EMDE financial markets started the year on a strong note,

with portfolio flows to bond and equity mutual funds surging in January (Figure 1.2 A) and international bond sales reaching an all-time high of \$71 billion. EMDE markets were affected by the global sell-off in early February, particularly corporate bond funds. Sovereign bond spreads have risen, although they remain low (Figure 1.2 B). Bond issuance moderated in February, with a few countries including Kenya and Nigeria, returning to the capital markets.

## *The global outlook remains positive but is not without risks for EMDEs*

**The broad and solid global economic expansion observed in 2017 is expected to continue in 2018 and 2019.** Global growth is estimated to have reached a stronger-than-expected 3 percent in 2017, a notable recovery from a post-crisis low of 2.4 percent in 2016. In 2018, global growth is projected to edge up to 3.1 percent as the cyclical upturn in advanced economies continues and EMDE growth strengthens.

**Global financial conditions and commodity prices are expected to stabilize in 2018.** Global financing conditions are likely to tighten in 2018 as monetary policy normalizes in major advanced economies. Both energy and metal prices are expected to level off in 2018 (Figure 1.4) after posting significant gains in 2017, while agricultural prices remain stable.

**Growth in EMDEs is projected to rise to 4.5 percent in 2018 and 4.7 percent in 2019 as activity recovers further in commodity-exporting countries and remains robust in commodity importers.** Growth in

commodity-exporting EMDEs is projected to pick up from 1.8 percent in 2017 to 2.7 percent in 2018, and to 3.1 percent in 2019, as headwinds gradually moderate. Growth in commodity-importing EMDEs is projected to remain robust, at 5.7 percent in 2018 and 2019, underpinned by solid export growth.

**The risks to the global outlook are becoming more balanced, mainly due to the possibility of stronger-than-expected growth in the largest advanced economies and EMDEs.** However, downside risks remain. A sudden increase in borrowing costs, triggered by a reassessment of the pace of advanced-economy monetary policy normalization or concerns about asset valuations, could lead to severe financial stress and disrupt capital flows to EMDEs. Escalating trade restrictions could derail the recovery in trade. Over the longer term, a more pronounced slowdown in potential growth in both advanced economies and EMDEs would make the global economy more vulnerable to shocks and worsen prospects for improved living standards.



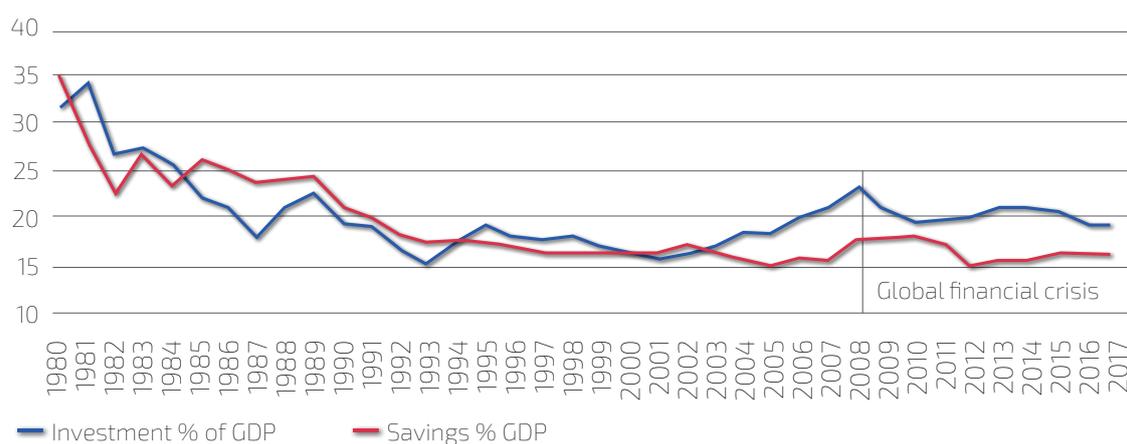
## Box 1.1: The impact of global monetary conditions on South Africa

The world's natural real rate of interest (the rate needed to equalize the global supply of savings with the global demand for investment) has been declining for the past few decades, led by two connected events. At the beginning of the millennium, preferences (including relatively accommodative U.S. monetary policy) and explicit policies in Asian emerging countries increased the supply of global savings, leading to a reduction in the natural rate across developed countries. This was one of the causes behind the financial boom and the subsequent global financial crisis. After the financial crisis, an increase in savings and a reduction

in the propensity to invest in developed countries pushed the real rate even lower, to negative rates in some Organisation for Economic Co-operation and Development (OECD) countries.

In comparison with global trends, the decline in South Africa's natural real rate of interest was delayed, as the savings investment gap widened from the early 2000s (See Box 1.1 Figure 1). During this period, foreign direct investments surged with the commodity boom, while domestic savings stayed low.

 **Box 1.1 Figure 1: Savings – investment gap in South Africa**



Various estimates of South Africa's natural real interest rate suggest that it only started to decelerate after the financial crisis (See Box 1.1 Table 1). This adjustment was reflected in lower net foreign direct investments, as domestic savings remained depressed. At the

same time, the delayed adjustment in the savings-investment gap led to a significant accumulation of foreign liabilities: South Africa's external debt to gross national income rose from 19 percent in 2000 to 51 percent in 2016.

## Box 1.1 Table 1: Estimates of South Africa's natural rate of interest

	Hodrick-Prescott Filter	Christiano-Fitzgerald Filter	Hamilton Forecasting based Methods (2017)	Leubach and Williams (2003) Semi-Structural Estimation	Structural Estimation - Bjørnland, et al 2011
1990-1999	5.3	5.3	3.1	2.2	4.2
2000-2007	5.4	5.4	5.3	3.1	5.1
2008-2017	0.7	0.6	1.2	1.8	0.8

Source: World Bank (2018b).

As an increasing number of advanced economies normalize monetary policy, global interest rates are expected to rise. While this, along with improved policy certainty, may encourage South Africans to

save more, it may also limit the expected rebound in private investment, particularly given that higher interest rates will make it more expensive for South Africa to service its external debt.

## Real Sector Developments in South Africa

*Despite a modest rebound, South African growth continues to lag behind the rest of the world*

**While global growth accelerates, the South African economy has been gathering steam slowly.** In 2017, primary sectors were the main drivers of growth, particularly in the agricultural and mining sectors. Momentum in other sectors has been weak. This means that South Africa is diverging from global growth. This is largely because the country's main exports continue to be commodities – but they are raw materials that are not highly sought-after internationally. Except for parts of the services sector, South Africa is only weakly integrated into global and regional value chains, meaning that it has limited opportunities to benefit from global growth. The business cycle has been gaining momentum since late 2017 and business and consumer sentiment improved in early 2018. This may herald the return of investment that the country needs to make its firms more competitive, transfer technology, join global supply networks, and continue overcoming its historical isolation from the world economy (World Bank 2018b). This issue is further discussed in Chapter 2.

**Growth in 2017 exceeded expectations.** Although

forecasts have been revised upward throughout the year, a growth of 1.3 percent for the year beat the most recent consensus of about 1 percent. This was largely due to significant methodological revisions by Statistics South Africa (StatsSA), which date back to at least 2015. The strong upward revision for the first quarter of 2017 erased a technical recession (two consecutive quarterly contractions in GDP) that had previously been recorded, although quarterly GDP still contracted in the fourth quarter of 2016.

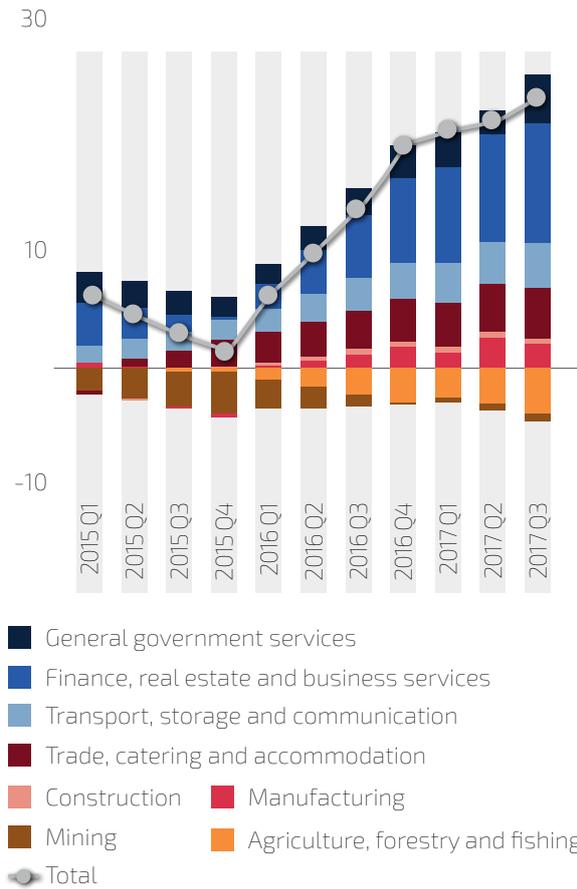
**On the supply side, growth in agriculture was revised down,** especially for 2016 and 2017, making the downturn from the drought more pronounced in 2016 but keeping the agricultural recovery in 2017 strong. Upward revisions mainly focused on the services sector and, to a lesser extent, manufacturing. The main revisions came from much higher growth in the finance, real estate, and business services sector, accounting for 43 percent of the revision in 2017 (Figure 1.3 A). Trade, catering, and accommodation saw the second-largest upward revision in 2017, by 17 percent. This is reflected in demand (Figure 1.3 B),

with private consumption being significantly revised upward in 2017, suggesting increased momentum in household spending. In addition, imports were revised downward significantly, also helping headline GDP, as

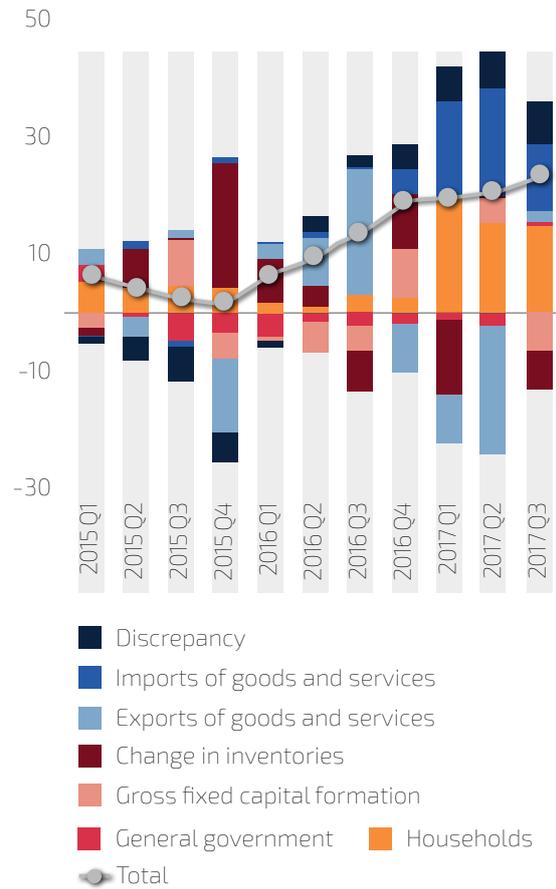
consumers appear to have spent more on domestic goods. Exports, on the other hand, were weaker in 2017 than previously thought.

**Figure 1.3: StatsSA's GDP revisions – fourth versus third quarter 2017 releases**  
(difference in seasonally adjusted annualized GDP, R billion, constant 2010 prices)

**A. Supply**



**B. Demand**



Source: StatsSA and World Bank staff calculations.

**Despite the revisions, the impact of recent developments has not fundamentally altered.**

Although improving somewhat faster than anticipated, growth was still low in 2017. In per capita terms, the economy stagnated, providing no additional income that could help reduce poverty. Moreover, growth was still principally led by agriculture. Rebounding from the drought, the sector grew by 17.7 percent in 2017, following a contraction of 6.4 percent in 2015 and 10.2 percent in 2016 due to drought. This recovery contributed 0.4 percentage points to headline GDP. Without this rebound, the economy would have grown by 0.9 percent. Although agriculture still grew by 37.5 percent in the fourth quarter of 2017 (Table 1.1), it only expanded by 1.1 percent in year-on-year terms (compared with an

average of 27.8 percent in the previous two quarters), suggesting that the sector has largely recovered and will not add a similar boost to growth going forward (other than parts of the country still affected by drought). Policy uncertainty was heightened in the sector when the Parliament voted to review the Constitution to possibly make it easier to expropriate land without compensation – although with a disclaimer that this should not undermine food security. Under such circumstances, additional investment in agriculture may have become less likely (even though the proposal to amend the Constitution is not new). This would further amplify the diverging trend observed since 2010, whereas investment growth in agriculture was lower than in other sectors (1.7% vs. 2.2% annually).

**Table 1.1: GDP growth (supply side)**  
(quarter-on-quarter percentage change, seasonally adjusted)

										
	Agriculture, forestry, and fishing	Mining and quarrying	Manufacturing	Electricity, gas, and water	Construction	Trade, catering, and accommodation	Transport, storage, and communication	Finance, real estate, and business services	General government services	Personal services
2013 Q1	-0.1	14.1	-7.3	-4.4	0.9	1	3.8	4	1.8	2.4
2013 Q2	2.3	-4.6	12.4	3.2	8.9	2.3	3.1	4.4	4.2	3.7
2013 Q3	9.8	12.1	-6.7	2.2	3.2	0.3	4.6	2.1	4.1	2.2
2013 Q4	11	17	13	-5.6	6.3	1.9	3.1	1.8	5.9	2.1
2014 Q1	3.8	-22.9	-5.3	-2.1	3.1	2.2	2.3	2.6	0.9	1.5
2014 Q2	4.5	-3.1	-4.1	1.5	1.4	-0.6	5	2.5	3.8	1.5
2014 Q3	9.2	3.7	-1.2	-1.7	1.5	3.8	3.3	3.5	2.4	1.4
2014 Q4	7.6	14.3	8.2	1.8	2.6	-0.2	3.7	4.5	1.5	0.8
2015 Q1	-11.5	11.9	-2.3	2.6	2.4	4	0.2	2.1	-0.6	0.9
2015 Q2	-20.4	-7.2	-6.4	-7.9	1.4	0.1	0.2	1.6	0.7	1
2015 Q3	-11.9	-9.9	4.6	-8	1.1	1.9	0	1.8	1	1.3
2015 Q4	-6.9	2	-2.6	0.1	1.3	3.4	-1.6	1	1	0.7
2016 Q1	-12.3	-20.3	1.2	-3.4	1.2	2.2	0.4	2.7	1.6	1.7
2016 Q2	-11.4	16.1	8.2	-1.1	0.5	1.9	2.8	3.5	1.5	2.2
2016 Q3	-4.3	5.6	-2.8	-0.4	1.2	-1.8	2.3	2.4	2.2	1.8
2016 Q4	-4.1	-9.9	-2.5	4.6	0.9	2.5	3.1	2.6	1.2	1.3
2017 Q1	26.2	12.6	-4.1	-5.6	-1.2	-5.6	-1.3	-0.5	-0.5	0.3
2017 Q2	36.8	7.8	2.9	8.1	-0.7	0.9	2.6	3.1	-1.9	1.7
2017 Q3	41.1	6.2	3.7	-6.1	-1.2	-0.1	0.8	1.9	1.1	1.2
2017 Q4	37.5	-4.4	4.3	3.3	-1.4	4.8	2.8	2.5	1.4	1

Source: StatsSA

**Although there was heightened policy uncertainty around the third Mining Charter released in early 2017, mining was a major contributor to growth.**

Short-term fluctuations in mining output can be linked to commodity prices. But, in the longer term, higher output requires additional investment, which has been hampered by policy uncertainty. The World Bank (2018b) suggests that the second Mining Charter (2010) strongly muted the investment response to higher global demand and prices. There is insufficient data to

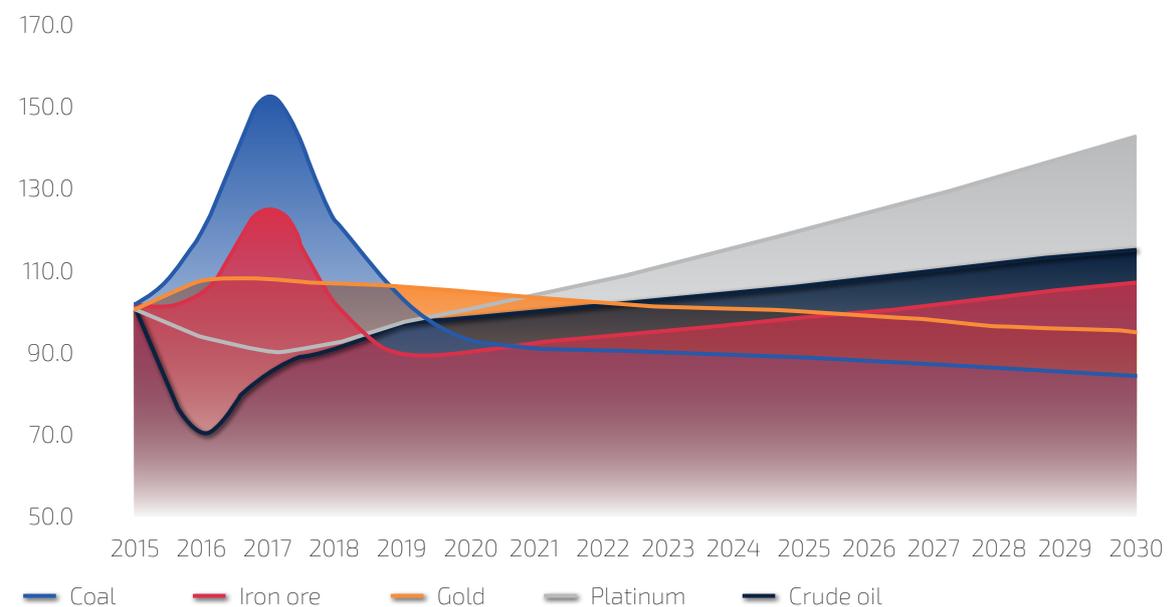
conduct a similar analysis for the third Mining Charter, but anecdotal evidence suggests that major mining investments remain on hold and mining houses are not investing as much in South Africa as they are elsewhere. The charter was taken to court by the Chamber of Mines, but President Ramaphosa and his new Cabinet have since improved relations with the chamber, which may improve sentiment for future investment and increase output on a more sustainable basis. This issue is further discussed in Chapter 2.

**Favorable commodity prices supported mining output in 2017, but this recovery may be temporary.**

Coal prices rebounded because China cut its production in 2017. But demand for coal is expected to drop as the world moves toward greener technologies for environmental reasons (see Figure 1.4). Similarly, iron ore prices were buoyant in 2017, given supply shortfalls in Australia and Brazil, but are projected to decline from 2018 (World Bank 2017d). They may, however, not decline as much for South Africa because South African iron ore is relatively high quality and has been trading at a higher margin since late 2016. Gold prices

are projected to weaken over time, but platinum prices are on the rise as global demand strengthens. The impact of recent diesel scandals and decisions taken in many European cities to ban diesel vehicles (platinum is used as a catalytic converter in diesel engines) could nonetheless weaken such positive prospects. Overall, mining grew by 4.6 percent in 2017, the second-strongest performer after agriculture, adding 0.3 percentage points to GDP. Mining production continued to grow by 2.4 percent in January 2018, driven by iron ore and other metallic minerals, and with a marked contraction in platinum group metals.

**Figure 1.4: Commodity price forecasts**  
(\$ constant, index 2015=100)



Source: World Bank (2017d).

**Manufacturing contracted by 0.2 percent in 2017.**

The sector gained momentum toward the end of the year – accelerating its performance from a decline of 4.1 percent in the first quarter of 2017 to 4.3 percent growth in the fourth quarter. According to StatsSA, this strong performance in the last quarter was driven by food and beverages, petroleum, chemical products, rubber and plastics, as well as various metals products and machinery. Performance was sustained in January 2018, with manufacturing production growing by 2.5 percent year-on-year, again driven largely by food and beverages (especially sugar and processed goods). To an extent, this growth can still be considered part of the rebound from the historical drought, which is expected to wear off in 2018. But the manufacturing

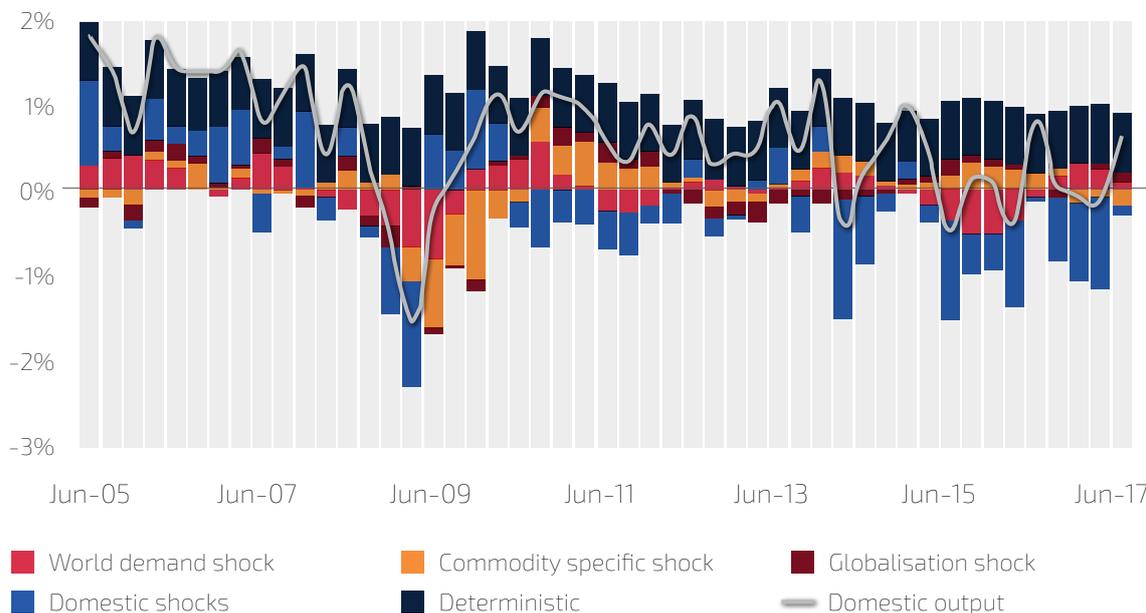
sector’s prospects are still relatively positive due to a favorable global environment and the change in political leadership. The manufacturing PMI rose above 50 (signaling expansion) in February, with a marked acceleration in the expected business conditions subcategory, where the index improved from 50 in November 2017 to 79.1 in February 2018. Readings on purchasing commitments and new sales orders have also had a marked improvement since November. If this improvement is sustained, it could mark the end of years of stagnation in manufacturing. Relaxing the skills constraint, investing in technological upgrades and integrating South Africa into regional and global value chains will play a critical role to sustain this momentum, as further discussed in Chapter 2.

**Finance, real estate, and business services, South Africa's strongest growth sectors in the past, expanded by only 1.9 percent in 2017 – the lowest rate since 2014.** Yet they continued to remain the strongest non-primary sectors in the economy. In fact, finance and related sectors had the same contribution to headline growth as agriculture, although agriculture, forestry, and fishing accounts for about 2.5 percent of GDP compared to about 20 percent for finance, real estate, and business services. The sector was unusually weak in the first quarter of 2017, contracting by 0.5 percent. It showed stronger performance in the remaining quarters, but there was no noticeable increase in momentum. A loosening in monetary conditions in South Africa may further support credit growth and help sustain the increase in financial intermediation activity seen toward the end of the year. On the other hand, greater political certainty could reduce the volatility of the rand and affect income from hedging services – an important business line for South African banks (see Box 1.2).

**Transport, storage, and communication and personal services were the only other sectors growing faster than 1 percent in 2017.** Electricity, gas, and water grew by 0.2 percent; construction contracted by 0.3 percent; and trade, catering, and accommodation contracted by 0.6 percent. General government services only expanded by 0.3 percent as the public sector contained expenditure growth in times of weak revenue collection and rising debt.

**On the demand side, growth has been held back by domestic factors since at least 2015** (Figure 1.5), including policy uncertainty, low business and consumer confidence, and supply constraints. The end of the commodity super-cycle in 2015 resulted in falling prices for South Africa's commodity exports that have undermined South African purchasing power, which has weakened growth. The global economy has contributed to South African growth since early 2017, but at relatively modest levels.

**Figure 1.5: Historical decomposition of domestic output**  
(percentage change)



Source: World Bank staff calculations. Note: World demand shocks are proxied by the export deflator, the import deflator, and trading partner output; domestic shocks are proxied by inflation, domestic output, and the exchange rate.

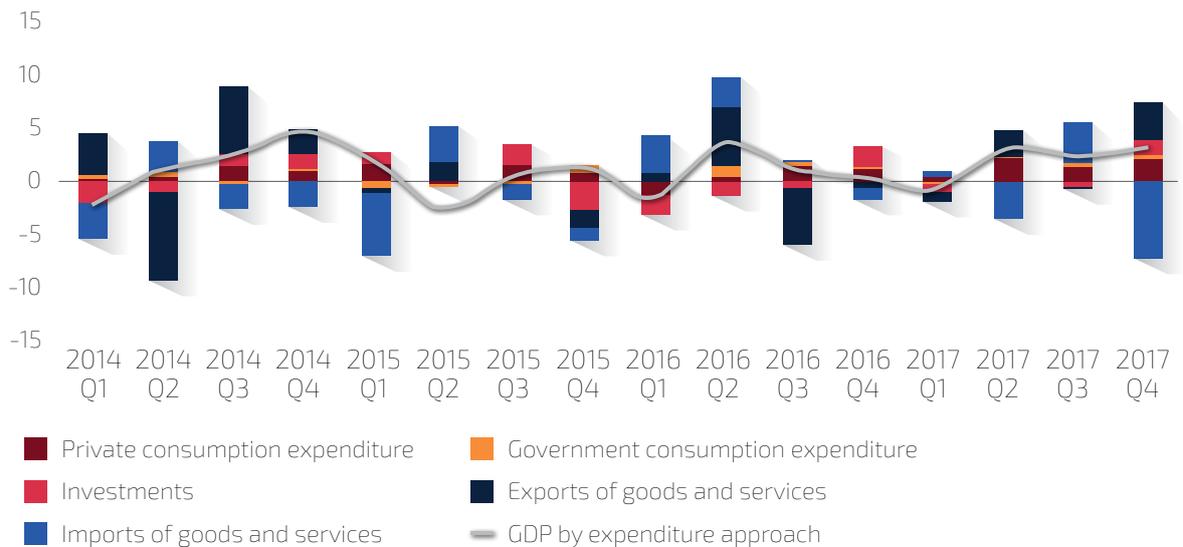
**Strengthening household consumption was the main driver of growth in 2017.** Private consumption rose by 2.2 percent in 2017, the highest recorded rate since 2012, contributing 1.4 percentage points to growth (while an accompanying increase in imports subtracted 0.6 percentage points to GDP growth). The moderation

in inflation, due to dissipating drought effects and a stronger exchange rate, put less pressure on household budgets, allowing them to spend more in real terms. Household credit growth remained relatively low in 2017, expanding below the rate of inflation. In January 2018, nominal consumer credit growth slowed to 3.7

percent, but picked up modestly in February, driven by unsecured credit. Households remain indebted and, although debt-to-disposable-income ratios have been dropping, there is only so much room for taking on additional debt for consumption. However, consumer

confidence has improved markedly. Credit growth is more likely to support business investment when growth has been more buoyant (7.1 percent in January 2018). Government consumption grew modestly by 0.6 percent in 2017.

**Figure 1.6: GDP by expenditure**  
(percentage change and contributions to growth, quarter-on-quarter seasonally adjusted annualized rate)



Source: StatsSA.

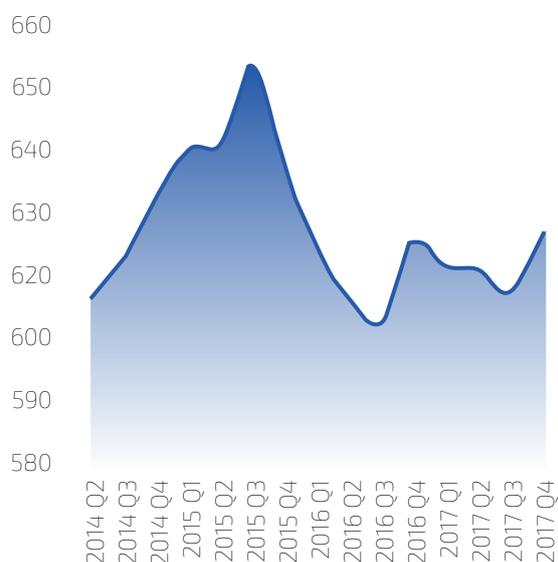
**Investment recovered from its 4.1 percent contraction in 2016.** Gross fixed capital formation expanded modestly by 0.4 percent in 2017. Investment returned to levels observed in 2014 but remains below the highs of 2015. It was sluggish in 2017 apart from a relatively strong performance in the last quarter (Figure 1.7 A). According to StatsSA, the increase in this quarter was largely the result of growth in acquisition of machinery and other equipment (up by 9.2 percent) and transport equipment (up by 21.7 percent). Fixed residential and nonresidential investment fell in the fourth quarter, in line with weak performance in the construction sector and a soft housing market, with more potential sellers than buyers.

**Improved business confidence was sustained in South Africa throughout the first quarter of 2018.** Between mid-December 2017 and mid-March 2018, the rand strengthened by 12.5 percent, reflecting improved investor appetite for South African assets (although the rand lost some of this ground after Parliament voted to review the Constitution to possibly make it easier to

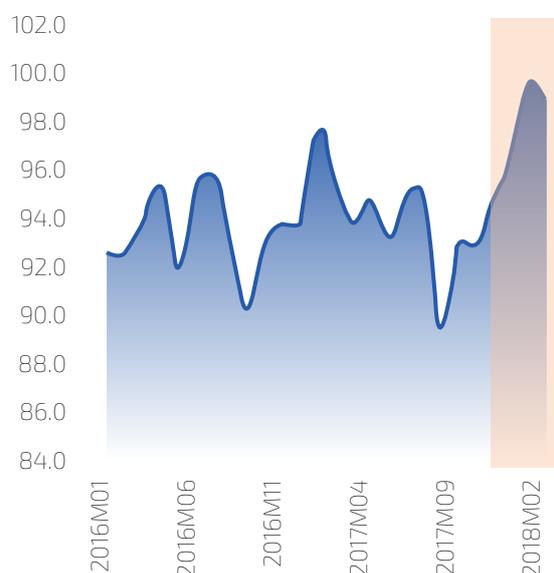
expropriate land without compensation). South African 10-year bond yields have strengthened to 2015 levels. Stronger confidence is also reflected in various indices. The South African Chamber of Commerce and Industry's business confidence index recovered in January and February to levels last seen in 2015 (Figure 1.7 B). The quarterly confidence index published by Rand Merchant Bank and the Bureau for Economic Research rose from 34/100 in the third quarter of 2017 to 45/100 in the first quarter of 2018 – an unusually high increase. As with the PMI, this was again largely driven by optimistic expectations rather than actual conditions. Improved investor sentiment may translate into higher investment in 2018. However, whether higher portfolio flows are mirrored in higher fixed investment (in production capacity, for example) remains to be seen. According to the Investment Tracker of the Manufacturing Circle, manufacturing firms are mainly looking to invest in replacing or maintaining land and buildings and expanding plant and equipment. Significantly higher spending is also expected in research and development activities in the sector.

**Figure 1.7: Gross fixed capital formation and business confidence**

A. Gross fixed capital formation (R billion, 2010)



B. Business confidence (Index 100=2015)



Source: StatsSA and South African Chamber of Commerce and Industry.

**Exports contracted by 0.1 percent in 2017, the weakest performance since 2012.** Even though exports had a strong rebound of 12.3 percent in the fourth quarter, over the year little momentum was notable. The strong quarter-on-quarter performance

toward the end of the year reflected relatively strong performance in mining and manufacturing. Coupled with the 1.9 percent increase in imports in 2017, net exports reduced headline GDP growth for the year.

## Labor Market Developments in South Africa

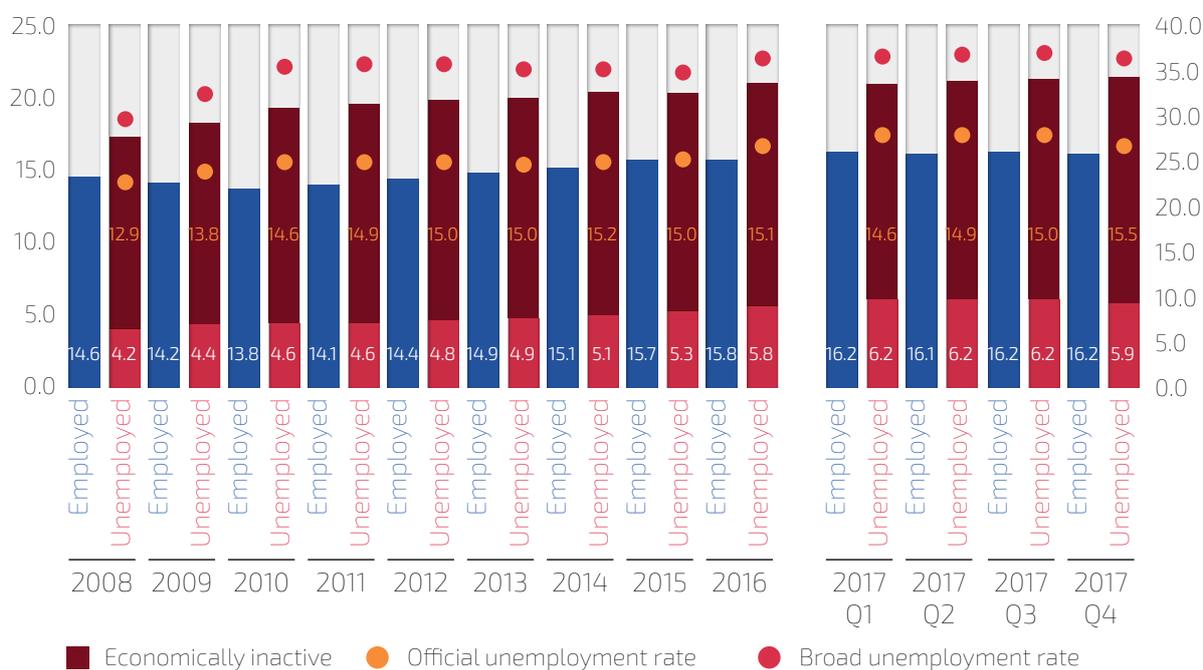
**High unemployment, among unskilled and young people in particular, remains an immense challenge**

**Getting a job is the most promising pathway out of poverty in South Africa.** The official unemployment rate fell from 27.7 percent in the third quarter of 2017 to 26.7 percent in the fourth quarter (Figure 1.8). However, this decrease conceals a large exit in the labor force, with the participation rate dropping from 59.9 percent

to 58.8 percent between the third and fourth quarters. In addition, the number of employed people declined over that period, with a staggering 21,000 people losing their jobs. Consequently, an additional 503,000 people were deemed economically inactive, with 102,000 categorized as discouraged job seekers.

## Figure 1.8: Labor market developments

(millions [LHS] and percent of labor force [RHS])



Source: StatsSA and World Bank staff calculations.

### Young people are particularly affected by unemployment.

Although the unemployment rate among the age group 15 to 24 years has declined since the second quarter of 2017, more than half of South Africans in this age category participating in the labor market are without jobs. The youth unemployment rate in the last quarter of 2017 was 51.1 percent – down from 52.2 percent in the previous quarter. Similar to the headline unemployment rate, this decrease does not necessarily translate into gains in terms of employment. In fact, the labor participation rate for people between the ages of 15 and 24 years declined from 26.8 percent to 25.9 percent between the third and fourth quarters. An additional 94,000 young people are now recognized as economically inactive. At the same time, 17,000 jobs occupied by young people were lost during the last quarter of 2017.

### The highest average growth rate in employment in 2017 was recorded in the Northern Cape,

with employment in the province growing at 2.5 percent on average after a contraction of 1.6 percent in 2016. The Western Cape created 26,000 additional jobs (net), followed by Mpumalanga with 21,000 jobs. Gauteng lags behind with an average contraction in employment of 1.3 percent, while the net job loss in

2017 was 30,000 – at least 140,000 jobs were lost in the province in the second quarter alone.

### Formal employment performance in 2017 improved significantly following a disappointing 2016 –

creating 22,000 jobs in 2017 on average, after shedding 6,000 in 2016. However, after adding 186,000 jobs in the third quarter of 2017, the formal sector shed another 135,000 in the last quarter. Informal employment showed strong performance. Overall, 28,000 jobs were created in 2017, against an average of 2,000 in 2016. About 118,000 jobs were added in the informal sector in the fourth quarter, after 71,000 were lost in the third.

### The mining and construction sectors were the worst performers in terms of employment by sector,

with an average contraction in employment in 2017 of 2.7 percent and 2.5 percent respectively. The construction sector shows signs of a modest improvement, with 25,000 jobs created in the last quarter of the year, while the mining sector shed 35,000 jobs. Notably, higher mining output did not translate into jobs, as the sector becomes increasingly capital intensive (World Bank 2017a). The highest growth rates in 2017 were in the transport (1.3 percent) and community and social services (1.1 percent) sectors. Although employment

in the agricultural sector contracted overall in 2017, an additional 39,000 jobs were added in the fourth quarter.

**With the effects of the drought dissipating, skilled agriculture displayed the highest recorded employment growth in 2017** at 7.9 percent – adding 14,000 jobs between the third and fourth quarters alone. Overall agricultural employment remained below 2015 and even 2016 levels.

**As in 2016, skilled employment grew the fastest,** at 2.8 percent in 2017, followed by semi-skilled jobs (2.7 percent). Unskilled jobs had the slowest growth rate (1.8 percent). As further discussed in Chapter 2, this trend reflects a deep mismatch between an economy that demands skills and a labor force that is not fully able to respond to such demand, as mostly unskilled and often located far away from jobs centers.

## Fiscal Developments in South Africa

 **The government renewed its commitment to stabilize debt, although at higher levels, and averted further rating downgrades**

**The 2018 Budget put South Africa on a stronger fiscal footing,** following the October 2017 Medium Term Budget Policy Statement, which had announced a much wider budget deficit than foreseen. The higher deficit was largely the result of a sharp drop in revenue collection and a weak economy. The public debt trajectory rose significantly, to 60 percent of GDP by 2021/22, suggesting that the long-standing debt stabilization target had been abandoned. Standard and Poor's downgraded South Africa's creditworthiness further, following downgrades to sub-investment ("junk") status in April. A return to the debt stabilization target was critical to restore market confidence and avert a downgrade by Moody's to sub-investment grade, which was expected to result in significant capital outflows from index-tracking funds. The 2018 Budget achieved this.

**New revenue measures were introduced in the 2018 Budget, and expenditure has been reprioritized,** to accommodate new spending priorities, notably higher education (an additional R57 billion over three years) and drought relief (R6 billion) for areas of the country still affected (such as the Western Cape). To stem the deterioration in revenue, the 2018 Budget proposes six main tax measures:

- An increase of 1 percentage point in VAT, increasing the tax to 15 percent.
- No adjustments for inflation for the top four income brackets, combined with below-inflation adjustments for the bottom three brackets.
- An increase in both general fuel (22c/liter) and Road Accident Fund (30c/liter) levies.

- An increase in ad valorem excise duties for luxury goods.
- An increase in estate duty, targeting luxury estates above R30 million with a 25 percent levy.
- Increases in the plastic bag levy, the motor vehicle emissions tax, and the levy on incandescent light bulbs to encourage environmentally friendly choices.

**Other revenue measures include reviewing the VAT zero-rating of spending categories that are not consumed by the poor** (such as rye bread or nontraditional beer). A sugar tax (called the health promotion levy) will also be implemented. Health tax credits (mostly used by the rich) will be curbed.

**Between 2018 and 2021, most of additional revenue is expected to come from VAT,** followed by higher corporate tax revenue due to stronger economic growth (Figure 1.9 A). Top income tax rates have not been increased since being adjusted in the 2017 Budget. Projected higher customs tax collection also means higher transfers to the other members of the Southern African Customs Union (SACU).

**Reprioritizing expenditure means significantly lower public investment spending,** both at the national level and through provincial and municipal infrastructure grants (Figure 1.9 B). State-owned enterprises will also receive less support from government, including the infrastructure for which these entities are responsible (like the South African National Roads Agency Limited, responsible for roads, and the Passenger Rail Agency of South Africa, responsible for rail). Tertiary education received a higher spending allocation to phase in fee-

free education for poor and working-class students. Interest rate payments are expected to be lower due to a reduction in the risk premium, consistent with falling borrowing costs and renewed investor confidence following changes in the South African government.

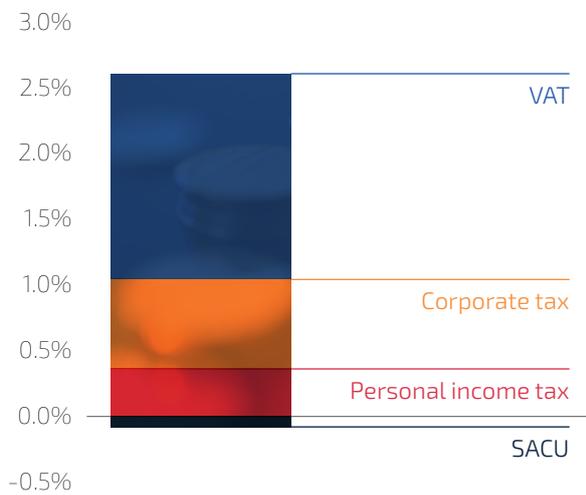
**Social grants were increased by R3 billion, above the rate of inflation.** In addition, many of the items poor households consume are zero-rated. In this sense, this is a progressive budget, mostly financed by the rich. But, given that only 12 percent of poor students qualify for

university (see Box 2.3), the large reallocation to higher education will not benefit many of South Africa's poor.

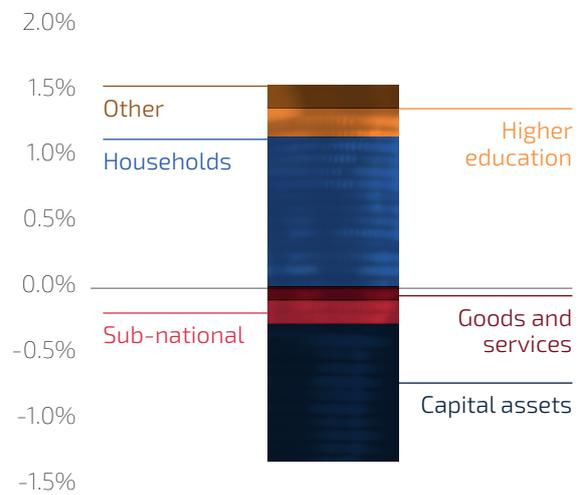
**Although main budget expenditure was reduced, overall spending is still likely to be higher** than under the Medium Term Budget Policy Statement because a higher contingency reserve was included, which past experience suggests it will be spent. The contingency reserve has increased from R5 billion in previous budgets to R8 billion (and R10 billion in 2020/21). Overall, the 2018 Budget is expansionary.

**Figure 1.9: Changes in fiscal revenue and expenditure, 2018 – 2021**

**A. Sources of additional tax revenue, 2018 – 2021, compared to 2017 MTBPS (%)**



**B. Reprioritization of expenditure, 2018 – 2021, compared to 2017 MTBPS (%)**



Source: National Treasury and World Bank staff calculations. Notes: (a) Expenditure excludes additional contingency reserve; (b) MTBPS = Medium Term Budget Policy Statement; (c) Expenditure on households refers to transfers under the National Student Financial Aid Scheme.

**The 2018 Budget estimates a budget deficit of 4.3 percent of GDP in 2017/18.** Considering new revenue measures, the deficit is expected to decrease to 3.6 percent in 2018/19 and in 2019/20, and to 3.5 percent in 2020/21. Higher revenue and assumed lower interest service costs result in a primary deficit of 0.2 percent in 2018/19, 0.1 percent in 2019/20, and 0 percent by 2020/21. This will help decelerate debt dynamics, expected to stabilize at 56.2 percent in 2021/22.

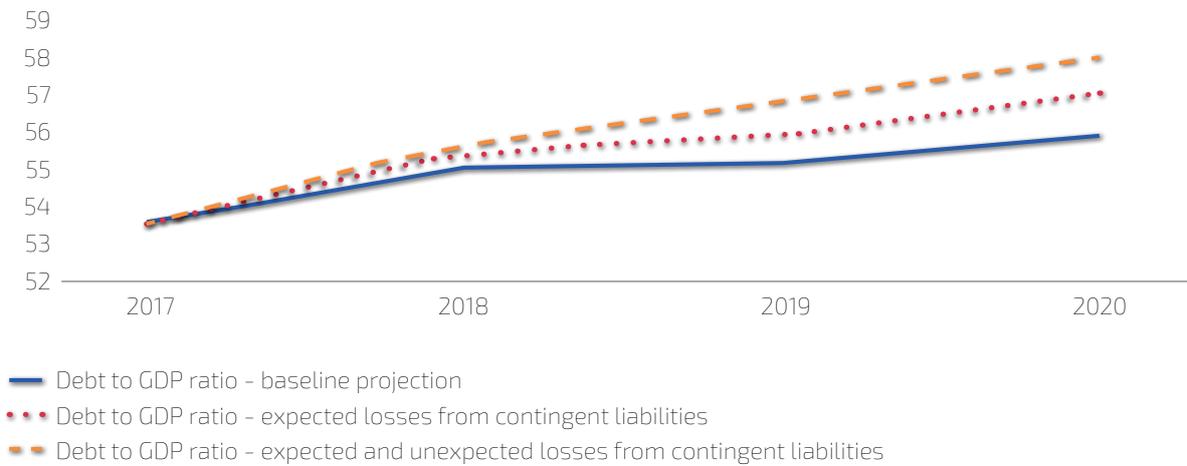
**Contingent liabilities in state-owned entities remain a fiscal risk.** The debt-to-GDP ratio would increase between 1 percent and 2 percent of GDP in the medium term if contingent liabilities materialize, and will become one of the major driving forces of debt accumulation. As

Figure 1.10 shows, contingent liabilities that materialize would affect the debt trajectory. State-owned entities would default on debt that matures. Remaining liabilities mature, but the total amount of sovereign guarantees would not be triggered immediately. In the case of default, about 0.6 percent of GDP would be added to national government financing requirements annually in the medium term. If additional defaults occur, called "unexpected losses"<sup>2</sup> in Figure 1.10, annual additional financing requirements could reach 1.2 percent of GDP. In addition, the estimated costs of contingent liabilities that materialize would be even higher if the overall macro and financial situation further deteriorates from projections in the 2018 Budget's medium-term expenditure framework.

<sup>2</sup> Calculated as one standard deviation of losses of a binomial distribution.



**Figure 1.10: Debt-to-GDP ratio with contingent liability scenarios**



Source: Bachmair and Bogoev (2018).

**The StatsSA revisions to GDP, including nominal GDP, have several implications.** The drop in tax buoyancy raised as a concern in the 2017 Medium Term Budget Policy Statement (and countered with additional revenue measures in the 2018 Budget) is likely to have been worse than expected – this means that an increase in nominal GDP is associated with even lower revenue collections than believed. If the weak buoyancy is due to an administrative deterioration in the South African Revenue Service (currently under review), the institutional damage could be worse than expected.

Other possible reasons for lower tax buoyancy include increased tax avoidance<sup>3</sup> or the emigration of wealthy individuals. But with higher GDP the fiscal deficit and public debt as a percentage of GDP have both been reduced by about 0.1 percentage points. Although a minor difference, when coupled with stronger 2016 and 2017 growth this does suggest that South Africa's fiscal position is stronger than previously anticipated. All in all, the Budget was strong enough to convince Moody's not to downgrade South Africa to sub-investment grade in March, and move the rating outlook to stable.

## Inflation and Monetary Policy in South Africa

### *Inflation has eased and provided room for looser monetary policy*

**Reduced inflation pressures have helped reduce policy rates, as the inflation rate is now well within the South African Reserve Bank's target band.** Consumer price inflation dropped from 6.6 percent in January 2017 to 4.4 percent in January 2018, and fell further to 4 percent in February. There are several factors that account for this decline. Lower food and fuel price inflation played a major role, particularly as the country started to recover from the drought in 2015, the effects of which continued to be felt in 2016. Another

important contributing factor to the improved inflation outlook is the appreciation of the rand because of strong commodity prices, and rebounding investor confidence and capital inflows since the ANC elective conference in December 2017. Core inflation also moderated.

**These factors influenced the South African Reserve Bank's inflation forecast, which was revised down for 2018 and 2019.** However, further increases in the international oil price and the

<sup>3</sup> Tax avoidance is legal and can be aided by tax advisors to minimize fiscal payments as allowable by law. Tax evasion is illegal.

implementation of a considerable number of revenue measures announced in the 2018 Budget will put pressure on inflation. The increase in VAT is expected to add 0.6 percentage points to headline inflation within a year, somewhat offset by a stronger rand.<sup>4</sup> The South African Reserve Bank expects consumer price inflation to average 4.9 percent in 2018 and 5.2 percent in 2019.

**Inflation expectations are high but remain within the target range**, following a marginal decrease from 5.8 percent to 5.7 percent, according to a survey conducted by the Bureau for Economic Research in the fourth quarter of 2017. However, average expectations for 2019 and five-year inflation expectations hold at 5.9 percent and 5.6 percent respectively.

**The South African Reserve Bank cut the policy rate by another 25 basis points in March 2018**, bringing the policy rate to 6.5 percent. There may be room for additional cuts considering benign inflation and lower risks. In March 2018, the Monetary Policy Committee also noted that risks had dissipated, notably with respect to both food price inflation and potential capital outflows from rating downgrades, following the Moody's decision in March not to downgrade South Africa to sub-investment grade. However, the Monetary Policy Committee did identify a faster-than-expected tightening in US monetary policy as a risk, and expressed concern about a potential trade war involving the US. While there may be room for further cuts, relatively high inflation expectations would keep the South African Reserve Bank more cautious.

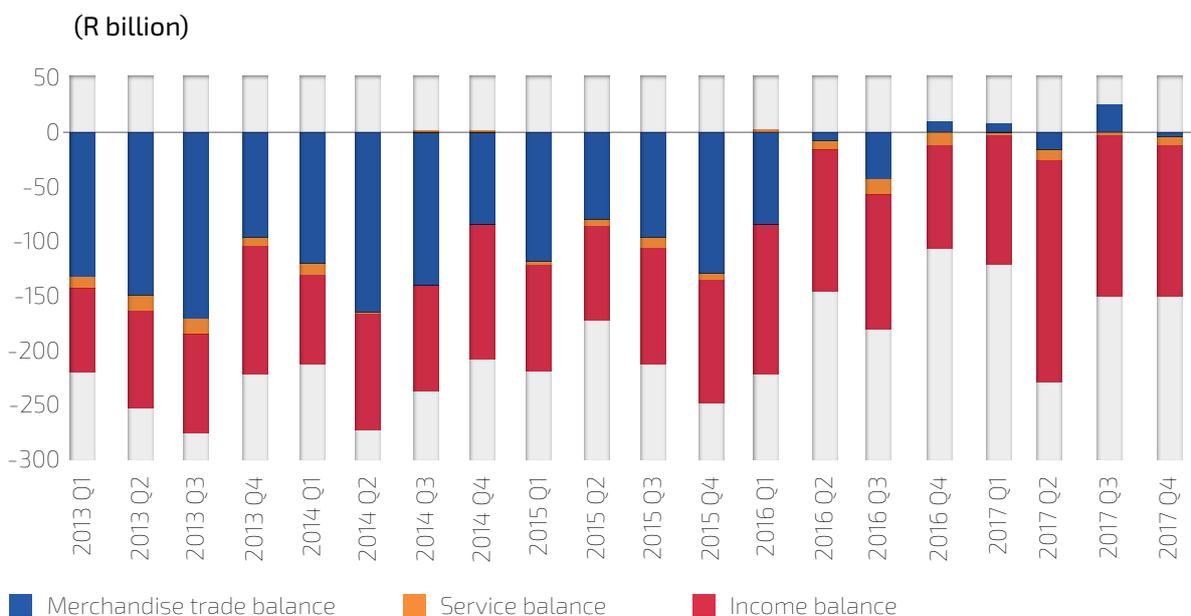
## The External Sector in South Africa

📈 *South Africa's weak linkages with global value chains reduce the scope for a boost in exports*

**The rand strengthened significantly following the election of Cyril Ramaphosa as the president of the ANC in December 2017, and subsequently as the president of South Africa in February 2018.** Two other

factors also contributed to the recent appreciation: a weak dollar against major currencies and the positive 2017 rebound in the global price of the main mineral commodities exported by South Africa.

**Figure 1.11: Current account components**



Source: Haver Analytics and World Bank staff calculations

<sup>4</sup> Statement of the Monetary Policy Committee – South African Reserve Bank, March 2018.

**South Africa's current account deficit narrowed to 2.5 percent of GDP in 2017**, from 3.1 percent in 2016, in line with World Bank expectations in the previous Update. The trade balance remained in surplus throughout 2017 for the first time in many years. Both imports and exports picked up in the fourth quarter, resulting in a lower trade surplus overall, while dividend receipts declined and payments increased. Weak performance in exports is a structural risk to the current account balance, as South African exports

(especially non-commodity products) struggle to keep pace with global exports.

**Portfolio investment continues to dominate the financial account.** In rand terms, foreign direct investment into South Africa declined by 46.3 percent between 2016 and 2017, with a marked drop in the fourth quarter of 2017. Portfolio inflows doubled, remaining the largest financing item in the financial account. Reserve assets strengthened from mid-2017, reaching \$50 billion in February 2018.



### **Box 1.2: The exchange rate and South Africa's integration into the global economy**

A competitive exchange rate allows South Africa to seize opportunities in the global economy. But the rand is chronically undervalued and highly volatile. This poses problems for the country:

**Rand undervaluation.** South African productivity is not catching up with the rest of the world.<sup>5</sup> This results in a depreciating real exchange rate, particularly in manufacturing and mining. The undervalued currency reflects the country's poor global integration, the level of protection of the economy, and policy uncertainty that deters investment. It entails low innovation from technology transfer through global value chains and foreign direct investment, and relatively low imports of technology-intensive capital goods. A divergence in productivity between South Africa and the world puts the rand on a depreciating trajectory in real terms, making imports more expensive for both consumers and firms. In addition, World Bank research suggests that the real exchange rate is persistently undervalued<sup>6</sup> – an observation that is mirrored in purchasing power parity conversion rates, since, according to the OECD, the exchange rate that would equalize price levels across South Africa and the United States was R5.90 to the dollar in 2016. The spot exchange rate was R14.70, however. Terms-of-trade effects play a role in this, especially commodity prices, but a more structural underlying undervaluation can be linked to the differences in productivity in the tradable manufacturing and services sectors. A lack of competitiveness of South African manufacturing also explains the weak export response to real depreciations, further supporting persistent current account deficits.

**Rand volatility.** South Africa has one of the most volatile currencies in emerging markets. This is partly due to the country's structural external vulnerability and rising external liabilities, as described in Box 1.1. According to the International Monetary Fund, the rand-dollar exchange rate is largely driven by commodity prices, and domestic and foreign shocks.<sup>7</sup> Policy uncertainty in recent years has been a major driver of rand volatility. This makes the returns from trading and cross-border investment expensive, requiring firms to hedge, which in turn poses potential constraints to investment and trade that could help South African firms diversify into other globally traded goods. It may also deter investment that could destabilize cartels or support technology transfer. When interest rates in advanced economies are very low, the costs of hedging are raised, especially over the long term (and in particular for smaller firms).

Regarding foreign investment, World Bank research on a sample of 80 developing countries between 1990 and 2015 suggests that reducing exchange rate volatility by 10 percent over one year could boost foreign direct investment inflows by an estimated 0.48 percentage points of GDP.<sup>8</sup> The same reduction over the past five years could boost inflows by 0.27 percentage points over the long term. Reducing the rand's volatility to that of developing country peers could potentially boost South Africa's foreign direct investment inflows by about 0.25 percentage points of GDP (see Box 1.2 Figure 1).

<sup>5</sup> World Bank (2017c).

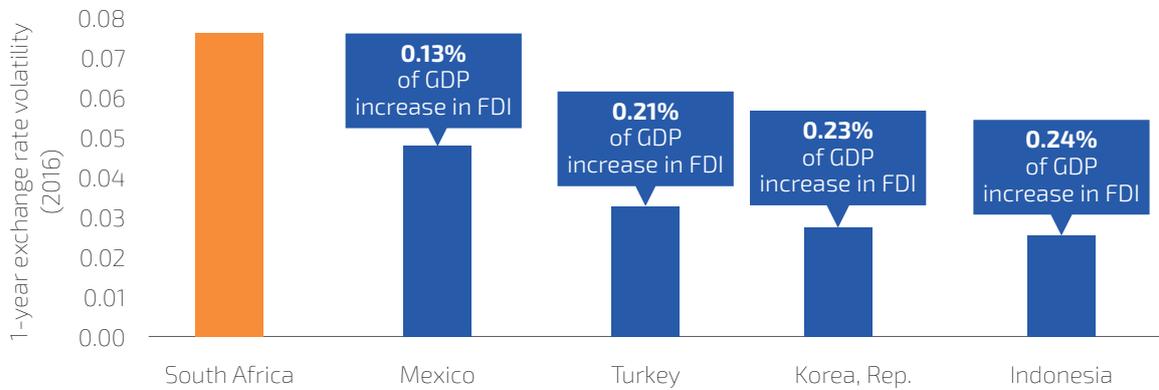
<sup>6</sup> Nguyen (2018).

<sup>7</sup> Maveé et al. (2016).

<sup>8</sup> Note, however, the difficulty in clearly delineating cause and effect.



**Box 1.2 Figure 1: Potential impact of lower rand volatility on foreign direct investment to South Africa**



Source: Algu et al. (2018). Note: Bars depict currency volatility; bubbles depict potential impact on foreign direct investment to South Africa by lowering rand volatility to volatility levels of peers.

## The Outlook for South Africa

 *A cyclical rebound is expected, but higher potential growth will require ambitious structural policies*

**The South African economy's performance is improving.** The year 2016 was a trough in the business cycle and, although growth in 2017 was largely driven by agriculture's drought recovery, momentum is being gained. The South African Reserve Bank's business cycle indicators have been improving, lending further support to the economy's recovery. Business and consumer sentiment has improved. The 2018 Budget has signaled to the markets a return to the debt stabilization target. The economy is growing – the question is, how fast?

**Tailwinds from the agricultural recovery are expected to taper off in 2018:** by the end of 2017, agricultural production already exceeded the pre-drought production peak in the fourth quarter of 2014. Drought continues to linger in parts of the country, including in the Western Cape. Mining may provide further support to the economy, but this will depend on favorable commodity prices. Even though the commodity outlook has improved in general, South Africa's raw materials are not highly sought-after.

As discussed previously, coal prices are expected to decline as countries, especially economic giants like China, switch to greener sources of energy. China's continued transition from an investment- to a consumption-driven economy also results in stagnant iron ore prices. Platinum demand is not expected to be buoyant, although it is still projected to increase from \$950 in 2017 to \$1,056 by 2020. Gold prices are likely to decline as interest rates go up throughout the developed world, although global uncertainty shocks may result in temporary price increases. Rising oil prices will put pressure on firms and consumers – the World Bank (2017d) projects oil prices to increase from \$53 a barrel in 2017 to \$60 by 2020.

**If there is an amicable resolution to the third Mining Charter, the World Bank estimates that investment in the sector may increase by 25 percent (see Chapter 2).** Beyond this, much of the recovery will depend on manufacturing and services. South African manufacturing is closely linked to domestic consumption, which will provide some

support to the sector, and to global demand through the mining value chain. The World Bank (2018b) argues that South African manufacturing remains relatively uncompetitive globally. Whether South African manufacturing can recover and improve the country's growth performance will depend on policies that support competition and competitiveness, investment in research and development, and links between South Africa and global and regional value chains, including the associated foreign direct investment and knowledge transfer. An improved climate for investors increases the likelihood of these improvements taking place.

**The World Bank (2018b) argues that finance is South Africa's strongest sector.** It has a long history of intermediating capital in global markets, has benefited from reforms in the 1990s, and has adopted global financial standards. The sector is expected to continue driving the country's growth performance: lower policy rates may support an increase in the provision of credit domestically, South African companies will continue to seek domestic finance to expand abroad, and a growing world economy offers plenty of opportunities for profitable deals. The second services sector likely to contribute to growth is retail and wholesale, supported by growth in household consumption.

**Looking at demand, household consumption is likely to continue to be the main driver of growth.** Inflation is expected to be benign, barring further shocks from drought or domestic or global politics. As the economy is still catching up, supply-side pressures are expected to remain moderate. Low inflation will support household budgets and provide room for the South African Reserve Bank to loosen monetary policy, which will strengthen the credit cycle – especially as household indebtedness has reduced. A stronger economy is also likely to contribute to wage growth, supporting consumption. However, consumers will be affected by the revenue measures set out in the 2018 Budget. The rich will be hit particularly hard, while higher transfers provide some relief to the poor. Overall, fiscal consolidation will dampen consumption growth. Government consumption is projected to stagnate in real terms, in line with the 2018 Budget. Exports are expected to pick up, but only modestly. This is due to relatively soft commodity prices and the time it takes to improve the competitiveness of South Africa's export sectors.

**The extent to which investment will improve in 2018 and beyond is difficult to predict.** In mining, there are several projects (especially in coal) that have been shelved due to legislation related to the third Mining Charter. These projects could be implemented quickly and translate into higher growth, as discussed in Chapter 2. Beyond this, the effect of the boost to investor certainty on actual investment remains to be seen. The World Bank (2018b) suggests that South Africa's drop on Transparency International's corruption-control indicator between 2001 and 2016 reduced investment by JSE-listed firms by 10.5 percent over that period. Beyond strengthening institutions, investment may also return if the President succeeds in strengthening the social compact while accelerating structural reforms. Yet, an element of investor prudence will remain ahead of the 2019 elections, given policy uncertainty on land reform, the Mining Charter, intellectual property rights, and the information and communications technologies regulatory framework (it is good news that outstanding purchasing power agreements for independent producers were signed in April). In addition, government is cutting back on public investment. Overall, modest investment growth is projected between 2018 and 2019, although it could quickly gather steam if strong political will translates into reforms. As consumption, exports, and investment strengthen overall, imports also improve.

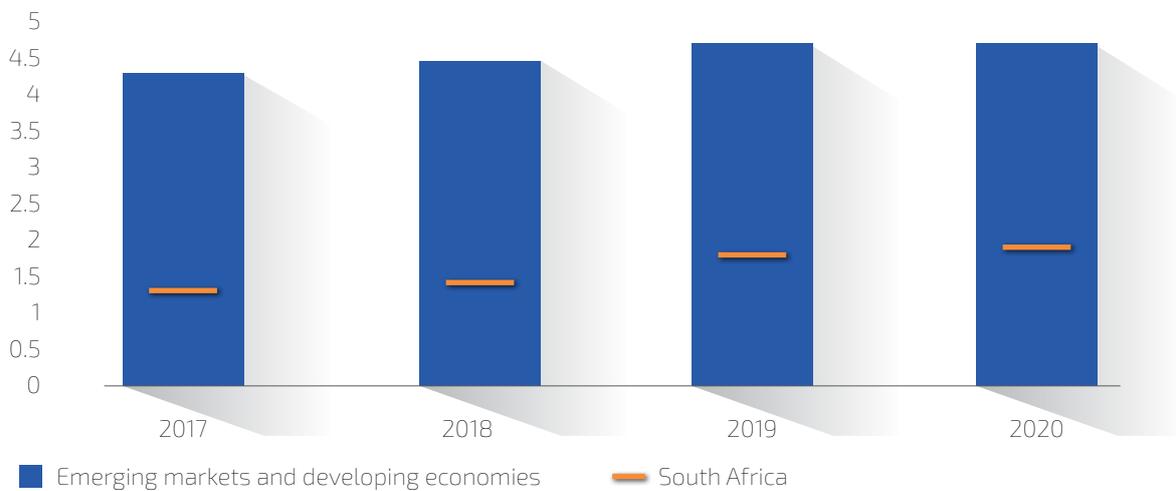
**Overall, GDP is expected to grow at 1.4 percent in 2018, 1.8 percent in 2019, and 1.9 percent in 2020, reaching GDP potential in 2020 (Figure 1.12).** This timing is in line with South Africa's business cycle, which tends to stretch across seven years. It is a conservative estimate, assuming projected potential growth of 1.4 percent, in line with past performance. The South African Reserve Bank's leading indicator rose from 105.8 in December 2017 to 106.1 in January 2018, supporting the case for further improvement in the business cycle in the first half of the year, albeit a modest one. Critically, this optimism will need to be translated into better business conditions and investment. Decisive structural reforms, discussed in Chapter 2, could shift this trajectory, bringing potential growth above 2 percent over the medium term. Such reforms could ensure that South Africa does not further fall behind the growth performance of its peers (Figure 1.13) and seizes opportunities to grow the economy for jobs and higher incomes for its citizens.

**Figure 1.12: Potential and actual per capita GDP, history and forecasts**



Source: World Bank staff calculations. Note: The increase of potential GDP in the reform scenario is based on simulations described in Chapter 2. If implemented, higher potential growth would also mean higher actual growth.

**Figure 1.13: Growth projections for South Africa and other EMDEs**



Source: World Bank (2018c).

**South Africa's public debt is expected to stabilize over the medium term.** A strengthening economy will support government's debt stabilization target, although it is important to acknowledge the significant pressures that redistribution places on public spending in a highly unequal economy like South Africa's, as Chapter 2 will show. Strong political resolve to sustainably accommodate these pressures will be needed to stick to the target.

**South Africa's current account deficit is expected to remain at just over 2 percent of GDP – lower than in the past but still requiring foreign financing that adds to South Africa's external liabilities.** The underlying trade balance is expected to deteriorate somewhat, with stronger import pressures and sluggish exports. The income balance, the main drag on the current account balance, is expected to remain negative. But an improved political climate may result

in the increased repatriation of profits, especially as South African operations abroad (including in Africa) mature.

**Unemployment is expected to reduce modestly.** Job seekers leaving the labor force in a weak economy may be drawn back into it when the economy improves, while others are unable to participate, as further discussed in Chapter 2. Overall, this results in a relatively stable unemployment rate, even if employment growth accelerates. Given South Africa's chronic skills constraint, a recovering economy may quickly

put pressure on the skilled labor force, increasing inequality, providing incentives to firms to further substitute labor for capital, and further undermining the competitiveness of South African firms. Progress in higher education and skilled migration (especially in the short to medium term) plays a critical role in addressing the skills constraint. Poverty is projected to decline, although these results will remain modest until the economy gathers steam beyond the rate of population growth. Structural policies will be central to achieving this.

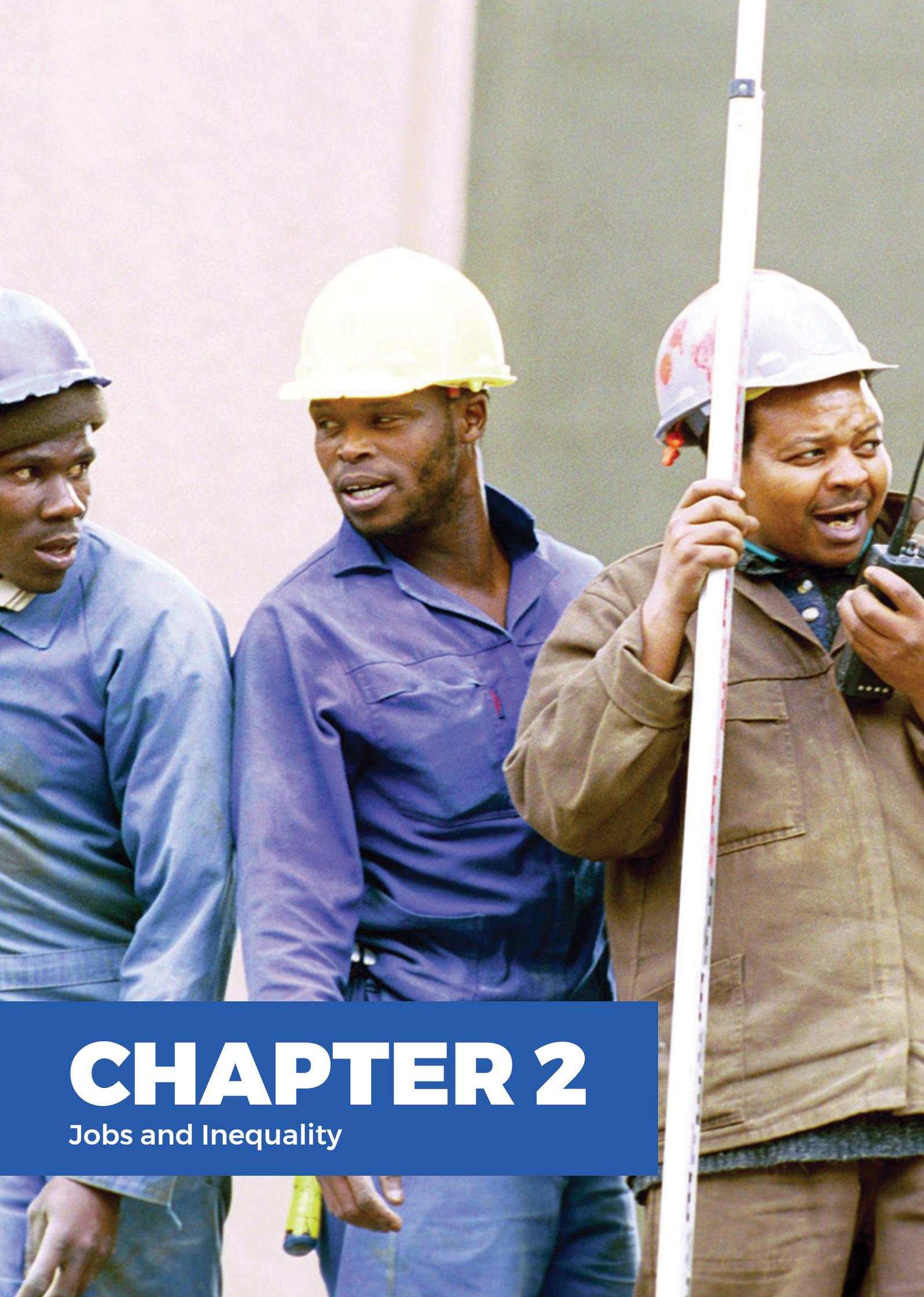
**Table 1.2: Baseline annual growth forecasts**

	2015	2016	2017	2018e	2019f	2020f
<b>Real GDP growth, at constant market prices</b>	1.3	0.6	1.3	1.4	1.8	1.9
Private consumption	1.8	0.7	2.2	2.1	2.0	2.1
Government consumption	-0.3	1.9	0.6	-0.3	1.2	1.4
Gross fixed capital investment	3.4	-4.1	0.4	3.0	3.4	2.8
Exports, goods, and services	2.8	1.0	-0.1	1.5	2.2	2.1
Imports, goods, and services	5.4	-3.8	1.9	3.3	3.1	2.8
<b>Real GDP growth, at constant factor prices</b>	1.3	0.8	1.1	1.4	1.8	1.9
Agriculture	-6.4	-10.2	17.7	4.0	1.7	1.8
Industry	1.1	-1.3	1.5	1.6	1.9	2.1
Services	1.7	2.0	0.4	1.2	1.8	1.7
<b>Inflation (consumer price index)</b>	4.6	6.3	5.3	4.9	5.1	5.4
<b>Current account balance (% of GDP)</b>	-4.4	-3.1	-2.5	-2.1	-2.2	-2.1
<b>Financial and capital account (% of GDP)</b>	4.4	3.1	2.5	2.1	2.2	2.1
<b>Fiscal balance (% of GDP)</b>	-3.7	-3.5	-4.3	-3.6	-3.6	-3.5
<b>Debt (% of GDP)</b>	49.0	50.7	53.3	55.1	55.3	56.0
<b>Primary balance (% of GDP)</b>	-1.0	-0.5	-1.2	-0.2	-0.1	0.0

Source: World Bank staff calculations. Note: e = estimate, f = forecast.

**These growth projections are conservative.** The confidence boost, if sustained, could result in higher investment and consumption than projected, especially if this investment translates into research, development, and value chain integration. However, overconfidence in the country's ability to deliver difficult, long-term reforms in a relatively short period of time is a risk. And the authorities' ability to redress fiscal accounts will be challenged by continuous demand for redistribution

to redress inequalities, and by the large contingent liabilities in state-owned enterprises. President Ramaphosa's summits on investment, jobs, and social issues hold significant potential to forge consensus around implementable policy solutions that can bolster growth and South Africa's resilience to shocks, be they domestic or foreign. Chapter 2 discusses some of these potential policy solutions, aimed at encouraging higher inclusive growth.



# CHAPTER 2

Jobs and Inequality

**This chapter builds on two World Bank official reports.** The first one, the *Poverty and Inequality Assessment* (World Bank 2018a), was conducted in collaboration with StatsSA and the Department of Planning, Monitoring, and Evaluation. It provides a comprehensive review of the trends and determinants of poverty and inequality in South Africa, with a strong focus on the role of labor markets. The second one, the *Systematic Country Diagnostic* (World Bank 2018b), entailed a deep consultation process with government entities, including the National Planning Commission.

It aims to identify the most binding constraints to alleviating poverty and reducing inequality, and how government could address these constraints. Building on the findings of these two reports, this chapter discusses policy options to reduce inequality by creating more and better jobs for the poorest 40 percent of South Africans. As beyond the scope of this Update, it does not, on the other hand, discuss comprehensively options to reduce wealth inequality, except in Box 2.1.

## South Africa Remains Trapped in a Cycle of High Inequality and Slow Job Creation

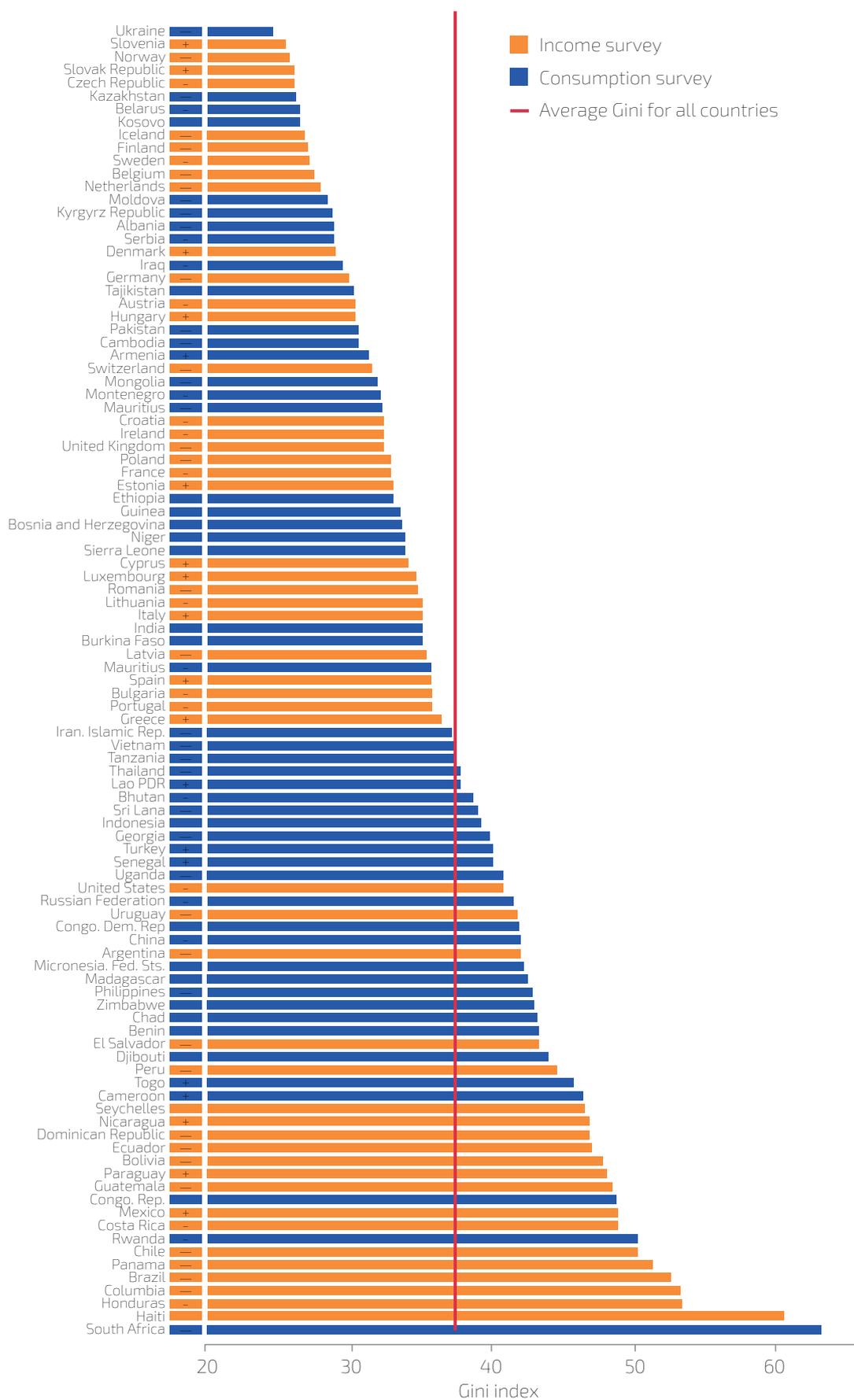
📈 *Inequalities remain extremely high despite effective redistributive policies*

**South Africa is one of the most unequal countries in the world.** Measured by income or consumption, the Gini coefficient – measuring the distance to perfect equality, ranging from 0 (all citizens enjoying exactly

the same level of resource) to 100 (all resources held by one individual) – is higher in South Africa than in all other countries for which comparable data exists, and by a significant margin (Figure 2.1).



**Figure 2.1: Inequalities in 101 countries, 2013**



Source: World Bank (2016a).

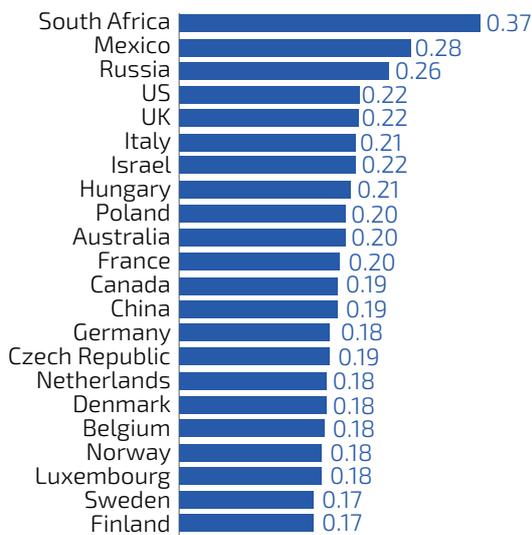
**South Africa's levels of inequality reflect its polarized society, with a small elite, a large class of poor people, and a relatively small middle class.**

It has the highest polarization index in the world, which measures the economic difference between “poles” – concentrations of population according to their economic welfare (income or consumption). This is

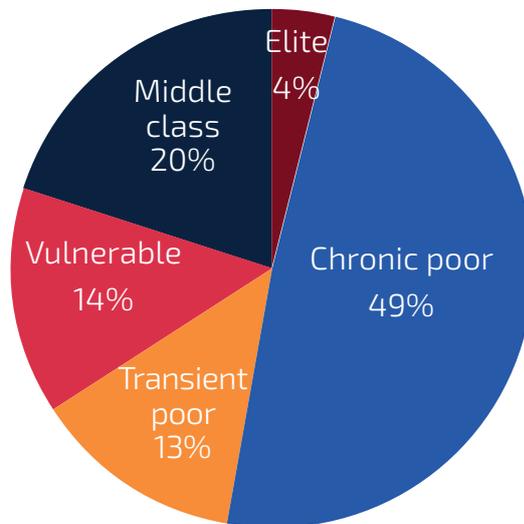
also illustrated by the fact that less than a fourth of the South African population did not experience any spell of poverty between 2008 and 2015 (World Bank 2017a), and could be considered middle class or elite over the same period. In comparison, close to 80 percent of the Mauritian population is classified as middle class (Figure 2.2).

**Figure 2.2: South Africa's polarization**

**A. Polarization indices across countries (2006–2015)**



**B. Class sizes, South Africa (2008–2015)**



Source: World Bank (2018a).

**This divide reflects the country's legacy of racial exclusion.** As detailed in the forthcoming *Systematic Country Diagnostic* (World Bank 2018b), exclusion under regimes of segregation and apartheid manifested itself in labor markets, suppressing black (meaning here black African, Indian, and colored) South Africans' access to work in many sectors; land and freedom of movement; social protection, education, health, and infrastructure; and finance and the ability to build wealth. To this day, historically disadvantaged South Africans hold fewer assets, have fewer skills and poorer health, are still more likely to be unemployed, and, if employed, earn lower wages.

**As a result, intergenerational social mobility continues to be low in South Africa.** Two-fifths of all sons born to very poor fathers – those in the first quintile – will occupy the bottom 40 percent of their generation's income distribution. Sons of rich fathers – those in the fifth quintile – have a 43 percent chance of also being in the top quintile of their income distribution (Table 2.1). Racial differences may still be a major factor in low intergenerational mobility, but they are not the only reason: education, jobs, and internal migration strongly affect chances of upward social mobility (World Bank 2018a). This is consistent with the observation that, since democracy, education levels and labor status (participation, occupation, and so on) have become the main determinants of inequality, as discussed below.

**Table 2.1: Intergenerational social mobility**

Father Quintile	Son Quintile				
	1	2	3	4	5
1	<b>22.77</b>	<b>19.43</b>	<b>21.22</b>	<b>20.38</b>	<b>16.19</b>
2	15.98	16.61	21.21	22.52	<b>23.67</b>
3	13.19	15.44	20.35	22.25	<b>28.77</b>
4	10.86	14.67	16.79	22.70	<b>34.97</b>
5	9.88	12.42	14.12	20.88	<b>42.71</b>

Source: World Bank (2018a).

**Public Interventions since democracy have helped redistribute public resources to the poor.**

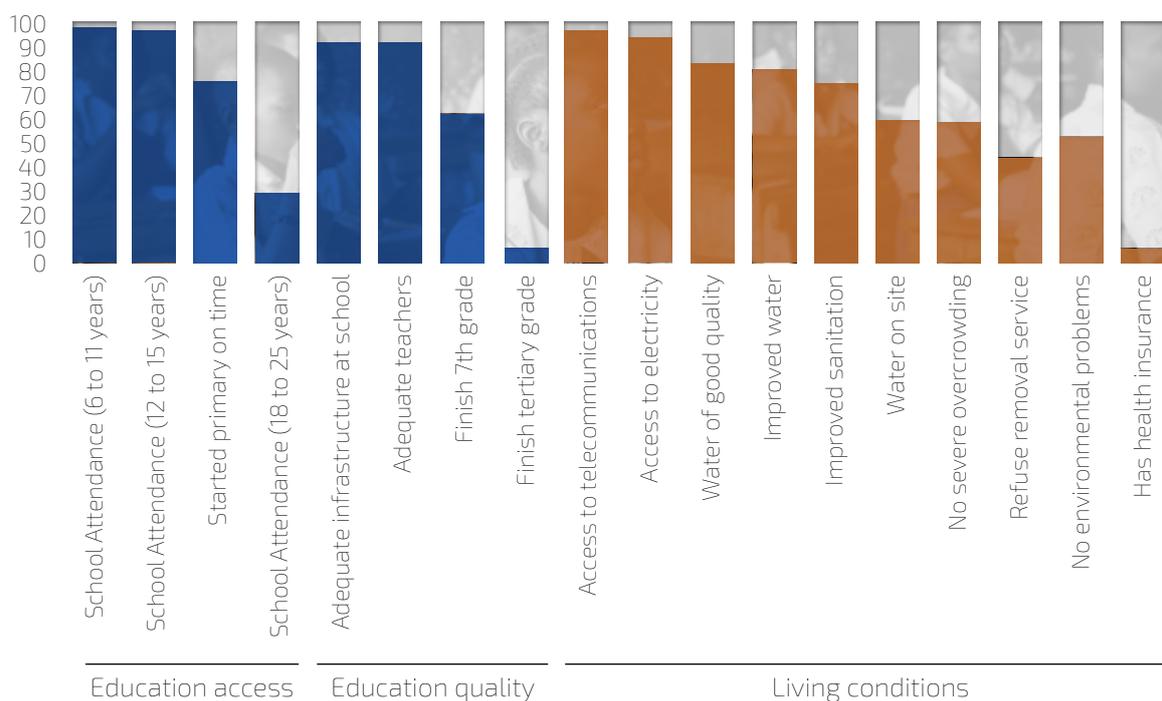
The social wage – government’s investment in education, health services, social assistance, public transport, housing, and local amenities – accounts for close to 60 percent of government expenditure and has played a notable role to reduce poverty and inequality. Measuring the redistributive nature of South Africa’s budget, the World Bank (2014) concluded that fiscal policy (a progressive tax system combined with a well-targeted social protection system) in South Africa reduces the Gini coefficient by 18 points. More recently, the *Poverty and Inequality Assessment* (World Bank 2018a) confirmed these findings, suggesting that social assistance alone (mainly child support and old age grants) contributes to reducing inequality by 10.5 points (compared with a situation where households would not receive such assistance).<sup>9</sup> Financial inclusion also strongly contributed to reducing inequality in consumption since 1994. But this conceals a persistently high level of wealth inequality in the country, which is aggravated when considering the financial liabilities of the poorest households. The World Bank (2018a) estimates that 71 percent of national net wealth belonged to 10 percent of the population in 2015.

**Public interventions have also contributed to reducing unequal access to opportunities, but**

**disparities persist.** The Human Opportunity Index measures the extent to which the provision of a given public service can redress lack of access to such services due to race, gender, family background, or any other personal circumstances beyond a child’s control and considered by society to be an unjust source of exclusion. In the last decade, most indices in the Human Opportunity Index improved in South Africa, reflecting a decrease in inequality of opportunity, although the country remains among the most unequal in the world. The country achieved near-universal access to primary education, a necessary first step for equalizing opportunities among children. Analysis of matric performance for 2002, 2009, and 2016 reveals that the number of black African learners performing at a level in mathematics that would allow them to study, for example, engineering at university increased by 65 percent over the whole period.<sup>10</sup> In 2002, more than half of high-level mathematics performers in the public examination system were white. By 2016, over two-thirds were black. The fast rise in access to telecommunications, electricity, sanitation, and school infrastructure also improved opportunities for children in South Africa. However, despite these improvements, persistent disparities in access to quality basic and higher education, and the ability to finish primary school on time, continue to constrain progress in this area. (Figure 2.3).

<sup>9</sup> The World Bank (2018a) suggests that receiving social assistance has a marginal negative effect on labor force participation.  
<sup>10</sup> Van der Berg and Gustafsson (2017).

**Figure 2.3: South Africa's human opportunities, 2015**

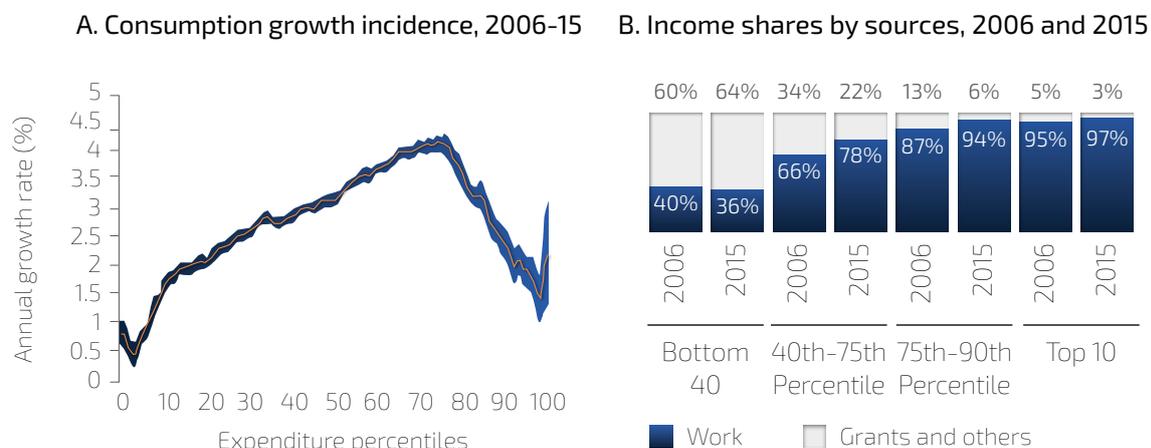


Source: World Bank (2018a).

**Consumption inequalities have grown since 1996, at the expense of the bottom 40 percent of the population in particular.** Between 1996 and 2015, the Gini coefficient of consumption inequality rose from 61 to 63, peaking at 65 in 2006 (World Bank 2018a). In other words, it is very likely that, without public intervention, inequality in South Africa would have been even higher. Since 2006, levels of consumption inequality have slightly declined, but the nature of the inequality has been significantly evolving, as

gaps widen between the poor and a small emerging middle class, and narrow between the middle class and rich households. Inequality by source of income (grants and others vs. labor income) in turn suggests that labor incomes for the middle class are growing, while the bottom 40 percent of the population continues to experience poor access to jobs and slowly growing grants, leading to slow growth in the poor's consumption compared with richer groups (Figure 2.4).

**Figure 2.4: Inequality measurement over time**



Source: World Bank (2018a).

## The labor market is central to reducing inequality

**Labor market developments have become the main drivers of income inequalities.** A detailed breakdown of the various factors affecting inequality suggests that education and labor market status have become primarily responsible for overall inequality (Figure 2.5 A). Unlike race or geographical location, which were the primary determinants of inequality at the onset of democracy, labor status and education levels can be changed through public interventions. Wage inequality remains extremely high in South Africa, with wages matching remuneration in low-

income countries such as Bangladesh and in high-income countries such as Austria (World Bank 2018a). Skilled workers earn nearly five times the average wage offered to unskilled workers (see Table 2.2), yet constitute less than a fifth of the total working population. As discussed later in this chapter, the high skills premium in South Africa puts skills-intensive sectors (such as manufacturing) at a disadvantage in international competition, unless these sectors can reach productivity levels commensurate with higher wage levels.<sup>11</sup>

 **Table 2.2: Mean hourly wages in \$ by education, purchasing power parity**

	Brazil	Chile	Columbia	Ecuador	Indonesia	Mexico	South Africa
No education	2.4	4.4	1.8	2.6	1.3	2.0	2.1
Primary education	3.1	4.7	2.5	3.2	1.9	2.5	3.4
Secondary education	3.8	5.5	3.1	3.9	2.0	3.3	5.7
Tertiary education	7.9	11.5	6.9	..	3.2	6.3	11.6

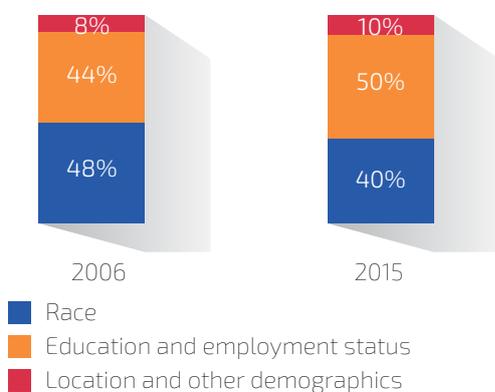
Source: World Bank (2018b). Computations conducted using the International Income Distribution Dataset.

**Strongly differentiated employment rates across skills groups combine with high wage inequality to explain the large influence of labor status on income inequality.** In 2012, the employment rate of unskilled workers was 34 percent, compared with 51.5 percent

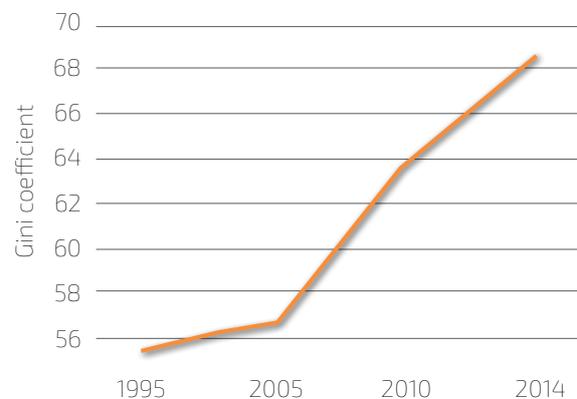
for semi-skilled and 75.3 percent for skilled workers. The probability of participating in labor markets and finding a job is strongly linked to individuals' education levels (World Bank 2018a).

 **Figure 2.5: Labor market status and skills increasingly contribute to inequality**

A. Factors of inequality, 2006–2015



B. Wage inequality, 1995–2014



Source: World Bank (2018a).

<sup>11</sup> See also World Bank (2017c) for a comparison of salaries between South Africa, India and Malaysia for a selected set of skilled jobs, including ICT developers, engineers, etc. This comparison confirms the high skills premium in South Africa.

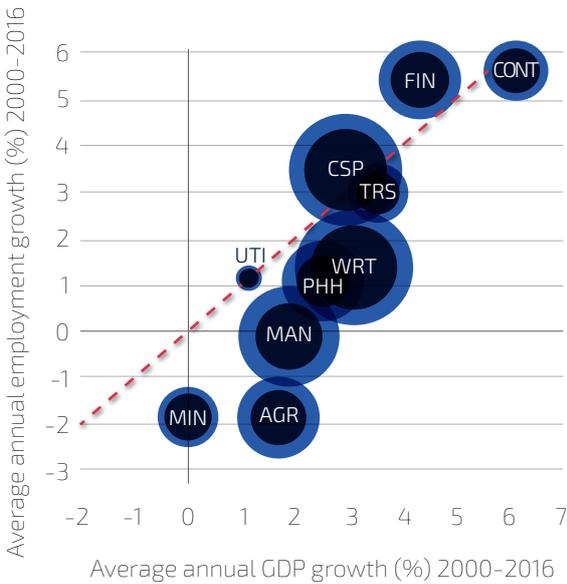
**Wage inequality has increased since 1995, reflecting a growing mismatch between demand for skilled labor and an excess supply of unskilled labor.**

Between 1995 and 2014, the real wage Gini coefficient – measuring dispersion in wages in South Africa – increased from 58 to 69 (with rapid growth from 2005, when the real wage Gini coefficient was still at 59, see Figure 2.5 B). This trend was reinforced by an increase

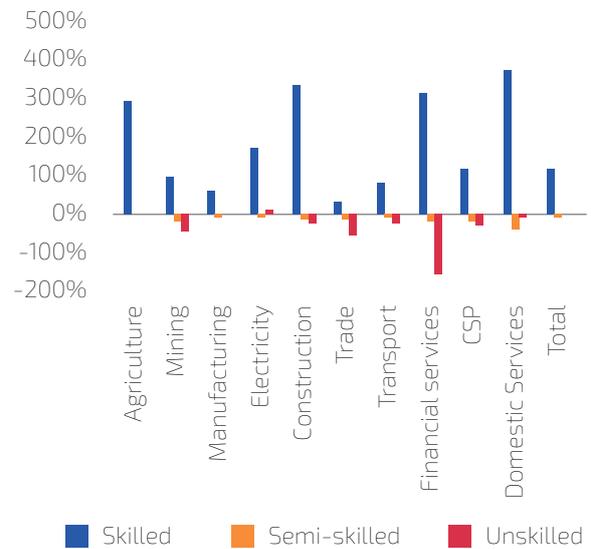
in capital and skills intensity in most South African economic sectors since 1994. Employment growth was lower than GDP growth, reflecting a shift from labor to capital and a change in the skills composition of the labor force, raising labor productivity (Figure 2.6 A). Between 1994 and 2015, the number of formal unskilled and semi-skilled jobs in the South African economy contracted (Figure 2.6 B).

**Figure 2.6: Sectors' labor and skills intensity**

**A. Sectors' GDP and employment growth, 2000–2016**



**B. Employment growth by skills, 1995–2015**



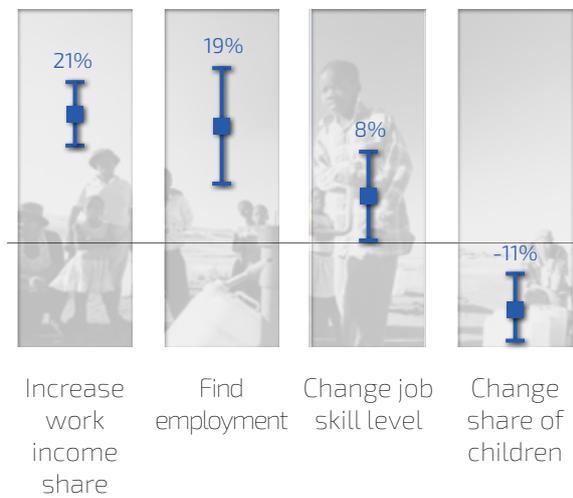
Source: World Bank (2018a). Note: Notes: AGR = Agriculture; MAN = Manufacturing; MIN = Mining; WRT = Wholesale and Retail Trade; TRS = Transport; PHH = Private Households; UTI = Utilities; CSP = Community, Social, Personal Services; FIN = Financial Services; CONT = Construction.

**Unsurprisingly, getting a good job holds the most promise for escaping poverty (at the individual level) and reducing inequalities (at the collective level).** A household is 21 percent more likely to move out of poverty if its employment income increases as a share of total income. Finding a job results in a 19 percent increase in the likelihood of moving out of poverty. A change in job skill levels also increases the chance of movement by 8 percent. However, an increase in the share of children in a household lowers

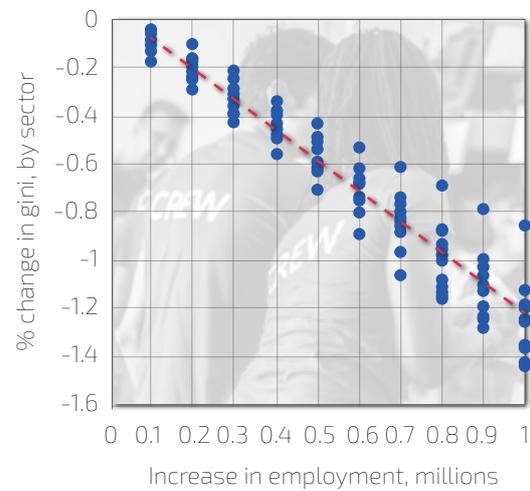
the probability of escaping poverty by 10 percent. At the national level, increasing employment would have a significant, but not necessarily large, effect on inequalities: creating 1 million jobs would reduce the Gini coefficient by 0.8 to 1.5 points, depending on the sector where jobs were created. This is because individuals with the highest probability of being hired (based on their characteristics) for these new jobs are not necessarily among the poorest job seekers (World Bank 2017a).

## Figure 2.7: Jobs, Poverty and Inequality

A. Factors to escape poverty



B. Change in Gini from job creation



Source: World Bank (2018a). Note: bullets in Figure B reflect the different economic sectors.

**Future progress in the reduction of poverty and inequality through social assistance is limited by the current low fiscal space.** As discussed in Chapter 1, fiscal space in the national budget is constrained by slow growth and high debt levels. Potential gains from improving efficiency in the social assistance system would be limited, because the system is already well targeted with good coverage (more than 17 million recipients in 2016). This means that providing more support can only be achieved through higher individual grants. Only stronger economic growth could provide such space, and it is doubtful that raising grants through

higher taxation, borrowing, or by reducing the provision of other public services would generate the additional growth needed to protect fiscal sustainability. Besides, given high levels of household indebtedness, little reduction in inequality can be expected from higher private borrowing, particularly when considering that the poorest households have been using borrowing to finance consumption rather than to build assets (World Bank 2018b). While redistribution continues to be critical to contain inequality, it increasingly needs to be done in a way that stimulates inclusive GDP growth. Box 2.1 suggests an option in this respect.





## Box 2.1: Building assets for the poor through the pension system

There are about 32 million people of working age in South Africa. Roughly one-third are covered by an occupational pension scheme at any given time. This leaves the unemployed, informal sector workers, and those not in the labor force uncovered by a contributory pension. The elderly poor draw on old age grants – a social pension system that most countries have moved beyond. Unlike pensions, grants are not assets. Reconstruction and Development Programme houses and, to an extent, redistributed or restituted land are the only meaningful form of asset transfer in South Africa that may reach the poor. But they reach few beneficiaries, and sometimes lock poor South Africans into unproductive areas. Extending a contributory pension system to all South Africans and subsidizing it for the poor (gradually reducing the subsidy with income) would help the poor build assets. As pension assets tend to be invested in the JSE, it would be broad-based empowerment, giving all citizens a stake in corporate South Africa. It would be important to allow these assets to be registered as black-owned on the JSE. In addition, delegating voting rights to pension fund managers – perhaps themselves from historically disadvantaged backgrounds – would empower poor people and give them a collective voice in shareholder decisions.

One way of financing a social contributory pension could be through a property tax (which is immobile and thus not prone to evasion), which would finance assets for the poor with a tax on the wealthy's assets. Given that property wealth is often inherited, this would also help redress historical inequality. It would also provide incentives to reduce home sizes, contributing to the much-needed densification of South Africa's

spatial economy. Higher property taxes would need to be phased in incrementally to not overwhelm the middle class. An agreement with municipalities could facilitate the use of a portion of property tax for national expenditure.

The World Bank modeled the progressive introduction of a 10-percentage-point increase in the taxation of real estate consumption by raising property taxes (representing an additional fiscal revenue of about 0.6 percent of GDP annually), saved in a pension fund. The revenue collected would fully subsidize the pension system for the bottom 40 percent of the population. The poor would be able to draw a dividend from the pension, allowing them to participate in the economy. The conversion of consumption into forced savings would raise investment by 5.2 percent by 2030 and real GDP by 1.2 percent, lifting an additional 2.9 million South Africans out of poverty. The redistributive effects would be significant: poverty and the Gini coefficient would drop to 8.2 percent and 58.1 respectively by 2030, down from 12.7 percent and 59.5 in the baseline scenario discussed in the next section.

An accumulation over a 40-year period with reasonable net returns (assumed here to be 3 percent above inflation) would result in a balance that should be sufficient to generate a pension of about twice the current value of the old age grant, adjusted for inflation. Higher pensions could be generated through additional voluntary savings in the same account. The pension could also include provisions for survivor's insurance benefits purchased from the market on a competitive basis.

Source: World Bank (2018b).

### **More inclusive, labor-intensive growth is needed.**

The relationship between growth and inequality, and its effects, remains inconclusive.<sup>12</sup> But it is likely that severe inequalities in South Africa are affecting economic growth, leading to contested resources, fueling fragility (crime, corruption, gender-based

violence), and policy uncertainty (World Bank 2018b). Growing investor uncertainty in the face of strong political demand for redistribution of wealth has contributed to a private investment slowdown in South Africa (World Bank 2017b and Chapter 1 of this document). Although there is no strong evidence

<sup>12</sup> Conceptually, the effect of inequality might go either way: if higher inequality leads to the more rapid accumulation of savings (as richer households typically save more), it may spur growth; if it leads to suboptimal investment in education or health care, it may have a negative effect on growth. But empirical studies remain inconclusive. Motivated by such ambiguity, a recent set of papers decomposes overall inequality into components that may be especially harmful to growth. In particular, it may be expected that inequality of opportunity is harmful for growth, while the effect of inequalities that arise from differences in effort may act in the opposite direction. There is some evidence (in United States and Brazil) that inequality of opportunity may be bad for growth, at least subnationally. Across countries, however, there is no robust evidence of a negative effect (World Bank 2016a).

of the negative effects of fiscal redistribution on growth overall (International Monetary Fund 2014a), there is a threshold above which fiscal redistribution negatively affects growth, disturbing the balance between positive effects (demand multipliers, high returns on investments in education, improved health, and enhanced social cohesion) and negative effects (reduced savings, innovation efforts, and investment). The International Monetary Fund (2014a) suggests that this threshold is reached when fiscal

redistribution reduces the Gini coefficient by 13 points or more – a threshold South Africa now exceeds. As highlighted in Box 2.2, the combination of inequality and political rights since democracy contributes to the high demand for redistribution. As such, it is a deeply rooted structural factor that is difficult to tackle in isolation. But it points to the need to develop job-related policy interventions that simultaneously stimulate growth and reduce inequalities to generate sustainable and substantial results.



## Box 2.2: Inequalities and political rights demand larger governments in Sub-Saharan Africa

A recent World Bank econometric analysis aims to understand differences in government sizes (measured based on public expenditure as a share of GDP) in Sub-Saharan Africa, with a focus on Southern African Customs Union countries (Botswana, Lesotho, Namibia, South Africa, and Swaziland). Lesotho and Namibia have the largest and second-largest governments respectively among the 37 countries considered, while the other three Southern African Customs Union countries rank among the seven largest governments in Sub-Saharan Africa.

Government size could be influenced by the following structural factors:

- Trade openness, whereby greater openness would be associated with greater exposure to external shocks and a related demand from citizens for greater social protection.
- High per capita GDP increasing demand for complex and luxury public goods such as regulatory services (needed in complex economies) or cultural enhancement services.
- Country size, whereby sharing non-rivalrous public goods across large populations generates

economies of scale (thus lower demand), and large populations exhibit more heterogeneous preferences for public goods and therefore agree on lower demand for public goods.

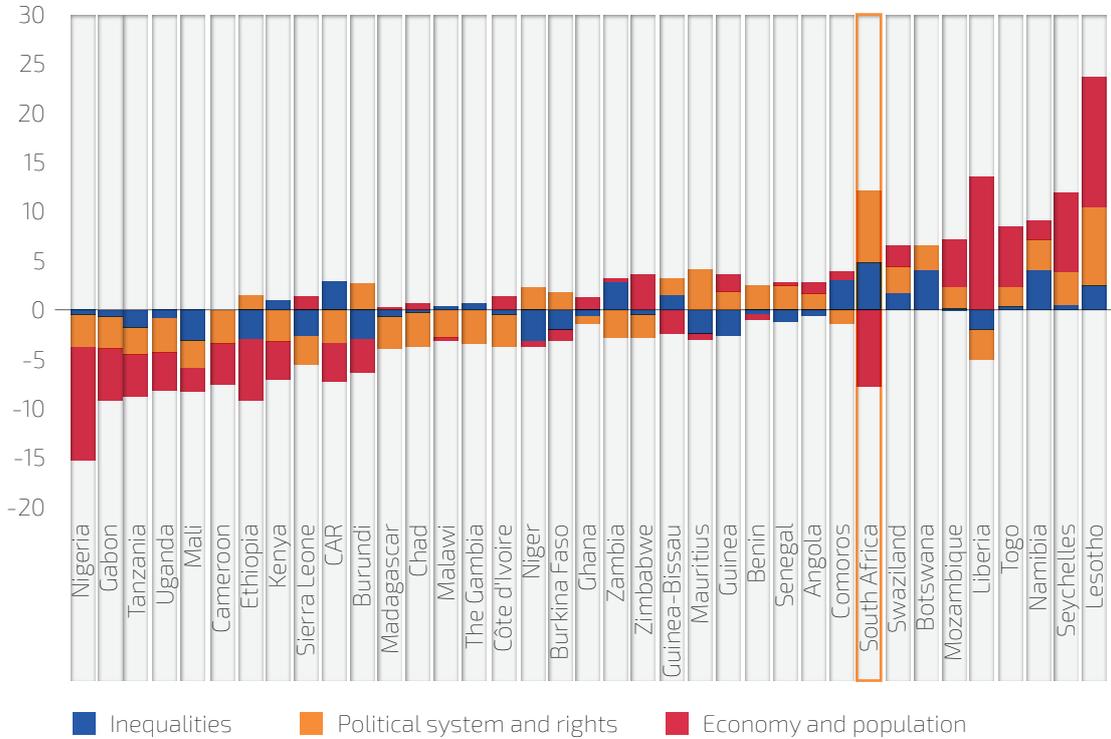
- Ethnic and other forms of social fractionalization, reflecting different preferences for public goods (and thus lower public spending).
- High inequality combined with high political rights leading to high demand for fiscal redistribution.
- Electoral rules and government types, whereby majoritarian and presidential regimes require less expenditure to acquire political power than proportional and parliamentary regimes.

Cross-country regressions conducted on 37 Sub-Saharan countries confirm the influence of most of these factors. They help identify the respective contributions of the different variables to differences observed across countries in government sizes. Variables fall under three different groups: inequalities, political systems and rights, and economy and population.



### Box 2.2 Figure 1: Structural determinants of central government expenditures

(difference with Sub-Saharan average, % of GDP)



Results suggest that Southern African Customs Union countries' comparatively large governments are driven by a combination of inequalities and political systems based on fiscal redistribution. Union members' government sizes are on average about 10 percentage points higher than the Sub-Saharan average. Of this difference, more than 8 percentage points of GDP can be attributed to the combination of inequalities (3.5 percentage points of GDP) and political systems (4.2 percentage points of GDP), confirming the strong redistributive role played by the fiscus in South Africa and in Namibia, where similar analysis was conducted

(World Bank 2017b). Among SACU members, South Africa stands out as the country where the combination of political rights and inequality has the largest contribution to central government expenditures.

While causal relationships cannot be strictly established through this simple analysis, results nonetheless suggest that the political system's response to inequalities is strongly correlated with public expenditure, reflecting the ongoing social contract in SACU countries, and in South Africa in particular.

Source: Dessus et al. (2018).

**The impacts of public job-creation interventions have been mixed.** As discussed in the previous South Africa Economic Update (World Bank 2017c), the country has been engaging in several active labor market programs to raise youth employability by supporting training and skills development, promoting entrepreneurship, and providing employment services. But the results of these efforts are largely unknown

because they are not systematically evaluated. International evidence suggests that the impact of active labor market programs is generally limited when they are fragmented and taking place in a slow growth environment, as is the case in South Africa. The country also has an active industrial policy. The World Bank (2017a) suggests that tax incentives in South Africa have positive effects on investment and jobs

at a moderate fiscal cost in about half of the sectors covered,<sup>13</sup> given the potentially large jobs multiplier effects associated. However, these incentives are not sufficient to create the large number of jobs needed, given the sectors' structural binding constraints (labor actions, policy uncertainty, trade facilitation costs, electricity shortages, and lack of competition).<sup>14</sup>

**Another important public intervention lies in the establishment of sectoral minimum wages, and their progressive alignment with a national wage** (World Bank 2017c). Here again, the effect on inequalities is not clear cut, given poor enforcement (for informal workers, in particular) and uncertain effects on job demand (in sectors shielded from international competition, in particular) and on workers performing better for higher wages. With these caveats in mind, microeconomic analysis conducted by the World Bank (2018a) suggests that the introduction of the national minimum wage would have a positive, but marginal, impact on reducing inequalities, depending on its negative effect on employment. Consideration of general equilibrium effects (which notably capture the impact of higher demand for goods and services from households seeing their income increasing as benefiting from the national minimum wage) nonetheless points to a less favorable conclusion, as suggesting that the introduction of the national minimum wage would:

- Affect the price of goods disproportionately consumed by the poor, particularly agricultural goods.
- Moderate wage increases for unskilled labor whose remuneration is already above the minimum wage.
- Shift labor demand toward skilled labor.
- Deepen capital intensity at the expense of unskilled labor.

**Support for small and medium-sized enterprises (SMEs) is another area of intervention**, as most jobs in South Africa are located in firms of less than 50 workers. However, the share of employment in SMEs declined from 72 percent in 2005 to 67 percent in 2015, mirroring weak net job creation in this segment in the last decade. Small businesses are nonetheless critical to reducing inequalities, providing an entry point for young people to enter the labor market (World Bank 2018a). While direct support to SMEs, including access to finance for startups, may help and could be improved, the World Bank (2018b) suggests that only a deep-seated improvement in the broader economic environment in which SMEs evolve could really make a difference, including in particular:

- Greater foreign competition for large firms (that SMEs could cater to through downstream participation in value chains).
- Greater availability of skills (whose shortage and cost particularly affect SMEs).
- Improved spatial integration (many SMEs are located in townships, far from main economic hubs).<sup>15</sup>

**Raising labor demand by creating new markets will ultimately be the driver of inequality reduction.** As discussed in the next section, South Africa's long-term economic growth prospects are weak given the current policy mix and foreseeable external circumstances. Future labor demand is unlikely to be high enough to create the number and quality of jobs needed to reduce inequalities, unless structural reforms are implemented to stimulate growth and prepare the labor force to respond to new needs in the economy. South Africa will need to build on its comparative advantages to raise labor productivity and develop new markets for its firms, both locally and abroad. The second section of this chapter explores several policy options in this respect.

<sup>13</sup> Agriculture, construction, manufacturing, trade, and other services. In contrast, tax incentives granted to mining, utilities, transport, and finance do not appear to encourage additional investments and jobs.

<sup>14</sup> See International Monetary Fund (2014b) and Hlatshwayo and Saxegaard (2016) on the structural reasons for a lack of export supply response to the large depreciation of the real exchange rate between 2011 and 2014.

<sup>15</sup> In the event though, SMEs in townships would also be faced with higher competition from larger firms.

# Creating More and Better Jobs to Reduce Income Inequalities

## 📈 Root causes of inequalities need to be tackled through job creation

### South Africa needs to focus on lifting binding constraints to the reduction of inequalities.

Analyzing the root causes of inequality – which cause slow economic growth, unemployment, and fragility – the forthcoming *Systematic Country Diagnostic* (World Bank 2018b) identifies five key areas for policy interventions:

- **Insufficient skills.** Skills are critical for both labor supply and demand. They raise the productivity of workers and entrepreneurs (and their ability to access finance), help firms innovate, and expand production at competitive prices. This in turn raises demand in the economy for more goods and services, which requires hiring more low- and high-skilled workers. The legacy of “Bantu education” continues to deprive South Africa of the skills it urgently needs,<sup>16</sup> resulting in low competitiveness, high unemployment, and wage inequality. Improving access to quality education for all in South Africa is critical. In the interim, bringing in skills from other countries can provide relief to the skills-intensive economy, which will help it to grow and create jobs.
- **Weak property rights and the unequal distribution of land and assets.** Wealth and land are still held by very few South Africans. Publicly provided housing is an important asset for an increasing number of poor South Africans. Yet weak titling and tenure security of property, especially in poorer and more informal areas, limits the value of property – including as collateral to access finance. This inequality fuels a contestation over resources, especially as this distribution is rooted in the historical injustice of apartheid. Policy uncertainty, be it from land reform or from principles underlying the third Mining Charter, is a symptom of South Africa’s incomplete transition away from apartheid. To reduce such uncertainty – which remains detrimental to private investment and innovation – requires consensus on sustainable interventions to effectively and equitably redistribute assets.
- **Weak integration into regional and global value chains.** Many economic sectors in South Africa have long been protected from foreign competition by natural trade barriers, such as distance, and a history of import substitution, sanctions, and industrial policy support. State intervention, before and after 1994, has supported market structures that thwart competition, and monopolistic positions are pervasive in South Africa. State-owned entities remain dominant and their inefficiency is damaging the competitiveness of the economy. Product markets in South Africa have high barriers to entry and are poorly integrated into the global economy, which means the country is missing out on opportunities to tap into global markets and grow through technology transfers associated with value chain participation.
- **Limited or expensive connectivity and underserved historically disadvantaged settlements.** Many South Africans live relatively far away from job opportunities, in townships, informal settlements, and the former homelands. Those who are closer to opportunities, especially near urban areas, still live on the outskirts. This makes commuting expensive, aggravated by a functioning but anticompetitive minibus taxi sector. There has been significant migration from rural areas, which supports poverty reduction, but can also put pressure on the sustainability of public services and raise social tensions with existing residents competing for the same services, jobs, and business. Interventions to densify and diversify (from a land-use perspective) urban spaces will be key to offering more job opportunities for workers from historically disadvantaged areas and reducing persistent geographical segregation.
- **Climate change: Low-carbon transition and water scarcity.** South Africa’s carbon and water-use intensity will need to be addressed to preserve its development prospects and reduce inequalities. South Africa is cognizant of its interest to engage in a low-carbon transition,<sup>17</sup> while adapting to the consequences of climate change, such

<sup>16</sup> See World Bank (2017c) for a discussion on the skills in high demand on South Africa’s labor market.

<sup>17</sup> Alton et al. (2014).

as prolonged droughts that debilitate natural ecosystems and amplify water insecurities. This will call for efforts to better manage the use of these natural resources, including the proper pricing of environmental externalities and providing targeted support to households whose livelihoods depend on low-value, energy- and coal-intensive activities (such as coal miners and steelworkers) and water-intensive activities (such as small landholders that depend on cheap, unsustainable irrigated water).

Effective interventions in these areas should sustainably lift most binding constraints to the reduction of poverty and inequality, rather than just mitigating their consequences. Limited time and resources call for selective, persistent, and concentrated interventions, as opposed to fragmented ones, for maximum impact.

**Building on a solid tradition of prospective policy analysis in South Africa,<sup>18</sup> the World Bank used a computable general equilibrium model to assess the potential impact of various policy interventions on jobs, poverty, and inequality by 2030.<sup>19</sup>** Compared with previous attempts, this model looks at new policy options (education, spatial integration), includes a microsimulation module based on the recent Living Conditions Survey (2014/15) to generate detailed poverty and inequality numbers, and reflects recent national and international structural trends, such as protracted slow total factor productivity growth since the financial crisis and low mineral prices since the end of the super commodity cycle. More broadly, the model aims to provide a consistent framework to explore possible medium-term developments, based on the main structural features of South Africa's economy. However, like any model attempting to simplify complex and fluid realities, it is not exempt from methodological criticisms. Traditional caveats against computable general equilibrium models<sup>20</sup> focus on assumptions regarding markets' clearance mechanisms and allocative efficiency, and the model's inability to capture externalities. The model used in this chapter tries to address some of these points, including specifying imperfect competition in South Africa's labor and capital markets and the rigidity in the allocation of production factors across sectors (as past investments are considered largely immobile), and focusing on the effect of public interventions on job creation, poverty, and inequality reduction (three fundamental externalities not internalized by markets).

**The model combines labor demand and supply effects to determine labor outcomes: jobs and real wages.** Labor demand results chiefly from product demand, stemming from households' higher incomes, government's consumption decisions, and the price competitiveness of South Africa's exports. In responding to these demands, enterprises employ production factors (capital, different types of labor, and intermediate goods and services also partly produced with labor) in different proportions depending on their costs (financial costs, wages, indirect taxes, and so on), productivity, and their degree of substitutability. The latter is determined by the age of technology – existing installed capacity (for which substitutability is low) versus new technologies bought with new investment. Thus, the faster investment growth is, the faster the economy can adjust to changes in relative prices from shocks or policies. Labor demand also accounts for the fact that different sectors offer different remunerations for the same skill levels, possibly reflecting variations in labor productivity levels and arrangements between unions and employers across sectors.<sup>21</sup>

**Labor supply is mainly determined by long-term drivers,** such as demographics (working-age population growth and dependency ratios) and human capital (education and health, to a lesser extent). The World Bank (2018a) suggests that if shorter-term drivers of labor supply, such as real wages, play a role, their impact is much more muted, reflecting the low labor supply response to emerging job opportunities in South Africa. This fundamentally mirrors the mismatch between growing demand for skills not met by adequate supply, and low demand for unskilled labor in the face of sticky reservation wages<sup>22</sup> kept above minimum levels given the high opportunity cost of working (transport costs and time, insecurity, insufficient childcare support for single-headed households). Collective bargaining in monopolistic or oligopolistic sectors also contributes to wage stickiness in South Africa (World Bank 2018b). In this case, unions' ability to negotiate above market wages extends inequity.<sup>23</sup>

**Long-term policy impacts are measured by comparing a baseline scenario to alternative policy scenarios.** Such a baseline scenario is developed to project the economy until 2030 in the absence of any major shock or radical shift from the current policy stance. This scenario should not be considered as a projection, but rather as

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<sup>18</sup> Faulkner et al. (2013).

<sup>19</sup> An economic model that uses data to simulate how an economy might react over time to changes in policy and other factors. See the Annex for a detailed presentation of the model's main characteristics.

<sup>20</sup> See Isaacs and Storm (2016).

<sup>21</sup> See World Bank (2018a) for a detailed discussion of the impact of unionization on wage distribution within and across sectors.

<sup>22</sup> Reservation wages refer to the lowest wage a worker will accept to do a job.

<sup>23</sup> Bourguignon and Dessus (2009).

a possible future, from which the impact of alternative policy stances can be evaluated. It does not prejudice the political feasibility of such a future, which can be considered uncertain given persistent inequalities and people's access to political and judicial instruments

to redress them, as highlighted in Box 2.2. Tables 2.3, 2.4, and 2.5 show the main results of these simulated scenarios. Their comparison, from a social, labor, or macroeconomic perspective, demonstrates the effect of different policies.

## *In the absence of new policy interventions, prospects to reduce inequalities are limited, but would nonetheless benefit from improved access to education*

**The baseline scenario (BAS) includes several assumptions.** The population is set to grow at an annual average of 1.1 percent from 2018 to 2030 (from 57 million to 65 million).<sup>24</sup> Keeping constant pass rates (matric and tertiary education) at 2016 levels, the supply of semi-skilled and skilled labor is projected to grow faster annually (1.6 percent and 2 percent respectively) than that of unskilled labor (0.7 percent) between 2018 and 2030 (a total labor supply growth of 1.3 percent). Water supply is assumed to stay constant at its current level until 2030, as all possible South African water reserves are already being exploited. In contrast, mineral reserves (coal, gold, other mining) are considered infinite, and their depletion rate is being driven by world prices (using World Bank projections, see Figure 1.4). Technological progress is set to stagnate over the period 2018 to 2030 (optimistically, given recent negative trends).<sup>25</sup> Net foreign financial flows are expected to grow at 2 percent annually. Except for the progressive introduction of a carbon tax, all direct and indirect tax rates (including import tariffs) are assumed to stay unchanged from 2017 in the baseline scenario.<sup>26</sup> Public consumption and public transfers (social assistance) to households are assumed to stay constant in real per capita terms between 2018 and 2030.

**Rebounding from low levels in 2016 and 2017, real GDP would grow at an annual average rate**

**of 1.4 percent between 2018 and 2030,** generating 215,000 new jobs per year, two-thirds of which would be semi-skilled and skilled (see table in Box 2.3). Overall, real wage levels would remain almost unchanged between 2018 and 2030, but the skills premium would drop, reflecting a faster supply of skilled labor than unskilled labor. Slow investment growth (1.4 percent per year, because of low household savings, relatively high and costly external debt, and depressed foreign investment) would generate a modest increase of 1.1 percent in productive capacity (physical capital stock, reflecting the accumulation of past investments). The economy's slow growth would be driven by water scarcity (forcing businesses to use less water-intensive technologies as the price of distributed water would grow faster than general inflation every year).<sup>27</sup> The introduction of a carbon tax would create distortion and negatively affect growth (but less so than if South African exports were taxed by importers based on their carbon content),<sup>28</sup> but these effects would be compensated by larger public investments financed by carbon tax collection. Slow gains in competitiveness (from increased investments or technological progress) and modest rebounds in mineral prices would limit annual exports growth (in volume) to 1.3 percent, further removing South Africa from global developments. Slow growth in public consumption, combined with the introduction of a carbon tax, would nonetheless help stabilize public

<sup>24</sup> United Nations population projections.

<sup>25</sup> See World Bank (2017c) on recent trends in technological progress and innovation in South Africa.

<sup>26</sup> While the introduction of a carbon tax represents a policy shift, it was preferred to consider it in the baseline scenario given authorities' commitment to the Paris Agreement, and because its non-introduction would induce consequences (such as trade retaliation from signatories of the Paris Agreement) more difficult to evaluate. The recent announcement to raise fuel levy and environmental taxes in the 2018 Budget confirms authorities' intentions in this respect. The Carbon Tax Bill was approved by Cabinet in 2017 and is expected to be enacted by Parliament in 2018.

<sup>27</sup> This assumes perfect allocation of water across industries. Imperfect allocation (and the possible associated shortages) would have a larger negative impact on economic activity. These simulations do not capture the use of water that is not commercially traded.

<sup>28</sup> The mitigation of carbon emissions is obtained in the model by imposing a tax on the direct and indirect consumption of carbon embedded in coal and refined petroleum products. Without this tax (representing 1 percent of GDP in 2030), carbon dioxide emissions would be 17 percent higher in 2030, in line with the announced objective to decrease emissions by 13 percent by 2025 and by 26 percent by 2035 compared with business as usual. Induced distortive effects from the introduction of the carbon tax could cost up to 0.4 percent of GDP by 2025 and 0.7 percent by 2030, and be regressive as the poorest deciles would be most affected. This compares with higher estimates of the cost of introducing carbon taxes (Alton et al. 2014), ranging from 1 percent to 1.2 percent of GDP under more optimistic growth scenarios (3.9 percent GDP growth between 2010 and 2025), higher mitigation ambitions, and possibly higher coal output projections under the business-as-usual scenario with higher anticipated global prices.

debt and generate modest fiscal space for additional public investment. From a sectoral perspective, mining, and manufacturing to a lesser extent, would grow

more slowly than services and agriculture. Jobs would be shed in the coal and gold sectors.



### Box 2.3: Education flows and the distribution of skilled labor incomes across household deciles

According to the National Income Dynamic Study 2014/15, semi-skilled and skilled labor incomes are unequally distributed across household groups. Defined by the education levels of households' working members (skilled: tertiary graduate; semi-skilled: matric; unskilled: incomplete secondary education or less), skilled labor income accruing to the four poorest household deciles<sup>29</sup> in 2014/15 was only 0.1 percent of the total (against 84.2 percent accruing to the richest decile). Similarly, only 3.2 percent of semi-skilled labor income accrued to the four poorest deciles (against 45.8 percent to the richest decile).

At the same time, new cohorts entering the labor market will modify the labor force composition over

time, in terms of skills and the distribution of incomes across deciles. Out of 10 children from the first decile, less than two currently pass matric (high school diploma) and only 0.2 (or 2 out of 100) graduate from university. This compares to 2.3 children (out of 10) from the richest decile graduating from university. While still extremely unequal, such inequalities are less pronounced than those recorded in the distribution of skilled and semi-skilled labor incomes. Better skilled entrants from poor backgrounds will eventually lead to a redistribution of skilled labor income to the poorest households. Policy options to accelerate this transition are discussed in this chapter.

**Box 2.3 Table 1: Education levels among South African household deciles**

Deciles	Cohort	Get to grade 12	Pass the matric	Obtain the bachelor pass	Enter university	Graduate
1	10	3.8	1.7	0.3	0.3	0.2
2	10	3.8	1.7	0.3	0.3	0.2
3	10	5.5	2.8	0.5	0.6	0.3
4	10	5.5	2.8	0.5	0.6	0.3
5	10	6.9	3.9	0.8	1.0	0.5
6	10	6.9	3.9	0.8	1.0	0.5
7	10	6.9	5.0	1.5	1.6	0.8
8	10	6.9	5.0	1.5	1.6	0.8
9	10	8.7	8.0	4.6	3.9	2.3
10	10	8.7	8.0	4.6	3.9	2.3
Total	100.0	63.4	43.1	15.5	14.9	8.0

Source: World Bank staff calculations based on Van Broekhuizen et al. (2016) and StatsSA.

**As a result of past education efforts, poverty (at \$1.90 a day) would decline significantly, from 18.6 percent in 2017 to 12.7 percent of the population in 2030.** The Gini coefficient would drop from 62.8 in 2017 to 59.5 in 2030, and the share of real disposable income accruing

to the poorest 40 percent would increase from 8.6 percent to 10.3 percent. Given projected weak economic growth and the fact that public transfers to the poor are assumed to remain constant in per capita terms, most of the projected reduction in inequalities can be attributed

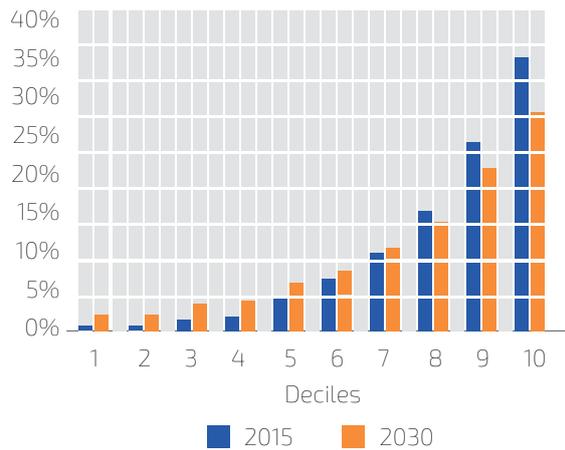
<sup>29</sup> A decile is one of 10 equal groups into which a population can be divided.

to the redistribution of semi-skilled and skilled labor income over time.<sup>30</sup> Progress in education among the poorest deciles will contribute to this redistribution (Box 2.3). At current pass rates, the proportion of skilled (university degree level) and semi-skilled labor (matric level) incomes accruing to the bottom 40 percent would respectively rise to 3.6 and 11.2 percent in 2030. Such

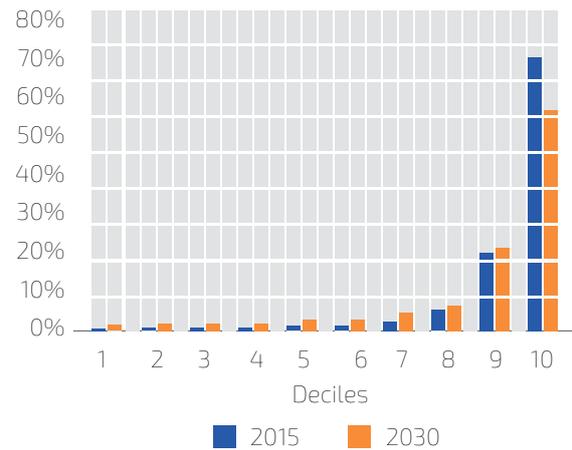
progress is consistent with a significant reduction in inequalities of opportunities in the last decade, which will eventually affect labor markets. A greater supply of skilled labor in a depressed economic environment would prolong the decline in the skills premium recorded between 2006 and 2015 (World Bank 2018a), though from a high initial level.

**Figure 2.8: Deciles' labor incomes shares, 2015 and 2030, baseline scenario**

**A. Semi-skilled**



**B. Skilled**



Source: World Bank staff calculations.

**Thus, by 2030, income inequality in South Africa would be lower than in 1996.** While significant, this performance would compare modestly with that of selected peers: in Brazil the Gini coefficient decreased from 59.3 in 2001 to 53.1 in 2011 – more than twice the speed of South Africa. Nonetheless, out of the three percentage points of reduction in inequality, two would originate from a decline in racial inequality. In other words, looking at the different factors explaining income differences across households, race would lose some of its explanatory power, prolonging a trend observed since 2006 (Figure 2.5 A). This is important as likely to strengthen a social contract which remains weakened by the fact that inequalities are still to a large degree determined by races.

**Increased policy certainty in the mining sector would spur growth and labor demand, and reduce poverty.** There have been several attempts to measure the impact of policy uncertainty on economic activity in recent years. This includes using algorithms to detect the frequency of mentions of "uncertainty" in the press relating to South Africa's economic developments.<sup>31</sup> The World Bank (2018b) analyzes the impact of the third Mining Charter's provisions<sup>32</sup> and concludes that its amicable resolution could increase investments in mining by about 25 percent between 2018 and 2030, compared with the baseline scenario and given projected commodity prices. Simulating the impact of higher foreign direct investment in mining in an alternative scenario (MIN) suggests that macroeconomic effects would remain modest, because

<sup>30</sup> In contrast, inequalities in the distribution of capital income would increase over time given higher savings rates among the richest households.

<sup>31</sup> Hlatshwayo and Saxegaard (2016).

<sup>32</sup> The third Mining Charter provides more stringent targets that are proposed to be legally enforceable (for the first time), combined with a range of areas that are uncertain in nature, difficult to measure, and potentially of high cost to shareholders. The main cause of concern relates to a higher cost of compliance, which is particularly affected by the following provisions: (i) increased broad-based black economic empowerment shareholding (which may have to be funded by the current owners of capital in the sector), (ii) the rejection of the "once-empowered, always-empowered" principle (where a legislated minimum of broad-based black economic empowerment shareholding needs to be maintained, even after black economic empowerment investors disinvest), (iii) a proposed dividend of 1 percent of turnover to be paid out to broad-based black economic empowerment shareholders annually, and (iv) increased socioeconomic investment requirements (such as the requirement to spend a minimum of 70 percent of total mining procurement value on goods manufactured in South Africa, with at least 21 percent from black-owned companies), as well as various enterprise development requirements. Each of these factors may erode investor returns and is thus likely to undermine mining investment in South Africa.

GDP growth would only accelerate by 0.2 percent per year because of accelerated export and investment growth between 2018 and 2030. By 2030, GDP would be 2.8 percent higher than in the baseline scenario (about 2 years of GDP growth), highlighting the importance the mining sector continues to play in South Africa. An additional 60,000 jobs would be created by 2030, lifting 140,000 people out of poverty. Creating jobs in the mining sector has a relatively significant effect on reducing poverty (as discussed in the World Bank's *Poverty and Inequality Assessment* 2018a), because these new jobs are mostly unskilled/semi-skilled, but pay above average.

**But inequalities would widen at the same time, illustrating the regressive nature of South Africa's traditional growth patterns.** The Gini coefficient would rise from 59.5 in the baseline scenario to 59.6 in the alternative mining scenario, and the share of incomes accruing to the bottom 40 percent would decrease from 10.3 percent to 10.2 percent. The skewed distribution of mine ownership and the low skills content of new jobs are some of the main factors driving increased inequalities.

**Although the magnitude of economic impacts to be expected from improved policy certainty is unknown, this scenario does illustrate the persistent tradeoff between growth and equality under current productive patterns.** While this point is not meant to question the critical role of economic growth in improving the living conditions of the poor, it underlines the need to develop interventions that promote more inclusive growth. The previous *South Africa Economic Update* (World Bank 2017c) identified sectors where innovation efforts would have the largest payoffs for poor households (through jobs and improved consumption). The remainder of this section explores options to:

- Raise labor supply among poor households.
- Create new jobs for poor households.
- Improve matching between labor supply and demand.

## Accelerated efforts to improve the quality of basic education and access to tertiary education would lead to a significant reduction in inequalities by 2030

**In South Africa's current environment, it takes time to see education progress reflected in labor markets.** Raising education levels may take time but will be key to reducing inequalities. Between 2018 and 2030, young people entering the working-age population (15–64 years) will increase the population by 2.7 percent annually, while elders exiting this age group will reduce it by 1.5 percent. This means that only 4.3 percent of the working-age population is being renewed every year, so any progress in the education of the youth will influence the composition of the labor force very slowly. In addition, it currently takes about 10 years for young people who will eventually work to be effectively absorbed by labor markets, confirming the importance of the first working experience.<sup>33</sup> This slow entry also delays the impact of educational progress on the skills composition of the labor force and the distribution of education returns across households.

**Two broad policy interventions can improve the skills of poor young people:** improving teachers' capacity and accountability to raise primary and secondary school achievements among the poorest deciles; and facilitating access to university for poor eligible students through financial support. The

first policy scenario (EDU1) assumes that increased labor costs for teachers in public schools (increased remuneration and training/coaching, along with the introduction of performance-based human resources management systems and accountability frameworks) would raise the number of children from the poorest 40 percent passing matric to 30 percent in 2030 (up from 23 percent in 2012), leading to an increase in the matric national pass rate from 43 percent in 2012 to 49 percent in 2030. This would also increase the number of children from poor households entering university, given their improved academic eligibility (from 4 percent in the baseline scenario to 6 percent in this scenario). In this case, the additional education costs would offset the positive effect of higher skilled labor supply on GDP growth, but would still have a pronounced impact on reducing inequalities (by half a percentage point in 2030 compared with the baseline scenario) and thus poverty (by 1 percentage point).

**The second education scenario (EDU2) assumes increased public financial support for poor university students currently eligible for such support** (among the six poorest deciles, covering accommodation and food in addition to tuition), and for students in the same

<sup>33</sup> Anand et al. (2016).

income brackets currently not attending university despite being eligible (see Box 2.3). This would entail increasing the number of university students<sup>34</sup> by about 85,000 in 2018 (up from 985,000 currently), at an additional cost to the public sector of close to 0.5 percent of GDP annually. This amount would finance higher demand for education services and other goods and services through transfers to the poorest students. It would entail a significant reduction in inequalities (of almost 1 percentage point), but at the expense of GDP growth and public investment (the higher public transfers would exceed the more progressive increase in teachers' remunerations in the first education scenario). In turn, the decline in poverty would be slightly less pronounced than in the first scenario. Combining the features of the two scenarios would eventually lead to an increase in the number of children from the poorest four deciles with a tertiary degree to 4.6 percent in 2030, against 2.2 percent in the baseline scenario. In this combined scenario, inequalities (the Gini coefficient) would narrow by 1.5 points in 2030 compared with the baseline, while the proportion of income accruing to the poorest four deciles would increase by more than 1 percentage point, to 11.3 percent. The impact of additional public financing on growth would offset that of the higher skilled labor supply. But this cost, of up to 1 percent of GDP by 2030, could be partially covered

with the projected decline in the school-age population, which would create fiscal space of about the same amount (in terms of public education expenditure).<sup>35</sup> It could also be reduced by private sector participation in providing financial support to poor university students. With reduced inequalities, the number of poor people would further drop by almost 3 million in 2030 compared with the baseline scenario.

**The effect of higher skills among the poor would be much diminished in a slow growth environment.**

Given persistent low labor demand, the skills premium for tertiary education graduates (compared with workers not having completed secondary education) in the combined education scenario would decline by 1.9 percent annually between 2018 and 2030, against 1.6 percent in the baseline scenario. But if this faster decline should actually reduce inequality (as skilled labor constitutes a larger share of the incomes of the richest households), it is possible that some of these poorer skilled workers would join the young unemployed population, as employability, distance to jobs, and access to professional networks may differ across new entrants, at the expense of those from the poorest households.<sup>36</sup> This suggests the need to intervene on both the supply and demand sides of labor, and on the matching between the two.

 **Increased competition in product markets would open massive job opportunities**

**Product market contestability is low in South Africa.**

Product market regulation indicators suggest that South Africa performs in the middle of its peer countries.<sup>37</sup> State control is the area in which it performs most poorly. This includes aspects such as the scope of state-owned entity involvement in the economy, direct government control of enterprises, price controls, and the use of command and control regulations, followed by barriers to entrepreneurship. Product market regulation indicators show that South Africa's energy, transport, and communications regulations are relatively restrictive of competition. Given their effect on trading

costs, inefficiencies in these sectors can act as barriers to trade. The previous *South Africa Economic Update* (World Bank 2017c) indicated that ports tariffs were twice as high for manufacturing goods than the global average. But the large dispersion of rates of return to capital across sectors suggests that many other sectors suffer from poor contestability. This may be the result of historical reasons, and not only product market regulations,<sup>38</sup> or policy uncertainty that particularly deter foreign investors. For example, key agricultural and manufacturing markets were historically tightly regulated and protected oligopolies or monopolies,

<sup>34</sup> See also World Bank (2018b) for options to (i) improve technical and vocational training, with a view notably to better respond to labor markets needs and (ii) raise the overall employability of youth, including through improved public-private partnerships. As qualitative in nature and not often evaluated, it is difficult to simulate quantitatively these reforms. They remain nonetheless very important to address inequalities through jobs creation.

<sup>35</sup> World Bank (2016b).

<sup>36</sup> Burger and Jaffa (2006) provide evidence of the persistent disadvantages for the average black worker. The race gap in employment, occupational attainment, and wages remains unexplained after controlling for differences in observable characteristics such as skills. This gap, however, has been decreasing over time for skilled workers.

<sup>37</sup> OECD (2017). Product market regulation indicators convert qualitative information concerning laws and regulations that may affect competition into quantitative indicators of the restrictiveness of regulations to competition. They cover both economy-wide regulations and sector-specific regulations for certain network sectors (energy, transport, and communications), professional services, and retail services. One shortcoming is that they measure only the restrictiveness of regulations "on the books" and do not cover implementation.

<sup>38</sup> Product market regulations often listed as preventing competition in South Africa include exclusive lease agreements in retail trade and high switching costs in financial and insurance services. Complying with a complex regulatory framework is also listed as particularly detrimental to SMEs.

sometimes under state control. After democracy, the government undertook a range of market reforms to privatize many of its state-controlled enterprises or boards. However, without consistent complementary measures to open these markets to trade and competition, their structures remain (World Bank 2018b). Moreover, previous anticompetitive regulations appear to have facilitated several of South Africa's cartels (World Bank 2016c). In the case of cement, for example, the industry was a state-sanctioned cartel with price controls from the 1940s until 1996. After the legal cartel was disbanded, firms continued to divide markets along traditional lines.

**Greater domestic competition would generate massive job opportunities.** Substantial market power in several sectors is likely to result in:

- Suppressed demand for capital and labor;
- Low total factor productivity as maintaining in business poorly competitive firms;<sup>39</sup>
- Reduced price competitiveness for sectors using as inputs the (inflated) goods and services produced in concentrated sectors.

**Markups above normal profits are estimated to amount to close to 10 percent of GDP in South Africa.**<sup>40</sup> This means that halving them could generate effects of macroeconomic amplitude. This is illustrated in an alternative policy scenario (MKP), where markup rates would be progressively halved by 2030. In this scenario, investments pick up (by 10 percent in 2030 compared with the baseline scenario) in line with new investment opportunities, as do exports (by 9.1 percent) in line with increased competitiveness (from improved capital allocation across sectors and productivity gains within sectors). This results in the net creation of an additional 405,000 jobs by 2030 and higher real wages, particularly for semi-skilled and skilled workers, as increased competition would open new opportunities in skills-intensive sectors. Inequalities would be reduced (as capital owners, mostly concentrated in the richest decile, would see their real disposable income grow less rapidly than poorer deciles), with a Gini coefficient at 58.8 by 2030 (down from 59.5 in the baseline scenario). With cheaper goods<sup>41</sup> and higher labor incomes, the poverty rate would also be reduced to 11 percent by 2030 – lifting an additional 1.1 million people out of poverty.

## *Accelerated skills migration could be contemplated to relax skills constraints in the short term*

**The skills constraint in South Africa is a major deterrent to innovation in general, and to the vitality of the manufacturing sector in particular.** The latter, if revived, has massive job-creation potential. The World Bank (2017a) suggests that for every job directly created in manufacturing, another 3.8 jobs are indirectly created. But addressing the skills constraint by improving education will take time, which is why authorities are considering options to expand the supply of high-level skills through immigration policy reforms. Options include introducing a points-based system to determine the eligibility criteria for long-term residence visas with a view to attract investors and skilled migrants, granting critical skills and business visas that cater for family members, allowing international graduates with critical skills to apply for a long-term residence visa, and introducing a differentiated skills-transfer mechanism to cater for different working conditions.

**The impact of accelerated skills migration is simulated in an alternative policy scenario (SKM) where skilled migrants join the labor force between 2018 and 2030** (an additional 150,000 skilled workers by 2030), resulting in an increase of 5.8 percent in the supply of skilled labor by 2030 compared with the baseline scenario, and higher remittances out of South Africa equivalent to an additional outflow of 1.2 percent of GDP. Relaxing the skills constraint would increase GDP by 2 percent in 2030 compared with the baseline scenario, and lead to a strong supply response in manufacturing – in automotives, machinery equipment, and metallic products notably. Indirect demand for unskilled and semi-skilled labor would be strengthened (an additional 50,000 and 20,000 jobs respectively), as each new skilled migrant would create 0.5 unskilled or semi-skilled jobs. However, greater competition between skilled locals and immigrants would exert a downward pressure on

<sup>39</sup> Aghion et al. (2008) estimated that a 1-percentage-point increase in sectoral markups has been reducing total factor productivity in the same sector by 0.1 percentage points in South Africa over the period 1970–2004.

<sup>40</sup> This computation excludes extractive industries, whose profits originate to some extent from the rarity of minerals (decoupling global prices from cost of extraction), and not necessarily from insufficient competition.

<sup>41</sup> See World Bank (2017c) for a discussion of the potential impact of innovation (new goods and services) on the welfare of poor South Africans.

real wages and reduce the domestic supply of skilled workers, resulting in a net gain of 135,000 additional skilled jobs in the economy.<sup>42</sup> With higher GDP and the creation of new unskilled jobs, poverty would decline, but only modestly, as skilled migrants would increase

the size of the upper middle class. As a result, the Gini coefficient would decline slightly (to 59.3 in 2030, against 59.5 in the baseline scenario), but the share of income accruing to the poorest 40 percent would remain unchanged.

## *Spatial integration will be a necessary, but possibly insufficient, driver of job creation*

**The right to decent shelter is enshrined in South Africa's Constitution, and much progress has been made in realizing it.** Locating the poor closer to economic centers and improving mobility is a necessary condition for accessing jobs. Although many South Africans, including in the poorest 40 percent, own houses, there are still backlogs and 5.1 million people (about 9 percent of the population) still live in shacks. Human settlements programs, often focused on delivering housing units, have unintentionally perpetuated apartheid spatial patterns – leaving the poor on the periphery of urban areas with fewer economic opportunities. The single-story home model originally espoused by the Reconstruction and Development Programme propels urban sprawl and does not encourage mixed land use (for job-generating commercial activity, for example). It also adds to the cost of transport and commuting time: the average commuter distance in South African metros is 22–27 kilometers.<sup>43</sup> This means poor South Africans have long travel times and high transportation costs. Long and expensive commutes make it more difficult for the poor to access urban jobs and raise their reservation wage, that is, the wage that makes it worthwhile to work given the associated costs.

**Economic densification would reduce poverty, but not necessarily create many unskilled jobs.** Whether to bring people to jobs or jobs to people remains an area of contention in South Africa. Cities tend to be engines of growth, but the country's spatial history has resulted in large informal settlements without much economic activity. There is significant interest in exploring whether economic activity and jobs can be brought to townships, rather than relying on migration

or commuting to urban hubs. In addition, the costs of working, transport, and housing need to be reduced. This is reflected in an alternative policy scenario (SPA) where 1 percent of GDP would be invested every year from 2018 into collective transportation systems (mostly consumed by the poorest seven deciles) and social housing to reduce their price. This investment would be financed through domestic borrowing (which means less financing for alternative investment projects). While macroeconomic effects would remain relatively modest, they would be positive. GDP would be 0.6 percent higher by 2030 than in the baseline scenario, reflecting the positive effect on labor supply stemming from cheaper collective transport and social housing prices (reduced by 37 percent and 48 percent respectively by 2030 compared with the baseline scenario). Efforts to foster spatial integration would reduce the poverty rate by 2030 (at 12 percent, against 12.7 percent in the baseline scenario), largely because of cheaper consumption (to a large extent) and more job opportunities (to a lesser extent). Bringing unskilled labor closer to economic centers would not necessarily create many jobs (besides during the construction phase of investment projects), given the extremely high unemployment rate in this labor category (at 27 percent in 2017), reflecting low current demand. Yet, improved spatial integration would also result in a significant decline in the Gini coefficient (to 58.6 by 2030). The fourth to seventh deciles would be the main beneficiaries, as these households spend a higher share of their income on housing and transport, and would receive a larger share of labor incomes. However, the share of incomes accruing to the poorest 40 percent of the population would rise by 0.3 percentage points.

<sup>42</sup> As assuming perfect substitutability between migrants and natives of the same skills, these results may be considered conservative as not capturing the complementarity between the two categories. As filling a gap in labor demand, skilled migration could generate a larger number of jobs than that computed with the general equilibrium model.

<sup>43</sup> To compare this with selected other cities: average commuting distances are 7, 11, and 19 kilometers in Lima, Bogotá, and Mexico City, respectively, according to Munoz-Raskin and Scorcia (2017).

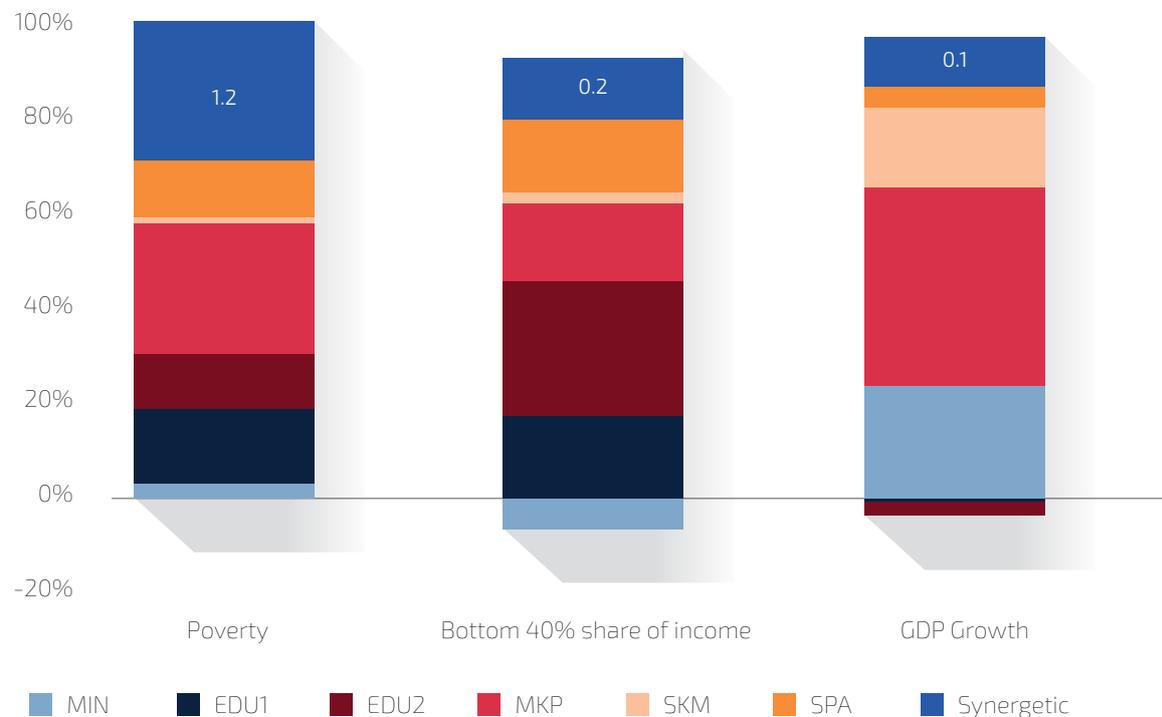
## Combined reforms would help South Africa meet its vision for 2030

The various reforms discussed above would reinforce each other to generate a larger impact on GDP growth, jobs creation and the reduction of poverty. The impact of free access to tertiary education for students from low-income households would be amplified by efforts to ensure poor students are academically eligible for university. Greater competition would increase job opportunities for these skilled new entrants, and their ability to reap these opportunities would be enhanced by spatial integration efforts. Greater competition would also favor spatial integration by reducing the price of services (such as public transport and information and communications technology). Higher growth and foreign investment through the clarification of the third Mining Charter's intentions, increased competition, and accelerated skills migration would mitigate the skills constraint and generate additional public revenue to finance education and urbanization programs.

Combining all reforms in one scenario (CMB) suggests that poverty could be halved by 2030 compared with the baseline scenario (reducing to 6.4 percent of the population, against 12.7 percent, see Table 2.3). This would lift an additional 4 million people out of poverty, as inequalities reduce (to a Gini coefficient of 56.5) and growth accelerates (to 2.2 percent annually, against 1.4 percent in the baseline scenario). Job creation (an additional 810,000 jobs), higher wages for workers from poor households, and cheaper goods and services would contribute to these outcomes.

When combined, individual interventions work together and have a much greater impact. Compared with the sum of individual interventions, combining all the reforms would lift 1.2 million more people out of poverty, raise the share of income in the bottom 40 percent by an additional 0.2 percentage points, and further accelerate GDP growth by 0.1 percentage points (Figure 2.9).

**Figure 2.9: Relative impacts of selected interventions on poverty, inequality, and GDP growth**



Source: World Bank staff calculations.

**Table 2.3: Progress toward the Vision 2030 in different scenarios**

	Poverty rate (\$1.90 day)	Number of poor (million)	Gini Coefficient	Bottom 40% share of total consumption
2017	18.6	10.51	62.8	8.6
BAS	12.7	8.30	59.5	10.3
MIN	12.5	8.16	59.6	10.2
EDU1	11.7	7.66	59.1	10.6
EDU2	12.0	7.80	58.7	10.7
MKP	11.0	7.19	58.8	10.5
SKM	12.7	8.26	59.3	10.3
SPA	12.0	7.80	58.6	10.6
CMB	6.4	4.15	56.5	11.7

Source: World Bank staff calculations. Results from the second row are for 2030.

**Table 2.4: Labor market indicators in 2030 in different scenarios**

	Jobs (thousands)			Unemployment rate
	Unskilled	Semi-skilled	Skilled	
2017	8,140	5,229	1,981	27.3%
BAS	9,158	6,474	2,538	26.7%
MIN	9,197	6,490	2,541	26.5%
EDU1	9,109	6,557	2,547	26.7%
EDU2	9,161	6,461	2,564	26.7%
MKP	9,410	6,604	2,561	25.1%
SKM	9,207	6,494	2,674	26.3%
SPA	9,181	6,475	2,537	26.7%
CMB	9,517	6,722	2,741	24.1%

Source: World Bank staff calculations. Results from the second row are for 2030.

**Table 2.5: Selected macroeconomic indicators in 2030 in different scenarios**  
(index 2017: 100; constant prices)

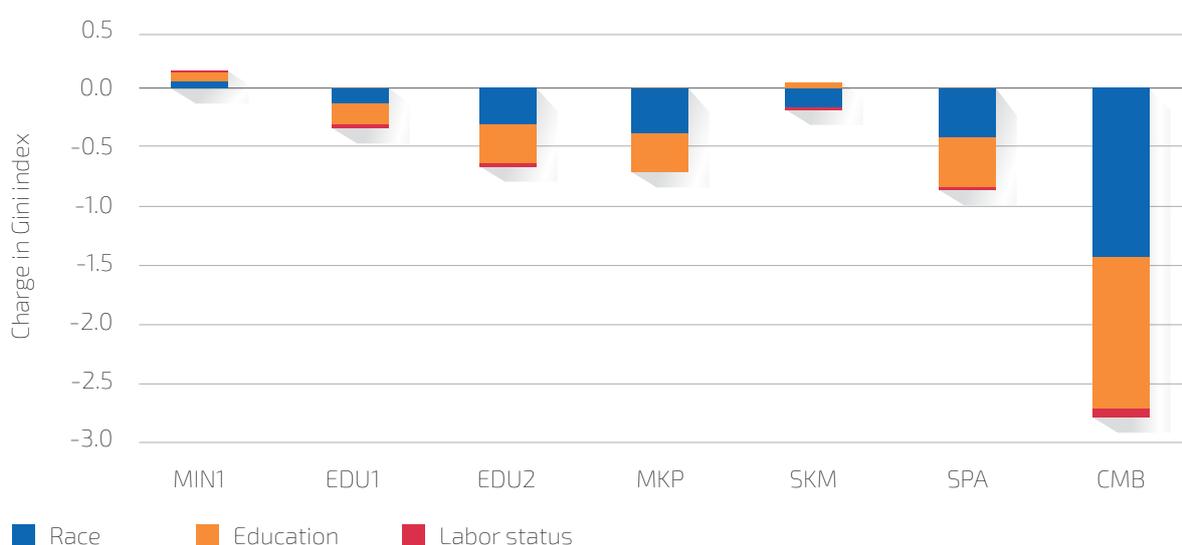
	Gross domestic product	Private consumption	Gross fixed investment	Exports	Imports
BAS	119.5	117.4	141.5	116.1	119.8
MIN	122.9	120.0	152.5	119.9	123.6
EDU1	119.5	118.0	138.6	115.8	119.5
EDU2	119.1	117.3	139.1	115.2	119.0
MKP1	125.4	123.6	155.6	126.6	131.1
SKM1	121.9	117.5	147.1	122.3	121.4
SPA1	120.2	118.8	140.4	115.0	118.8
CMB2	133.1	130.4	168.9	136.3	135.6

Source: World Bank staff calculations.

**Reforms would further reduce racial inequalities.** Figure 2.10 decomposes the changes in inequality from reforms with respect to the baseline scenario. But reduced uncertainty in the mining sectors, all simulated reforms would entail a decline in racial

inequality, contributing for about half to the total reduction in inequality.<sup>44</sup> In the combined reforms scenario (CMB), racial inequalities would explain 38% of total inequalities by 2030. This compares with 48% in 2006, as reflected in Figure 2.5 A.

**Figure 2.10: Contributions to change in inequality with respect to the baseline scenario**



Source: World Bank staff calculations.

<sup>44</sup> See Fields (2003) for the method of decomposing inequality across various factors and over time.

**The overall positive impact of these combined reforms could be underestimated, because they are likely to improve policy certainty.** Reduced inequality – of racial origin in particular – could lead to less resource contestation and broader support for investor-friendly reforms. At the same time, the unemployment rate would remain extremely elevated

– at about 24 percent in 2030, because only 5.3 million jobs would have been created since 2012, against the 11 million targeted in the National Development Plan. This underlines the need to continue to support redistribution to the many chronic poor South Africans who may not be able to reap the opportunities that such reforms would have created by 2030.

## Conclusion

**South Africa's current economic rebound could be short-lived if the fundamental factors undermining its growth potential are not addressed.** Stubbornly high levels of inequality reflect the weak capacity of many South Africans to contribute to skills-intensive economic development. Inequalities fuel contestation and policy uncertainty, deterring the investments and financial resources needed to innovate and expand productive capacities, and to redress historical injustice through targeted public interventions.

**Inequalities remain extremely high, however, their nature is also changing.** Inequalities are widening between the poor and a small emerging middle class, and narrowing between the middle class and rich households. Today, inequalities are driven by education and labor status – conditions that policies and public interventions can improve.

**Progress in reducing inequalities since the 2000s, notably in access to education, is slowly leading to more skilled workers from the poorest backgrounds.** This trend needs to be nurtured and amplified, benefiting from renewed confidence in South Africa as governance issues are addressed and from a strengthened global outlook.

**The analysis presented in this report suggests that selective, persistent efforts to increase domestic competition and improve the poor's access to university would help South Africa eliminate extreme poverty and significantly reduce inequalities by 2030.** In turn, this would strengthen the social contract between the country's people, which would improve investors' confidence in South Africa's future.

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# ANNEX

## Modeling Prospective Policy Scenarios

A computable general equilibrium model for South Africa is used in this report to develop prospective policy scenarios. The model aims to provide a consistent framework to explore possible medium-term developments, based on the main structural features of South Africa's economy. It is a typical neoclassical model with endogenous prices, market clearing, and imperfect substitution between domestic and foreign goods, allowing for endogenous factor accumulation. As in any computable general equilibrium, prices are endogenous for each market (goods and factors) and equalize supplies (imports; South African production for the domestic market; factors supply) and demands (final demand from households, the government, investors, and the rest of the world; intermediate demand from producers; factors demand), to obtain the equilibrium. The equilibrium concerns all markets simultaneously. This type of modeling allows detailed databases to be combined, with a sound micro-based theoretical framework capturing their interdependence and linkages. With such characteristics, computable general equilibrium models are useful tools to assess the long-term impact of shocks (such as world prices) and structural reforms. The underlying assumption of market clearance and monetary neutrality means that these models are not suited to assessing the short-term effects of macroeconomic policies in economies with well-developed financial markets such as South Africa.

The model is calibrated for the year 2012, based on a social accounting matrix built by Chitiga-Mabugu (2016). The matrix and the model comprise 55 sectors of activity (and corresponding products), 10 household types (corresponding to the 10 income deciles), 12 trading partners, and 7 factors of production (informal labor, unskilled, semi-skilled, skilled, capital, mineral, and water resources).

Supply is modeled using nested constant elasticity of substitution functions, which describe the substitution and complement relations among the various inputs. Producers are profit-maximizers and constant returns to scale are assumed. Output results from two composite goods: intermediate consumption (excluding energy) and value-added plus energy, which are imperfectly substitutable. The intermediate aggregate is obtained by combining all products in fixed proportions (Leontief structure). The value-added is then decomposed in two substitutable parts: labor and a capital-water-mineral-energy bundle. Energy types (electricity and refined petroleum) are also imperfectly substitutable. Demand for capital makes a distinction between "old" capital and "new" capital. The model integrates the notion of vintage capital to distinguish the process of allocating capital already installed from that resulting from contemporary investment (putty/semi-putty production function). "New" capital can be allocated more flexibly than "old" capital. Accelerating investment therefore strengthens the capacity for adjustment of the productive sectors to changes in relative prices.<sup>45</sup> Flexible factors prices clear markets through the equalization of demand and supply, but factors markets also include sectoral rigidities: some sectors pay workers (of the same type) better than others; and in some sectors, capital remuneration exceeds its marginal productivity. Consequently, before-tax prices of goods domestically produced often exceed their marginal costs.<sup>46</sup>

Income from labor and capital accrue to the different households, in proportion of their initial share in total incomes. Households pay direct taxes, receive grants from government, and transfer/receive funds from other households<sup>47</sup> and trade partners. Their net disposable income is allocated to final

<sup>45</sup> For all sectors, elasticities of substitution between intermediate consumption and value-added plus energy are set to 0.9 for old capital and 1.8 for new capital; elasticities of substitution between labor and the capital-water-mineral-energy bundle are set at 0.9 for old capital and 1.8 for new capital; elasticities of substitution between labor types are set at 0.1; elasticities of substitution between capital, water, mineral, and energy are set at 0.9 for old capital and 1.8 for new capital. Elasticities of substitution between energy types are set at 0.9 for old capital and 1.8 for new capital.

<sup>46</sup> Sectoral wage premia are calibrated using actual labor remuneration per labor types in the different sectors. Super profits are calibrated using actual sectoral gross operating surpluses over capital stocks. Source: Quantec (2017).

<sup>47</sup> Net transfers received by the poorest 40 percent of households from richer deciles average 8 percent of their disposable incomes.

consumption and savings, in fixed proportions of their nominal values. Government and investment demands are disaggregated in sectoral demands once their total value is determined according to fixed coefficient functions.

The model assumes imperfect substitution among goods originating from different geographical areas. Import demand results from a Constant Elasticity of Substitution function of domestic and imported goods (with a substitution elasticity of 2.0 between imports and domestic products; and 5.0 between imports origin). Export supply is symmetrically modeled as a constant elasticity of transformation function (with a substitution elasticity of 2.0 between domestic products and exports; and 5.0 between export destination). Producers decide to allocate their output to domestic or foreign markets responding to relative prices.

Several macroeconomic constraints are introduced in this model. First, the small country assumption holds, the South African economy being unable to change world prices; thus, its imports and exports prices on world markets are exogenous. Capital transfers are exogenous as well, and therefore the current account balance is fixed, so as to achieve the balance of payments equilibrium. Second, the model imposes fixed real public expenditures to reflect government's choice of delivering a given amount and quality of public services and ability to borrow. Tax rates and foreign transfers to government are exogenously determined and thus government savings are residually determined. Third, investment is determined by the availability of savings from government, households, and the rest of the world. The numeraire of the model is the exchange rate. Balance of payments equilibrium is thus obtained through quantities and real exchange rate adjustments.

The dynamic path of the model depends on several endogenous behaviors and exogenous factors.

Endogenous savings/investment determines the total physical capital stock of the next year.<sup>48</sup> Labor supply results from an exogenous trend (reflecting working-age population growth and education projections, see Box 2.3) and a response (with a supply elasticity ranging from 0.1 for skilled workers to 0.3 for unskilled workers) to real wages (average wage per labor type divided by the typical consumer price index of the labor type). Participation rates thus depend on labor remuneration and cost of working. Water supply is constant and mineral supplies (or depletion rates) respond to changes in their remunerations. Population growth is set exogenously, as is total factor productivity growth. World prices and net financial transfers from the rest of the world are also set exogenously. The model is run annually from 2012 to 2030.

A microsimulation module using computable general equilibrium results as inputs projects poverty in its various dimensions.<sup>49</sup> The module simulates trajectories of poverty and distributional change under several growth and policy scenarios drawing on the macroeconomic from the computable general equilibrium, including demographic variables (composition of the population by age and education); labor market variables (employment by sector, wages, and farm profits); and exogenous income variables (public transfers and taxes, private transfers). Thus, it simulates the poverty and distributional implications of demographic change, changes in occupations and labor incomes, as well as public transfers. Demographic changes are simulated using reweighting techniques, while the core of the simulation model is an empirical representation of the income generation process with household income being composed of individual labor incomes and net public and private (including remittances) transfer income and other income sources. The analysis is based on the latest South Africa Living Condition Survey 2014/15.







The World Bank  
442 Rodericks Road, Lynnwood,  
Pretoria 0081,  
Republic of South Africa  
Tel: +27 (0) 12 742 3100  
Fax: +27 (0) 12 742 3135  
Twitter: #SouthAfricaEU  
[www.worldbank.org/za](http://www.worldbank.org/za)  
[www.facebook.com/WorldBankSouthAfrica](https://www.facebook.com/WorldBankSouthAfrica)