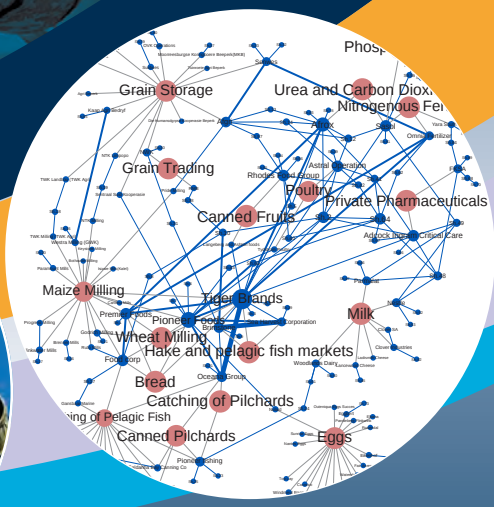
Public Disclosure Authorized
Public Disclosure Authorized
Public Disclosure Authorized
Public Disclosure Authorized

South Africa Economic Update

Edition 8
February 2016
World Bank Group

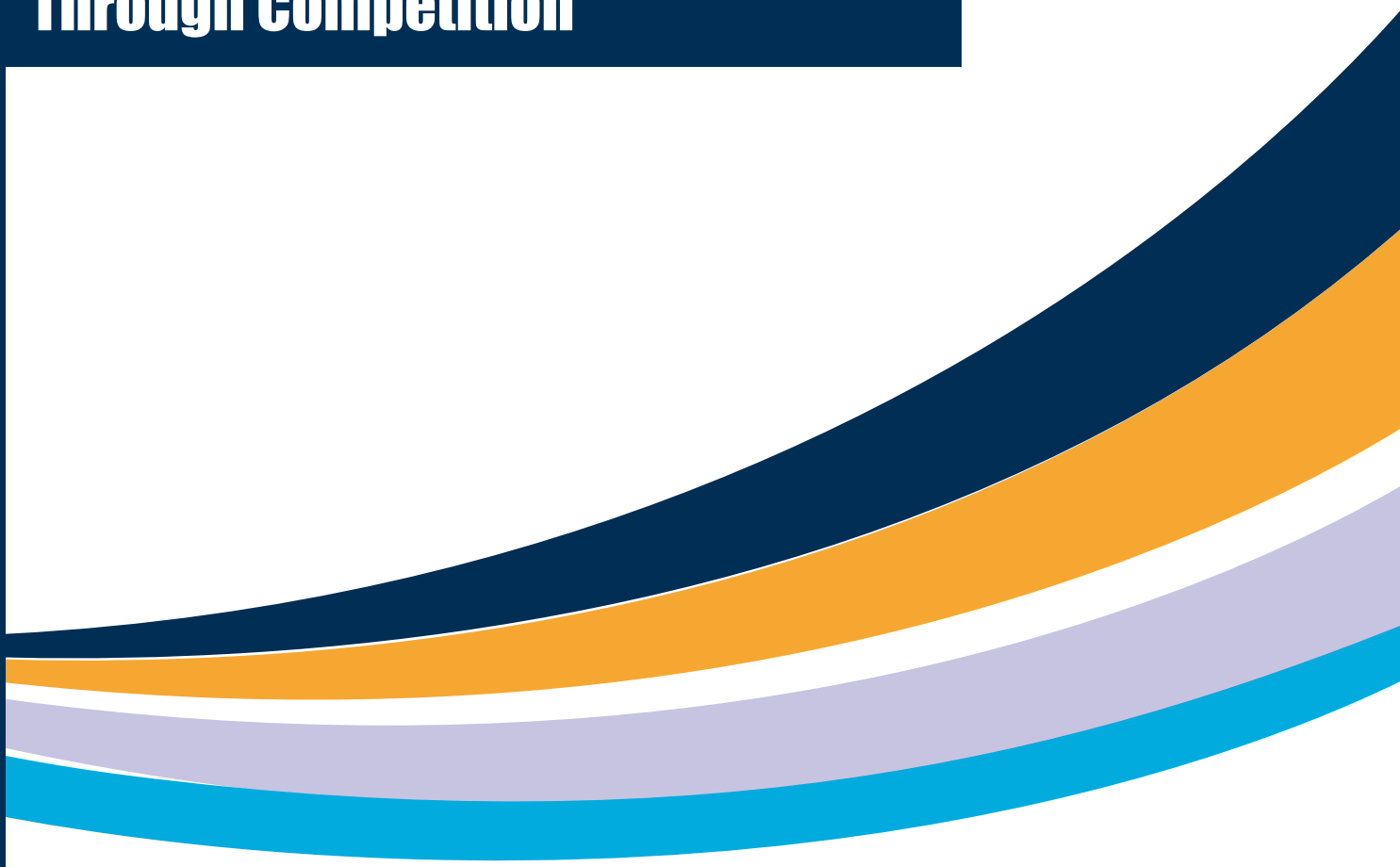
Promoting Faster Growth and Poverty Alleviation Through Competition



THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

South Africa Economic Update

Promoting Faster Growth and Poverty Alleviation Through Competition



World Bank Group | February 2016 | Edition 8

THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

© 2016 The International Bank for Reconstruction and Development/THE WORLD BANK
1818 H Street NW
Washington, DC 20433
USA

All rights reserved

All references to dollars are to U.S. dollars unless otherwise noted.

Cover photos: Shutterstock.

The report was designed, edited, and typeset by Communications Development Incorporated, Washington, DC. Cover design by Shereno Printers, Gauteng, South Africa.

Contents

Foreword v
Acknowledgments vi

Executive Summary 1

Section 1 Economic Developments and Prospects 7
Global economic developments and prospects 7
Recent trends in South Africa 10
Economic outlook 24
Notes 29

Section 2 Promoting Faster Growth and Poverty Alleviation Through Effective Competition Policy 31
How competition policy is being used to detect and sanction anticompetitive behavior in South Africa 32
Using competition policy to promote faster economic growth 41
Using competition enforcement to promote poverty alleviation 53
Conclusion: Making competition work toward faster growth and poverty alleviation 60
Notes 61

References 67

Boxes
1.1 The impact of China's slowdown and rebalancing on South Africa 12
1.2 Mining in South Africa at the end of the commodity super cycle 15
1.3 Putting the student protests in perspective 20
1.4 South African poverty in an international perspective 27
1.5 Market scrutiny of domestic policies increases as integration with global financial markets rises 28
2.1 A brief introduction to cartels and a tool to combat them 33
2.2 Facilitating factors for cartels 38
2.3 Procompetitive options for spectrum assignment in South Africa 53
2.4 Why a 10 percent price effect assumption? 54
2.5 How collusion occurred in the wheat, maize, poultry and pharmaceutical markets 56

Figures
1.1 Global activity indicators 8
1.2 Selected financial and commodity indicators 9
1.3 Since the global financial crisis, growth in South Africa has been outpaced 13
1.4 South Africa is falling behind most of its BRICS peers 13
1.5 Recently, the most dynamic sector has been finance 13

1.6 Other than insufficient demand, skill mismatches increasingly hold back growth in some industries 18
1.7 Only finance and commerce expanded employment in H1 2015 21
1.8 Since the global financial crisis, higher wages came at the expense of lower employment 21
1.9 South Africa has experienced one of the heaviest real trade-weighted depreciations among the BRICS 23
1.10 Despite the depreciation in real effective terms, manufacturing exports barely picked up in 2015 24
1.11 The South African economy will have to grow by 7.2 percent a year after 2017 to meet the 2030 NDP target—feasible? 25
2.1 WEF effectiveness of antimonopoly policy indicator, 2015–16 32
2.2 Characteristics of cartel cases finalized between 2005 and 2015 34
2.3 Network mapping of selected cartels by firm ownership links 36
2.4 Network mapping of selected cartels by firm ownership and directorship/management links 37
2.5 Frequency of occurrence of each facilitating factor across 25 cartelized markets 40
2.6 Extent to which facilitating factors are present across 25 cartelized markets 40
2.7 TFP growth, South Africa versus BRICS peers, 2002–12 41
2.8 Electricity, communications, and transport regulations, South Africa versus peers, 2008 and 2013 43
2.9 Fall in cement PPI (energy-deflated) after PPC applied for leniency 45
2.10 PPC margins fall after the breakup of the SACU cement cartel 45
2.11 Retail cement prices in Gauteng 46
2.12 Timeline of ex post and ex ante regulation in South Africa, 2002–15 48
2.13 South Africa's ranking on the NRI subindexes versus BRIC average, of 143 countries 49
2.14 Score on internet and telephony competition indicator, 0–2 49
2.15 Prepaid mobile telephony market shares 50
2.16 3G mobile telephony market shares 50
2.17 4G mobile telephony market shares 50
2.18 Price of cheapest mobile broadband 1GB in the country, South Africa versus African peers, Q1 2014 51
2.19 Broadband speeds in the BRICS, 2008–13 51
2.20 Assignment of spectrum across bands as a share of the total assigned, Q1 2014 52
2.21 Mean annual household expenditure on cartelized goods 55
2.22 Share of household expenditure on cartelized goods 55
2.23 Difference in proportionate income effect for lowest and highest income deciles 57
2.24 Total absolute income effect and mean percentage income effect per household across deciles, four cartels combined 58
2.25 Reduction in poverty from preventing a 10 percent price increase (percentage of individuals) 58
2.26 Reduction in poverty from preventing a 10 percent price increase (number of individuals) 59

Tables

1.1 Real GDP growth by sector 14
1.2 Trends in GDP growth on the demand side 17
1.3 South Africa macroeconomic performance and outlook 26
2.1 Cartels sanctioned between 2005 and 2015 by sector 35
2.2 Facilitating factors displayed by 25 cartelized markets 39
2.3 Expected benefits for the local economy from investment by Sephaku Cement 46
2.4 Key areas of ex ante regulatory policy and progress in South Africa 47
2.5 Comparison of the cost-effectiveness of direct transfer programs and anticartel enforcement 59

Foreword

I am pleased to present the World Bank's eighth volume of the South Africa Economic Update. As usual, our *Update* comes in two parts, one focusing on recent economic developments and one on a thematic area: in this edition we focus on Promoting Faster Growth and Poverty Alleviation through Competition. This topic is particularly important for South Africa, which is facing weak economic growth and limited fiscal resources and has to look to avenues outside the fiscal space to stimulate faster sustainable growth and progress towards its ultimate goal of eliminating poverty, outlined in the 2030 National Development Plan (NDP).

2016 is shaping up to be a challenging year for emerging markets and South Africa in particular. As growth has slowed and becomes more sustainable in China, its appetite for commodities has fallen triggering sharp tumbles in commodity prices. Growing market uncertainty about the strength of growth in emerging markets combined with rising interest rates in the U. S. have triggered large capital outflows. Countries with large fiscal and external imbalances, like South Africa, are under the most pressure.

But external headwinds do not tell the whole story of South Africa's economy. Domestic constraints ranging from long standing challenges such as power shortages and fractious labor relations are being compounded by a severe drought and growing policy uncertainty. The abrupt changes at the helm of the Ministry of Finance in December shocked markets and the country. Investor confidence, already low, was hurt and faith in South Africa's institutions, heretofore a key strength of the country, was shaken. The *Update* presents a candid assessment of South Africa's economic prospects. With growth declining in per capita terms the NDP goals are moving further out of reach. South Africa urgently needs fundamental reforms to kick-start growth and promote job creation.

Advancing with reforms to improve the lives of South Africans is particularly attractive, since they hold the potential to boost growth and speed up poverty alleviation. In section 2 of this *Update* we focus on competition policy as one such reform that holds potential to reignite growth and raise household incomes. The evidence presented shows how greater competition between firms in domestic markets and improved regulation can make firms more efficient and boost growth. The breaking up of the cartels in wheat, maize, poultry, and pharmaceuticals that colluded to artificially raise the retail prices of these essential goods is a powerful example of how competition policy can alleviate poverty and ensure that public cash grants provided to the poor result in improved living standards. Competition policy demonstrates the power of bold reform to ease pressures in times of a tight public purse.

I sincerely hope that our analysis will stimulate debate and reinforce the general case for bold reform to revive South Africa's economy—for faster growth, more jobs, and poverty eradication.

Guang Zhe Chen
Country Director for Botswana, Lesotho, Namibia, South Africa, Swaziland, Zambia, and Zimbabwe
World Bank

Acknowledgments

This edition was prepared by a core team comprising Catriona Purfield (Program Leader, AFCS1), Marek Hanusch (Senior Economist, GMFDR), Yashvir Algu (Research Analyst, GMFDR), Tania Priscilla Begazo Gomez (Senior Economist, GTCDR), Martha Martinez Licetti (Global Product Specialist, Competition Policy, GTCDR), and Sara Nyman (Economist, GTCDR). Gerard Kambou (Senior Economist, DECPG) contributed to the global developments part of section 1, based on the World Bank's *Global Economic Prospects*. Boxes were contributed by Maryla Maliszewska (Senior Economist, DECPG) and Asli Senkal (Young Professional, GMFDR), while Victor Sulla (Senior Economist, GPV01) provided poverty simulations. Section 2 builds on the World Bank Group Markets and Competition Assessment Tool (MCPAT) particularly on the analytical framework for assessing cartel behavior. The report benefited from peer review comments from Thomas Farole (Lead Economist, GCJDR), Tanja Goodwin (Private Sector Development Specialist, GTCDR), and João Pedro Wagner (Lead Economist, GPVDR). The report was prepared under the overall guidance and supervision of Guang Zhe Chen (Country Director, AFCS1) and Mark Roland Thomas (Practice Managers, GMFDR). Jose Guilherme Reis and David Bridgman, (both Practice Manager, GTCDR) also provided overall guidance on Chapter 2. Hellen Mungaila (Program Assistant, AFCS1) helped process the report at various stages and Yana Ukhaneva (Consultant, GTCDR) provided research assistance.

The team is grateful for inputs from the Competition Commission of South Africa, South Africa's National Treasury, the South African Reserve Bank, and the Independent Communications Authority of South Africa (ICASA). In particular, we would like to thank Liberty Mncube (of the Competition Commission of South Africa, initiating this work) and his team, especially Mfundo Ngobese, Yongama Njisane and Thulani Mandiriza, who generously provided inputs and guidance. We thank Johannes Fedderke of Pennsylvania State University for providing his latest estimates of sector concentration and mark-ups. We would also like to thank Neva Seidman Makgetla at the Trade and Industrial Policy Studies for her valuable inputs on the mining sector. We are also grateful for the input received from National Treasury, in particular Konstantin Makrelov and Ian Stuart. We would like to thank Junior Khumalo of ICASA, John Kruger and Josephilda Nhlapo-Hlope of the Department of Monitoring and Evaluation at the Presidency. Finally, we acknowledge helpful comments from the IMF South Africa team, in particular Laura Papi and Wenjie Chen.

Executive Summary

Section I: Economic developments and prospects

Global growth remained subdued in 2015 as major emerging markets weakened. It is estimated at 2.4 percent, down from 2.6 percent in 2014. In developing countries, growth in 2015 is estimated at a post-crisis low of 4.3 percent, down from 4.9 percent in 2014. Industrial production, trade, and import demand from large emerging economies remained subdued. In contrast, the recovery in major high-income countries continued over the year. Growth in high-income countries is estimated at 1.6 percent, compared with 1.7 percent in 2014.

Commodity prices have continued their slide with global commodity markets oversupplied and demand softening. By end-2015, the three industrial commodity price indices —energy, metals, and agricultural raw materials—were down, on average, 55 percent from their respective peaks in 2011. Oil prices dropped below $40 a barrel toward the end of 2015, and weakened to below $30 in January 2016, driven lower by expectations of slowing global growth, high stocks in member countries of the Organization for Economic Cooperation and Development (OECD), resilient oil production—including a boost to oil supply from Iran following the lifting of sanctions—and the strength in the U.S. dollar.. The slump in metal prices, which reached their lowest levels in seven years in December 2015, reflects well-supplied markets as well as weaker growth especially in emerging markets, including China.

Global financial market volatility rose notably during 2015 against the backdrop of slowing activity in large emerging economies, diverging monetary policies of major central banks, continuing declines in commodity prices, and fragile liquidity conditions. Several of the largest developing-country stock markets saw plunges of 20 percent or more from their 2015 peaks. Currencies of key commodity exporters (including Brazil, Malaysia, and South Africa) and of developing countries subject to heightened political risk (including Brazil and Turkey) fell to multiyear lows against the U.S. dollar and in trade-weighted terms. Later in the year, equity markets rebounded and sovereign bond spreads narrowed, though the spreads remained elevated in many countries. Several emerging market currencies also retraced some of their earlier losses against the U.S. dollar. At the start of 2016, global stock markets suffered steep losses, rattled by China's equity market turmoil and lingering weaknesses in oil prices.

Global investors pulled about $735 billion from emerging markets in 2015. This retraction was mainly driven by institutional investors reducing their exposure in a sign of their deteriorating confidence in emerging markets' long-term prospects. Net short-term debt and bank outflows from China accounted for the bulk of the outflow from emerging markets, but portfolio and short-term capital inflows also dried up elsewhere. FDI inflows remained generally steady, although they decelerated in some economies.

Global growth is expected to pick up, but at a slower pace than previously projected, reaching 2.9 percent in 2016 and 3.1 percent in 2017–18. Developing-country growth is expected to rise to 4.8 percent in 2016 and to 5.3 percent in 2017, led by South Asia and the East Asia and Pacific region. Activity in Sub-Saharan Africa is expected to move up to 4.2 percent in 2016, from 3.4 percent in 2015, before strengthening to 4.7 percent in 2017–18. This modest improvement is predicated on continuing momentum in high-income countries, stabilization of commodity prices, still-accommodative monetary policy in major economies (and no major bouts of financial market turbulence), and continuing gradual slowdown in China—that is, risks remain on the downside.

Growth in South Africa deteriorated amid intensifying external and domestic headwinds. It slowed to 1.5 percent in 2014, down from a post-financial crisis high of 3.2 percent in 2011. Beyond the fall in global commodity prices and the deceleration in China, the slowdown in South Africa reflects missed opportunities to build fiscal and external buffers during the commodity super cycle. Domestic factors included the impact of drought on agriculture and growing policy uncertainty. Moreover, because real gross domestic product (GDP) growth in South Africa has been trailing its peers for some time now, a gap has opened in the size of its economy and in incomes relative to those of other emerging markets.

The South African economy kicked off the year with a five-quarter high growth rate of 1.9 percent year-on-year (y/y). Mining production rebounded from a five-month strike in the platinum sector, and financial and related services continued to grow robustly. But growth then moderated, turning negative in Q2 before recovering somewhat in Q3. Agricultural production contracted at double-digit rates in the first three quarters as extreme weather conditions related to El Niño led to the most severe drought in almost 20 years, pushing an estimated 50, 000 South Africans into poverty. Mining production contracted sharply and manufacturing activity remained volatile over the first three quarters of the year. The only bright spot remained services, which continued to grow relatively well, led by financial and business services. Commerce, including hotels and restaurants, could have grown faster without the adverse impact of new visa regulations on tourism. With consumer and investor confidence down, consumption growth moderated, and private investment growth came to a standstill. Net exports helped counter some of this drag.

Unemployment remained high, at 25.5 percent in Q3 2015, after briefly reaching 26.4 percent in Q1, the highest since 2004. In Q3 some 5.4 million South Africans were unemployed, almost 40 percent of them new labor force entrants. Youth and unskilled workers have particular difficulty finding work. Among 15–24 year olds, half were unemployed in the first three quarters. The majority of South African unemployment is long term. Unemployment is the most important problem for 71 percent of South Africans, as revealed by Afrobarometer's 2015 survey results. However, since the global financial crisis, wage increases have continued to outstrip inflation and productivity growth despite high unemployment and job losses.

The Medium Term Budget Policy Statement (MTBPS) of October 2015 acknowledged that growth was falling short of budget targets and that adjustment in the fiscal deficit would slip. The government revised its growth projections down to 1.5 percent in 2015 and 1.7 percent in 2016, but with an acceleration to 2.6 percent for 2017, giving a cumulative downward GDP revision of 1.6 percent over the three years of the medium-term fiscal framework (2015–17). While the government expects to meet the 3.9 percent of GDP budgeted deficit target for 2015/16, the fiscal deficit in 2016/17 and 2017/18 was revised upward by 0.7 percentage points of GDP in each year (to 3.3 percent and 3.2 percent of GDP). This pushed the objective of debt stabilization further into the future, with debt expected to stabilize at 49.4 percent of GDP in gross terms in 2018/19 and at 45.7 percent in net terms in 2019/20. This adjustment is to be achieved through strict implementation of expenditure ceilings. But lower growth and contingent liabilities of state-owned enterprises pose risks to these targets. For example, if growth were to be 1 percentage point lower than projected by the MTBPS between

2016 and 2018, the gross debt burden would rise to 49.9 percent of GDP, rather than stabilizing. These risks prompted Fitch to downgrade South Africa's sovereign rating to BBB–, one notch above speculative grade, while Standard and Poor's put its BBB– rating on negative watch. Concerns about the government's commitment to fiscal targets resurfaced strongly in December amid sudden changes in the minister of finance, flagging fears of the risk of a ratings downgrade to speculative grade sooner rather than later.

Inflation was relatively subdued in 2015 amid lower food and fuel prices. Still, the South African Reserve Bank raised the policy rate by a cumulative 100 basis points to 6.75 percent from the start of 2015 to end January 2016 as the inflation outlook deteriorated due to the effects from rising food prices due to the drought and the risk of a higher pass-through from the sharp depreciation of the rand, whose value fell by more than 30 percent against the dollar in 2015 and continued to weaken in January 2016.

The current account deficit narrowed in 2015, but its financing remains a key vulnerability. Exports were strong, especially in the first half of the year while imports had a weak start and only caught up gradually. Strong export performance is partly a rebound from 2014's strikes. Moreover, the depreciation of the rand somewhat buffered the plummeting commodity prices in U.S. dollar terms, softening the price impact on the trade balance. Unidentified financial flows, along with portfolio flows, are the main financing sources for South Africa's external deficit.

Real GDP growth in 2015 is expected to come in at 1.3 percent, with a further deterioration expected in 2016 and 2017, when growth is forecast to decline to 0.8 percent and 1.1 percent, respectively. Agriculture is likely to remain weak as the drought effects persists while mining will continue to face headwinds from restructuring and the risks of industrial action. Manufacturing has yet to respond convincingly to the opportunities from the real depreciation of the rand. It is stymied by a host of rigidities in labor and product markets. Inadequate power (a constraint expected to ease somewhat toward 2018 as new capacity comes on line) and weak investor sentiment, especially amid policy uncertainty, also contribute to firms' caution in expanding production (including manufacturing) capacity, and to an investor standstill. Little support to growth can be expected from fiscal policy as the government takes adjustment measures to safeguard its investment-grade rating in the wake of slower growth. Poverty is at risk of rising, especially with the drought.

Given these projections, South Africa's economy would have to grow by 7.2 percent a year after 2017 to meet the 2030 National Development Plan (NDP) target of more than doubling 2011 GDP by 2030 (which originally required average annual growth of 5.4 percent). A pickup of this size would be ambitious to achieve in good times, let alone given the outlook of weaker commodity prices and lower Chinese demand. Reigniting growth to begin to close this gap calls for comprehensive reform to encourage new growth drivers to emerge.

But the risks to even this lackluster growth outlook are considerable. Much will hinge on sustained recovery in the United States and successful rebalancing in China toward a more sustainable growth model. In addition, matching and re-matching skills as the mining sector restructures and manufacturing steps up to new job opportunities could lead to frictions that are expressed through industrial action and social unrest. The slowing economy has already raised social discontent. High inequality and policy uncertainty only add to the challenge. Strong efforts by the public and private sector, as well as civil society, will be important to ease these frictions.

On the fiscal front, the government walks a fine line. A weaker growth environment may cause further slippage in the fiscal deficit and delay the government's goal of stabilizing the debt-to-GDP ratio. Markets and rating agencies are closely watching the government's efforts to maintain its (foreign-currency denominated) investment-grade rating. Ultimately the ability of South Africa and its government to meet growing demands for job creation, redistribution, and improved service delivery sustainably depends on bold reforms to reignite economic growth—and on tough decisions prioritizing demands in a scenario where fiscal resources are tighter.

Section 2: Promoting faster growth and poverty alleviation through competition

Competition in the marketplace matters—for a country's economic growth, its international competitiveness, and the welfare of its citizens. It encourages companies and industries to become more productive, allowing local firms to invest more and grow and to compete successfully at home and abroad—generating profits, creating jobs, spurring economic growth, and benefiting society more broadly. Firms can then deliver the best deals for consumers, protecting poorer households from overpaying for consumer goods, and facilitating access to a broader set of goods.

In this edition's focus section we ask: What is the potential for competition policy—including competition law enforcement and pro-competition regulations—to spur gains in productivity, enhance competitiveness, and promote faster economic growth, all the while contributing to poverty reduction? We find great potential for South Africa to promote faster growth and poverty alleviation through reforms that open markets to competition and enhance product market regulation.

South Africa's competition framework has over the past 15 years since its operationalization made considerable progress in fostering competition in local markets through active detection and deterrence of ant-competitive behavior. South Africa's Competition Act grants the competition authorities—the Competition Commission, Competition Tribunal, and Competition Appeals Court—strong powers in fostering competition. South Africa's authorities rank among the most active in Africa in pursing anticompetitive behavior and stand out as particularly effective relative to peers, given its per capita income.

We analyze cartel behavior in South Africa using a new database created for this *Update* that captures the competition authorities' actions against cartels between 2005 and 2015. We find that anticompetitive behavior (measured by cartels detected and sanctioned) is detected relatively frequently by the competition authorities, particularly in the food and agro-processing sector and in intermediate inputs sectors both of which are a priority for the Competition Commission.. Excluding construction projects, some 76 cartels were detected and sanctioned between 2005 and 2015. South Africa's corporate leniency policy, which grants immunity from prosecution and fines for cartelizing firms that come forward and disclose information on other cartel members, helped the authorities identify about 40 percent of these cases. And interestingly, the data revealed that close to two-thirds of the firms sanctioned participated in others cartels, that the cartels persisted for eight years on average, and that several involved large dominant firms colluding with many smaller firms.

A network analysis of the cartels sanctioned in food-related and pharmaceuticals markets, both key for the poor, was conducted for this *Update*. It reveals that cartels often involve the same key economic groups participating in several product markets cartels and across multiple sectors. Such an analysis could be extended and used by the competition authorities to focus future investigations on sectors where similar patterns are seen, to help improve rates of detection, and to deter such practices over the longer term. The fact that key firms operate across multiple cartels, and that these cartels are quite stable despite relatively proactive detection by the competition authorities, points to factors in South African markets encouraging firms to form them.

Our database shows that cartelized markets are characterized by structural factors such as high concentration, high barriers to entry, and homogenous products, which are understood to facilitate cartels. Rather than being structural. They also have features determined by market players, which make it easier to collude, including the presence of a trade association specific to that market and excess capacity. Indeed in 25 of the 76 cases, a trade association was found to have explicitly facilitated the collusive behavior. Screening other markets for these factors could also help target future competition enforcement investigations and increase rates of detection. Still, the fact that firms appear as repeat cartel offenders across sectors and over time—63 percent of analyzed cases involved a firm which had participated in multiple cartels—suggests that the risk of detection alone is not enough to deter them. There is therefore a balancing act to be struck, as the competition

regime matures, between imposing fines which are high enough to act as deterrent, whilst encouraging leniency applications and cooperation with the competition authorities. Analyzing market outcomes after cartels have been detected also becomes more relevant.

Competition policy can promote faster economic growth by spurring firms to innovate, improve efficiency, and become more productive while lowering their input costs. South African manufacturing and export markets appear to have, however, high market concentration—just a few firms account for the bulk of the market, including non-mineral exports where the top 5 percent of firms account for 93 percent of total non-mineral exports. Sectors with firms operating with high price-cost margins are often associated with low and declining productivity growth, partially because South Africa's most productive firms do not generally have the largest market share. Previous empirical evidence has suggested that a 10 percent reduction in firm price-costs margins in South Africa has the potential to boost productivity growth by as much as 2–2.5 percent a year, which could help counter the current trend of contracting productivity growth.

Reflecting weak competition in network sectors, firms in South Africa face high costs for key inputs such as transport and telecommunications. In these sectors, markets labor under high regulatory obstacles to competition, which undermine South African firms' competitiveness. For example, the country is one of the most expensive among 12 African peers in the Broadband Price Index, with the cheapest 1 gigabyte prepaid basket costing as much as R149 in 2014 (about $14) against just over $2 in Cameroon. Only Ethiopia, Botswana, and Namibia are more expensive. South Africa ranks only 119 globally on download speeds.

If South Africa is to succeed in promoting its competitiveness internationally, it needs to lower input costs for key services that firms use. To illustrate the potential to spur growth by boosting competition in services sectors, a simulated scenario in which South Africa reduces regulatory restrictiveness of professional services sectors suggests that growth in value added in industries which use professional services intensively would, other things being equal, be between $1.4–$1.6 billion. This is equivalent to an additional 0.4–0.5 percentage points of GDP growth.

To examine more concretely the question of how competition enforcement can help promote competitiveness and faster economic growth, we take two case studies from key input sectors in South Africa, cement and telecommunications. For cement—which together with plaster represents 2 percent of the value of inputs to the country's construction industry in South Africa—enforcement action by the competition authorities prevented overcharges on the price of cement of 7.5–9.7 percent, saving downstream firms some R1.1–1.4 billion a year in input costs. The breakup of the cartel was followed by the first new greenfield entry in the sector for 80 years. As well as generating investment in the sector that has created new jobs, the new entrant appears to be charging lower prices for cement than the older established cement firms. Together with a second entrant currently under construction, the new players in the market are expected to account for about 10 percent of the total market once fully operational. However, steps by existing players to protect their market share from lower priced imports or use barriers to entry to preserve their regional markets, if successful, would erode these gains to downstream firms, losing the potential of imports and new entry to further enhance competitiveness.

The case of the telecommunications sector shows how competition hinges on the broader regulatory environment beyond competition enforcement. Telecommunications made up around 2.6 percent of inputs across industries in 2013, and to help boost growth, the National Development Plan aims to achieve 100 percent access to broadband at a cost below 2.5 percent of average monthly income by 2020. However, broadband prices remain high in South African compared to both BRICS countries (including Brazil, Russia, India, China, and South Africa) and African peers, while broadband speeds lag well behind Brazil, Russia, and China. Meanwhile, both 3G and 4G markets show high concentrations compared to BRICS peers, and market shares of the largest operators have been largely stable over time. The most pressing competition challenge in the sector at present is therefore the need for pro-competitive and efficient spectrum assignment

policies. The limited availability of spectrum has created challenges for small network providers looking to enter the market, and has left operators facing significant capacity constraints, contributing to a slowdown in broadband speeds and slow deployment of high-speed services. Timely actions by a well-resourced sector regulator and effective policy direction on spectrum licensing will be key in boosting competition and improving market outcomes.

The Competition Authorities has striven to complement ex ante regulations by promoting greater competition ex post in telecoms markets. Enforcement actions by the competition authorities have in turn informed pro-competition changes in the sector's regulatory framework. Looking forward, however, there is a need to coordinate and strengthen the comparative roles of the Competition Authority, the sector's regulator, and policy makers. Reassessing the balance between ex ante and ex post regulation would allow for more timely and effective regulation to promote competition.

Tackling anticompetitive practices can also accelerate progress toward the goal of poverty reduction. Our analysis shows that removing cartels in basic food products and commodities can bring substantial benefits to households, especially the poor. In the case of four cartels in maize, wheat, poultry, and pharmaceuticals—products which make up 15.6 percent of the consumption basket of the population's poorest 10 percent—conservative estimates indicate that around 200,000 people stood to be lifted above the overall poverty line by tackling cartel overcharges. This is equivalent to a 0.4 percentage point reduction in the overall national poverty rate only by tackling 4 food cartels. Moreover, the gains for the bottom 40 percent of the consumption distribution are around 3.4 times as large as for the top 40 percent, indicating the potential positive distributional impacts of competition enforcement actions.

Anti-cartel enforcement therefore represents a cost effective complement to other poverty reduction measures—with a poverty impact per rand expenditure many times higher than the poverty impact from direct transfers from the state. It also reduces the risk that some of the impact of government cash transfers to the poor is absorbed by firms in the form of cartel profits.

SECTION I

Economic Developments and Prospects

For 2015 as a whole, global growth is estimated at 2.4 percent, compared with 2.6 percent in 2014

Global economic developments and prospects

Global growth remained subdued in 2015 as major emerging markets weakened

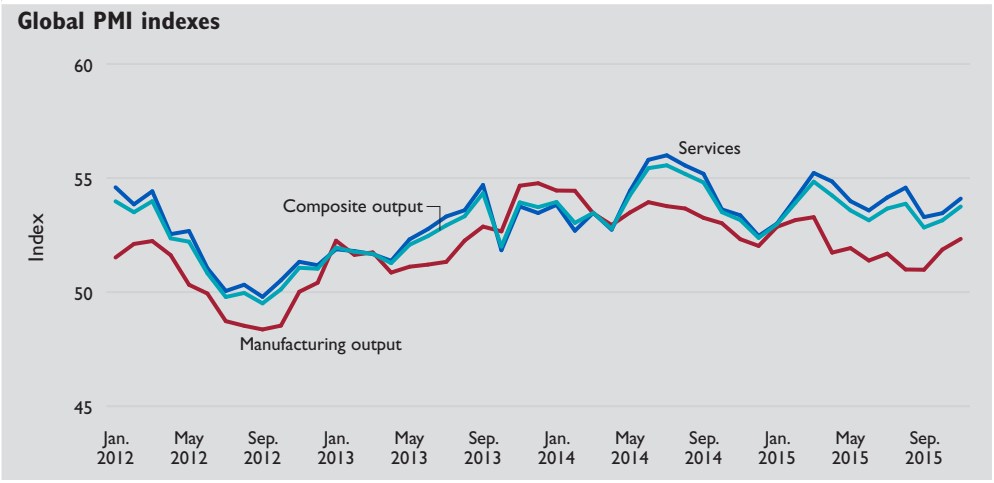
Global growth in Q3 2015 was estimated at around 2.4 percent, quarter on quarter, seasonally adjusted annualized rate (q/q saar), little changed from the subdued pace in the preceding three quarters. Global industrial production, trade, and import demand from large emerging economies remained weak in Q3. As a result, exports of major high-income countries were also tepid in that quarter. Purchasing Managers Index (PMI) surveys and other high-frequency data pointed to some recovery in global manufacturing activity at the start of Q4 and still robust conditions in services (figure 1.1, top panel). PMI levels in December were consistent with global growth remaining at around 2.5 percent in Q4, similar to Q3. For 2015 as a whole, global growth is estimated at 2.4 percent, compared with 2.6 percent in 2014.

Among high-income countries, growth in the United States softened in Q3 to 2.1 percent (q/q saar), as manufacturing activity was temporarily held back by a decline in inventories, while the strength of the dollar and soft external demand weighed on exports. Domestic demand remained robust, buttressed by a strengthening labor market. Nonfarm private employment rose by 252,000 in November and 292,000 in December, ahead of expectations. The strengthening U.S. economy prompted the Federal Reserve to raise interest rates in December, the first increase in policy rates in almost a decade. For 2015 as a whole, U.S. growth is estimated at 2.5 percent—the highest annual rate since the global financial crisis.

In the Euro Area, growth slowed to 1.2 percent (q/q saar) in Q3 from 1.4 percent in Q2. PMIs, however, stayed robust in December, the unemployment rate continued to decline, and consumer confidence strengthened further. Growth is expected to firm in Q4, but November's terrorist attacks in Paris may dampen confidence amid heightened security concerns. In addition, an unfolding refugee crisis has been increasing political pressures on the cohesion of the European Union. Given persistently low headline and core inflation, the European Central Bank decided at its December 3 meeting to cut the deposit rate further and extend its asset purchase program to March 2017. Euro Area growth is estimated at 1.5 percent in 2015, up from 0.9 percent in 2014. Meanwhile, Japan entered its second technical recession in the last two years in Q3, though a rebound in private consumption and export growth, alongside an increase in the November manufacturing PMI, that was sustained in December point to some stabilization in Q4. Overall, GDP growth is estimated at 0.8 percent for 2015, up from –0.1 percent in 2014. The Russian economy contracted by 4.1 percent year on year (y/y) in Q3 and is expected to remain in recession in 2015, with growth estimated at –3.7 percent. Overall, growth in high-income countries is estimated at 1.6 percent compared with 1.7 percent in 2014.

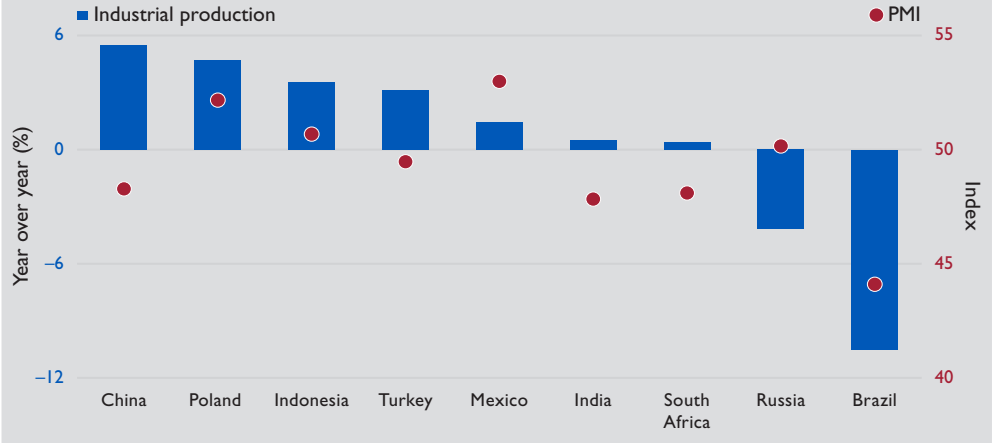
Figure 1.1 Global activity indicators

Global PMI indexes



Source: World Bank, Haver Analytics.
Note: The last observation is November 2015.

Emerging market industrial production and PMI, 2015 latest



Note: The last observation is September for most countries and October for China, Poland, and Russia for IP, and October 2015 for PMI.

By end-December 2015, the three industrial commodity price indexes—energy, metals, and agricultural raw materials—were down, on average, almost 55 percent from their respective 2011 peaks

On average, growth in emerging markets picked up somewhat in Q3 to 5 percent y/y from 4.7 percent in Q2, supported by temporarily stabilizing commodity prices and ongoing recovery in advanced countries. Notably, growth in India accelerated to 7.4 percent y/y in Q3, more than expected, helped by government efforts to kick-start public infrastructure projects. Growth in several emerging markets in East Asia (the Philippines, Vietnam) and North America (Mexico) also strengthened on broadly robust activity in major trading partners. For many commodity exporters, by contrast, growth remained weak, as they continued to struggle with low commodity prices.

Reflecting continuing deceleration and rebalancing in China, GDP slowed to 6.9 percent y/y in 2015, from 7.3 percent in 2014. The deceleration reflects an ongoing correction in the property sector, weakness in industrial activity, and slower growth in non-traditional credit, while the economy rebalances from an investment-driven to a consumption-driven growth model. Brazil's PMI in December suggests the economy remains in recession while the contraction in industrial production deepened. For developing countries as a group, growth in 2015 is estimated at a post-crisis low of 4.3 percent, down from 4.9 percent in 2014, reflecting a synchronized slowdown in the large emerging markets. In Sub-Saharan Africa, growth is expected to slow notably to 3.4 percent from 4.6 percent in 2014.

Commodity prices continue their rout

With global commodity markets oversupplied and demand subdued, especially for industrial commodities, commodity prices have continued their slide. By end-December 2015, the three industrial commodity

price indexes—energy, metals, and agricultural raw materials—were down, on average, almost 55 percent from their respective 2011 peaks. Oil prices dropped below $40 a barrel towards the end of 2015, and weakened further to below $30 per barrel in January 2016. Prices were driven lower by expectations of slowing global growth, high stocks in members of the Organization for Economic Cooperation and Development (OECD), resilient oil production—including a boost to oil supply from Iran following the lifting of sanctions—and the strength in the U.S. dollar.. U.S. crude oil production has begun to decline—the rig count is now two thirds below the all-time high of August 2014—due to lower investment and drilling but was resilient for most of 2015. The slump in metal prices, which reached their lowest levels in seven years in December 2015, reflects well supplied markets as well as weaker growth in major emerging markets. While food prices are likely to rise in some countries due to the El Niño weather, ample supplies suggest that food prices will not rise across the board globally.

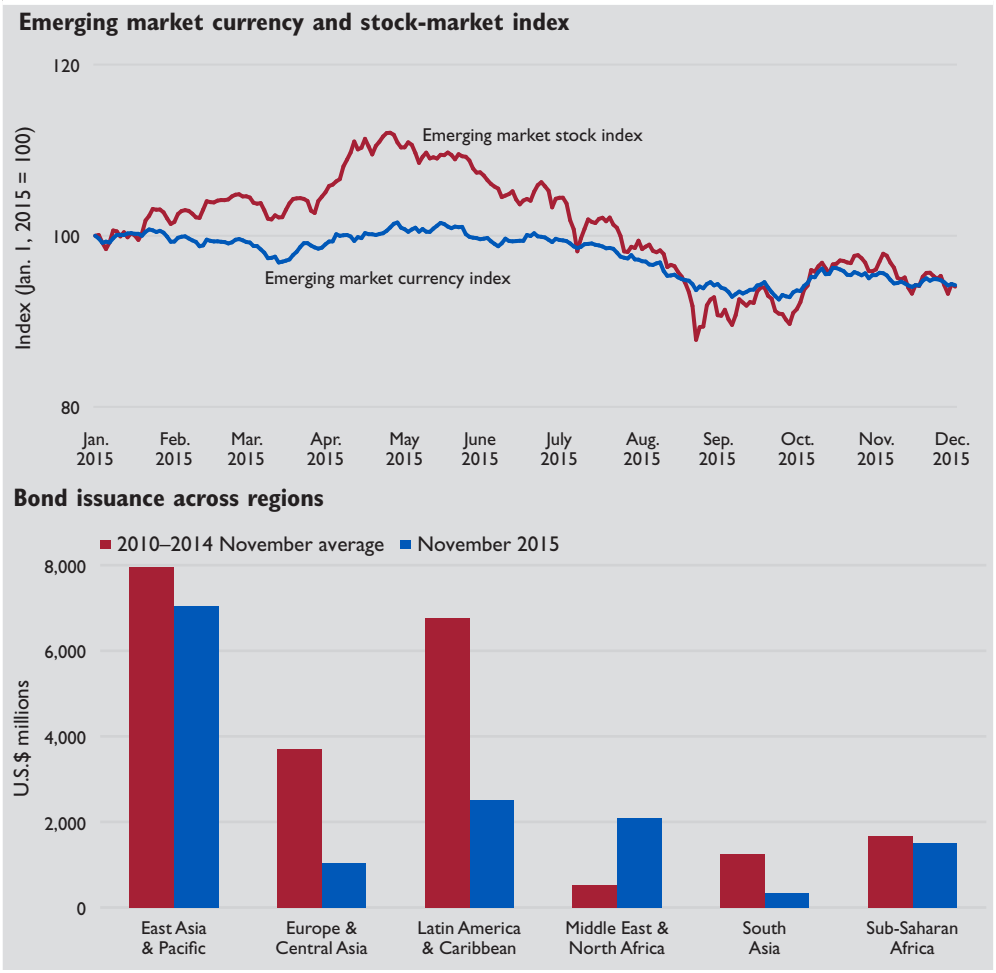
Weak commodity prices, low wage growth in advanced economies, and overcapacity in China put continued downward pressure on global inflation, especially in most high-income countries. Among key emerging markets, however, inflation increased or stayed elevated (Brazil, Chile, Colombia, Egypt, Indonesia, Malaysia, Russia, and Turkey), reflecting sharp currency depreciations (figure 1.2, top panel), and, to less extent, increases in administrative prices and indirect taxes.

Reflecting continuing deceleration and rebalancing in China, GDP slowed to 6.9 percent y/y in 2015

Capital flows to emerging markets have declined

Global financial market volatility rose notably during 2015 against the backdrop of slowing activity in large emerging economies,

Figure 1.2 Selected financial and commodity indicators



Source: World Bank, Bloomberg, Haver Analytics, Dealogic, and BP Statistical Review of World Energy.

Growth is expected to rise to 4.8 percent in 2016 and to 5.3 percent in 2017 in developing countries

diverging monetary policies of major central banks, continued declines in commodity prices, and fragile liquidity conditions. Several of the largest developing-country stock markets saw plunges of 20 percent or more from their 2015 peaks (see figure 1.2, top panel). Currencies of key commodity exporters (including Brazil, Indonesia, Malaysia, Russia, and South Africa), and developing countries subject to heightened political risk (including Brazil and Turkey) fell to multiyear lows both against the U.S. dollar and in trade-weighted terms. Later in the year, equity markets rebounded, and sovereign bond spreads have narrowed, although remaining elevated in many countries. Several emerging markets currencies have also retraced some of their losses against the U.S. dollar. But at the start of 2016, stock markets around the world suffered steep losses, rattled by China's equity market turmoil and continued weaknesses in oil prices.

According to the Institute of International Finance, emerging markets are estimated to have experienced capital outflows of about $735 billion. It was mostly driven by institutional investors reducing their exposure in a sign of deteriorating confidence in long-term prospects. Net short-term debt and bank outflows from China accounted for the bulk of the outflow from emerging markets, but portfolio and short-term capital inflows also dried up in other emerging markets especially over the second half of the year. Foreign direct investment (FDI) inflows kept generally steady in most economies.

International bond issuance by emerging and developing economies remained weak in November (figure 1.2, bottom panel). Issuance was especially depressed in Latin America and East Asia and Pacific but remained robust in Sub-Saharan Africa. In November, several emerging market sovereigns (including Angola and Cameroon) issued international bonds ahead of the December U.S. interest rate hike but at considerably higher yields than similarly rated issues in early 2015.

Global growth is expected to pick up in 2016 and strengthen somewhat in 2017–18

Going forward, global growth is expected to pick up, but at a slower pace than previously projected, reaching 2.9 percent in 2016 and 3.1 percent in 2017–18. Global inflation is expected to increase moderately in 2016 as commodity prices level off, but will remain low by historical standards. Growth is expected to rise to 4.8 percent in 2016 and to 5.3 percent in 2017 in developing countries, led by South Asia and the East Asia and Pacific region. Economic activity in Sub-Saharan Africa is expected pick up to 4.2 percent in 2016, from 3.4 percent in 2015, before strengthening further to 4.7 percent in 2017–18. This modest improvement is predicated on continuing momentum in high-income countries, stabilization of commodity prices, still-accommodative monetary policy in major economies with no major bouts of financial market turbulence, and a continuing although gradual slowdown in China. Growth in high-income countries is forecast to average 2.1 percent annually in 2016–18. The tightening cycle of the U.S. Federal Reserve is projected to be very gradual, while policy accommodation will likely continue in the Euro Area and Japan.

The global outlook remains subject to substantial downside risks

Downside risks dominate and have become increasingly centered on emerging and developing countries, as the recovery in many high-income countries has become more entrenched. A disorderly slowdown in China and widespread weakness across other BRICS countries (including Brazil, Russia, China, and South Africa) could have substantial spillovers on other emerging and developing economies. Financial market turbulence—triggered, for instance, by spikes in borrowing costs during the U.S. tightening cycle or by rising risk aversion—could greatly affect capital flows to the more vulnerable emerging and developing economies and intensify their balance-sheet vulnerabilities. Commodity exporters and countries with large external imbalances and policy uncertainty are particularly exposed to these risks. Unrealized gains from declining oil prices for importers, including South Africa, pose an upside risk.

Recent trends in South Africa

Growth deteriorates amid intensifying external and domestic headwinds

South African growth slowed to 1.5 percent in 2014 from a post–financial crisis high

of 3.2 percent in 2011. Other commodity-exporting emerging markets have also seen growth slow sharply with the end of the commodity super cycle—from an average of 7.4 percent in 2011 to 2.1 percent in 2014. This momentum has continued through 2015. The fall in global commodity prices and the slowdown in China (box 1.1) have largely driven the deceleration in South Africa and other commodity producers, reflecting their missed opportunities to build fiscal and external buffers during the commodity super cycle. Narrow export bases coupled with little policy space have left many commodity exporters, like South Africa, with little room to counter the intensifying external headwinds. And with demand from China and commodity prices unlikely to return to past highs, South Africa faces a fundamental downward shift in one of its most important export markets.

Domestic factors and policy missteps also contributed to the slowdown. Although some progress is being made, infrastructure bottlenecks in power, rail, and ports constrain production, exports, and investment. Labor relations remain fractious. Increasing policy uncertainty—exemplified by debates over laws on investor rights (passed in December 2015), land reform, and petroleum and gas exploration—have eroded investor confidence. The tightening of regulations for tourism visas slowed tourist arrivals. A trade spat between the United States and South Africa nearly resulted in the suspension of South African agricultural trade access to U.S. markets under the African Growth and Opportunity Act (AGOA) which is estimated to support 62,000 jobs in South Africa. Further undermining investor confidence was the instability triggered by the appointment of new ministers in key portfolios of mining and, in particular finance.

Real GDP growth in South Africa has trailed its peers for some time (figure 1.3), contributing to a growing gap in the size of its economy and income with those in other emerging markets. Compared with the other BRICS countries, South Africa has been trailing Brazil and Russia in GDP per capita (adjusted for Purchasing Power Parity, PPP), and was overtaken by China in 2014 (figure 1.4). When compared with a wider group of G20 peer countries, South African GDP per capita stood at 16.1 percent of the G20 average in 2014, down from 17.7 percent in 2008, and is expected to fall to 14.7 percent in 2020.[1] Far stronger growth will be required to close this gap and raise growth to the 5.4 percent target of the National Development Plan (NDP) and create the 11 million jobs needed by 2030 to tackle extremely high unemployment and eliminate extreme poverty. Such growth will be all the harder to achieve given the outlook for commodity prices and demand from China (see box 1.1).

The South African economy grew by 1.5 percent y/y in the first three quarters of 2015 (figure 1.5, table 1.1). It kicked off the year with a five-quarter high of 1.9 percent y/y growth as mining production rebounded from a five-month strike in the platinum sector and financial and related services continued to grow markedly. Growth slowed in subsequent quarters, reflecting external headwinds and the impact of the drought on agriculture.

The drought, attributed to the global climatic phenomenon El Niño and one of the worst since 1993, hit South African agriculture hard. Quarter on quarter, agriculture contracted at double-digit rates through the first three quarters of 2015. Similarly, agricultural exports plummeted, by 17.0 percent y/y in the first ten months of 2015. The drought shaved 0.2 percentage points off headline y/y growth in the first three quarters.

We estimate the impact of the drought on poverty through microsimulations. The results point to moderate impacts of the drought on income in 2015, and a slight 0.1 percentage point increase in national poverty, which includes people getting by on R501 or less per month. About 50,000 South Africans slipped into poverty due to the drought. The analysis reveals important distributional differences: low-income South Africans living in rural and farming communities have been carrying a disproportionate share of the drought's burden. Not surprisingly, the biggest percentage point increase in poverty appears to have occurred among agricultural households—with a poverty increase of 1.7 points. At the provincial level, poverty rose particularly in Mpumalanga (+0.4 points), as well as the Eastern and Northern Cape, the North West, and Limpopo (all +0.2 points). The simulations also

Domestic factors and policy missteps also contributed to the slowdown in growth in South Africa

South African GDP per capita stood at 16.1 percent of the G20 average in 2014, down from 17.7 percent in 2008, and is expected to fall to 14.7 percent in 2020

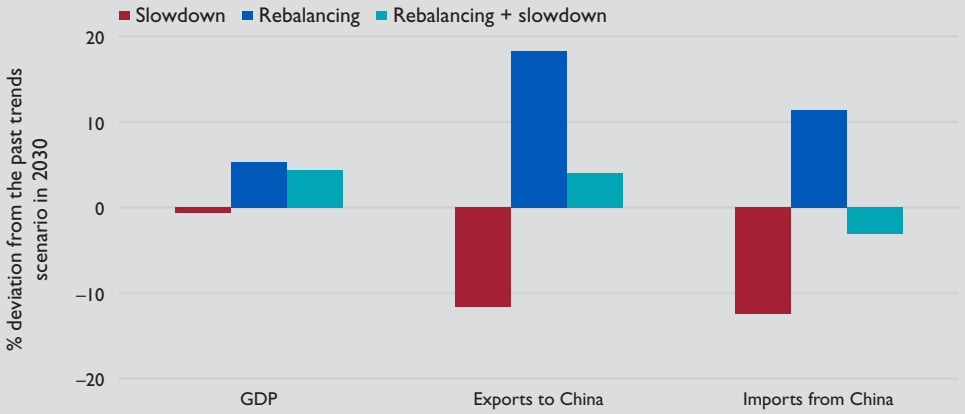
Box 1.1 The impact of China's slowdown and rebalancing on South Africa[2]

China has become the most important trading partner for South Africa, with annual merchandise trade flows of $28 billion. In 1995, only 2.7 percent of total South African exports and 2.0 percent of its imports were with China, but in 2013, 12.6 percent of South African exports and 15.0 percent of its imports went there.[3] The expected transformation of the Chinese economy will have important repercussions for South Africa. A 2015 World Bank study used the Bank's global dynamic computable general equilibrium and micro simulations to study the impact of China's slowdown and rebalancing on economic growth, trade, and poverty reduction in South Africa through 2030, working through a number of scenarios.[4]

The *past trends scenario,* which provides a benchmark for comparison, assumes no rebalancing and constant growth in China of 7 percent over 2016–30. In the *slowdown scenario*, China's GDP growth decelerates to an average of 6 percent a year over 2016–30 to 4.6 percent in 2030. In the *rebalancing scenario*, the share of investment in total Chinese GDP falls gradually from 46.7 percent to 35.5 percent in 2030 with a corresponding increase in household consumption, and the services sector expands to 61 percent of value added by 2030 (from 50 percent in 2015). The *slowdown and rebalancing scenario* is a combination of the two.

Compared with the past trends scenario, the impact of China's slowdown on South Africa is expected to result in a GDP loss of 0.7 percent or about $5 billion by 2030 (box figure 1). Slower growth in China heavily affects demand for Sub-Saharan Africa's exports to China, which could decline by 11 percent ($25 billion) with a deterioration in the terms of trade of 1.3 percent. China's slowdown will lower external demand for South African exports, especially in iron ores and concentrates, chromium ore, ferroalloys, platinum, and manganese, which together account for more than 60 percent of South African exports. Exports to China could decline by 12 percent ($1.4 billion). In the labor market, South Africa's less-skilled workers might face a real-wage decline of 7.1 percent.

Box figure 1: China's transformation could boost South Africa's GDP by 4.4 percent in 2030 if South African firms can reposition themselves to take advantage of increased Chinese demand for household goods and services



If China's transformation entails substantial rebalancing, the negative income effects of the slowdown are likely to be offset by the positive changes from rebalancing. As Chinese domestic aggregate demand shifts from investment goods to household consumption and services, exporters of animal products (fish frozen and fillets, seafood, and meat), fresh fruit and vegetables (citrus fruits, grapes, maize), wine, and services can gain.

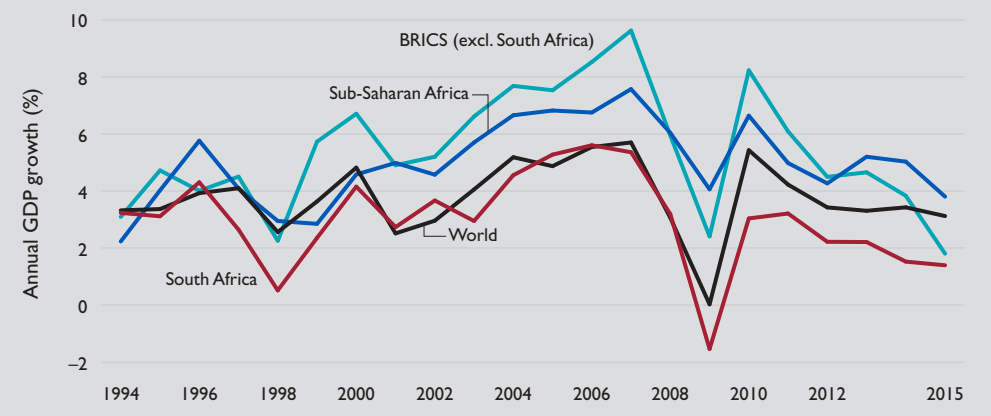
If South African exporters can respond to growing import demand from China, China's slowdown, coupled with rebalancing, could raise South Africa's GDP by 4.4 percent ($31.8 billion) by 2030, compared with the past trends scenario. South African terms of trade could improve by 0.4 percent, while world prices of natural resources could increase by 3.9 percent and services by 6 percent. In this scenario, South African exports to China are projected to expand by 4 percent ($480 million), while imports from China could decline by 3 percent ($462 million). In addition, a marginal but positive effect on poverty reduction is expected, with a decrease in the poverty headcount of 0.33 percentage points relative to the past trends scenario.

The simulation results come with several caveats. One is that they assume that the economy adjusts perfectly to changes in external demand. While this is a reasonable assumption in the long run, structural constraints tend to slow such adjustments. For South Africa companies, constraints like electricity shortages and rigid labor markets will make it more difficult to make use of opportunities arising from new markets in China.

Finally, the simulation focus on the trade channel, but this is not the only link between China and Africa. FDI is another one. According to the 2013 Statistical Bulletin of China's Outward FDI Flows, Chinese FDI flows to South Africa between 2003 and 2010 averaged $729 million annually, or 54 percent of Chinese FDI to Sub-Saharan Africa. In recent years, those flows have turned negative, not least because China's cooling appetite in commodities has lowered Chinese investments in African natural resource extraction. Yet during the summit of the Forum on China-Africa Cooperation held in Johannesburg in December, China pledged another $60 billion to Africa over the next three years, with $6.5 billion expected to go to South Africa. Twenty-six deals were signed, with $2.5 billion going to Transnet for infrastructure.

Source: Lakatos and others (2015).

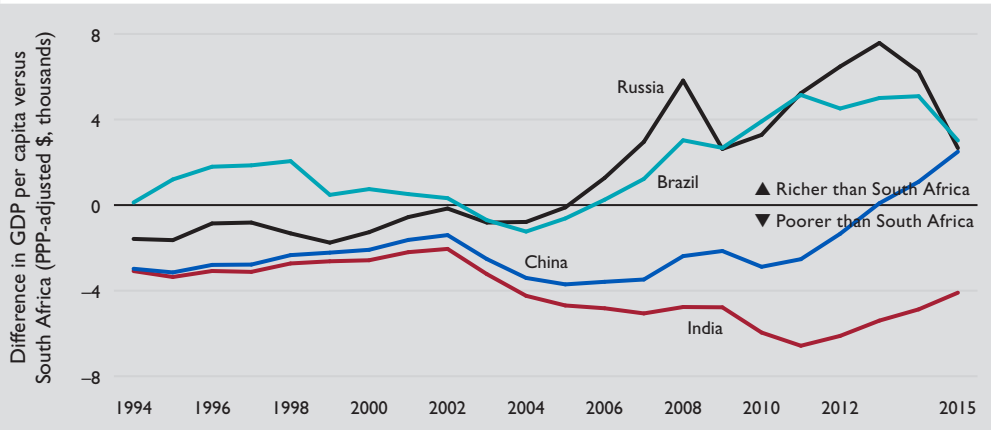
Figure 1.3 Since the global financial crisis, growth in South Africa has been outpaced



Source: World Economic Outlook (WEO) October 2015 and World Bank staff calculations.

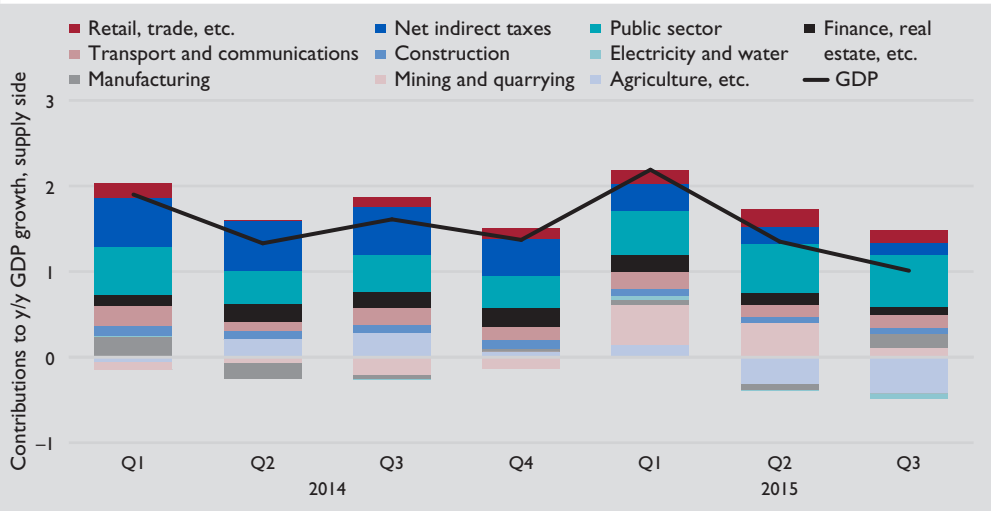
About 50,000 South Africans slipped into poverty due to the drought

Figure 1.4 South Africa is falling behind most of its BRICS peers



Source: World Economic Outlook (WEO) October 2015 and World Bank staff calculations.

Figure 1.5 Recently, the most dynamic sector has been finance



Source: Statistics South Africa and World Bank staff calculations.

Table 1.1 Real GDP growth by sector

%, q/q saar

	2013q1	2013q2	2013q3	2013q4	2014q1	2014q2	2014 q3	2014q4	2015q1	2015q2	2015q3
GDP	1.4	3.7	1.2	5.1	–1.5	0.5	2.1	4.2	1.4	–1.3	0.7
Primary sector	9.7	–3.8	9.8	14.0	–18.5	–1.0	5.1	12.7	2.9	–9.9	–10.9
Agriculture, forestry, and fishing	–2.9	–1.1	3.6	6.9	4.8	5.6	9.5	7.5	–18.0	–19.7	–12.6
Mining and quarrying	14.3	–4.5	12.3	17.2	–22.8	–3.0	3.9	15.2	10.2	–6.4	–9.8
Secondary sector	–6.3	9.0	–4.4	8.0	–3.8	–2.2	–0.2	7.3	–1.0	–5.2	3.2
Manufacturing	–7.8	11.7	–6.6	12.3	–6.4	–4.0	–1.0	9.5	–2.4	–6.3	6.2
Electricity, gas, and water	–4.8	3.0	1.9	–6.0	0.4	2.0	0.8	3.1	2.5	–7.5	–8.0
Construction, contractors	–0.8	5.1	0.6	3.6	3.7	2.1	2.2	3.5	2.0	0.8	0.5
Tertiary sector	2.3	3.1	2.1	2.6	1.6	1.9	2.4	1.8	1.7	1.0	1.9
Wholesale and retail trade, catering	0.9	2.2	0.3	1.8	1.5	–0.2	3.4	–0.3	2.7	–0.6	2.5
Transport, storage, and communication	2.0	1.6	2.6	1.6	1.4	3.9	2.2	2.9	1.2	0.2	0.1
Finance, insurance, real estate	4.8	5.0	2.8	2.6	1.4	1.2	2.4	3.5	3.3	2.6	2.8
General government	1.3	2.8	2.8	4.6	2.3	3.9	2.2	1.2	–0.8	0.6	1.2
Personal services	1.2	2.7	1.2	1.2	1.5	1.5	1.3	0.8	0.9	1.3	1.7

Source: Statistics South Africa.

The overall impact of mining on 2015's full-year growth is expected to be negative

suggest that the drought reduced health and education outcomes, two nonmonetary measures of poverty.

In response to falling commodity prices, mining companies curbed production. Mining employment fell by 12,000 between Q2 and Q3. Glencore closed its Eland mine in October, shedding more than 800 jobs. This may be only the tip of the iceberg: as many as 11,000 more jobs may be lost in mining in response to the commodity price drop and indirect impacts on the South African economy remain quite considerable (box 1.2). Despite a strong first quarter, the overall impact of mining on 2015's full-year growth is expected to be negative, with the sector contracting by 6.4 percent and 9.8 percent q/q saar in Q2 and Q3. The overall contribution of the primary sector to GDP growth in 2015 is expected to be negative.

The secondary sector had a weak start to 2015, contracting in the first two quarters but seeing growth of 3.2 percent q/q saar in Q3. This is largely due to a turnaround in manufacturing, which accounts for 11.5 percent of GDP. Manufacturing contracted in H1 2015 but staged a comeback in Q3, growing at 6.2 percent q/q saar. Steel rebounded sharply in Q3 2015, as 2014's effects of strikes and plant repairs moved out of the frame. Fewer electricity outages, amid lower demand from mining and other sectors as the economy slowed, also supported production, partly helped by the coming online of the first unit of the Medupi power station. The fall in demand for power saw utilities contract sharply in Q2 and Q3. Construction's performance remained mediocre, slowing from 2.0 percent q/q saar in Q1 2015 to 0.5 percent in Q3. Weakening real estate underlies much of this slowdown.

As in 2014, services remained the most buoyant sector in South Africa in 2015. Finance and real estate outpaced all other sectors, growing at an average of 2.9 percent q/q saar in the first three quarters and contributing 0.6 percentage points to headline growth. The sector accounts for 18.7 percent of GDP, roughly maintaining its share since the global financial crisis. Wholesale and retail grew at an average of 1.5 percent, and government services 0.6 percent. Tourism was severely affected by more stringent visa rules, with foreign tourist arrivals falling by 2.3 percent y/y between January and October 2015. This is estimated to have cost around $540 million in lost revenue. In October 2015, the visa rules were relaxed again, and while new policy may still require more clarity, tourist arrivals picked up in the final months of the year buoyed by the weak rand.

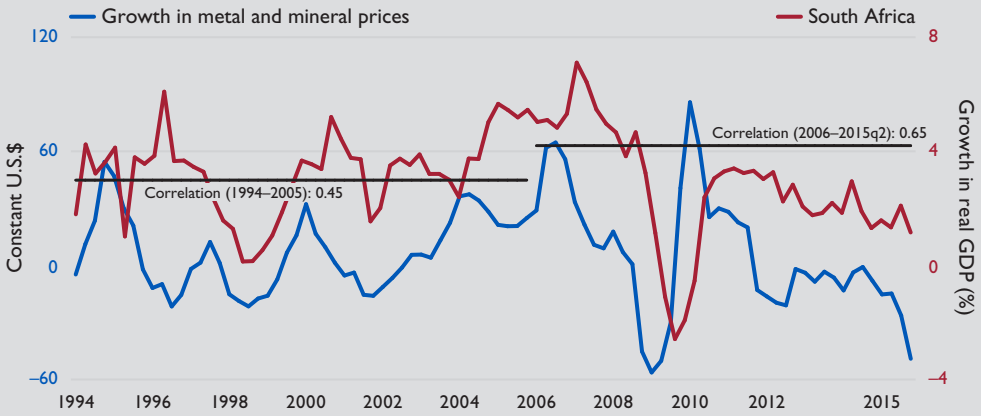
On the demand side, private consumption —accounting for just under 60 percent of GDP—has been the main driver of headline growth (table 1.2). It expanded by 2.4 percent q/q saar in Q1 2015, before slowing to

Box 1.2 Mining in South Africa at the end of the commodity super cycle[5]

The end of the commodity super cycle hit South Africa hard. By December 2015, the prices of South Africa's major metal exports—iron ore, gold, and platinum—have declined (in nominal U.S. dollars) by 76.9 percent, 39.3 percent, and 52.3 percent since August 2011. In 2014, commodities accounted for 10.9 percent of GDP and 61 percent of merchandise exports, of which 37 percent were mining exports.[6] But even these direct linkages understate the potential impact on the economy, given sizable indirect impacts on capital flows, investment, and consumption in rural areas, where for many unskilled workers a mining job is the only source of employment that pays above the median wage.

Growth in metal and mineral prices is highly correlated with South Africa's GDP growth, a correlation that increased with the commodity price boom (box figure 1). Houssa, Mohimont, and Otrok (2015), for example, find that one-quarter of South Africa's macroeconomic fluctuations are determined by commodity price shocks. Mining is also an important source of government tax revenues: 9.5 percent in 2013 and 6.6 percent in 2014, down from a peak of 11 percent in 2010.

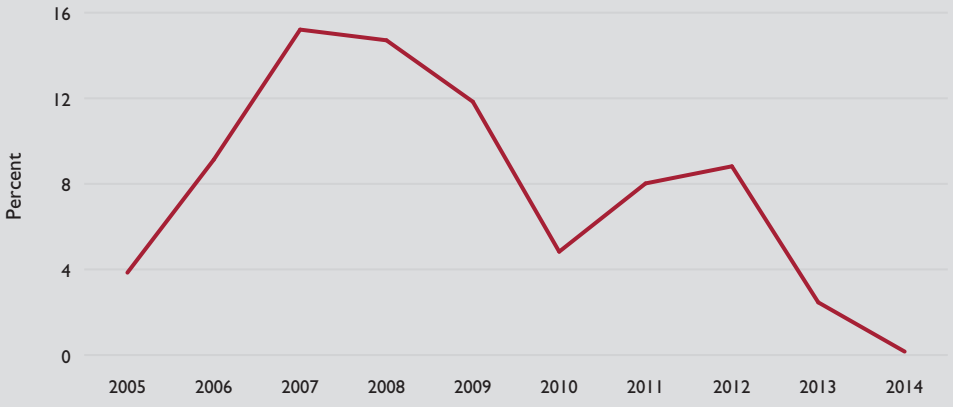
Box figure 1: Metals and minerals prices are key drivers of South African GDP (metal and mineral prices, GDP, and correlations)



Source: World Bank, Statistics South Africa, and World Bank staff calculations.

The decline in prices has had a huge impact on mining company investment decisions and profits. From December 2011 to June 2015, capital expenditure by the mining and quarrying industry declined from 2.2 percent of GDP to 1.2 percent.[7] Net profits (after payment of company taxes and dividends) declined more dramatically—to close to zero (box figure 2). Accordingly, their stock market value fell dramatically (box figure 3): the JSE All Share Index rose by 65 percent between August 2011 and December 2015, as the mining index slumped by 53 percent.

Box figure 2: The mining sector is not profitable (mining firms' return on equity)



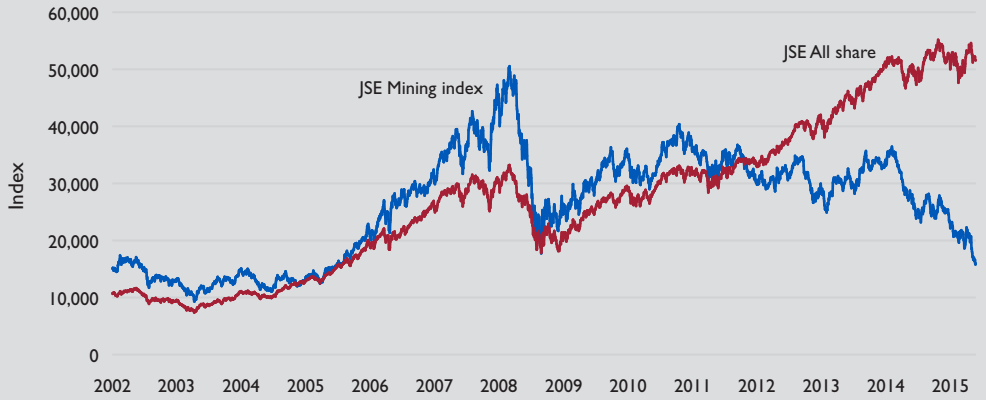
Source: Statistics South Africa Annual Financial Statistics.

(continued)

By December 2015, the prices of South Africa's major metal exports—iron ore, gold and platinum—declined by 76.9 percent, 39.3 percent and 52.3 percent since August 2011

Box 1.2 Mining in South Africa at the end of the commodity super cycle (continued)

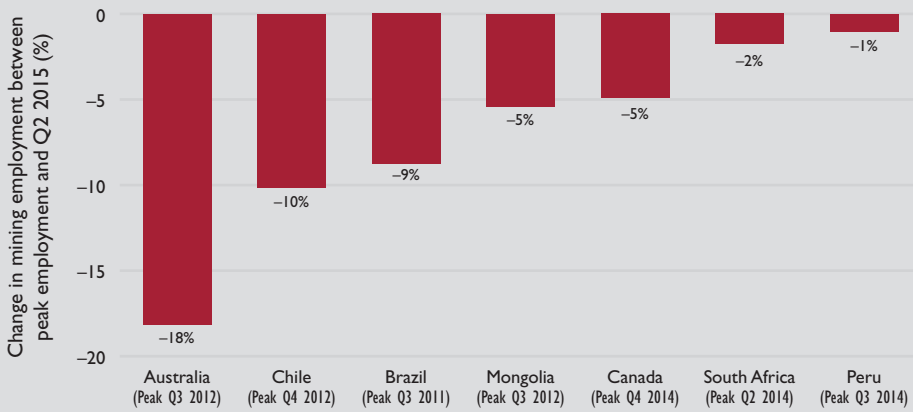
Box figure 3: Mining shares decline on the JSE



Source: Johannesburg Stock Exchange.

Although mining is relatively capital intensive, job losses are notable. Anglo American announced in December that it would need to dismiss 85,000 workers across its global operations. Glencore announced that in South Africa alone, another 11,000 job losses are in the cards. In South Africa, 5.4 percent of nonagricultural employment is in mining, and since Q1 2011, 143,000 people have lost jobs in the industry. Mining employment in many other major producers of iron/metals peaked as early as 2011 (Brazil), though later in Peru and South Africa (2014). Since peaking, Australia has lost 18.2 percent of its mining jobs, and Chile 10.2 percent; South Africa and Peru have suffered far less (box figure 4). In Mpumalanga, mining employment rose by more than 80 percent between end-2010 and mid-2014, only to retrench starkly by 43 percent between Q3 2014 and Q1 2015. Yet further job losses are likely, including in the linked steel and ferrometal sectors.

Box figure 4: Job losses in South African mining have been relatively small so far



Source: CEIC and World Bank staff calculations.

(continued)

Services remained the most buoyant sector in South Africa in 2015

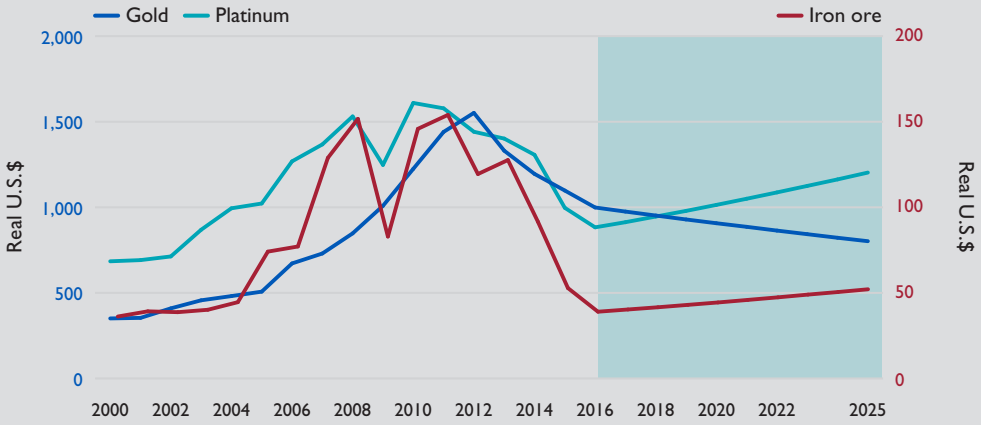
1.2 percent in Q2 and 0.9 percent in Q3. The strong Q1 numbers stem partly from lower food and fuel prices, which propelled purchases of nondurable goods. This effect evaporated with increases in the fuel levy (April) and higher electricity tariffs (July). Durable goods are chiefly responsible for the slowdown in private consumption in Q2 and Q3. The government's efforts to rein in the fiscal deficit and stabilize the debt ratio is reflected in a contraction of government spending in Q1 of 1.9 percent q/q saar and weak expansions of 0.4 and 0.9 percent q/q saar in Q2 and Q3.

Investment continued to weaken. Although in Q1 2015 it expanded at 1.8 percent q/q saar, it fell by 0.2 percent y/y. It grew by 1.3 percent y/y in Q2, adding 0.3 points to headline growth. Recent investment growth is feeble when set against the 5.7 percent y/y average for 2011–13, reflecting a weakening economy and the impact of policy uncertainty on investor confidence. Private investment contracted by 1.8 percent y/y in Q1 and

Box 1.2 Mining in South Africa at the end of the commodity super cycle (continued)

Metals and mineral prices are forecast to remain well below their peaks for some time (box figure 5). Government revenues derived from mining directly (corporate and personal income taxes, royalties) and indirectly (personal income contributions and value-added tax from linked sectors) will be far less buoyant, presenting it with tough choices on reducing and prioritizing public expenditures. It will need to revisit public infrastructure investment projects in transport and power, which had been planned to support mining and which producers may struggle to sustain and pay projected user fees. Already launched dedicated transport investments are estimated in the 2015 budget at R85 billion (about 2 percent of GDP).

Box figure 5: Platinum and iron ore prices are expected to remain below their peaks



Source: World Bank Commodity Outlook, January 2016.

The weak performance of private fixed investment is partly a consequence of mining disinvestment in response to falling commodity prices

Table 1.2 Trends in GDP growth on the demand side

(%, q/q saar)

	2013q1	2013q2	2013q3	2013q4	2014q1	2014q2	2014q3	2014q4	2015q1	2015q2	2015q3
GDP	1.4	3.6	1.2	5	–1.5	0.5	2.1	4.1	1.4	–1.3	0.7
Consumption	2.1	1.6	1.5	2.1	1.2	1.4	1.2	1.4	1.3	1.0	0.9
Private consumption	1.8	1.9	1.8	1.7	1.0	1.0	1.1	1.6	2.4	1.2	0.9
Government consumption	3.1	1.0	0.7	3.5	1.7	2.4	1.4	1.0	–1.9	0.4	0.9
Gross fixed investment	8.9	9.5	9.3	4.7	–9.5	–5.5	2.4	2.6	1.8	1.0	0.6
Private investment	10.7	12.1	12.2	0.4	–16.4	–9.9	1.2	1.7	1.6	0.1	–0.6
Public investment	5.7	4.6	3.9	13.0	3.5	2.5	4.6	2.9	3.2	2.5	2.6
Exports	22.1	–5.0	11.7	10.4	1.6	–16.7	8.3	21.0	10.3	13.6	3.6
Imports	7.0	8.0	0.5	–25.9	20.1	–15.1	12.0	7.6	14.9	–6.4	4.1

Source: South African Reserve Bank.

crawled along at 0.7% y/y/ in the following two quarters. The weak performance of private fixed investment is partly a consequence of mining disinvestment in response to falling commodity prices—investment in mines and quarries contracted by a sharp 2.3% y/y in the first three quarters of 2015. Public investment growth has been slowing but investment in key infrastructure projects in energy and ports contributed to 5.3 percent y/y growth in the first three quarters.

Positive news comes from the external side. Exports of goods and services were strong, growing by 10.3 percent q/q saar in Q1 and 13.6 percent in Q2, with a weaker expansion of 3.6 percent in Q3, (a total of 10.5% y/y in the first three quarters), bringing exports back to prefinancial crisis levels. Data reflect the rebound from strike-induced production shortfalls in mining and manufacturing in 2014.

Imports grew by 14.9 percent q/q saar in Q1, contracted by 6.4 percent in Q2, but rebounded to grow by 4.1 percent in Q3. In the first three quarters, imports grew by 5.3 percent y/y, outpaced by exports. Thus,

net exports contributed 0.3 percentage points to GDP in Q1 2015 and 2 percentage points in Q2 and Q3 each.

Weak demand and confidence continued to constrain growth in Q4 2015

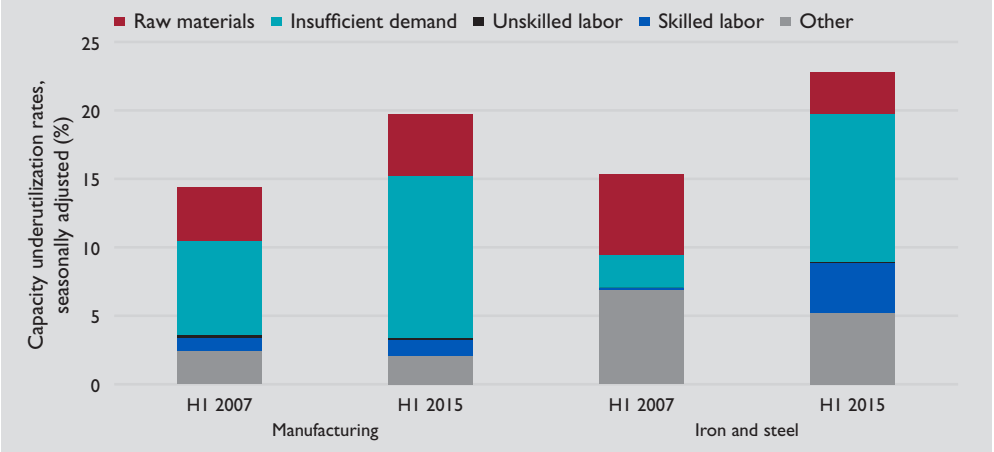
The economy continued operating with much slack in 2015, pointing to feeble real GDP growth. Capacity utilization in manufacturing fell from 81.5 percent in Q1 2015 to 79.7 percent in Q3, seasonally adjusted, where underutilization for durable goods was slightly higher than for nondurables, a flipside of the higher demand for durable goods due to relatively lower fuel and food prices. Lack of demand remains the key factor in underutilization, showing the highest seasonally adjusted reading in Q3 manufacturing since early 2011: 12.1 percent of the underutilization in Q3 was attributed to insufficient demand, dwarfing the second and third most important reasons, the lack of both raw materials (2 percent) and skilled labor (1.1 percent). Compared with 2007, the lack of skilled labor has become a constraint for some industries, such as iron and steel, which generally requires fewer but more skilled workers than manufacturing, while raw materials have been more readily available (figure 1.6).

Capacity utilization in manufacturing fell from 81.5 percent in Q1 2015 to 79.7 percent in Q3, seasonally adjusted

Weak demand, alongside growing uncertainty about the direction of policies, labor relations, and power supplies, has left investor confidence at all-time lows. The economy wide PMI of the Bureau of Economic Research (BER) pointed to mixed confidence in 2015, with pessimism increasing throughout the second half—the lowest reading of 43.3 (seasonally adjusted, where a reading lower than 50 points to contraction) occurred in November, edging up modestly 45.5 in December. Similarly, the South African Chamber of Commerce and Industry business confidence index was on a downward decline throughout 2015, reaching record lows in its 12-year history. Similar messages emerge from the BER manufacturing index where expectations about business conditions over the next 12 months in 2015 showed the worst three-quarter reading since 2008/09. This sentiment particularly derives from weak domestic orders, with a somewhat brighter picture emerging from export orders, pointing to tailwinds from the rand's depreciation.

Consumer confidence continued to weaken in October and November, suggesting that consumption would likely decelerate further in the final quarter of 2015. The BER's consumer confidence index hit a 19-quarter low in Q2 2015 and remained negative in Q3 2015. This, however, is driven by concerns about the wider economy—households became somewhat more optimistic about their own financial situation in Q3 2015 as household indebtedness fell from its peak of 88.8 percent in 2008 to 77.8 percent. Nonetheless, high unemployment continues to undermine household spending power while credit growth to households, especially unsecured lending, has slowed markedly. Credit to households grew by 4.6 percent in November 2015, 0.1 percent below inflation.

Figure 1.6 **Other than insufficient demand, skill mismatches increasingly hold back growth in some industries**



Source: Haver Analytics and World Bank staff calculations.

Labor market: Unemployment remains stubbornly high

Unemployment stayed around 25 percent in 2015 (25.5 percent in Q3), after briefly reaching 26.4 percent in Q1, the highest since the early 2000s. The number of persons unemployed grew by 5.3 percent y/y in the first three quarters, outpacing growth of the labor force of 4.1 percent y/y, leaving 5.4 million South Africans unemployed in Q3. Of those, 32.9 percent had left their job involuntarily, and 39.6 percent were new labor force entrants who could not find work. Only 6.6 percent had left their jobs voluntarily and not found new work. The majority of South African unemployment is long-term, estimated in Q3 2015 at 16.9 percent of the labor force. Unemployment is the most important problem for 71 percent of South Africans according to Afrobarometer's 2015 survey results.

Youth and unskilled workers have particular difficulty finding work. Among 15–24 year olds, half were unemployed in the first three quarters of 2015 (one reflection of skills demanded in the labor market). Unskilled workers tend to be unemployed. Among the unemployed, 58.1 percent did not complete secondary school, 34.0 percent did not pursue post-matric education, and only 7.5 percent had completed tertiary education. Improved education and training are needed to raise worker skills. Afrobarometer's results show that 22 percent of South Africans rank improving education as the most important priority for the country. The students protest under the hashtag #FeesMustFall are but one manifestation of this (box 1.3). Finance, business services, and real estate are sectors still hiring in 2015, relying mainly on skilled labor (figure 1.7). Wholesale and retail also expanded employment in H1 2015, and seem to have the most potential to absorb low-skilled workers.

The difficulty in finding a job puts off many South Africans from even looking. Such discouraged workers numbered 2.2 million in Q3 2015—6.2 percent of the working age population and 10.5 percent of the labor force—and brought the broader measure of unemployment to 36.0 percent. Discouragement is one major reason for low labor force participation in South Africa, which 2014 estimates of the International Labor Organization (ILO) put at 56.6 percent, lower than in three other BRICS—Brazil (75.0 percent), Russia (73.6 percent), and China (77.6 percent)—though comparable to India (56.4 percent). South Africans are missing opportunities to improve their incomes while contributing to the economy more broadly.

Underemployment is on the rise again. Time-related underemployment had risen to 3.5 percent of the labor force in Q3, a rate last seen in 2009. It has been edging up gradually since a temporary low of 2.9 percent in Q1 2014. Underemployment is highest among private households (31.0 percent), followed by community and social services (22.8 percent), trade (17.1 percent), and construction (11.2 percent).

Since the global financial crisis, wage increases have outstripped inflation and productivity growth despite high unemployment and job losses. Cumulative wage growth has been particularly strong in the potentially labor-intensive sectors of manufacturing, mining, and construction. But across nearly all major sectors of the economy, the increase seems to have come at the expense of jobs (figure 1.8). Growth in nonagricultural wages outstripped that of productivity in the first quarters of 2015, raising the relative cost of employing workers.

Fiscal policy: Debt stabilization remains the goal but adjustment in the deficit is slipping

The Medium Term Budget Policy Statement (MTBPS) of October 2015 acknowledged that growth was falling short of budget targets and that adjustment in the fiscal deficit would slip. The government revised growth down to 1.5 percent in 2015 and 1.7 percent in 2016, but with an acceleration to 2.6 percent penciled in for 2017. These changes marked a cumulative downward revision in GDP of 1.6 percent over the three years of the Medium Term Expenditure Framework (2015–17). Against the backdrop of lower growth and sticky expenditures, the government expects to meet the budgeted deficit target of 3.9 percent of GDP for 2015/16, but the fiscal deficit in 2016/17 and 2017/18 was revised upwards by 0.7 percentage points of GDP in each year to 3.3 percent and 3.2 percent of GDP. This pushed the debt stabilization target further into the future, with debt

The BER's consumer confidence index hit a 19-quarter low in Q2 2015 and remained negative in Q3 2015

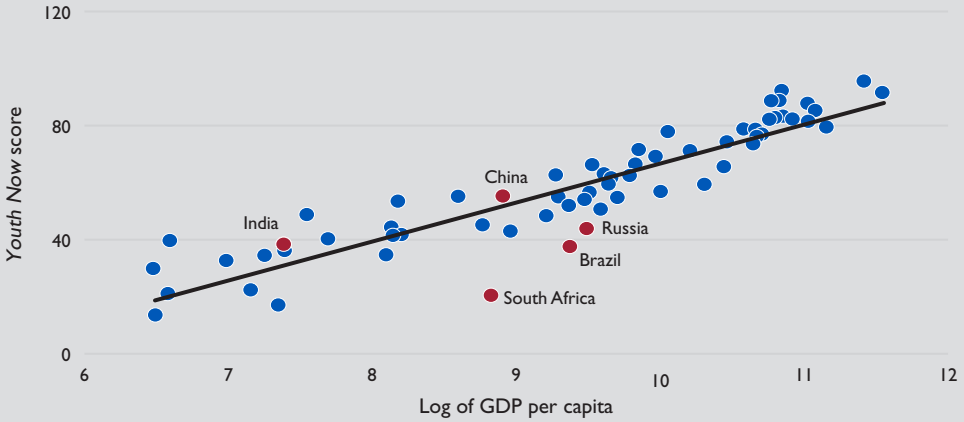
Unemployment is the most important problem for 71 percent of South Africans

Box 1.3 Putting the student protests in perspective[8]

Student protests spread in South Africa in October 2015, reminiscent in turnout of the antiapartheid protests of the 1970s. In response to the government's intention to raise tuition fees by 10–12 percent, students took to the streets under the hashtag #FeesMustFall. Protestors demanded the scrapping—or at least freezing—of tuition fees. The government quickly agreed to the latter. South Africa's high income inequality and youth unemployment lie at the core of these protests.

The 2015 *Youthonomics* Global Index, a new approach to measuring the conditions that enable youths to thrive, paints a relatively bleak picture for South Africa. Ranking 64 countries across 59 indicators, South Africa is near the bottom. This ranking is particularly low for South Africa's relatively advanced level of development (box figure 1). Among the club of BRICS countries, South Africa is outperformed by all other members. South Africa performs very poorly on access to employment for youth (second last globally—box table 1). This score is driven by the high rate of youth unemployment. Little surprise that South Africa ranks only 57 on "economic opportunities" in the *Youth Outlook Score*, which is intended to paint a picture of the prospects of future young generations. South Africa ranks 25 overall on the *Youth Outlook* Score, pulled up by youths' political weight (7), as supported by the government's quick accession to student demands—which, however, puts heavy pressure on the country's public finances.

Box figure 1: *Youth Now* index, by level of development



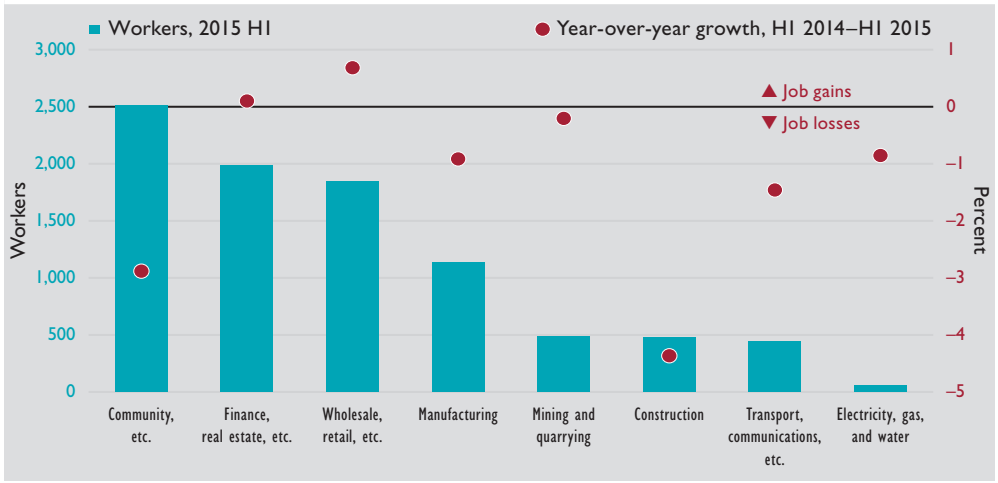
Box table 1: *Youth Now* and *Youth Outlook* scores for BRICS countries

	Brazil	Russia	India	China	South Africa
Youth Now score	37.6	43.9	38.4	55.3	20.5
Rank	54	47	53	35	62
Early education	44	45	53	40	60
University and skills	53	27	52	42	46
Access to employment	54	30	29	25	63
Work and living conditions	53	39	61	33	31
Well-being	49	64	44	50	38
Health	51	56	57	30	62
Youth Outlook score	28.8	30.1	63.6	56.4	56.1
Rank	63	61	10	24	25
Public finance	64	36	19	32	23
Economic opportunities	59	61	9	1	57
Political weight	18	59	24	63	7

expected to stabilize at 49.4 percent of GDP in gross terms in 2018/19 and at 45.7 percent in net terms in 2019/20.

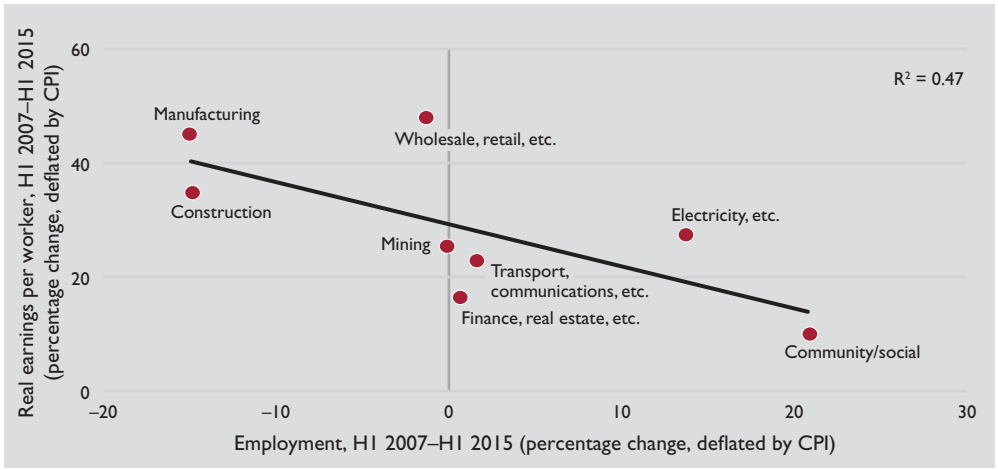
The weaker economy was reflected in less buoyant revenue: gross tax revenue for 2015/16 was revised downward by 0.7 percent, in light of underperforming corporate and value-added taxes. Personal income tax grew more strongly than expected, partly due to wage settlements above inflation and partly due to the higher marginal tax rates introduced under the 2015/16 budget. Overall, tax revenue is expected to increase by 8.9 percent from 2014/15. Government divestments partly compensate for the revenue shortfall. In addition, the planned

Figure 1.7 Only finance and commerce expanded employment in H1 2015



Source: Statistics South Africa QLFS via Haver Analytics.

Figure 1.8 Since the global financial crisis, higher wages came at the expense of lower employment



Source: Statistics South Africa QLFS and World Bank calculations.

The three-year public-sector wage agreement reached in 2015 results in a 10.1 percent increase in wages and benefits for employees

R15 billion break in contributions to the Unemployment Insurance Fund did not receive support from the National Development and Labour Council. This provided a boost to consolidated revenue beyond the budget plans.

On the expenditure side, a three-year public-sector wage agreement reached in 2015 results in a 10.1 percent increase in wages and benefits for employees, considerably beyond the inflation-based adjustment budgeted. To secure the deficit and debt targets for the coming two years, the government has imposed strict expenditure ceilings, which have been largely unaltered since the 2014 MTBS. But the three-year wage agreement is putting these ceilings under pressure and forcing the government to adjust the allocation of expenditure under its Medium Term Expenditure Framework—in four ways: drawing down the contingency reserve, not only this year but also in future years (R5 billion in 2015/16, R10 billion in 2016/17, and R26 billion in 2017/18); freezing public sector employment for three years, and potentially resorting to redundancies; drawing on budget surpluses from provinces for compensation budgets; and adjusting compensation targets for individual departments.

Little was said about bold new measures to raise revenue and thus enhance the government's tool box to stabilize the national debt although the MTBPS mentioned revenue reforms considered by the Davis Tax Commission. These relate to profit shifting and the misuse of transfer pricing; mining taxation; small business taxation; and value-added tax and estate duties. A new health insurance

If growth were to be 1 percentage point lower between 2016 and 2018, the gross debt ratio would rise to 49.9 percent of GDP by 2018/19, 0.5 percentage points above what is currently projected

system—currently under discussion—would also require additional revenue measures if it is not to result in upward pressure on the fiscal deficit.

If growth is to disappoint relative to the revised deficit targets, there is a risk that the stabilization of the debt burden would slip further into the future, with adverse consequences for investor confidence. For example, if growth were to be 1 percentage point lower than projected by the MTBPS between 2016 and 2018, the gross debt ratio would rise to 49.9 percent of GDP by 2018/19, 0.5 percentage points above what is currently projected (this is a conservative estimate, not accounting for lower revenue that would stem from a weaker economy). Already Fitch and Standard and Poor's (S&P) rank South Africa's creditworthiness at BBB–, one notch above speculative grade, and S&P placed its rating on negative watch in December 2015. Moody's still sees South Africa at Baa2 (equivalent to BBB) but changed its rating outlook to negative in December 2015. Were South Africa to lose its investment-grade credit rating—an event that would require two rating agencies to place it at subinvestment grade—it would likely incur higher borrowing rates and capital outflows, causing the rand to depreciate further. The turmoil in markets experienced in December when they perceived a weakening in the government's commitment to fiscal discipline hints at the potential fallout from such a downgrade.

Debt in state-owned enterprises (SOEs) continues to be a key risk to the projected debt trajectory, and was one reason S&P cited when changing its rating outlook to negative. The sale of Vodacom shares to capitalize it is hoped to stabilize Eskom, financially. This will be crucial to reduce contingent risks to the government which provided guarantees of R470 billion to the utility (of which R245 billion had been used by June 2015). Reducing losses in Eskom is also important to ensure financial stability of the utility and to fund its investment program, which is crucial for growth, at reasonable cost. Other SOEs constituting significant contingent liabilities for the government are South African National Roads Agency Limited, and South African Airways. The government continues its emphasis on financially sound SOEs to limit the need for further capitalizations, but investors are now looking for a stronger signal of that resolve in key SOEs.

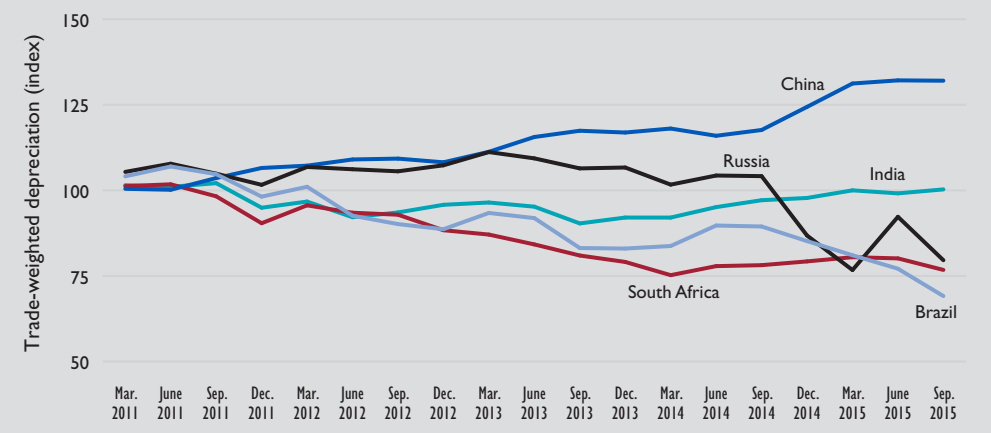
Given the weak growth outlook and the need for fiscal adjustment, the government has to find avenues outside the fiscal area to stimulate growth and reduce poverty and inequality. Section 2 of this *Update* outlines one potential area where substantial progress has already been made and further progress is possible to help support growth outside the fiscal space—competition and regulatory policies.

Monetary policy and inflation: Addressing inflation pressures

Inflation has been fairly subdued in 2015, averaging 4.6 percent. It fell to a low of 3.9 percent in February 2015, largely on the back of lower food prices, as well as lower oil prices. A hike in administered electricity prices was felt from July. In December 2015, inflation stood at 5.2 percent, up from 4.8 percent in November but within SARB's target band of 3–6 percent. Core inflation, which excludes food, fuel, and electricity, stood at 5.1 percent. Manufacturing producer price inflation was even lower than consumer price inflation, at 4.3 percent, reflecting weak price pressures from subdued demand resulting in substantial capacity underutilization.

In July 2015, SARB raised the policy rate by 25 basis points, to 6.0 percent, over concerns about elevated inflation and pass-through from depreciation of the rand. In November, it raised the rate by another 25 basis points and raised it a further 50 basis points in January 2016. While SARB noted in its accompanying January 2016 statement the deterioration in the growth outlook, the rapid deterioration in the inflation outlook due to the pickup in food inflation because the drought and further pass-through from the sharper than expected currency depreciation promoted it to increase rates again. SARB found that the drought was having a significant impact on food inflation, which has a 14.2 percent weighting in overall inflation. Domestic supply of maize had been hit by the drought, pushing up prices of maize products, including bread and cereals. (This increase in food inflation has a greater impact on lower-income households since they spend a greater proportion of their

Figure 1.9 South Africa has experienced one of the heaviest real trade-weighted depreciations among the BRICS



Source: IMF International Financial Statistics; India: JPMorgan, and World Bank staff calculations.
Note: Exchange rates are displayed in trade-weighted ("effective") terms.

Inflation pressures are rising due to the drought and depreciation of the rand

outgoings on food.) SARB's January 2016 outlook on inflation was that headline inflation would average 6.8 percent in 2016 and 7.0 percent in 2017, exceeding its target band.

While the rate rise may somewhat dampen economic activity, real policy rates remain relatively low and lower than in three other BRICS countries:* Brazil (3.0 percent), India (1.1 percent), and China (2.8 percent).

By end-2015, the rand had depreciated by 49.0 percent from its December 2010 peak in nominal trade-weighted terms, and by 21.0 percent during 2015. In real trade-weighted terms, it depreciated by 28.4 percent and 9.8 percent respectively. Against other BRICS countries, those depreciations were pronounced (figure 1.9). By mid-December, following the announcement of a new minister of finance, the rand fell by almost 10 percent in two days but then recovered and continued to regain ground in the second half of December after the U.S. Federal Reserve raised rates for the first time in almost a decade. The rand ended the year at R15.6 to the dollar, 34 percent weaker than at the start of 2015, and weakened further over the course of January 2016 amid growing concerns. In line with its commitment to a floating exchange rate, SARB has not intervened to stabilize the currency. International reserves stood at $45.8 billion at end-December 2015, down 6.8 percent since end-2014, and largely reflecting valuation effects.

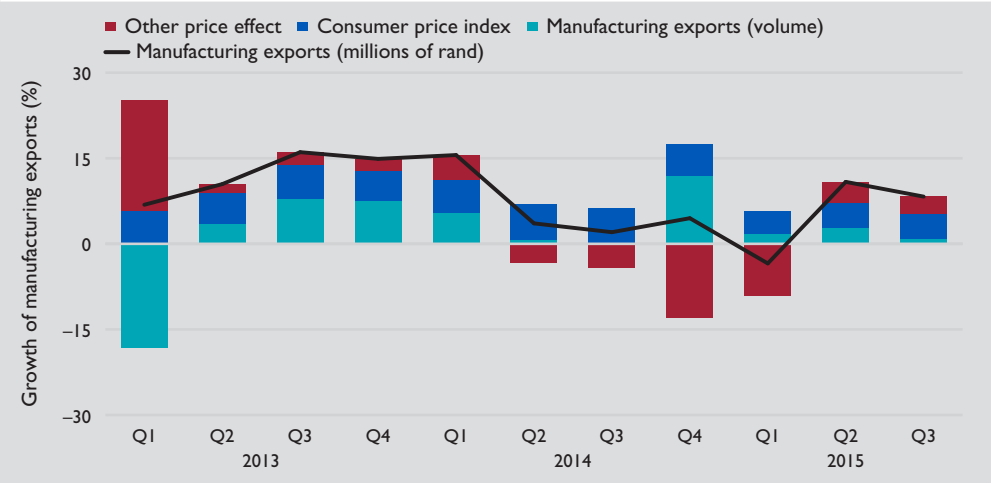
* As of December 2015. South Africa's real interest rate that month was 1.0 percent. Given high inflation in response to sanctions, real interest rates in Russia were negative at –1.9 percent.

External sector: The current account deficit is narrowing but its financing has become more volatile

The current account balance improved thanks to lower oil prices and higher export growth. The trade balance swung into surplus in Q2 2015 for the first time since 2011, from a deficit of 2.2 percent of GDP in Q1 to 0.3 percent (noncumulative)—yet it switched again in Q3 to a deficit of 1.1 percent, due to imports which strengthened over the year. The depreciation of the rand somewhat buffered the plummeting of commodity prices in U.S. dollar terms, softening the price impact on the trade balance. Goods exports were strong in Q2 2015, growing at 10.2 percent y/y (partly as a rebound from strikes in 2014) while services performed well in Q1, growing at 9.1 percent. Although export performance in the other quarters was less impressive, jointly goods and service exports increased by 4.7 percent, outperforming imports overall. Manufacturing exports do not yet appear to have fully responded to the lower real exchange rate: robust growth in manufacturing exports in rand terms in Q2 and Q3 2015 was mainly driven by price effects, as volumes edged up only cautiously in the first three quarters of the year (figure 1.10).

Income payments—especially dividends from direct investment in South Africa—tend to be one to two times larger than income receipts, widening the current account balance. And current transfer payments, including remittances, also exceed receipts. Net income and transfers ensured that the current account balance was in

Figure 1.10 **Despite the depreciation in real effective terms, manufacturing exports barely picked up in 2015**



Source: Haver Analytics and World Bank staff calculations.

Concerns over South Africa's credit rating and monetary policy normalization in the United States is likely to see further capital outflows

deficit throughout 2015, in spite of relatively good trade performance in Q2. Notwithstanding, a deficit of 4.2 percent of GDP in the first three quarters of 2015 is an improvement over the same period in 2014 by 1.6 percentage points.

Although the narrowing of the current account deficit is good news, it is financed largely by unrecorded flows, which are volatile. Similarly, portfolio and debt flows, other large components of South Africa's financial account, are relatively volatile. Debt outflows have increased in response to the slipping fiscal deficit, as well as in anticipation of the expected interest-rate lift-off in the United States. A combination of concerns over South Africa's credit rating and monetary policy normalization in the United States is likely to result in further capital outflows, further weakening the rand, though the recent increase in South Africa's policy rate may counter these trends somewhat.

Economic outlook

The economy is flirting with stagnation if not recession

Real GDP growth in 2015 is expected to come in at 1.3 percent. This will require Q4 y/y growth of 0.7 percent, or 0.9 percent q/q saar. Mining and agriculture are expected to continue to drag down growth, given the commodity price shock and the drought. Especially the slack in mining will have knock-on effects to the electricity sector. As in the first three quarters of 2015, finance, commerce, and government services are expected to continue to support growth in Q4. Manufacturing is expected to benefit from the real depreciation of the rand, supporting the export of non-mining tradables, although rigid goods markets (due to market concentration, for example; see section 2) and labor markets mean that companies will only be able to modestly take advantage of the tailwinds from the exchange rate.

The slowdown of the economy is largely structural, with potential growth declining from a high of 3.9 percent in 2008 to 2.0 percent in 2015. The output gap remains negative, at 1.5 percent of potential GDP. While performance below potential continues to contain inflationary pressures, it is bad news for employment and private sector wage growth. With growth of the economy falling behind that of the population, incomes will fall and poverty reduction is expected to slow, also reflecting the impact of the drought in rural areas.

Growth is forecast to slow from 1.3 percent in 2015 to 0.8 percent in 2016 and 1.1 percent in 2017. The drought is expected to continue its effects through 2016 given a dismal planting season in 2015; a recovery is expected in 2017. Restructuring will continue in mining, which may heighten industrial action. Manufacturing has yet to respond convincingly to the opportunities from the real depreciation of the rand. Inadequate power—though easing as a constraint amid weak growth—and weak investor sentiment also contribute to firms' caution in expanding production capacity, including in manufacturing, and to an investor standstill. Little support to

growth can be expected from fiscal policy. Our growth scenario implies falling GDP per capita each year from 2014 through 2017.

The deterioration in the growth outlook over the past five years has will make the goals of the NDP harder to attain. South Africa's economy would have to grow by 7.2 percent a year after 2017 (figure 1.11) to meet the NDP target of more than doubling 2011 GDP by 2030. Expansion of this magnitude would be ambitious even in good times, let alone with weaker commodity prices and lower Chinese demand. Reigniting growth calls for fundamental reforms to allow new growth drivers to emerge.

Low growth threatens to slow poverty reduction

Given the weak growth prospects, little progress is expected in reducing poverty. While has poverty came down substantially in the past decade, it is projected to rise slightly in the coming years. We forecast extreme poverty to rise somewhat between 2010/11 and 2016/17 (table 1.3) as the negative growth in GDP per capita is partly offset by the budget framework that holds the level of social transfers steady. Since the majority of the extreme poor depend on social grants for their income, the growth of these transfers has the largest effect on the pace of extreme poverty alleviation.[9] According to our microsimulation projections, 36.7 percent of South Africans (close to 18.3 million) lived below the nationally established lower bound of R501 per month in 2015—a 0.2 percentage point increase over 2014.[10] We expect 0.4 percentage point increase increases in 2016 and 0.3 percentage point increase in 2017. Extreme poverty, based on the newly established international poverty line of $1.90 a day (PPP, 2011), was 16.6 percent in 2010/11 and is expected to be 16.9 percent through 2016/17 (see box 1.4 for the methodological discussion on poverty at internationally comparable levels). The same holds for poverty at a higher line of an internationally comparable $ 3.10 a day.

A Gini coefficient of 63.4 makes South Africa the world's most unequal country, and inequality is growing. Inequality is expected to increase by 1.3 percent between 2010/11 and 2016/17, largely due to the impact of the drought on agriculture and the widening gap between those with and without jobs. Little improvement is expected in the measure of shared prosperity: growth in consumption of the poorest 40 percent of South Africans is flat, but there is some increase at the top of the income distribution. Stronger economic growth will be crucial to accelerate progress in reducing poverty and inequality.

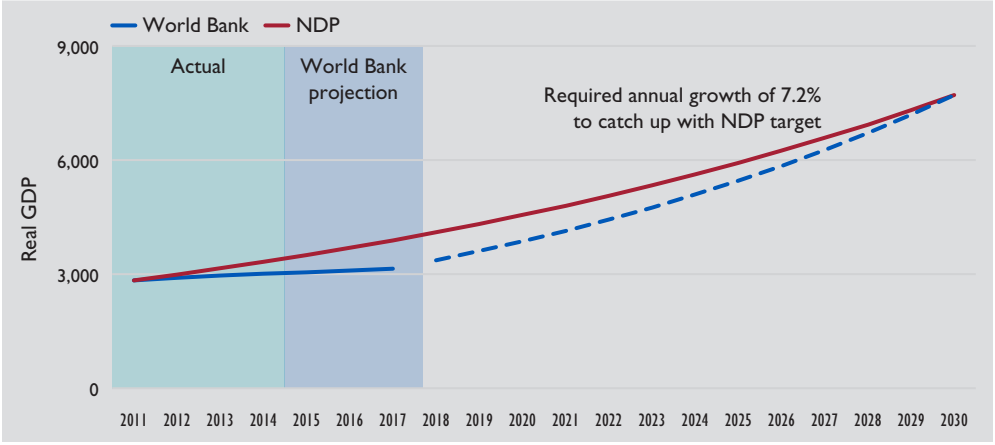
The real depreciation is an opportunity, but risks continue to loom large

The real depreciation of the rand offers support to the growth outlook provided its benefits are not eroded by rising inflation, electricity constraints or industrial action. SARB's continued resolve to keep inflation within its target band will be key to containing inflation pressures as well as supporting the competitiveness effect of the rand's slide.

Despite the potential opportunity from a weaker rand, the risks to the growth

Growth is forecast to slow from 1.3 percent in 2015 to 0.8 percent in 2016

Figure 1.11 The South African economy will have to grow by 7.2 percent a year after 2017 to meet the 2030 NDP target—feasible?



Source: NDP and World Bank staff calculations.

36.7 percent of South Africans lived below the lower bound poverty line of R501 per month in 2015—a 0.2 percentage point increase over 2014

Table 1.3 South Africa macroeconomic performance and outlook

(%, q/q saar)

	2012	2013	2014	2015 e	2016 e	2017 f
Real GDP growth, at constant market prices	2.2	2.2	1.5	1.3	0.8	1.1
Private consumption	3.4	2.9	1.4	1.2	0.8	0.9
Government consumption	3.4	3.3	1.9	0.3	1.1	1.1
Gross fixed capital investment	3.6	7.6	–0.4	–0.9	–2.5	0.3
Exports of goods and services	0.1	4.6	2.6	8.5	2.5	2.7
Imports of goods and services	6.0	1.8	–0.5	6.1	0.6	1.6
Real GDP, at constant factor prices	2.2	2.3	1.6	1.3	0.8	1.1
Agriculture	0.6	1.5	5.6	–7.3	–4.3	1.0
Industry	0.3	1.8	–0.2	1.2	–0.3	0.4
Services	3.1	2.5	2.1	1.7	1.5	1.5
Prices						
Inflation (GDP price deflator)	5.5	6.0	5.8	4.0	5.0	6.0
Inflation (consumer price index)	5.7	5.8	6.1	4.6	6.5	6.7
Current account balance (% of GDP)	–5.0	–5.8	–5.4	–4.5	–4.4	–4.3
Fiscal balance (% of GDP)	–4.1	–3.8	–3.9	–3.8	–3.6	–3.3
International poverty rates						
$1.9/day 2015 PPP terms	16.40	16.16	16.17	16.38	16.69	16.93
$3.1/day 2015 PPP terms	34.53	34.29	34.31	34.49	34.81	35.03
National poverty rates						
Food poverty	21.58	21.26	21.27	21.47	21.86	22.12
Lower bound	36.79	36.55	36.50	36.69	37.12	37.39
Upper bound	53.69	53.44	53.41	53.51	53.76	53.97
Inequality[a]						
Gini coefficient (×100)	63.46	63.53	63.61	63.73	63.87	63.95

Source: World Bank staff (estimates and forecasts) and national authorities (history).
Note: All poverty and inequality figures are projections based on a microsimulation model. All displayed poverty and inequality numbers are World Bank estimates. The latest available poverty data are available only for 2011.

forecast are considerable. For one, many countries whose currencies depreciate seek opportunities in the tradable sector. But global demand needs to step up to match these export ambitions with imports. Much will hinge on the sustained recovery in the United States and the successful rebalancing in China. In addition, matching and rematching skills as the mining sector restructures and manufacturing steps up to new opportunities may result in social frictions expressed through industrial action and unrest. The slowing economy has already resulted in the display of social discontent, not least through the "Fees Must Fall" student movement and rising incidence of service delivery protests. High inequality makes matters worse and in a world where South Africa is increasingly dependent on global financial markets to fund its large current account deficit, policy uncertainty and poor decisions only add to the challenge. Strong efforts by the public and private sector, as well as civil society, will be important to minimize these frictions.

On the fiscal front, the government treads a thin line, trying to balance social priority expenditures and an increasing wage bill with the need to reduce the overall deficit and debt. A weaker growth environment may cause further slippage in the fiscal deficit and delay the government's goal of stabilizing the debt-to-GDP ratio. Considerable contingent liabilities in SOEs pose further risks. Markets and credit rating agencies are watching even more closely the government's efforts to maintain South Africa's investment grade credit rating, and recent missteps have put them on high alert (box 1.5). A foreign-rating downgrade to sub-investment grade would trigger higher borrowing costs, capital outflows, and risk a recession with knock-on implications for poverty reduction and possibly social stability in the longer term.

Ultimately the ability of South Africa and its government to meet growing demands for job creation, redistribution, and improved service delivery in a sustainable manner depends on bold reforms that have immense potential to reignite economic growth. Key here are

Box 14 South African poverty in an international perspective

International poverty lines in purchasing power parity (PPP) terms are used for comparability across countries and to monitor progress in poverty reduction across the globe. The global poverty line, first set in the early 1990s at $1 a day, has been updated periodically. While international poverty lines are used for cross-country comparisons, the national poverty lines are far more appropriate for country-specific analysis, underpinning policy dialogue, or targeting programs to reach the poorest. Three poverty lines exist—for food poverty, as well as a lower bound and an upper bound.

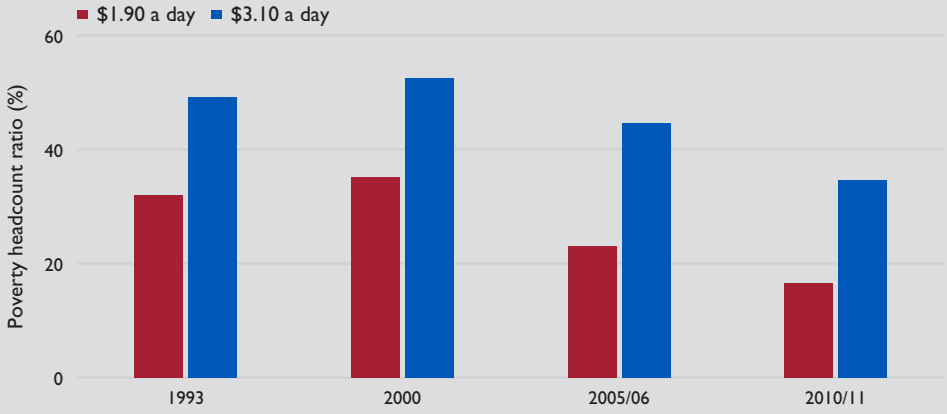
In October 2015, the World Bank Group announced its updated official line for international extreme poverty of $1.90 a day, based on the latest available international PPP-weighted exchange rates. The new poverty line replaces the prior $1.25 yardstick, which was based on 2005 PPP terms. The new poverty line is based on the average value of national poverty lines from the world's 15 poorest economies. A higher line, more appropriate for middle-income countries like South Africa, was set at $3.10 a day.

The old and new lines are not comparable, not least due to accompanying methodological changes. Further, the PPP indexes are multilateral price indexes that are consistent only across space (across countries) and not over time.

Using the new $1.90 poverty line the Poverty Headcount ratio is 16.6 percent (using the latest available household data from 2010/11, box figure 1). At $3.10 a day, the number is 34.7 percent. The data suggest positive trends in the poverty measured by the $1.90 and $3.10 a day yardstick since 2000. Poverty in South Africa is among the lowest in Sub-Saharan African (box figure 2), but is relatively high in comparison with other upper-middle-income countries worldwide.

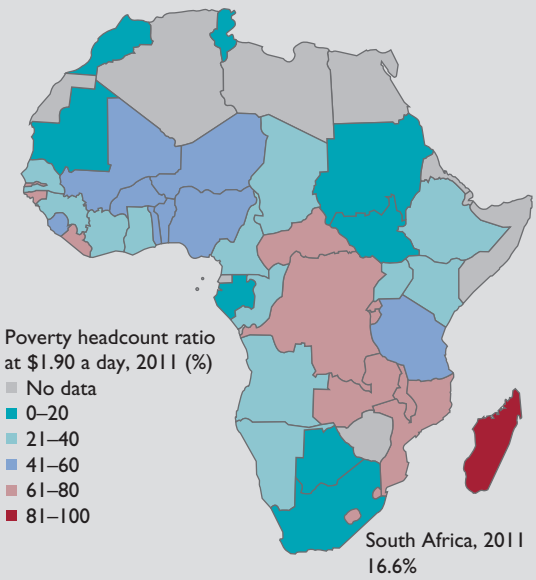
Using the new $1.90 poverty line the poverty headcount ratio is 16.6 percent

Box figure 1: Poverty headcount ratio at $1.90 and $3.10 a day, South Africa



Source: PovcalNet and World Bank staff estimates. selected years.

Box figure 2: Poverty headcount ratio at $1.90 a day, Sub-Saharan Africa



Source: WDI.

A drop in investor confidence tends to result in capital outflows, rising bond yields, lower equity prices, and downward pressure on the rand

Box 1.5 Market scrutiny of domestic policies increases as integration with global financial markets rises[11]

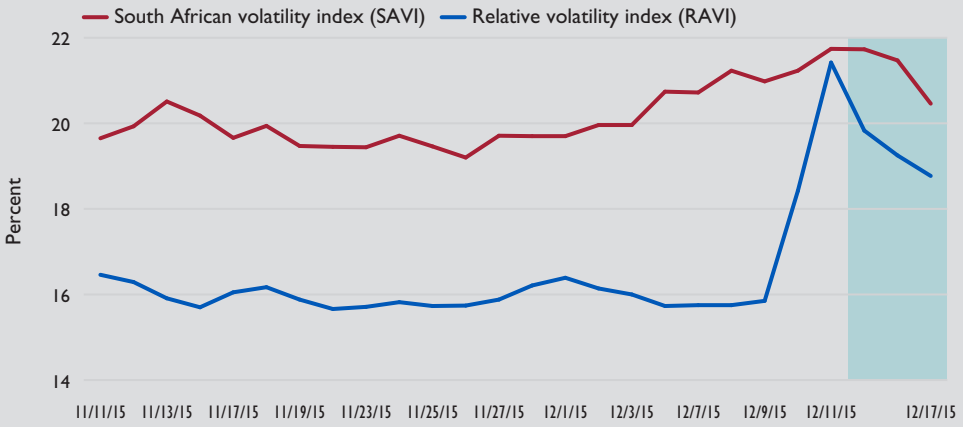
South Africa, a G20 country, has highly developed capital markets. Its market capitalization of listed domestic companies stood at 267 percent of GDP in 2014, second in the world only to Hong Kong, China. International investors buy South African debt and equity, helping finance its large current account deficit. Currently foreign investors hold about 36 percent of government bonds. As South Africa's fiscal deficit and debt have grown, investors have become increasingly nervous, especially as the country edges closer to speculative grade in its sovereign foreign debt ratings. Although about 90 percent of South Africa's public debt is issued in domestic currency, South Africa's foreign sovereign ratings are widely cited and provide a market signal. (Fitch and Moody's put South African local currency–denominated government debt two notches above speculative grade, and S&P three notches above).

Compounding investor concerns is greater global uncertainty about emerging market prospects and the divergence of monetary policy across advanced economies. A drop in South African investor confidence tends to result in capital outflows, rising bond yields, lower equity prices, and downward pressures on the rand.

Against this backdrop, stability and good communication are paramount. The dismissal of Nhlanhla Nene as minister of finance on December 9, 2015 was taken by investors as a sign of increasing uncertainty about the direction of fiscal policy, which severely disrupted markets—fear gauges for equities and the rand shot up (box figure 1). Ten-year bond yields rose by 135 basis points to 10.5 percent, and the rand depreciated by 6 percent, briefly hitting a record above 16 to the U.S. dollar (box figure 2). The FTSE/JSE Top 40 index fell by 1.7 percent, driven by banking stocks—the bank index lost 18 percent within two days as banks' trading books shrank in line with government bond prices. Concerns about the government's continuing commitment to fiscal prudence were reflected in Moody's changing South Africa's Baa2 credit rating outlook to negative.

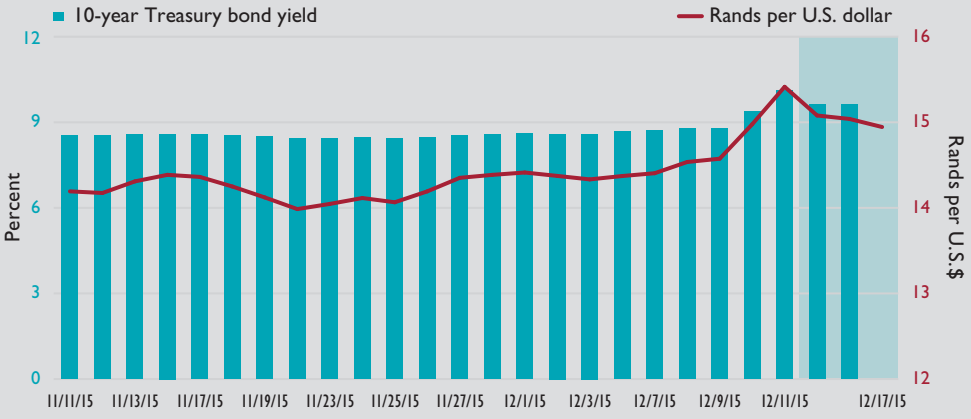
Markets steadied following the appointment of Pravin Gordhan as minister of finance, an office he held between 2009 and 2014. Yet the five-day market turmoil illustrates the costs of what markets perceive as policy mistakes, ultimately hurting an already battered South African economy.

Box figure 1: In December fear gauges rose by 36% for the dollar-rand exchange rate and 2% for the JSE Stock Index



Source: JSE.

Box figure 2: Ten-year Treasury bonds rose by 135 bp, and the rand depreciated by 6%



Source: SARB.

Note: SAVI is a volatility measure "fear gauge" for stocks of top 40 JSE listed companies; RAVI is a forecast of the 90-day implied volatility of the rand against the U.S. dollar.

fast-tracking the implementation of investments in key infrastructure, especially power; increasing the flexibility in factor markets (land, labor, and capital); allowing greater competition domestically, as in the banking, logistics, and IT sectors and trade in services; and improving the quality of education and skills development system. Section 2 of this Update examines the potential of one of these reform areas—competition policy and related regulatory reform to accelerate growth and poverty alleviation. Progress in this reform area has already been substantial, but more could be done to promote a level playing pitch for all firms and to remove barriers or regulations that hamper the successful entry of new start-up firms. That would boost incentives for new investment, promote greater innovation, and spur improvements in productivity—create jobs, boost growth and competitiveness, and promote faster poverty alleviation.

Notes

1. Based on the October 2015 IMF *World Economic Outlook*, using GDP per capita in current U.S.$, PPP adjusted.
2. This box is based on "China's Slowdown and Rebalancing: Potential Growth and Poverty Impacts on Sub-Saharan Africa" by Lakatos et. al. (2015). The box was prepared by Maryla Maliszewska and team.
3. Data from COMTRADE.
4. The study uses the CGE Linkage Model (van der Mensbrugghe, 2011) model along with the Global Income Distribution Dynamics (GIDD) (Bussolo et al. 2010). The key channel of interaction between China and the rest of the world are the bilateral trade flows based on COMTRADE data from 2011 and updated to 2015. The results are sensitive to the initial data, closure rules, functional forms, and underlying parameters.
5. This box was prepared by Neva Seidman Makgetla (TIPS), Asli Senkal, Yashvir Algu, and Marek Hanusch, with special thanks to Yumeka Hirano.
6. Base metal exports accounted for 14 percent of exports. Data are from South African Revenue Service (SARS) and World Bank staff calculations.
7. *South African Reserve Bank Quarterly Economic Bulletin,* September 2015.
8. This box was prepared by Marek Hanusch.
9. The World Bank has developed a microsimulation model to project poverty and inequality based on macroeconomic shocks and policy interventions. The model is a static behavioral model that operates at an individual level. The model uses IES 2010/11 data and constructs behavioral equations creating statistically representative samples of individuals. The model is used for analyzing government interventions that require evaluation at the individual or family level. It also allows projections of poverty and inequality based on the macroeconomic shocks.
10. Stats SA produces three poverty lines—the food poverty line (FPL), the lower bound poverty line (LBPL), and the upper bound poverty line (UBPL). The FPL is the Rand value below which individuals are unable to purchase or consume enough food to supply them with minimum per-capita-per-day energy requirement for good health (about 2,100 kilocalories). The LBPL and UBPL include a nonfood component. But individuals at the LBPL do not have command over enough resources to consume or purchase both adequate food and non-food items and are therefore forced to sacrifice food to obtain essential nonfood items. Individuals at the UBPL on the other hand can purchase both adequate food and non-food items. We discussed LBPL poverty in the text, while the projections for FPL and UBPL are also present in table 3.
11. This box was prepared by Marek Hanusch.

SECTION 2

Promoting Faster Growth and Poverty Alleviation Through Effective Competition Policy

Competition in the marketplace matters—for a country's economic growth, its international competitiveness, and its citizens' welfare

Competition in the marketplace matters—for a country's economic growth, its international competitiveness, and its citizens' welfare. It fosters companies and industries that are productive and profitable, allowing local firms to invest more and grow, and to compete successfully at home and abroad—generating profits, creating jobs, spurring economic growth, and benefiting society more broadly. Firms can then deliver the best deals for consumers, protecting poorer households from overpaying for consumer goods, and facilitating access to a broader set of goods.

We ask: What is the potential for competition law enforcement and pro-competition regulations to spur gains in productivity, enhance competitiveness, and promote faster economic growth, all while contributing to poverty reduction? We find great potential for South Africa to promote faster growth and poverty alleviation through a sound national competition policy: a combination of effective competition enforcement, along with product market regulatory frameworks that allow for competitive market outcomes for the benefit of its citizens.

The first of three subsections asks how effective South Africa's competition policy framework is in fostering competition in local markets through active cartel detection. South Africa's Competition Act grants the competition authorities—the Competition Commission of South Africa (CCSA), the Competition Tribunal, and Competition Appeals Court—strong powers to promote competition. These authorities rank among the most active in Africa. Using a new database created for this *Update,* which captures the authorities' actions against cartels between 2005 and 2015, we investigate how commonplace cartel agreements were among competitors. We find that anticompetitive behavior (measured by cartels detected and sanctioned) is detected relatively frequently and prevails in key consumer markets that matter for the poor in South Africa. A new network analysis reveals that this behavior often involves the same economic groups participating in several product market cartels and across multiple sectors. The cartelized markets are characterized by structural factors such as high concentration, high barriers to entry, and homogenous products, which are understood to facilitate cartels. They also have features determined by market players which make it easier to collude, including the presence of a trade association and excess capacity.

The second subsection investigates how competition policy can promote faster economic growth by spurring firms to innovate, improve efficiency which also helps to lower the costs of upstream inputs into other sectors and industries. South African manufacturing and export markets have high degrees of market concentration—just a few firms account for the bulk of market share over time in a stable manner. Firms are operating with high cost markups and South Africa's most productive firms generally do not have the largest market share. Firms face high costs on key upstream inputs (e.g. telecommunications). These are all markets where—given market concentration and restrictive product market regulations—the risk of anticompetitive

practices in South Africa is high. We take the examples of cement and telecommunications, both key inputs to other sectors of the economy, and examine how active competition enforcement and better product market regulation can promote greater competition in local markets, promote investment and entry, lower input prices, and improve international competitiveness.

The third subsection quantifies how competition enforcement in basic consumer goods markets has benefited consumers and reduced poverty. Specifically, it looks at the impact of tackling the horizontal cartel agreements found by the Competition Commission of South Africa (CCSA) in the wheat, maize, poultry, and pharmaceuticals markets—key items in household consumption baskets, especially of the poor—on household income. Applying commonly deployed assumptions on price overcharges on the four basic goods cartels, and linking them to household survey data, we estimate the potential impact of tackling these cartels on household consumption and poverty which is significant.

South Africa is 13th of 140 countries on the effectiveness of antimonopoly policy

How competition policy is being used to detect and sanction anticompetitive behavior in South Africa

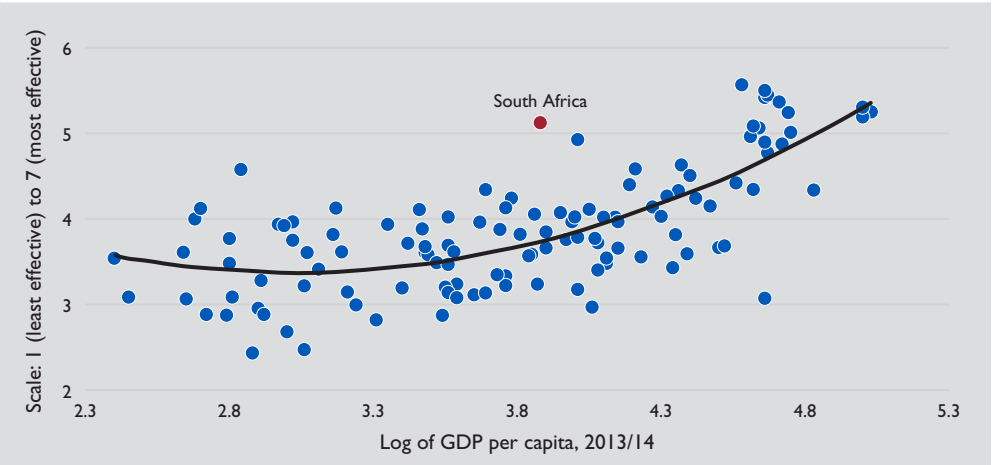
A strong history of using competition policy enforcement to address anticompetitive behavior

South Africa's competition authorities rank as the most active in Africa. South Africa's Competition Act came into effect in 1999, creating the CCSA, the Competition Tribunal, and the Competition Appeals Court (together, the competition authorities). In the year 2014/15, the CCSA completed 375 merger reviews, and 31 cartel investigations were finalized, along with 8 investigation relating to abuse of dominance, vertical restrictions, or horizontal restrictions (excluding cartels). These activities were carried out with just over 100 professional staff and a budget of around 0.006 percent of GDP in 2015.[12]

South Africa fares well against peers on enforcing competition policy. The Global Competitiveness Report 2015–2016 of the World Economic Forum (WEF) ranks South Africa 13th of 140 countries on the effectiveness of its antimonopoly policy, and it stands out as a particularly high performer when controlling for GDP per capita (figure 2.1). According to the OECD's Competition Law and Policy Indicators, which measure the strength and scope of competition regimes in 49 jurisdictions relative to what is considered "good" practice for competition regimes, South Africa performs relatively well against countries with a similar GDP per capita.

Broad competition enforcement powers have allowed South Africa to tackle anticompetitive practices in several sectors rather well. The CCSA's enforcement functions in the 1998 Competition Act include abuse of dominance, vertical restrictive practices, and horizontal restrictive practices. The last

Figure 2.1 WEF effectiveness of antimonopoly policy indicator, 2015–16



Source: Own elaboration based on WEF, Global Competitiveness Report 2015–2016 and WDI indicators.
Note: On a scale of 1–7, where 7 is the most effective.

category includes anti-cartel enforcement (defined in box 2.1). Challenges in proving abuse of dominance, given the requirements to show the anticompetitive effects, along with the focus of the CCSA on anticartel enforcement mean that in the two years preceding 2015 the CCSA completed only four abuse of dominance cases.

In terms of anticartel enforcement, South Africa has a strategic focus on food, agro-processing, intermediate inputs, and construction. The CCSA's Corporate Leniency Policy (CLP) is a key driver in its success in detecting and sanctioning cartels. The CLP was first implemented in 2004, in an effort to encourage cartel members to reveal information on fellow offenders in return for immunity from prosecution. The CLP was subsequently revised in 2008 to increase its effectiveness (see box 2.1). The number of applications received has increased over time, particularly in response to the revised CLP. To date, more than 500 leniency applications have been received. This large number is primarily the result of a fast-track leniency and settlement process, which the CCSA introduced in 2011 for disclosures of bid-rigging and collusion in construction.[13]

What does competition enforcement reveal about the nature of cartels in South Africa?

Using information published by the Competition Tribunal, we have compiled a database of cartels sanctioned in South Africa over 2005–15 to investigate how firms collude. The database includes all non-construction complaints procedures where collusion was determined and all non-construction settlement agreements available on the Competition Tribunal's website.[17] The cartels have been separated by market, so that where

The Corporate Leniency Policy is a key driver in detecting and sanctioning cartels

Box 2.1 A brief introduction to cartels and a tool to combat them

What is a cartel?

Cartels are horizontal agreements among firms that operate in the same market with the specific object of reducing competition. Most countries consider hardcore cartels to be per se illegal. These regimes generally specify explicitly the type of conduct related to hardcore cartels that falls under a "per se" analysis (where the actual effect on competition does not need to be shown). In most regimes, per se prohibited practices include fixing sale prices of goods and services, dividing markets by allocating customers or territories, colluding on tender offers, and collectively limiting production, market outlets or access, technical development, or investment.

Given their potential to sharply reduce competition and consumer welfare, restrictive horizontal agreements are an enforcement priority in many jurisdictions.

The Corporate Leniency Policy as a tool for combating cartels in South Africa

Leniency programs are one of the most effective tools for detecting cartels and obtaining the evidence required to successfully prosecute a cartel, particularly when the agencies have proven they have the powers and resources to detect and punish cartels. A leniency program typically allows for a cartel member to confess involvement in a cartel and fully cooperate with a cartel investigation by providing evidence that will aid in the proceedings against other cartel members. This is done in exchange for full or partial immunity from penalties that would otherwise be imposed. Leniency programs thus provide two benefits: they provide a tool to detect cartels and can reduce competition authorities' resource requirements for investigations and gathering evidence; and they deter the formation of cartels and destabilize existing cartels by raising the likelihood that members will defect. If cartel members believe that others may take the leniency route, it is in their interest to be "first through the door."

The Competition Act of South Africa[14] provides for a CLP[15] that grants immunity from prosecution and fines to a self-confessing cartel member who voluntarily approaches the CCSA and provides information that results in proceedings against a cartel. Only the first firm to confess and provide information qualifies for immunity. The CLP, adopted in 2004, was revised in 2008 to make it more conducive to applicants and to bring it in line with corporate leniency policies in other jurisdictions. The powers of the CCSA to grant leniency have subsequently been formalized in the Competition Amendment Act (No. 1 of 2009).

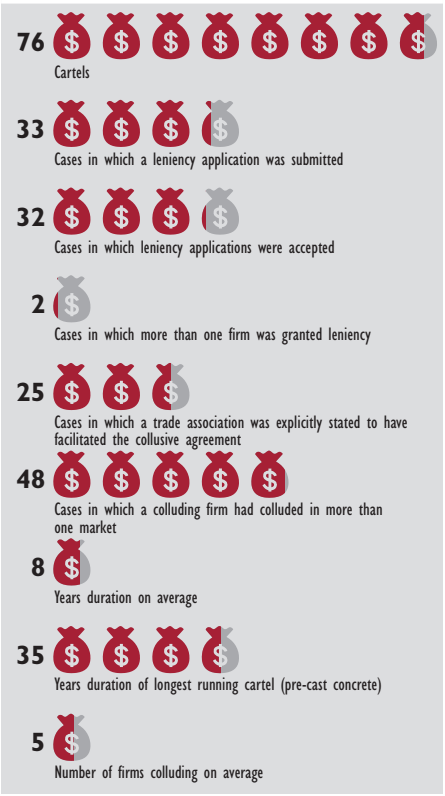
The planned introduction of personal criminal liability for encouraging cartel conduct[16] may discourage firms from using the CLP (as it introduces a degree of risk and uncertainty to potential applicants over the extent of their personal immunity from prosecution) and undermine the CCSA's ability to prosecute cartels. Discussions between the CCSA and the National Prosecuting Agency (the only agency permitted to grant immunity in criminal proceedings) are under way to put in place an agreement on handling leniency applications. A successful outcome will be important in ensuring that personal criminal liability does not threaten the CLP's efficacy.

76 non-construction cartels have been detected in the last decade

several instances of collusion in different markets were rolled up in one complaint or settlement, they have been included as separate cartels. The cases are summarized in figure 2.2 and table 2.1, which reveal stylized facts about the recurrence of anticompetitive cartel behavior across markets. These data capture only cases on which the Competition Tribunal has adjudicated. Additional cases have been referred to the Tribunal by the Commission but not yet heard. For example, in 2015/2016 to date, at least 11 new non-construction cases have been referred to the Tribunal.[18]

- **Fact 1: Detected cartels were quite common in the last decade.** A total of 76 non-construction cartels were detected, most often in agricultural and household goods sectors, as well as in the construction input sector (table 2.1).[19]
- **Fact 2: The CLP helped identify over 40 percent of the cartels sanctioned.** Among sanctioned cartels, there was a clear increase in the number of cartels breaking up in 2007 and 2008, as well as in the number of cartels for which a leniency application was submitted. This coincides with the period when the revised CLP was published. Indeed, in 19 of the 28 cartels recorded as ending in 2007 or 2008, a leniency application was made (in either year or subsequently).[20]
- **Fact 3: Detected cartels have more often than not been in operation for several years.** On average detected cartels operated for eight years, although in the pre-cast concrete sector the cartel operated for 35 years.
- **Fact 4: Firms, particularly conglomerates, often engage in multiple cartels.** Of the 76 cases, 48 involved a firm that was also in another cartel either in a different market in a given sector or in a different sector.[21] At least 20 of the 33 cartels for which a leniency application was submitted came from a firm that applied for leniency for multiple cartels. In the case of Sasol, for example, at least 5 cartels were the subject of leniency requests after it carried out a competition law compliance review in July 2008 at the request of its management. Murray and Roberts submitted four leniency applications between 2007 and 2008, as well as several others in the construction industry. Premier applied for leniency in three grain cases (bread, wheat, and white maize), while Pioneer applied for leniency in poultry and eggs during its settlement process for the three grain cases.
- **Fact 5: The number of firms involved in cartels varies quite widely.** The mean number of firms is 5 and the median is 4, figures that are fairly close to the mean of 6.45 and median of 5 firms found colluding in 73 cartel cases in Europe over 2001–11.[22] Some cartels have many players,[23] including maize (17 firms), eggs (20), grain storage (17), bicycle retail and distribution (20), and rebar (20). This goes against the conventional expectation that cartels are more likely to form where there are a small number of firms and coordination is thus easier. Still, even in cases involving many firms, the market is highly concentrated, often indicating there may be a group of dominant firms determining a strategy,

Figure 2.2 **Characteristics of cartel cases finalized between 2005 and 2015**



Source: South Africa cartel database, 2005–15, prepared by World Bank Group (WBG) based on reports of the competition authorities of South Africa.
Note: Finalized means adjudicated and sanctioned by the Competition Tribunal.

Table 2.1 **Cartels sanctioned between 2005 and 2015 by sector**

Markets		Number of cartels sanctioned
Food and food-related	Eggs	1
	Fishing and fish	4
	Grains	5
	Milk	1
	Poultry	1
Agricultural inputs	Animal feed[a]	2
	Fertilizer[a]	3
Healthcare	Medical services, pharmaceutical products, prosthetic products	7
Construction inputs and scrap metal	Bricks, cement, concrete products, mesh, rebar, roof bolts, copper tubes, plastic pipes, glass products, steel products	17
	Purchase of scrap metal	5
Chemical and plastic inputs for manufacturing	Soda ash and plastic polymers	2
Automotive related inputs	Nuts and bolts, tires	3
Gas, petroleum, and petroleum-based products	Gas	4
	Petroleum	1[b]
Infrastructure-related inputs	Power cables	4
	Telecom network testing equipment	1
Transport and transport-related markets	Air transportation	6
	Airport services	2
	Other transportation (marine, freight, furniture removal)[c]	3
Services	Veterinary, legal, and real estate	3
Other	Heaters, supply of bicycles, bullet-proof vests	3

Source: South Africa cartel database, 2005–15, developed by World Bank Group (WBG) based on reports of the competition authorities of South Africa.
a. A phosphoric acid case is included in both fertilizer and animal feed as it relates to both. A carbon dioxide and urea case is included in fertilizer and gas for the same reason.
b. This case relates to bituminous products. It is included here because the recommendation submitted to the Tribunal also related to other petroleum products (including gasoline and diesel). Only the settlement on bituminous products was public at the time of writing.
c. The furniture cartel refers to several instances of collusive tendering by a group of firms.

Evidence from other countries suggests what is detected is the tip of the iceberg

with smaller firms acting as followers, perhaps without sufficient capacity for deviation from the agreement to be profitable. (These factors are explored in more depth in the subsection, "Factors that facilitate the formation and stability of cartels.")

Identifying linkages across cartels in food and food-related sectors and agricultural input sectors to help detect cartels in other sectors

Even with the number of cartels detected in South Africa, the data are likely to understate the true number. Evidence from other countries suggests that what is detected (and sanctioned) is the tip of the iceberg. A review of quantitative studies of cartel detection rates (in mature agencies) by Connor and Lande (2006) suggests that only 10–33 percent of all cartels are detected. A survey by Combe and others (2008) for the European market puts the probability of detection at around 13 percent. The low detection rates observed internationally further suggest substantial room to expand anticartel enforcement —even in already effectively operating agencies—and to complement it with other destabilizing and deterring policies. In light of this evidence, and the fact that in South Africa a large share of the firms sanctioned were found to operate in other cartels, we take advantage of the new database of cartels to explore how members of cartels operate across different markets and sectors.

Using network analysis, we build a picture of linkages across firms in cartels in the food and agricultural product sectors to help detect whether these firms were active in other sectors, too. Following similar analysis for Latin America,[24] we applied network analysis to our database of sanctioned cartels to build a picture of the linkages between colluding firms in terms of ownership and markets in which they colluded.[25] This mapping could be used as a potential tool to screen and monitor for cartel conduct in sectors outside the food and agricultural

product sectors, where the CCSA has so far focused its actions.

As a first step in applying this analysis, we used the information collected for a subset of 18 cartels that have the most direct impact on household welfare and poverty: all cartels in markets for food and food-related products and agricultural inputs (fertilizer and animal feed) and for the distribution of pharmaceuticals to private hospitals.[26] The network mapping of firm linkages is in figures 2.3 and 2.4.[27] The circles (nodes) represent either firms (blue) or cartels (orange). The size of each firm node depends on the number of its linkages to other firms or cartels (known as its degree).

Tiger Brands is the firm with the most direct connections to firms and cartels: with eight connections to other firms involved in collusion, direct involvement in four cartels, and indirect involvement in one cartel through a subsidiary (figure 2.3). Pioneer is the next most connected firm directly involved in a cartel, with a more diverse set of connections: it has direct links to three cartels, two indirect links to cartels through its subsidiaries, and two links to other colluding firms.

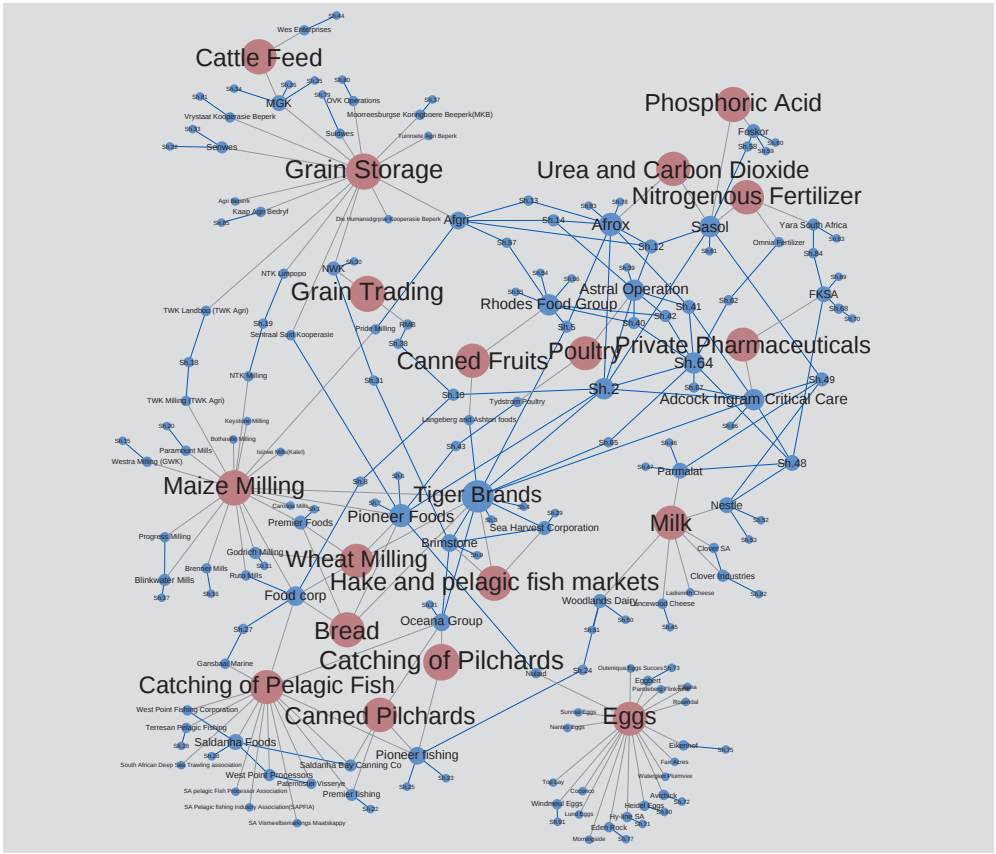
Overlaying this data with public data on directorship and management links provides further preliminary insights (figure 2.4). The position of Tiger as the most connected firm is reinforced. It also strengthens the connectedness of some (often smaller) firms that were not as well connected in ownership, including Afgri, Omnia Holdings, and Senwes. Because public data on directorship or management links are scarce, these patterns should be treated with some caution. They do, however, provide an idea of the additional network dimensions that can be added.

Cartels occur relatively frequently, often involving the same key firms

Factors that facilitate the formation and stability of cartels

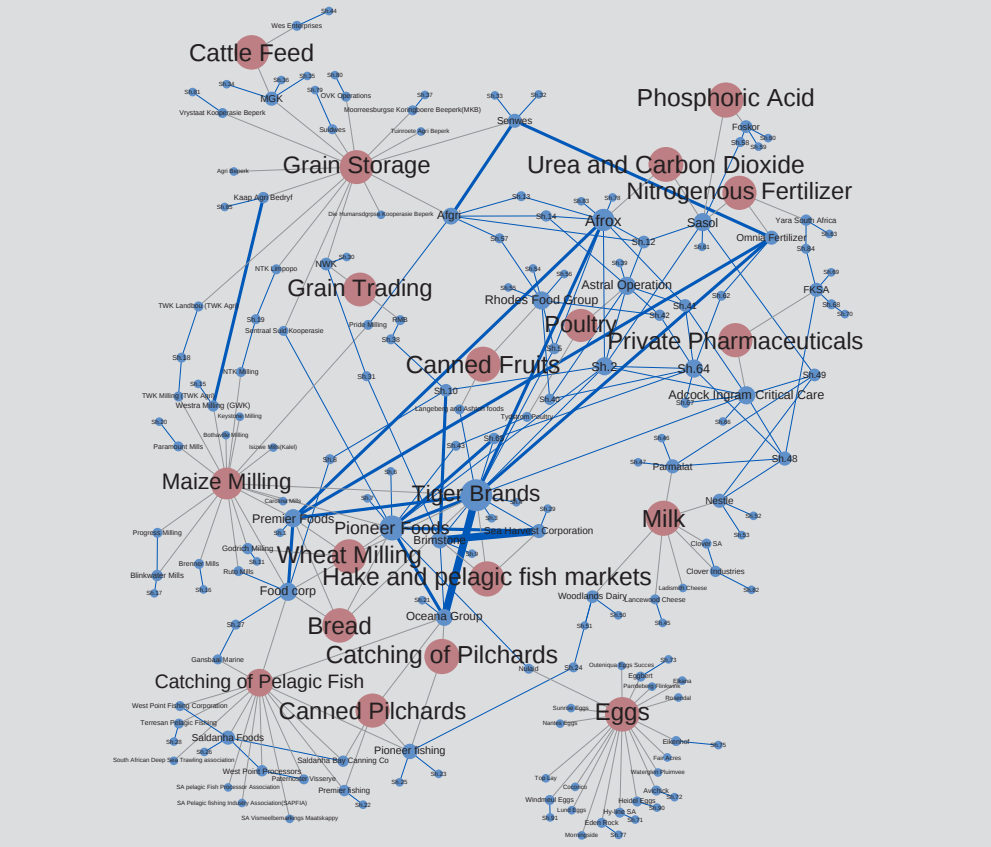
The foregoing evidence suggests that cartels occur relatively frequently, often involving the same key firms, and that the incentive to cartelize does not disappear even in the face of active detection. South Africa is not alone in experiencing this: even after years

Figure 2.3 Network mapping of selected cartels by firm ownership links



Source: South Africa cartel database, 2005–15, developed by the WBG, based on reports of the competition authorities of South Africa and other public sources.
Legend: Grey line represents involvement in cartel; blue line represents an ownership linkage between firms.

Figure 2.4 Network mapping of selected cartels by firm ownership and directorship/management links



Source: South Africa cartel database, 2005–15, developed by the WBG based on reports of the competition authorities of South Africa and other public sources.
Legend: Thin line represents ownership link only; medium line represents directorship link only; heaviest line represents ownership and directorship link.

of effective enforcement in the European Union (EU), the detection of cartels by the European Commission—a regime in operation since the 1960s—has not fallen. The European Commission fined 10 cases between 1990 and 1994 but 30 cases between 2010 and 2014. Some markets appear to be particularly susceptible to cartels as they provide an environment conducive for firms to select strategy, coordinate behavior, and punish deviations from the strategy. Box 2.2 outlines the key factors that, based on international evidence, facilitate cartel formation and longevity.

In table 2.2 we examine the extent to which the 25 markets where cartels were sanctioned in South Africa display the factors found to facilitate anticompetitive cartel behavior in other countries. The facilitating factors are categorized by whether they are determined exogenously, through policy or by firms, or whether they are endogenous to other factors. Figure 2.5 complements the table by providing an index of the frequency with which each facilitating factor appears (weighted by the likelihood of facilitating a cartel) in the history. Figure 2.6 shows the extent (the percentage of cases) to which the facilitating factors in figure 2.5 are present in each cartelized sector. The following patterns emerge:

- **The presence of a trade association is the most common facilitating factor in the markets analyzed.** In around a third of all cases, a trade association was explicitly found to have a role in the collusive agreement (25 of 76 cases). This is especially prevalent in the food sector, with 6 of 12 cases, the healthcare sector (4 of 7), and other services (all 3). In the two latter categories, some of the cases were instances of prices being fixed by the associations. Moreover, from a broader perspective, all but two[32] of the sectors in which the 76 cartels operated have a trade association. Although not all of these were explicitly implicated in cartels, this does fit with the theory that such associations provide a platform for information exchange and better coordination.

In about a third of cases, a trade association was explicitly found to have a role in collusive agreements

Most markets where cartels operated are highly concentrated

Box 2.2 Facilitating factors for cartels

Markets where it is easier for firms to agree and coordinate on their behavior are those with the following factors:

Structural factors

A history of anticompetitive regulation, including price controls. Regulated industries have often restricted entry and protected incumbents in the past, leading to concentrated markets today. In addition, the prior imposition of price controls can provide a "focal point" for cartel members and help them reach agreement.

High entry barriers, including import barriers. Entry by or expansion to cartel outsiders, including importers, can undermine the strategy (for example, by undercutting the collusive price) and spark deviation among cartel members. Moreover, the success of a cartel in the form of high prices increases the likelihood of entry over time. In a case study of 19 cartels, Levenstein and Suslow (2006) found that entry was one of the most common causes of cartel failure.

High market concentration and few firms. This feature reduces the number of negotiating partners, thus making it easier to reach agreement, and raises incentives to collude by increasing potential profits per firm. A small number of firms also makes it easier to detect deviations from the collusive agreement.[28]

Product homogeneity. This facilitates the ability to reach a mutually agreeable price for the product and reduces scope for competition in other dimensions, such as quality.[29]

Inelastic demand. This increases the potential profits from setting an agreed collusive price because consumers of such goods do not shift consumption.

A lack of buyer power. Higher buyer bargaining power reduces cartel stability because, for example, large buyers will be more effective at encouraging members to deviate from the agreed price.

Regular and frequent transactions. They increase the effectiveness of punishment threats by increasing the present value of the cost of future punishments.

Firm symmetry. Symmetry in market size and cost structure among firms increase the ability to reach agreement and monitor deviations.

Factors affected by cartel member behavior

Excess capacity. This can be used as an entry-deterrence mechanism and lends credibility to punishment threats by allowing firms to engage in predatory behavior or price wars.[30]

Multimarket contact.[31] This can increase firm symmetry across markets (see "firm symmetry") and allows market power to be spread across markets, facilitating agreement. Multimarket contact also makes it easier to punish defectors, as punishment can be meted out in different markets.

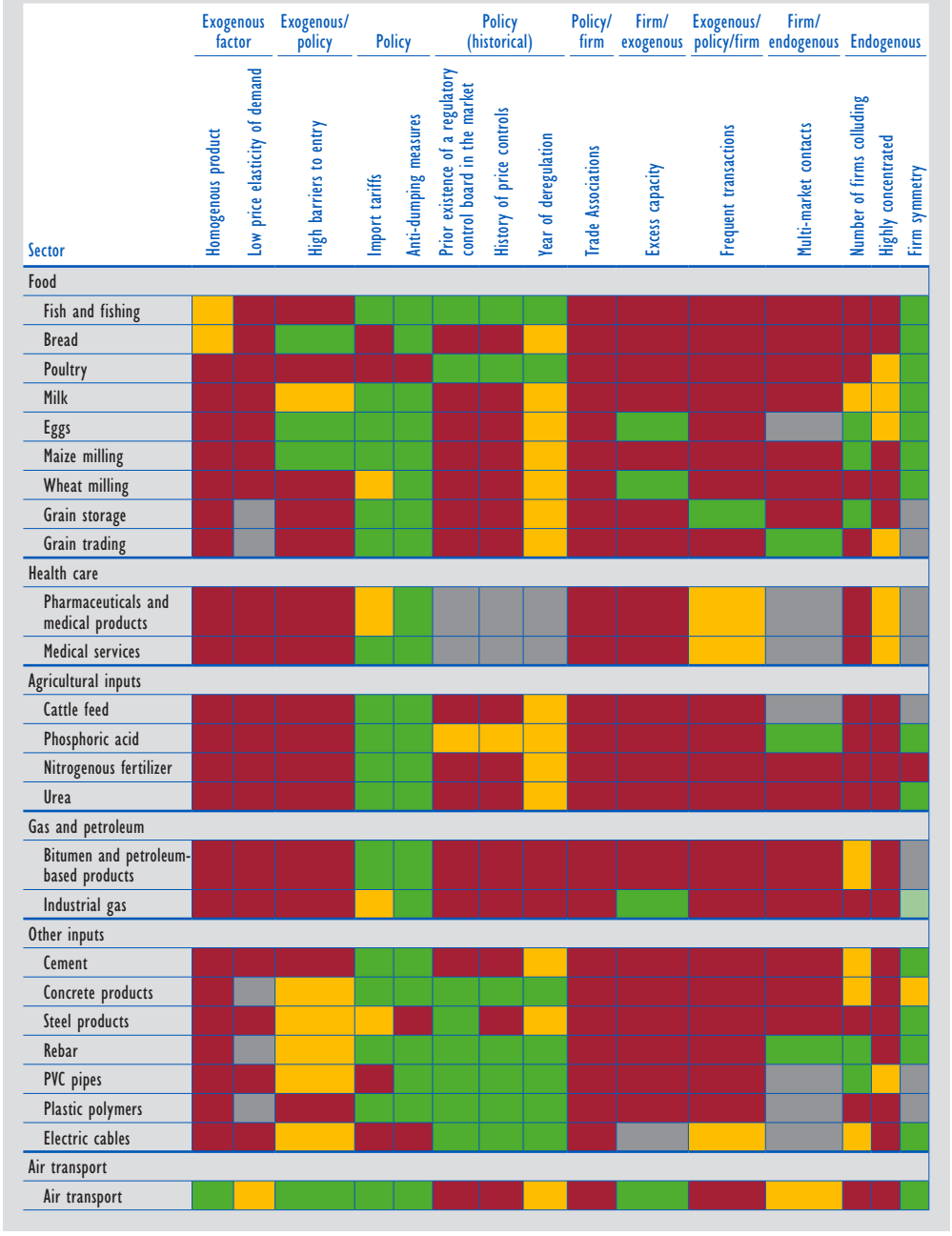
Cross-ownership and links with other firms. These abet information sharing, making it easier to reach agreement and coordinate approaches. Cross-ownership also reduces the incentive to deviate from the agreement.

Information exchange mechanisms. Industry trade associations are the key example of this. The information collected and disseminated by them can help ensure coordination and monitor deviations. Between a quarter and a half of the cartels in U.S. cross-section studies report the involvement of trade associations in cartels (Levenstein and Suslow, 2006).

Source: Motta (2004) and WBG Market and Competition Policy Assessment Tool (forthcoming).

- **Most markets where cartels operated are highly concentrated.** High concentration appears to be among the most common facilitating factors in sanctioned cartels, followed by high barriers to entry.
- **In some cases—contrary to theoretical expectations of firm symmetry—sanctioned South African cartels are characterized by large firms colluding with smaller rivals.** This indicates that, in these cases, there is likely to be a group of dominant firms determining strategy, with smaller firms acting as followers, perhaps without sufficient capacity for deviation from a collusive agreement to be profitable.
- **Excess capacity is common among cartelizing markets.** Only 4 of 25 markets examined below did not have excess capacity. Further research is needed to determine whether spare capacity was built for strategic reasons to deter entry.
- **The products where cartels are more common are characterized by little product differentiation (homogeneity),** low price sensitivity among consumers, and involve frequent transactions.
- **Multimarket contact also seems to occur relatively frequently.** Several sanctioned cartels are found in different markets with common cartel members (fish, pharmaceuticals, and scrap metal

Table 2.2 **Facilitating factors displayed by 25 cartelized markets[33]**



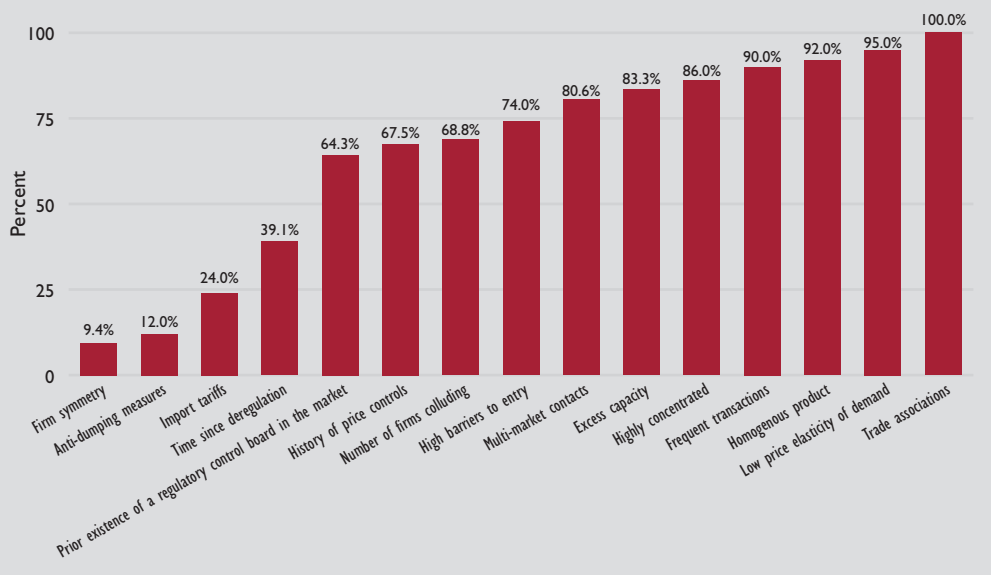
Source: South Africa cartel database, 2005–15, developed by the WBG based on reports of the competition authorities of South Africa and other public sources; WBG assessment of facilitating factors for cartels, based on World Bank (forthcoming).
Note: Red indicates the presence of a facilitating characteristic; green, the absence of a facilitating characteristic; orange a combination of factors or that the characteristic depends on the precise circumstances; and gray, information was unavailable.

Earlier anticompetitive regulation appears to be particularly important in food and agricultural inputs

for instance), indicating collusive strategies spanning markets.

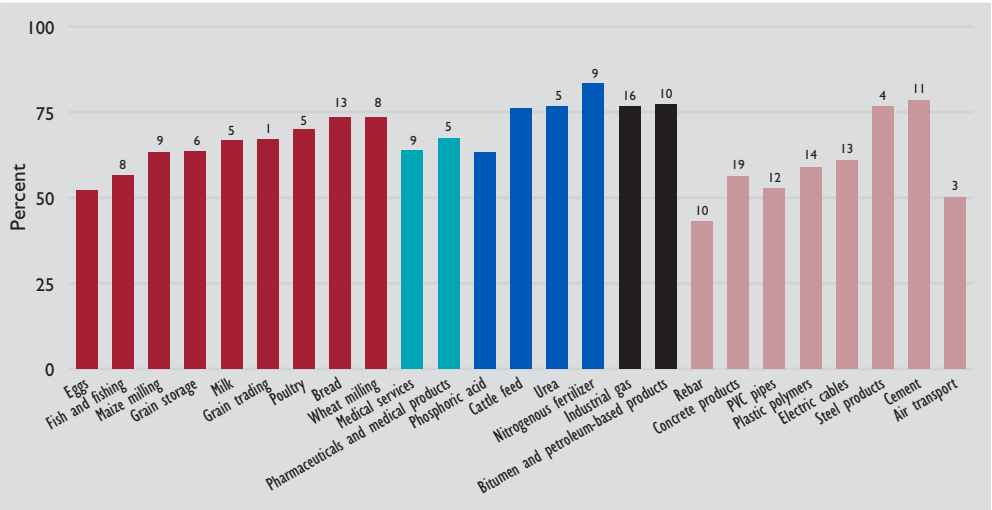
- **Many of South Africa's markets that have been sanctioned for cartelization, including food, agricultural inputs, steel, and energy, were historically tightly regulated and protected oligopolies or monopolies.** During the 1990s, the South African government undertook a range of market reforms to open these markets to trade and competition. But many markets remain oligopolistic, with a high degree of vertical integration and, in some cases, strategic behavior that reflects previous regulatory conditions. Earlier anticompetitive regulation appears to be particularly important in food and agricultural inputs. Table 2.2 shows that all food and agriculture-related cartels were in markets previously characterized by control boards or a history of price controls, except fish/fishing and poultry.

Figure 2.5 Frequency of occurrence of each facilitating factor across 25 cartelized markets



Source: South Africa cartel database, 2005–15, developed by the WBG based on reports of the competition authorities of South Africa and other public sources; WBG assessment of facilitating factors for cartels.

Figure 2.6 Extent to which facilitating factors are present across 25 cartelized markets



Source: South Africa cartel database, 2005–15, developed by the WBG based on reports of the competition authorities of South Africa and other public sources; WBG assessment of facilitating factors for cartels.
Note: Label shows the number of years the cartel operated (where known).

Various factors unique to the South African economy—including its remote location and relatively small market—shape the structure of its markets

Empirically, when we assess the importance of these facilitating factors, we find that all cartelized sectors have a presence of at least 50 percent of these factors, with one exception—rebar (figure 2.6). This presents a potential benchmark against which to assess the characteristics of other markets to test for the likelihood of cartelization. On the other hand, the figure suggests no clear pattern between the presence of these facilitating factors and the duration of the collusive period.

However, various other factors are unique to the South African economy—including its remote location and relatively small market—that go to shape the structure of its markets. For example, a combination of a relatively large land mass, the isolated location of natural resources relative to population agglomerations, the high transport costs, and the need for economies of scale in a peripheral location can justify high market concentration and the need for scale across sectors from an efficiency and competitiveness perspective. In this case, competition enforcement can ensure that these high concentrations do not translate into collusive agreements or into the abuse of dominant positions, and thus counteract related efficiencies.

Complementing detection with greater deterrence

Even though South Africa's competition authorities have detected and sanctioned cartels in sectors that provide key inputs to firms and households, cartels persist and new ones seem to form. Thus a successful enforcement regime also needs a strong deterrent effect on cartel formation alongside detection. Davies and Ormosi (2014) estimate that cartel deterrence is at least twice as effective as cartel detection as a means for removing harm. While the CLP has been successful in detecting and destabilizing cartels, given the recurrence of similar cartels in recent years it seems there is room to increase the deterrence effect of anticartel enforcement.

Here, a balancing act is to be achieved between increasing fines and introducing criminal liability versus encouraging leniency applications and cooperation during settlement proceedings. Muzata and others (2013) recommend a progression toward higher penalties through the settlement process by the CCSA in line with a move by the Tribunal toward harsher penalties. Setting a judicial precedent on civil actions is one way to increase incentives for firms to comply with competition law. Although it is possible to seek civil damages under the South African regime, Makhubele (2014) argues that difficulties in proving the harm that consumers suffer is most probably the reason there is no record of civil actions instituted in South Africa.

Moreover, the CCSA has so far focused its efforts on two sectors (in addition to construction): food and industrial inputs. Expanding detection activities to other sectors would increase the chances of other firms being caught. Taking into account resource constraints, expanded efforts to detect cartels in other sectors will help to more fully realize the deterrent effect across the economy. Our analysis of networks and facilitating factors provides some tools that the authorities could use.

Using competition policy to promote faster economic growth

Why competition matters for South Africa's growth and competitiveness

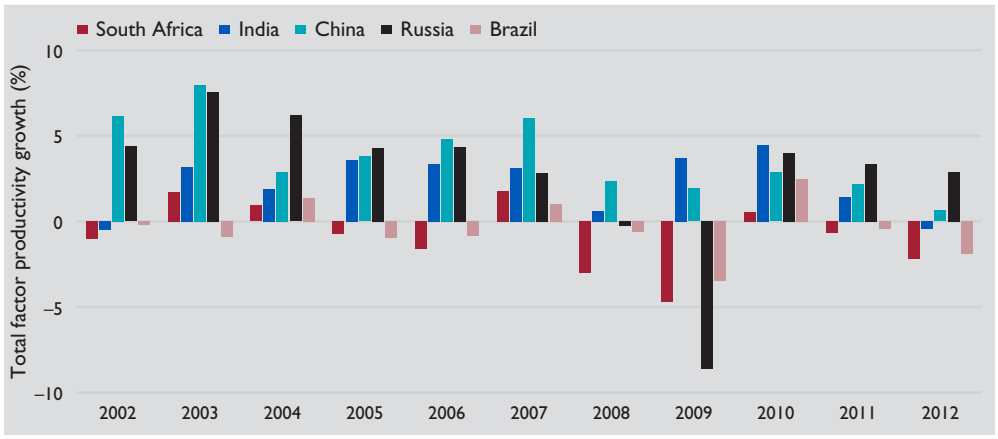
Section 1 and previous editions of the *Update* have highlighted the slowdown in growth in South Africa and the widening gap in incomes with its peers. Growth, which has lagged peers for some time, has slowed markedly since the global financial crisis. Real GDP growth decelerated from an average 4.8 percent a year in 2000–08 to just 2.4 percent a year in 2009–14 and is forecast to slow further in 2016.

One key factor underlying the slowdown has been the declining trend, and more recently contraction, in total factor productivity (TFP) growth (figure 2.7). This has occurred at a time when most BRICS peers were experiencing rapid gains in productivity and overall growth. In addition, since 2010, growth in labor productivity in South Africa has also slowed sharply: output growth per worker slowed to a mere 0.23 percent a year in 2010–13, from 2.8 percent a year in 2000–08.

The slowdown in GDP growth has been accompanied by stagnating performance of

Expanding detection activities to other sectors would increase the chances of other firms being caught

Figure 2.7 **TFP growth, South Africa versus BRICS peers, 2002–12**



Source: The Conference Board Total Economy Database™, January 2014, http://www.conference-board.org/data/economydatabase/.

Markups are significantly higher in South African manufacturing than in corresponding industries worldwide

South Africa's exports. Poor export performance has resulted in a 15 percent decline in South Africa's share of world exports since 2011.[34] Exports were a major driver of growth in South Africa in the early 1990s, but their pace of growth began to slow by 1996, became even slower in the first half of the 2000s, and yet more sluggish after 2005, with growth in real exports falling to just 0.6 percent annually in 2005–11, compared with a middle-income average of 6.4 percent (World Bank 2014). The upshot is that South Africa's share in global export markets has stagnated during a time when emerging market peers like China, Russia, Turkey, and Mexico achieved major gains.

South Africa's lagging productivity growth and declining export performance have been associated with a lack of competitive pressure in its domestic markets—both in input markets and in downstream markets. Open and competitive markets improve private sector competitiveness through cost reduction, innovation, and reallocation, which spur productivity growth through two key mechanisms, both of which South Africa needs to exploit further.

Mechanism 1. Firms that operate in more competitive environments are more productive

Competition drives productivity growth by shifting market share toward more efficient producers and by inducing firms to become more efficient to survive. Empirical evidence shows that enhancing competition in product markets positively affects GDP per capita by providing incentives to firms to reallocate resources to more productive activities, and to increase innovation and technological diffusion, thus enhancing dynamic efficiency.[35]

At least for manufacturing, high market concentration rates in South Africa could be linked to high markups and lower allocative efficiency. Aghion and others (2008) show that: i) markups are significantly higher in South African manufacturing industries than in corresponding industries worldwide (margins computed from a sample of listed firms are more than twice as wide in South Africa as in other countries on average) and there is no declining trend in this markup difference; and ii) higher past markups are associated with lower current productivity growth. In particular, a 10 percent reduction in markups would increase productivity growth in South Africa by 2–2.5 percent a year.[36] Studies of South African manufacturing sectors at a 3 digit industry level have found that they show high levels of concentration (Fedderke and Szalontai 2009; Fedderke and Naumann 2011) and high markups (Fedderke and others 2007; Aghion and others 2008 and 2013; OECD 2008). The most recently released firm level data for the manufacturing sector from the years 2010—2012 (derived from tax returns) indicates that sector concentrations (calculated using 3 digit industry level data) have remained high and above comparable figures for the US in almost all industries (Fedderke and others, 2015a). Industry markups, on the other hand, show considerable variation across 3 digit industries, but are on average significantly higher than available comparators from Finland (Fedderke and others, 2015b). Such indicators of the level of market power appear to have negative growth consequences (Klein, 2011; and Aghion and others, 2008, 2013), while Fedderke (2014) suggests that differences in mark-ups are associated with strongly differentiated productivity growth across sectors.

A 2010 World Bank study based on the 2007 Enterprise Survey of South Africa finds that low economy wide productivity reflects lower allocative efficiency in industry (a low correlation between firms' productivity and their market shares within the industry).[37] Although the typical South African manufacturer operates closer to the global technological frontier than its counterparts in comparable economies, the country's relatively low aggregate manufacturing productivity is a consequence of low-productivity firms having higher market shares than they would in most comparable economies. This, in turn, is argued to be a consequence of relatively high concentration of South African industry.

Despite greater openness to trade over the past two decades, the export sector also remains highly concentrated, even when commodity exports are excluded.[38] The top 5 percent of South Africa's exporting firms account for more than 90 percent of exports. Among its peers, South Africa's export structure is persistently more concentrated than all but Chile's: over 2002–12 concentration

increased slightly, with the share of the top 5 percent of exporters growing from 90 percent (85 percent for non-minerals) to 92 percent (87 percent for non-minerals). Despite their dominance, these super-exporters appear to be losing dynamism and competitiveness, particularly after the global financial crisis, which saw them create fewer new products and enter fewer new markets abroad.

Mechanism 2. Competition in input markets reduces costs improving competitiveness of downstream markets

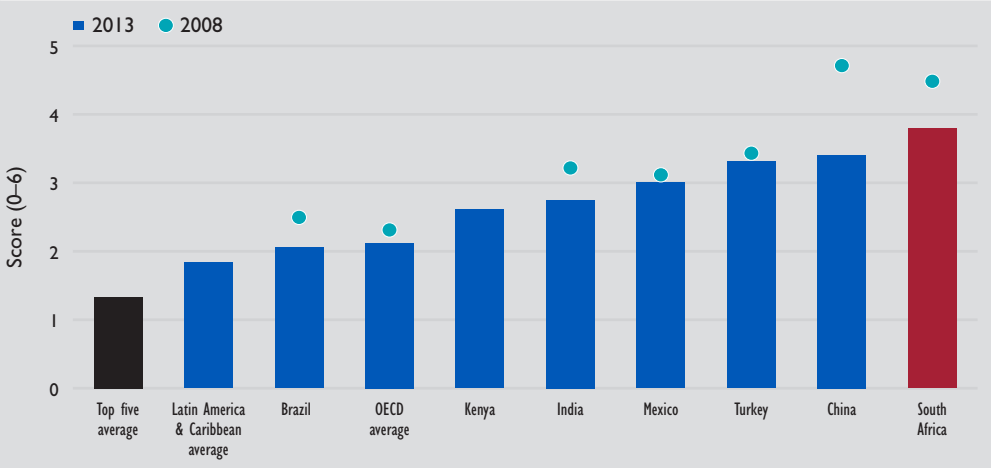
Competition in input (upstream) markets —such as transportation, financial services, energy, telecommunications, and construction services—is a key driver of efficiency and productivity growth in downstream markets. An OECD study suggests that liberalizing regulated input services sectors would generate gains in value-added growth in downstream, service-dependent industries (Barone and Cingano 2011). The results are particularly notable in the energy sector and professional services. Deregulating telecommunications (Olley and Pakes 1996) and electricity (Fabrizio and others 2007) can foster productivity and efficiency. Alesina and others (2005), using data for transport, communications, and utilities in OECD countries, find evidence that entry liberalization has had a particularly large positive impact on capital accumulation—and thus growth—compared with other forms of regulatory reform.

These services sectors also appear to display relatively high regulatory obstacles to competition. The OECD's Product Market Regulation indicators show that at the sector level, South Africa's energy, transport, and communications regulations are more restrictive than those in peer countries, although restrictiveness has fallen further since 2008 than in most peer countries (figure 2.8). Its professional services regulations[39] are also more restrictive than peers. To illustrate the potential to spur growth by boosting competition, a simulated scenario in which South Africa reduces regulatory restrictiveness in professional services suggests that growth in value added in industries which use professional services intensively would, other things being equal, be between $1.4–$1.6 billion. This is equivalent to an additional 0.4–0.5 percentage points of GDP growth.

To examine how competition enforcement can help promote competitiveness and faster economic growth, we take as case studies two key input sectors in South Africa: cement and telecommunications. With cement, which is a key input to the construction and nonmetallic mineral sectors, enforcement action by the competition authorities lowered prices of cement to other firms. This action was followed by new entry and investment to the sector that in turn created new jobs.

Cement accounts for 2 percent of the input value to the construction industry

Figure 2.8 Electricity, communications, and transport regulations, South Africa versus peers, 2008 and 2013



Source: OECD Sectoral Regulation Database, 2013.
Note 1: Here communications includes post and telecommunications.
Note 2: Latin America & Caribbean average excludes Mexico and Brazil which are shown separately. Data not available for Russia. Kenya and LAC countries provide indicators for electricity, telecoms and air transport only. Because air transport scores are generally lower than other indicators, Latin America & Caribbean average and Kenya scores may be biased downwards.

The case of telecommunications shows how competition hinges on the broader regulatory environment created by government policy. Sector regulation contributes to a market with high barriers to entry and lack of competition that offers costly and slow telecoms and broadband services, despite the steps by the competition authorities to safeguard and promote competition. The case study discusses actions that the regulator and the competition authorities can take to safeguard competition in broadband wireless services in the future.

Cement: How enforcing competition law can lower input prices and stimulate investment

The cement cartel overcharged firms for cement by 7.5–9.7 percent

The cement sector

South Africa has by far the largest cement industry in Southern Africa and one of the largest on the continent, though exports are limited to just under 6 percent of total production. The industry is a key input for:

- The construction sector, with cement and plaster making up 2 percent of the 2013 value of inputs for the sector, which in turn accounted for 2 percent of the inputs of all industries.[40]
- The nonmetallic minerals sector, with cement and plaster making up 13 percent of the inputs of the sector, which similarly in turn accounts for 0.2 percent of inputs for all industry and 0.2 percent of all South African exports.

For around 30 years before 1996, the South African cement industry operated as a government-supported cartel, established to create price stability through price controls. In exchange for accepting such controls, the industry was given the right to optimize distribution and to operate on sales quotas. To enforce the market-sharing agreement, a central selling organization, Cement Distributors South Africa (CDSA), jointly owned by the cement producers, was formed to coordinate distribution. Prices were fixed in a multiple basing-point delivered pricing system, where the basing points were determined by the geographic location of factories (van Ransburg 2010).

There have traditionally been four large cement producers in South Africa but the high transport costs for cement mean that markets are concentrated regionally. The producers are Pretoria Portland Cement (PPC), Afrisam,[41] Lafarge, and Natal Portland Cement (NPC). Some regions, however, are still served by only two firms. In fact, the location of each of the cement producer's plants and depots has a historical context that has to do with previous cartel arrangements and the location of key raw materials, particularly limestone. PPC, the market leader and the oldest cement company in Africa, is the only cement producer in South Africa with integrated plants across the country.[42]

Using competition enforcement to promote competition

Two recent events show signs of fostering more competitive outcomes despite the historical tendency for the four incumbents to divide themselves into concentrated regional markets.

Event 1: Uncovering the Southern African Customs Union (SACU) cement cartel.[43] In 2008, the CCSA initiated investigations against the four main cement producers, and in 2009 initiated raids on their offices. The investigation had been sparked by research findings that cement prices had doubled since 2001 and, despite fluctuations in demand and input costs, the producers' prices of cement increased in tandem every six months, at much higher levels than the producer price index (Madiba 2009). Subsequently, PPC applied for leniency and confirmed the existence of a cartel among the four producers. Afrisam also admitted that it entered into agreements and arrangements with PPC, Lafarge, and NPC to divide markets and indirectly fix the price of cement between 1996 and 2008.

There was a strong regional dimension to this cartel. Part of the collusion was an agreement that PPC would not compete with Lafarge in KwaZulu-Natal in exchange for Lafarge not competing with PPC in Botswana. Moreover, the cartel had agreed that PPC would supply the Botswana cement market, while Afrisam would supply Namibia. The companies monitored the collusive agreement partly by sharing monthly sales data through the Concrete and Cement Institute of South Africa.

PPC received leniency in exchange for a complete disclosure of all cartel activities.

Lafarge and Afrisam settled with the CCSA and agreed to pay a penalty of 6 percent and 3 percent of their annual turnover in cement sales in the SACU region in 2010. The CCSA has referred the case against NPC to the Competition Tribunal for prosecution.

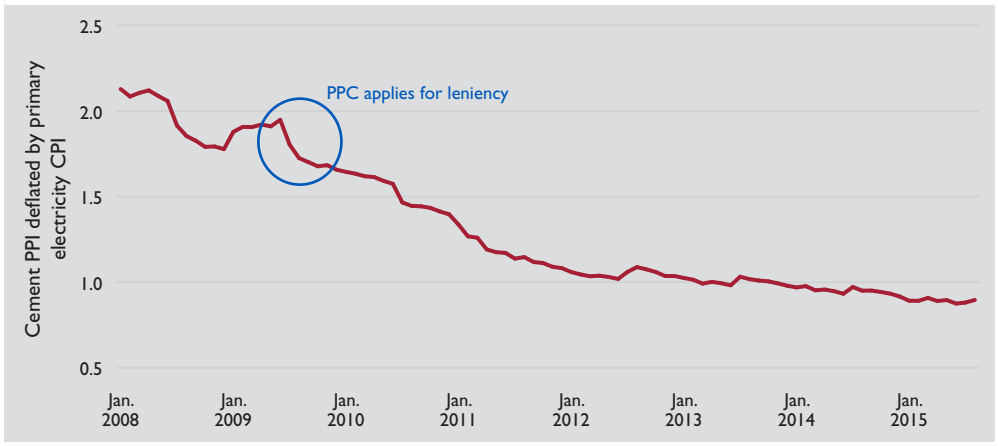
Prices and margins have steadily declined since the cartel's breakup (figures 2.9 and 2.10). Using price data from cement producers, Govinda and others (2014) estimate that the price difference between the cartel and noncartel periods, controlling for cost drivers, was 7.5–9.7 percent. They estimate the total savings to South African customers due to the breakup—assuming an overcharge of 9.7 percent—to be in the range of R1.1–R1.4 billion a year ($79–$100 million).[44] Apart from the financial benefits, firms have been penetrating regions where they were previously inactive. For example, before intervention, the Western Cape was solely allocated to PPC, but Afrisam has since entered that market. The Northern Cape was split 75 percent and 25 percent between Afrisam and PPC during the cartel years, but Lafarge has since taken market share from them.

Event 2: Entry of Sephaku Cement. In 2014, Sephaku Cement (majority owned by Dangote Cement) entered the market with the first new greenfield cement plant in 80 years.[45] It now holds around 6 percent of the market. Another new plant under construction, owned by Mamba Cement,[46] will have a 5 percent share of capacity when completed[47] (against market shares of 39, 28, 15, and 9 percent for PPC, Afrisam, Lafarge, and NPC, respectively).[48]

Investment by new entrants—in this case, Sephaku Cement—can also benefit the local economy (table 2.3). And according to a retail price survey from May 2015, early signs are that the new entrant charges lower retail

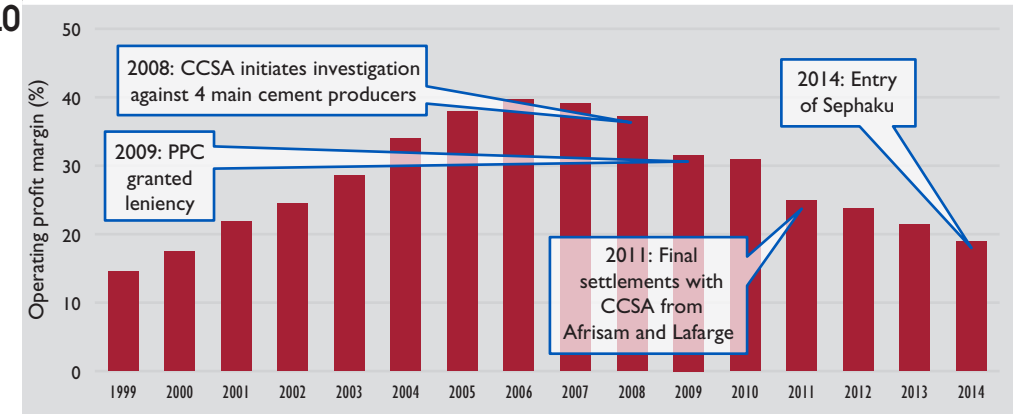
The new entrant charges lower cement retail prices than other competitors in its inland market

Figure 2.9 **Fall in cement PPI (energy-deflated) after PPC applied for leniency**



Source: Statistics South Africa.

Figure 2.10 **PPC margins fall after the breakup of the SACU cement cartel**



Source: PPC financials.
Note: The slowdown in growth and other factors will also have played a role.

Table 2.3 Expected benefits for the local economy from investment by Sephaku Cement

Expected benefit	Projected amount
Expected local spending on the project	R1.7 billion[50] ($121 million)
Projected direct job creation	400 permanent positions[51]
Projected indirect job creation	3,000 jobs

Source: Various.

prices for both 32.5 and 42.5 grade cement than other competitors (figure 2.11).[49]

Remaining issues constraining competition in cement

Imports are a source of competitive pressure for domestic producers. In 2013, they made up 9.0 percent (largely from Pakistan) of South Africa's cement consumption, and some reports suggest that Pakistani imports sell at 57 percent below the price of South African cement.[52] In 2014, the four incumbent firms made an application to the authorities stating that competition from Pakistan-made cement imports had been responsible for a fall in cement sales for domestic producers, with a claim that Pakistani cement was being sold in South Africa at a price 48 percent below that in Pakistan.[53] This led to the imposition of provisional antidumping duties of 14.3–77.2 percent on Portland Cement originating in or imported from Pakistan from May 2015 for six months.[54]

Entry is limited to the inland market, which is traditionally more competitive. Northern markets, the Eastern Cape, and Western Cape are more concentrated than inland markets, and there are no signs of prospective entry in these mainly coastal regions. For example, Cape Town is served only by PPC and Afrisam.[55] PPC's retail prices for 42.5 grade cement are 7 percent higher in Cape Town than in Gauteng (inland).[56]

PPC's retail prices for 42.5 grade cement are 7 percent higher in Cape Town than in Gauteng

In the future, it will be important to secure fair and open access to all markets by local and foreign competitors to further enhance the competitiveness gains seen in recent years from lower input prices.

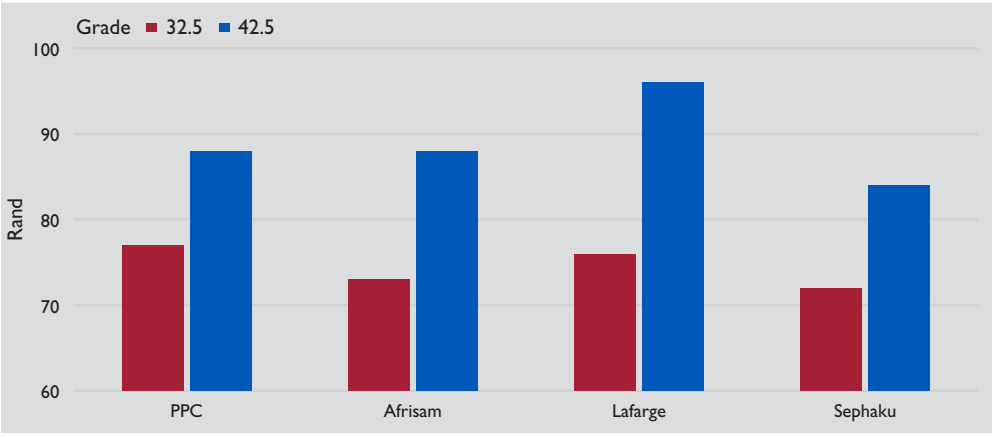
Telecommunications: Creating a regulatory environment for network services that spurs competition, innovation, and lower prices

The telecommunications sector

The ICT sector contributed more to South Africa's economy than agriculture in 2012, with a direct contribution to GDP of 2.9 percent.[57] The largest contributor was telecommunications services, with 2.0 percent of GDP. It is also important for other industrial sectors, accounting for 2.6 percent of inputs across all industries in 2013 (R97.2 billion, or $6.9 billion). The sector was also responsible for 1.7 percent of South Africa's exports.

The NDP aims to achieve 100 percent access to broadband by 2020—at a cost of less than 2.5 percent of the average monthly income to help boost productivity and growth.[58,59,60] A World Bank study (Qiang and others 2009) found that for 120 low- and middle-income countries from 1980 to 2006, a 10 percent increase in broadband penetration yielded 1.38 percentage points of GDP growth (against 1.21 percentage points for developed countries). Creating a favorable

Figure 2.11 Retail cement prices in Gauteng



Source: Bank of America Merrill Lynch Global Research, May 2015.

Table 2.4 Key areas of ex ante regulatory policy and progress in South Africa

Regulatory policy	Regulatory objective	Progress
1. Interconnection obligations	To ensure that incumbents are not able to benefit from network effects or exclude rivals by refusing to interconnect with competitors on fair and nondiscriminatory terms	✔ Recent ex ante regulation on mobile termination rates is effective in realizing more competitive outcomes in the mobile voice market ✔ Lower retail prices and growth in market shares of smaller rivals materialized
2. Facilities leasing	To ensure that new entrants can gain access to facilities in the short term while climbing the "ladder of investment"	These areas have not benefited from the same strong regulatory attention, resulting in high broadband prices, low quality, and low penetration relative to peers
3. Spectrum management	To ensure that the scarce resource of spectrum is awarded to those parties which can use it most efficiently and that new entrants and smaller players can access this valuable resource if it is efficient for them to do so	

Source: World Bank Staff own elaboration.

Broadband penetration holds great potential to boost productivity and GDP growth

regulatory environment will be key to meeting the NDP objective.

As a network sector, telecoms are subject to extensive regulation and to being governed by competition law. The sector is subject to the Electronic Communications Act (2005)[61] under the regulator, the Independent Communications Authority of South Africa (ICASA). It is also subject to the Competition Act[62] for preventing anticompetitive behavior and controlling anticompetitive mergers.[63] In some areas, the two sets of regulators have overlapping powers and mandates, requiring coordination mechanisms to manage concurrency; the Memorandum of Understanding between ICASA and CCSA signed in 2002 seeks to facilitate coordination. Sectoral regulators usually focus on ex ante regulation (table 2.4) to promote competition, while competition authorities have a mandate for enforcing competition law ex post (after an abuse of dominance or anticompetitive agreement) or for preventing mergers that could harm competition. In South Africa, the regulator has also the mandate to review mergers of firms in its sector.

Competition enforcement and merger control have been used in South Africa to safeguard competition in downstream network services over the last two decades by ensuring access to essential upstream facilities (the second regulatory policy in table 2.4). Telkom, the former state monopoly fixed-line provider, is the largest player. Merger control has also been deployed as a tool to mitigate potential anticompetitive effects from a series of proposed mergers in the sector, which firms have used in an attempt to obtain scarce spectrum (the third regulatory policy in table 2.4).*

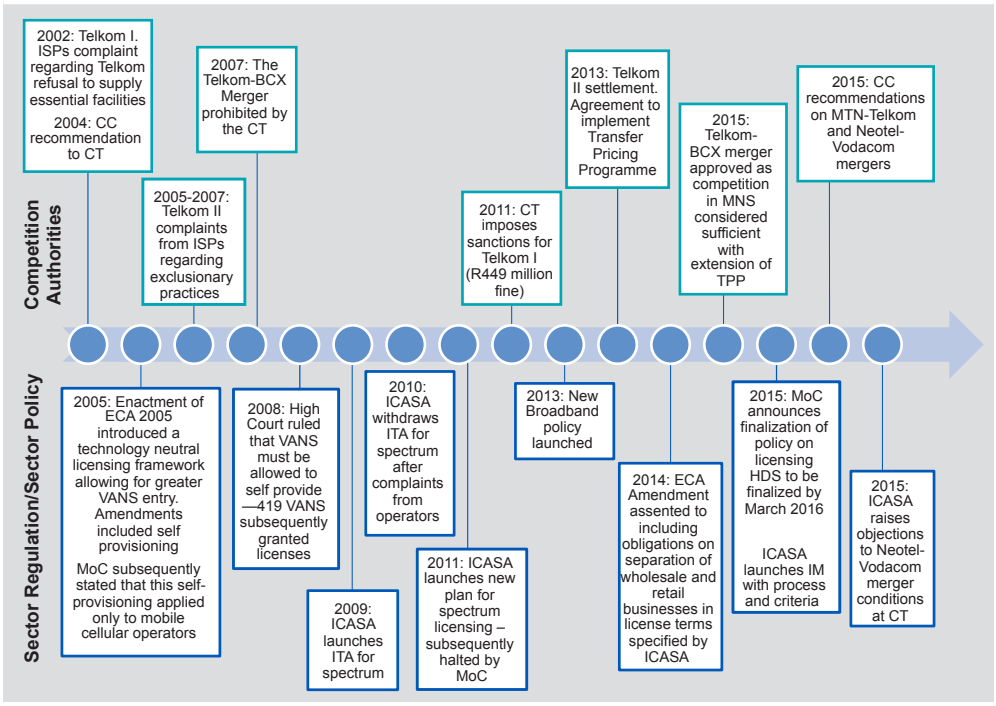
Consider the timeline of two approaches to promoting competition (ex ante regulation and ex post enforcement) in the broadband segment from 2002 (the first major telecoms competition complaint) to 2015 (figure 2.12). There have been two abuse of dominance cases against Telkom—the dominant fixed line provider, which is also vertically integrated into downstream network services—relating to conduct intended to exclude its downstream competitors from the market. Two mergers involving Telkom and a competing downstream network service provider, as well as two important mergers involving spectrum have been assessed by the CCSA.

The timeline highlights how the two approaches have often moved jointly, aiming to resolve similar issues, with ex ante regulation responding to cues on certain issues raised by ex post competition matters. For example, as a condition in their 2013 settlement for Telkom's second abuse of dominance case, the CCSA and Telkom agreed to implement a "Transfer Pricing Programme" (TPP)—a form of functional separation—ensuring that Telkom's wholesale division provides network services to independent operators, and its own retail division, on a non-discriminatory, cost-oriented basis. Subsequently, the Electronic Communications

* Wireless communication signals travel over the air via radio frequencies known as spectrum.

Competition enforcement tries to make up for shortfalls in the regulatory environment

Figure 2.12 Timeline of ex post and ex ante regulation in South Africa, 2002–15



Source: World Bank Staff own elaboration.
HDS is high-demand spectrum; CT is the Competition Tribunal; IM is Information Memorandum; ITA is Intention to Apply; ISP is internet service provider; MNS is mobile network services; MoC is Minister of Communications; VANS is value added network services; ECA is the Electronic Communications Act.
Note: The Competition Authorities and ICASA have joint responsibilities for reviewing mergers in the sector. A 2002 MoU between ICASA and the CCSA lays out the framework for cooperation regarding merger reviews. Given the focus of this section, only the merger decisions of the Competition Authorities have been depicted.

Amendment Act, approved in 2014, included a provision allowing for such obligations to be included in license terms specified by ICASA.[64] The extension of the TPP was also considered in the analysis of potential anti-competitive effects of subsequent Telkom mergers.

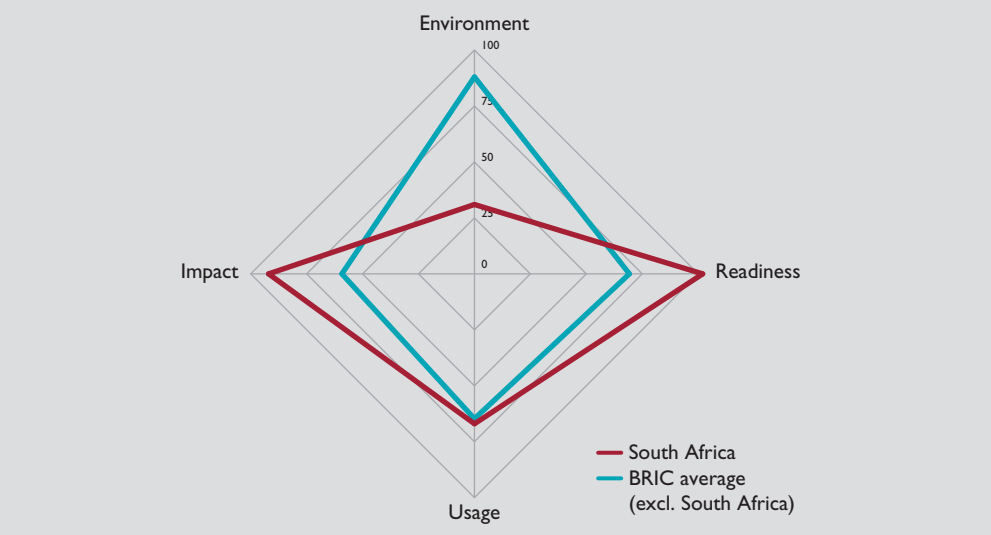
The regulatory environment stifles competition and innovation

The regulatory environment has slowed development of the ICT sector, as shown by South Africa's low rankings on several indicators. On the Network Readiness Index (NRI) of the World Economic Forum, South Africa ranked 75 of 143 countries in 2015 (a fall from 70 in 2014). Against its BRICS peers, the indicators seem to suggest that South Africa has not yet converted a favorable legal environment (on contract enforcement, for instance) into network readiness (coverage, affordability, and competition) or into impact (on basic services and e-participation, for example) to the same extent as other BRICS countries (figure 2.13). On the Readiness[65] subindex, which measures the preparation of society to make good use of an affordable ICT infrastructure and digital content, South Africa ranks much lower, at 102 of 143.[66] In particular, on the indicator of competition in internet and telephony, South Africa ranks lower than all its BRICS peers (figure 2.14).[67]

The improvement South Africa showed on the OECD's Product Market Regulation indicator shown in Figure 2.9 came partially from the telecommunications sector. Specifically, an increase in competitors in mobile services (from three to four players with the entry of Telkom mobile and Virgin); from a reduction in the percentage of shares owned, either directly or indirectly, by the government in the largest firm in the mobile services sector (Vodacom, from 25.5 percent to 17.9 percent); and from the removal of the government's special voting rights in firms in the sector.

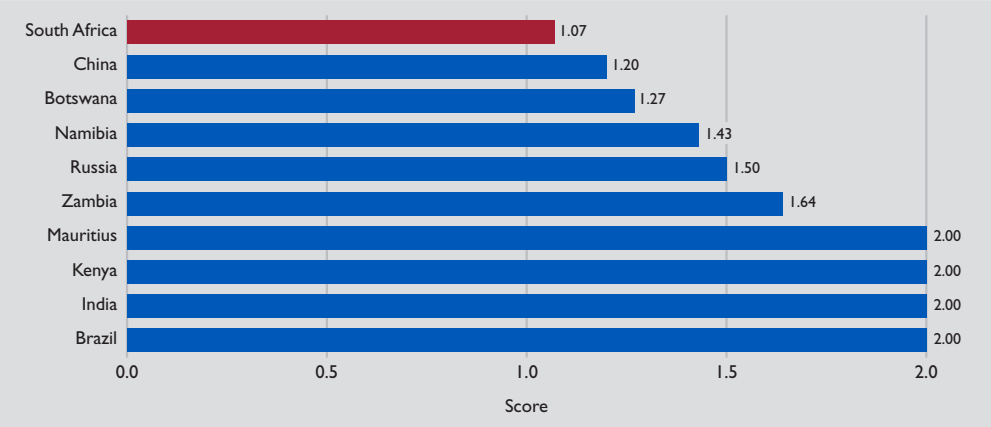
The mobile and broadband services markets remain concentrated across prepaid, 3G and 4G segments compared to peers, and market shares of the largest operators are generally stable (figures 2.15–2.17). The mobile services market (including data) now has five key players, three operators, a business unit of Telkom, and one mobile virtual network operator (MVNO). It is dominated

Figure 2.13 South Africa's ranking on the NRI subindexes versus BRIC average, of 143 countries



Source: NRI 2015.

Figure 2.14 Score on internet and telephony competition indicator, 0–2



Source: NRI 2015.
Note: 2 is best.

Among the BRICS, South Africa's mobile telecommunications market is most concentrated

by the two incumbents, MTN and Vodacom, which jointly have been commanding a market share of more than 70 percent in the last five years.[68] However, 2014 and 2015 saw the entry of a handful of new MVNOs, all using the network of the third largest operator, Cell C. Despite the gradual removal of entry and regulatory barriers, the incumbents, initially awarded the first licenses for mobile services on an exclusive basis until 2001, now benefit from significant advantages of economies of scale and the network effects characterizing the telecoms industry. According to Hawthorne (2014), the later entrants to the market have historically not been profitable, although Cell C—which has been in the market since 2001—recently declared a profit in 2015.

Fixed broadband prices remain high in South Africa, around twice those in Brazil, India, and Russia.[69] In the mobile broadband market—dominated by Vodacom and MTN, which together receive 90 percent of data revenues[70]—South Africa was one of the most expensive countries in the Broadband Price Index of Research ICT Africa (RIA, 2014). Among the 17 African countries in that index in 2014, the cheapest prepaid 1 gigabyte (GB) basket cost R149 (around $14) compared with $2.10 and $4.60 for the cheapest offering in Cameroon and Kenya. Only Botswana, Ethiopia, and Namibia (all concentrated markets less open to competition) are more expensive (Figure 2.18).[71]

On broadband speeds, South Africa is slow and lags well behind Brazil, Russia, and China, and the gap is growing wider (figure 2.19).[72] South Africa's average download speed in 2013 was 4.54 Mbps, vastly lower

South Africa's broadband prices are high, quality and value for money low

Figure 2.15 **Prepaid mobile telephony market shares**

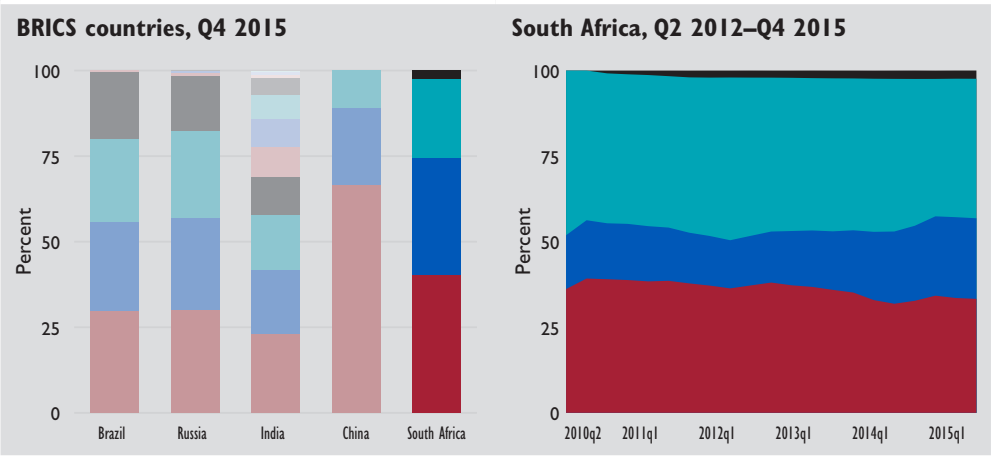


Figure 2.16 **3G mobile telephony market shares**

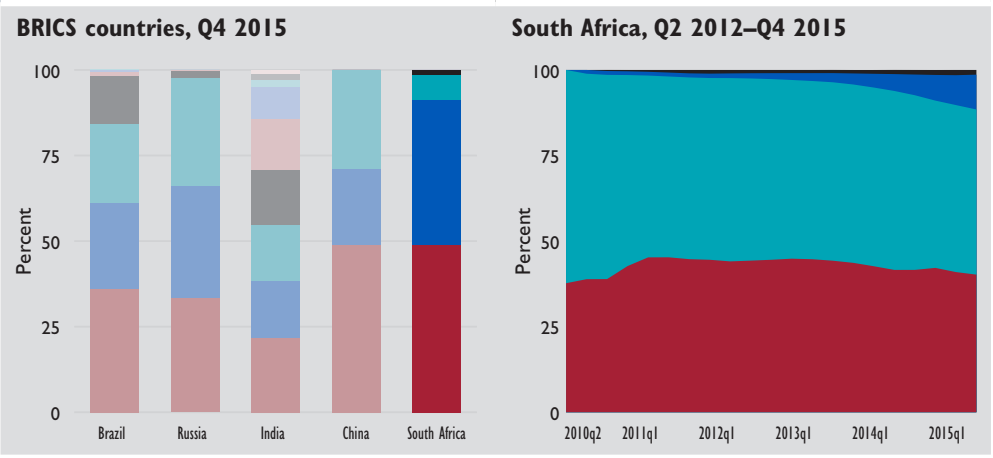
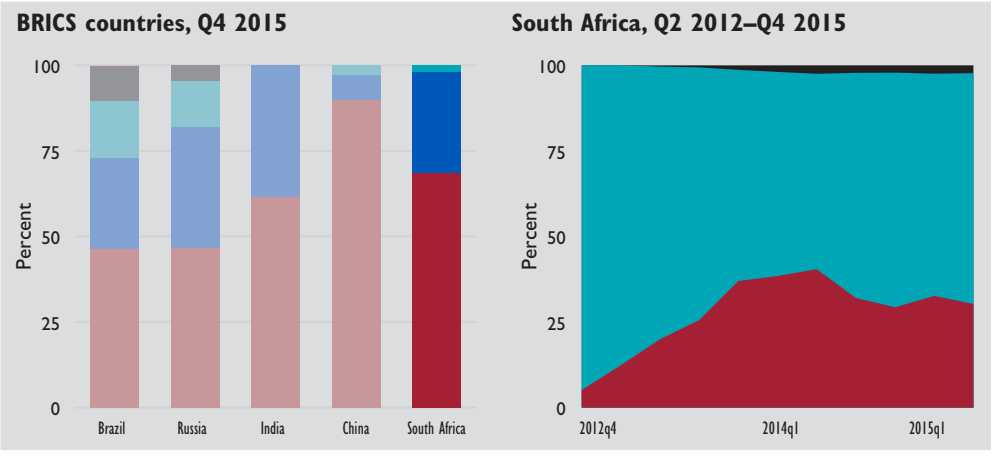


Figure 2.17 **4G mobile telephony market shares**



South African operators ■ MTN ■ Cell C (Oger Telecom) ■ Vodacom ■ Telkom Mobile

Source: Authors' own elaboration on GSMA Wireless Intelligence data, Q4 2015
Note 1: Each color represents one mobile operator. All mobile operators are shown for each country.
Note 2: Data for China are from the National Bureau of Statistics; data for India from the Telecom Regulatory Authority of India; data for Russia from Federal Service for Supervision of Communications, Information Technology, and Mass Media.

than the OECD average of 19.57 Mbps, and ranking it 119 among download speeds globally.[73] Latency, which refers to the delays typically incurred in transmitting network data, is also high in South Africa.

Two of South Africa's three main wireless broadband providers fall in the lower half of Research ICT Africa's (RIA) Value for Money Index for Africa, based on average download/upload speed divided by 1GB basket costs.[74] Moreover, average broadband speeds of Cell C and Vodacom South Africa declined by almost half in Q2 2014 due to an increase in data traffic, indicating that operators' inability to access high-demand spectrum to extend 4G Long Term Evolution (LTE) services, the fastest of all 4G services, is likely to begin hurting service quality.

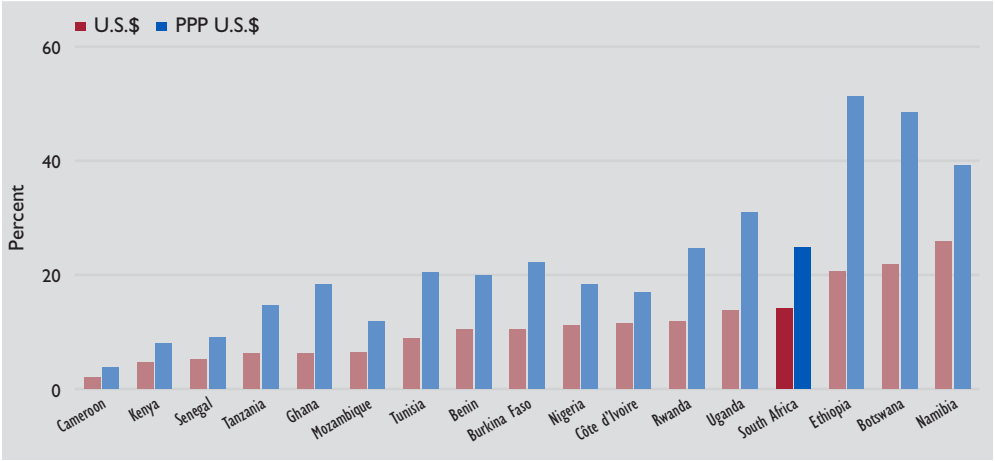
Spurring growth through regulatory reform of telecommunications

The regulatory framework needs to be strengthened to promote entry and competition in telecommunications, going beyond current competition enforcement tools. Besides preempting harm, that would free resources of the CCSA, which could be better used to focus on ex post enforcement of unregulated sectors.

Given the low (and, in some cases, declining) quality of South Africa's broadband and the rise in mobile broadband use, arguably the biggest regulatory bottleneck is to reallocate and assign spectrum for LTE efficiently. The potential for broadband to promote growth is immense, and the need is pressing for pro-competitive and efficient spectrum assignment from the telecoms

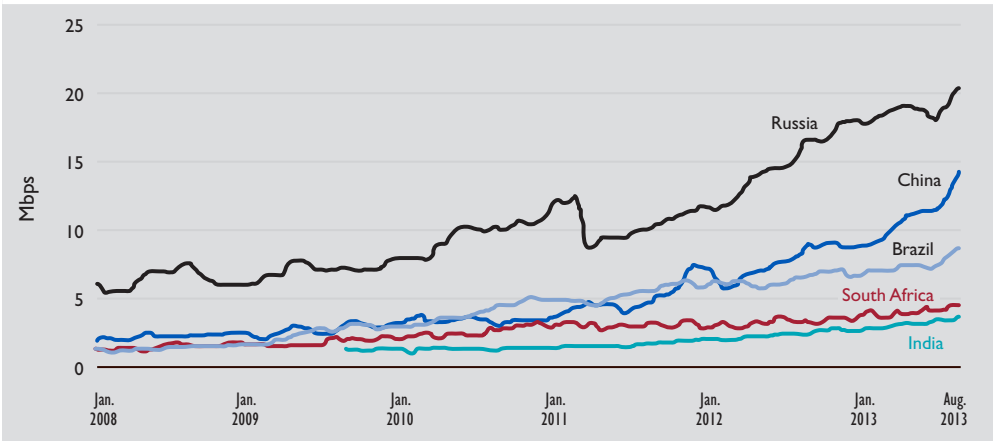
South Africa's average download speed in 2013 was 4.54 Mbps, vastly lower than the OECD average of 19.57 Mbps, ranking it 119th among download speeds globally

Figure 2.18 Price of cheapest mobile broadband 1GB in the country, South Africa versus African peers, Q1 2014



Source: RIA, 2014.
Note: Excludes Virgin from South Africa's figures given very low coverage.

Figure 2.19 Broadband speeds in the BRICS, 2008–13



Source: Analysis of Ookla Netindex (2013) cited by RIA (2014).

regulator. The shortage of spectrum has had two main effects: creating challenges for small network providers looking to enter the market, and imposing tight capacity constraints on operators (contributing to the halving average broadband speeds for some operators in 2014). South African operators have had to use existing licensed spectrum to roll out LTE, which is not optimal for the service.[75]

The most promising areas for the release of spectrum capacity are the 700 MHz and 800 MHz bands (where spectrum will be released after the migration to digital television). The 2,600 MHz and 3,500 MHz bands, where spectrum has been assigned to only one and two incumbents respectively, also have capacity but are less suited to rural coverage which is a focus for ICASA. Figure 2.20 depicts how spectrum is assigned to players across bands as a proportion of the total. There is no spare capacity in the following bands: 900 MHz (standard for GSM networks in Africa), 1,800 MHz (where Vodacom and MTN have rolled out their LTE services by "refarming" existing spectrum), 2,100 MHz (3G spectrum), and 2,300 MHz (where Telkom has re-purposed its existing assignment for LTE data accessible through data dongles).

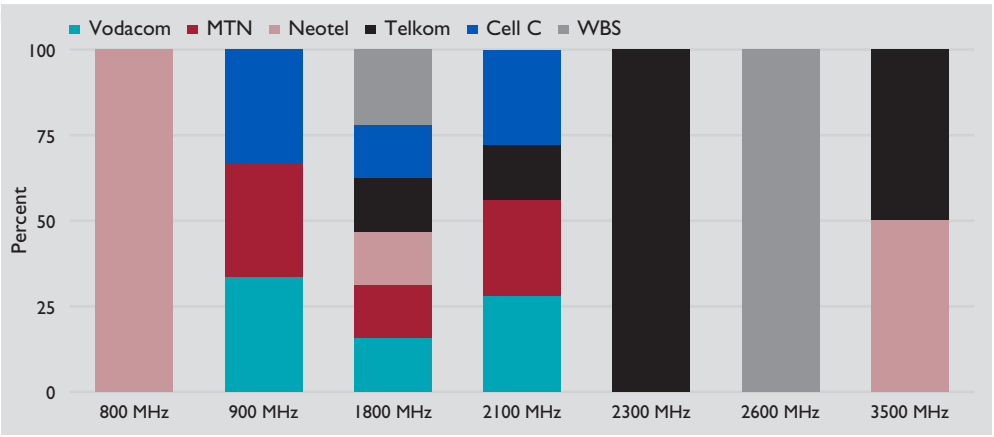
Some positive moves toward spectrum licensing have been made recently. In 2015, the minister of communications announced that the policy for licensing high-demand spectrum would be finalized by March 2016. And ICASA published an "information memorandum" to provide prospective applicants with details of the process and criteria to be applied in licensing access to spectrum. ICASA aims to oblige providers to provide coverage in less populated areas before being allowed to use the spectrum in more populated areas. ICASA also intends to reserve 2×20 MHz of spectrum in the 700 MHz band for a wholesale open-access wireless broadband network. This network —to be selected via auction—will get a three-year "holiday" from paying spectrum license fees in return for providing wholesale open-access services on a transparent and non-discriminatory basis. It will also offer fair and reasonable pricing. And it will be cost-oriented with a reasonable rate of return.[76]

Efficient assignment of spectrum released by the migration from analog to digital transmission of terrestrial television will have to be a major area of policy focus. These frequencies—around the 700 MHz and 800 MHz bands—are particularly suited to LTE. And they are crucial to delivering 4G broadband services and overcoming the "digital divide" between broadband-connected urban citizens and those living in rural areas. In this context, it is recommended to:

- **Coordinate and strengthen the roles of the competition authorities, the ICASA, and the policy maker**. In particular, there may be value in allowing for stronger ex ante regulation. It is not uncommon in regulated sectors in other countries for a competition authority to, at times, play what could be seen as an ex ante role, for instances mandating

The shortage of spectrum has had two main effects: creating challenges for small network providers looking to enter the market, and imposing tight capacity constraints on operators—contributing to halving average broadband speeds for some operators in 2014

Figure 2.20 **Assignment of spectrum across bands as a share of the total assigned, Q1 2014**



Source: ICASA website, "Use and Availability of Spectrum, Q1 2014."
Note: Data are unavailable for the 700 MHz band.

access to certain facilities. But the ideal situation would be for the CCSA to become involved only where a gap in ex ante regulation arises as technology moves faster than regulation. A well-resourced and empowered regulator would then ideally be able to fill this gap in a timely way to allow for appropriate ex ante regulation.

- **In the area of access to spectrum, it could be worth developing a common approach for CCSA and ICASA to manage and remedy merger activity by entities seeking spectrum** in the interim as final arrangements are made for licensing spectrum. And in developing the framework and regulations for spectrum licensing, it will be key that ICASA's actions are harmonized with South Africa's policy framework, since one reason cited for delays is a lack of alignment with policy.
- **Beyond coordinating agencies it will be vital for competition in South Africa's broadband market that spectrum is assigned competitively and efficiently (particularly for LTE).** This would include measures to prevent first-mover advantage and facilitate access to spectrum by smaller players. For example, an in-depth ex ante regulatory impact assessment could consider the possible options for enhanced spectrum access, including licensing, the use of spectrum caps during auctions, secondary trading, sharing, and pooling spectrum; open access spectrum; and spectrum pricing arrangements (see Box 2.3).

Using competition enforcement to promote poverty alleviation

Cartels in food products make up a large share of the poor's consumption basket

Tackling anticompetitive behavior can generate important savings for consumers, particularly by removing cartels and lowering prices for basic food products and commodities. The reason is that food constitutes a high share of households' consumption basket,

It will be vital for competition in South Africa's broadband market for spectrum to be assigned competitively and efficiently

Box 2.3 Procompetitive options for spectrum assignment in South Africa

Introducing secondary markets for spectrum trading is an attractive tool to promote efficient use of the radio spectrum. Spectrum allocated to operators in an initial licensing process could be regulated in such a way that the operators can resell or lease under-utilized spectrum. Secondary trading could then form part of a mechanism to address the problem of artificial scarcity (hoarding). In addition, secondary trading can also provide opportunities for smaller players—including those who may not be able to build their own networks but who could potentially build small localized wireless access networks in underserved areas thus providing services in areas that are uneconomical for the incumbents. Currently there are no specific provisions in the law for spectrum trading, leasing or subletting. Early draft regulations had considered the introduction of secondary markets but these ideas were not included in the draft regulations published in December 2011.

Opportunities for spectrum sharing and pooling could be assessed as one means to reducing wholesale costs and encouraging services-based competition as envisaged in The National Broadband Policy adopted in 2013. In cases such as Neotel-Vodacom, spectrum sharing with rivals could be considered as an alternative to prohibiting the use of spectrum by mitigating against first mover advantage and by generating meaningful competition from smaller players and MVNOs. Whilst such access is unlikely to fully replace the competition that would arise if LTE spectrum is made available to all operators, it can help to alleviate harm to competition from asymmetric spectrum availability in the short to medium term. Sharing agreements would need to be carefully-designed and clearly lay out provision for: the form of wholesale agreements; the negotiation process; processes for resolving disagreements between the licensee and service providers. Moreover, typically spectrum sharing with rivals should only be mandated for as long as the availability and quality of alternative LTE spectrum for rivals is low. Once the artificial advantage of holding spectrum has dissipated, there is usually no rationale to continue requiring provision of access to rivals.

In general, it is positive that South Africa is moving towards auction methods for spectrum licensing. A properly devised auction would help ensure the most efficient operators receive licenses. Moreover, a fully competitive auction will prevent the firms from making excess profits and redirect profits to the public purse. However, there is a risk with auctions that the largest firms may be able to use their financial power to buy up all the spectrum available to exclude smaller competitors. In some countries, spectrum caps—where the amount of spectrum a single firm can purchase or hold in total is capped at a certain amount—have been used as an ex ante measure to counter this anticompetitive behavior.

especially for the poor, and prices of such staples are important for how competition affects households across the income distribution. The low elasticity of demand for staple foods, with high spending on food, points to significant welfare costs from high food prices due to market power. The same reasoning holds for other essentials such as pharmaceutical products, where it has been well documented that more price-sensitive consumers, such as those not covered by health insurance, derive benefits from access to low-priced generic drugs (Frank and Salkever 1992, 1997). This is particularly pertinent among populations where health insurance coverage is rare.[77]

We examine here the potential poverty and distributional impacts of four cartels in basic goods markets: wheat products, maize products, poultry, and pharmaceuticals.[78] Using data from the South Africa Income and Expenditure Survey 2010–2011 (SA-IES), we estimate the income effects and poverty headcount impacts of an assumed 10 percent linear increase in consumer prices due to the presence of cartels in these basic goods (and thus the impact of tackling these cartels). The rationale for this assumption on the price effects of the cartel is outlined in box 2.4.

The share of household expenditure on these goods generally falls as households move up the income distribution (figures 2.21 and 2.22). Spending on the four cartelized goods constitutes 15.6 percent of the consumption basket of the lowest decile of the income distribution, compared with only 1.6 percent for the highest. Spending on wheat products makes up the largest share of household expenditure. But it is with maize that the share of expenditure on maize products rises particularly rapidly as total household expenditure decreases, suggesting the potential for changes in its price to have a

Spending on wheat, maize, poultry, and pharmaceuticals accounts for 15.6 percent of the consumption basket of the poorest 10 percent of the population

Box 2.4 Why a 10 percent price effect assumption?

Competition authorities typically generate ex ante estimates of consumer benefits associated with their interventions by considering an *expected* effect on prices when the authority does not have prior information on the price effect of the intervention. The typical conservative default assumption for the price effect of a cartel, used by competition authorities internationally, is a linear price increase effect of 10 percent. This is the approach of the Department of Justice and Fair Trading Commission in the United States, the U.K. Competition and Markets Authority, the European Commission, and the Netherlands Competition Authority.

But cartel overcharges typically fall well above the 10 percent assumption. Estimates of the actual average increase in costs to buyers due to a sellers' cartel varies between an average of 16 and 49 percent. Box table 1 summarizes the findings of four economic surveys of cartel overcharges.

Box table 1: Summary of recent economic survey findings of cartel overcharges (%)

Survey	Mean overcharge	Median overcharge
Connor and Bolotova (2006)[1]	29	19
Connor and Lande (2008)	31–49	22–25
Boyer and Kotchoni (2014)[2]	15.76	16.43
Connor (2014)	49	23

1. Figures given are those under the most conservative evaluation approach
2. Corrects for the fact that overcharge estimates are potentially biased upwards.

Calculating the exact overcharge imposed by a cartel—the difference between the actual price charged and the price that would have been charged "but for" the cartel—requires estimates of a counterfactual "but for" price. Several methods can be used, but estimates depend highly on the assumptions.

In addition, where the cartel occurs in an intermediate product market, the price effect on the final goods facing the consumer will depend on the extent to which intermediate firms (the customer directly affected by the cartel) pass the additional cost through to their customers. The extent of pass-through depends on many factors, including the nature of competition between intermediate firms, the proportion of firms affected by the cartel, the elasticity of demand, and the elasticity of supply.

The advantage of using a standard conservative price effect is threefold. It provides a conservative lower bound estimate in the case of final products. It accounts for incomplete pass-through to final consumers in the case where the cartel occurs in intermediate markets. And it allows for comparability across products.

strong distributional impact. With pharmaceuticals, however, the share of expenditure remains fairly constant across deciles, although it is slightly lower for the lowest two deciles. Poorer households are more likely to receive pharmaceutical products through publicly funded channels, or restrict their spending on pharmaceuticals to those considered necessities.

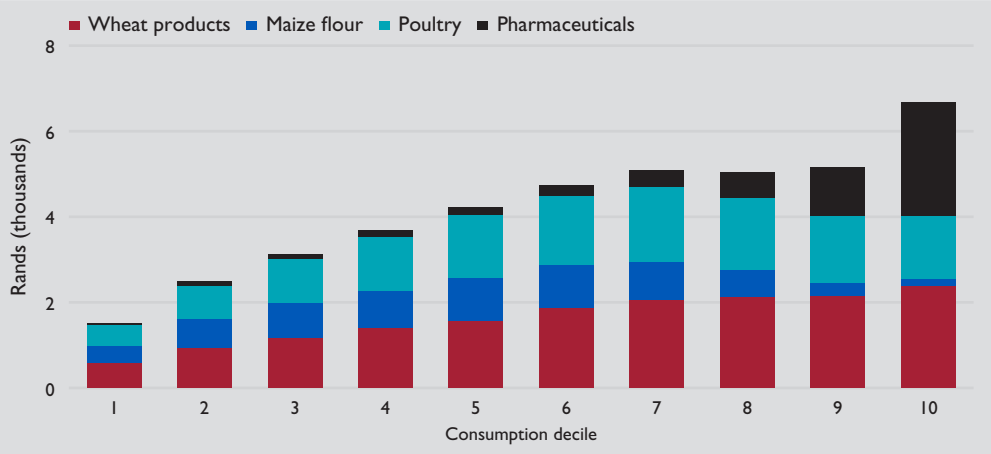
Box 2.5 provides some background on each of the products subject to collusion, and the household consumption patterns of these products.

Estimating the poverty impact of lower prices arising from removing cartels

How might household income and poverty in South Africa have been affected if the cartels in wheat products, maize, poultry, and pharmaceuticals had not been detected and sanctioned? We assumed that SA-IES reflects a situation where the cartels in these products had ceased operating and consumer prices had returned to the levels they would have been without the cartels. We then assumed a 10 percent linear increase in the prices of each of these products and analyzed what the first-order effect on household expenditure (as a proxy for household income) would have been if the cartels had not been detected and sanctioned. Next, using average consumption expenditure per capita, we calculated the change in the number of individuals falling below two poverty lines in the two price scenarios—the upper bound poverty line and the food poverty line[89]—by

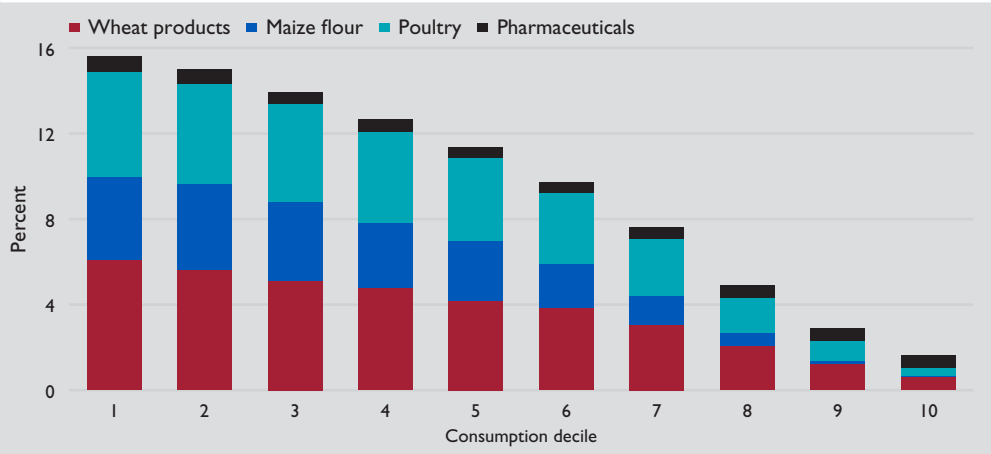
Cartel in wheat flour overcharged by an estimated 7–42 percent; poultry cartel by an estimated 25 percent; pharmaceuticals cartel by 10–15 percent

Figure 2.21 **Mean annual household expenditure on cartelized goods**



Source: SA-IES 2010–2011, authors' computation.
Note: Decile 10 = highest consumption.

Figure 2.22 **Share of household expenditure on cartelized goods**



Source: SA-IES 2010–2011, authors' computation.
Note: Decile 10 = highest consumption.

The bottom 40 percent stood to gain 3.4 times more than the top 40 percent in terms of income from dismantling the four cartels

Box 2.5 How collusion occurred in the wheat, maize, poultry and pharmaceutical markets

1. The wheat flour and bread cartels: Four firms holding 90 percent of the market fixed prices and shared the market nationwide between 1999–2007, overcharging for flour by 7–42 percent[79]

The wheat flour milling market in South Africa is dominated by four large firms (Pioneer Foods, Premier Foods, Tiger Brands, and Foodcorp), all vertically integrated along the wheat-to-bread value chain. They account for more than 90 percent of the national supply of wheat flour.[80]

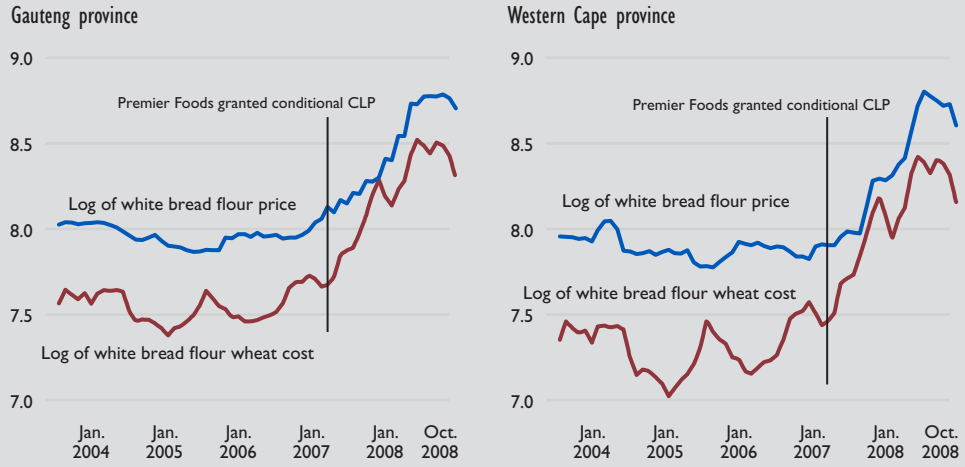
In 2006, the CCSA investigated allegations that the four were fixing wheat flour and bread prices.[81] It found that these firms had been colluding to set prices and allocate markets nationwide through regular meetings and contacts from at least 1994 up to early 2007.[82]

The cartel in wheat (1999–2007) hampered independent bakers' ability to enter, expand, and offer competitive pricing because they depended on the major firms for their supply of wheat flour. Mncube (2014) finds that the overcharges to independent bakeries ranged from 7 percent to 42 percent. This diminished the potentially significant competitive constraint independent bakers might have exerted on the major bakeries through aggressive pricing and alternative offerings.

Thus, during the collusive period, consumers would have borne higher bread prices (the overcharge) through two mechanisms: price fixing by the four major bakeries in the bread market; and price fixing in the flour market, to the extent that independent bakeries passed on increases in their input costs to their consumers.

Since the cartel ended, the wheat milling sector has seen entry in some regions (including two new entrants in the KwaZulu-Natal region and one miller in the Free State region). Mncube (2014) also noted that in the post-collusion year 2008, profits of former cartel members were around half those during the cartel, indicating more competitive outcomes (box figure 1). Although flour prices increased after the cartel ended, a simple comparison of flour prices and costs seems to point to a narrowing of margins (Mncube 2014). However, the capacity of new market entrants remains very small compared with the top four companies, and they are not yet able to operate nationally (Grimbeek and Lekezwa, 2014).

Box figure 1. White bread flour prices and wheat costs per ton of flour, September 2003–December 2008



Source: Mncube 2014.

2. The white maize cartel: 17 firms fixed prices nationwide between 1999–2007

Concurrent with its application for leniency in the wheat milling cartel, Premier Foods also applied for leniency for its role in a cartel in the white maize milling market. Premier, Pioneer, Foodcorp, and Tiger and 13 other millers had colluded between 1999 and 2007 to fix the prices of white maize products, as well as the timing of price increases nationally and regionally. Tiger Brands was also granted leniency for providing further evidence on the maize cartel.

3. The poultry cartel: 2 dominant firms fixed prices primarily in the Western Cape between 2005–09, overcharging by up to 25 percent[83]

As the single largest source of protein for low-income consumers, the poultry sector is a CCSA priority. It is highly concentrated in the hands of the four largest players: Rainbow, Astral, Pioneer Foods, and Country Bird. In 2010, the CCSA received a leniency application from Pioneer over collusion on fresh poultry products in the Western Cape. Pioneer (through its Tydstroom Poultry division) and Country Fair (a division of Astral) had agreed to cooperate in attempting to raise prices for fresh poultry in the Western Cape between 2005 and 2009. In 2012, the CCSA reached a settlement with Astral in which Astral admitted the collusion.[84] The CCSA puts the overcharge at up to 25 percent (Connor 2014).[85,86]

(continued)

Box 2.5 How collusion occurred in the wheat, maize, poultry and pharmaceutical markets (continued)

***4. Pharmaceuticals:* 2 firms divided supplies to private hospitals and allocated products and customers to public hospitals over at least 2001–02, overcharging by 10–15 percent[87]**

In 2005, the CCSA initiated an investigation into allegations of a cartel between four suppliers of pharmaceutical products: Adcock Ingram Critical Care (AICC), Dismed Criticare (Dismed), Thusanong Health Care (Thusanong), and Fresenius Kabi South Africa (FKSA). It found that AICC and FKSA were dividing markets in the supply of pharmaceutical products and services to private hospitals. This was in addition to collusive tendering and market allocations in supplying pharmaceuticals to public hospitals, with the firms agreeing to which firm would provide which products and to which hospitals. In 2008, the firms settled with the CCSA and paid administrative fines.[88]

comparing the headcount poverty measure using per capita expenditure in the SA-IES[90] with the headcount measures incorporating a counterfactual 10 percent change in price through the use of compensating variation for the products in question. The difference between the two poverty estimates gives the change in poverty headcount in South Africa from cartel activities.[91]

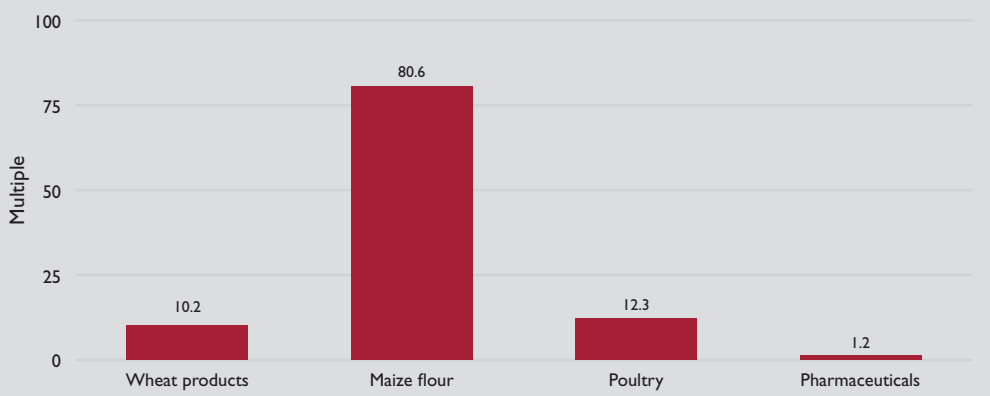
Reflecting the consumption patterns described above, the proportionate effect on household income resulting from the four cartels raising prices by 10 percent is around 9.8 times higher for households in the lowest than the highest consumption decile. For maize this figure is 80.6 times (figure 2.23). Tackling all four cartels would lead to a small but significant[92] reduction in the Gini coefficient of the distribution of income per capita. As an alternative measure of the distribution of gains, it would also lead to an income effect for the bottom 40 percent that is 3.4 times larger than for the top 40 percent. Of the four products, the maize cartel has the largest effect for the bottom 40 percent relative to the top 40 percent, at 6.6 times.

In absolute terms, if cartels in wheat products, maize, poultry, and pharmaceuticals had been in operation at the time of the SA-IES survey, in total the bottom consumption decile of households would have been R283.6 million worse off a year ($19.9 million) than they were, equivalent to a mean percentage income effect of 1.6 percent. The top decile would have been R1,000.8 million ($70.6 million) worse off per year, for a mean percentage income effect of 0.2 percent (figure 2.24).

Under the assumption of a 10 percent linear price increase effect, reducing prices of the four basic goods by tackling the cartels simultaneously appears to have reduced poverty significantly.[93] For the population as a whole, across the four cartels, the overall estimated impact on the rate of food poverty amounts to 0.50 percentage points, equivalent to just under 254,000 individuals. The total reduction in overall poverty across household goods from tackling the four cartels is 0.40 percentage points, equivalent to around 202,000 individuals. Figures 2.25 and 2.26 show the reduction in poverty

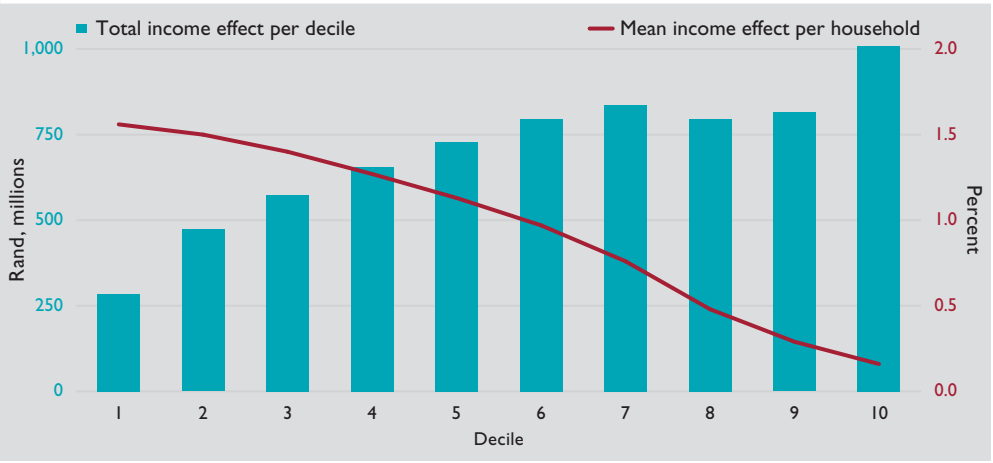
Anticartel enforcement is an important adjunct to other poverty reduction measures

Figure 2.23 Difference in proportionate income effect for lowest and highest income deciles



Source: World Bank Staff computation based on SA-IES 2010–2011.

Figure 2.24 **Total absolute income effect and mean percentage income effect per household across deciles, four cartels combined**

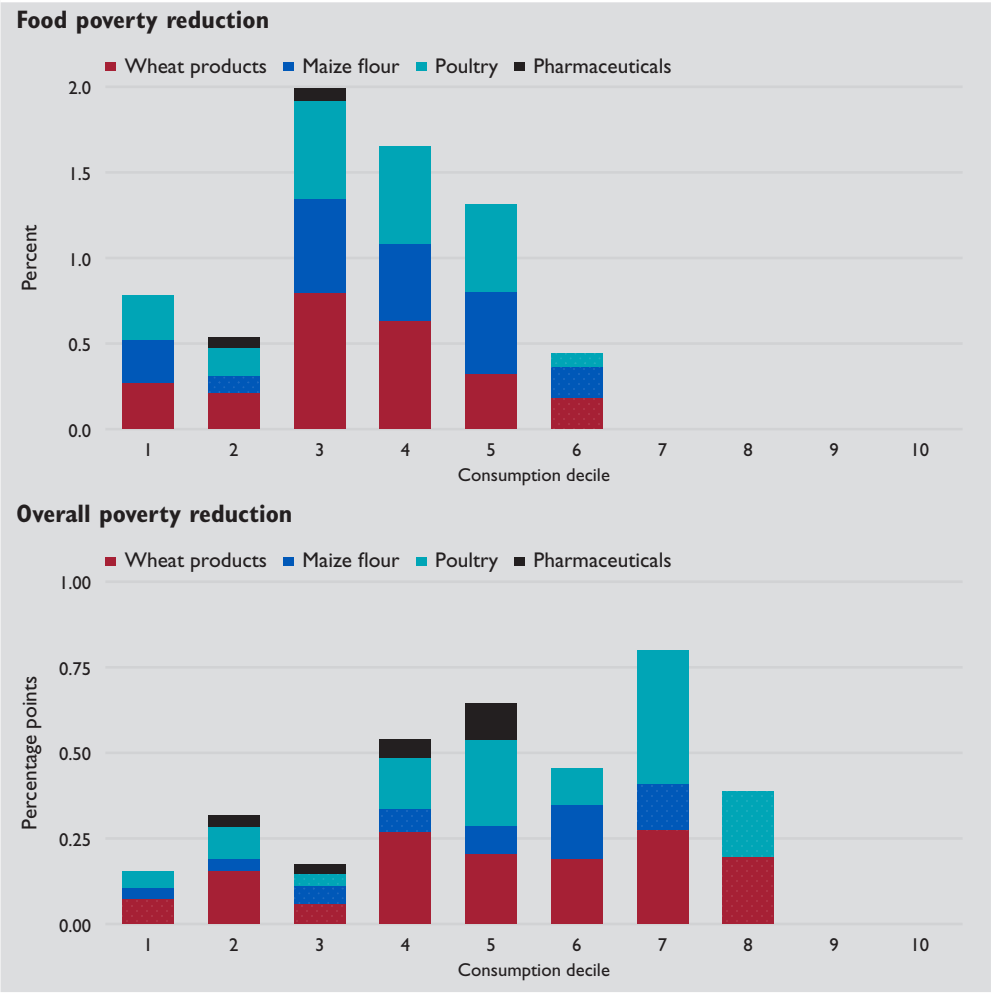


Source: World Bank Staff computation based on SA-IES 2010–2011.

The total reduction in overall poverty across household goods from tackling the four cartels is 0.40 percentage points, equivalent to around 202,000 individuals

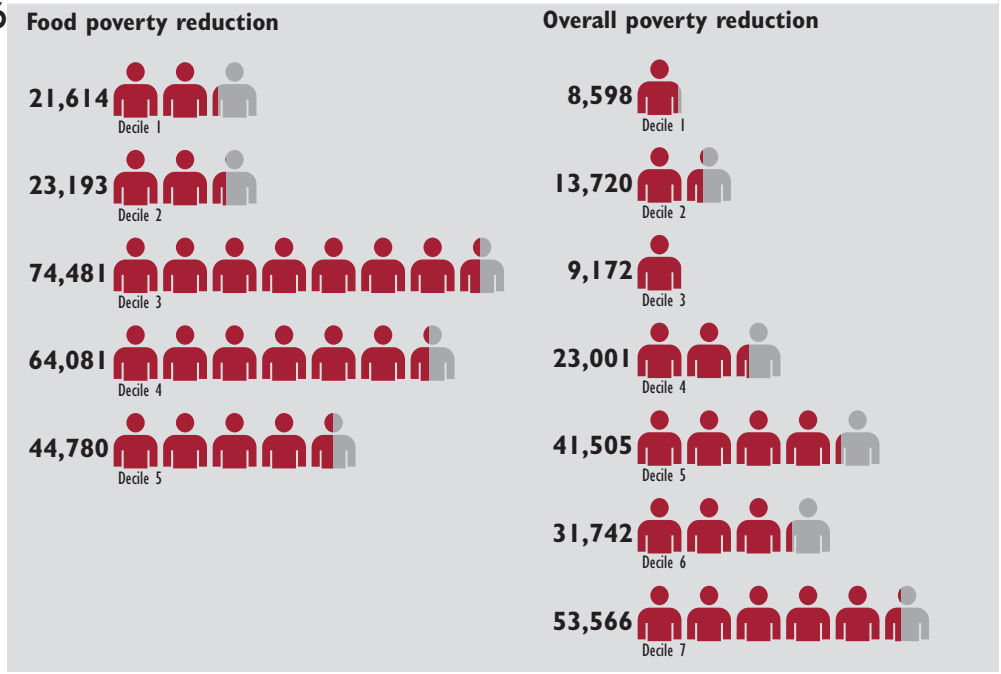
across household categories by tackling the cartels expressed as the percentage of individuals in the relevant category who would have become poor in the presence of each cartel, and the number of individuals in each household category who would have fallen into poverty in the simultaneous presence of all four cartels.[94]

Figure 2.25 **Reduction in poverty from preventing a 10 percent price increase (percentage of individuals)**



Source: Authors' calculations based on SA-IES.
Note: Patterned bars indicate that the change in poverty is insignificant. By consumption decile.

Figure 2.26 Reduction in poverty from preventing a 10 percent price increase (number of individuals)



Source: South Africa cartel database, 2005–15, prepared by World Bank Group (WBG) based on reports of the competition authorities of South Africa.
Note: Finalized means adjudicated and sanctioned by the Competition Tribunal.

Anticartel enforcement complements other poverty reduction measures

Anticartel enforcement complements other poverty reduction measures. The government spends about 3.8 percent of GDP on direct cash transfer programs and basic service provision to the poor. The transfers and services are estimated to have reduced the poverty rate for those living on less than $2.50 day—around the equivalent of the upper bound poverty line—by 13 percentage points in 2010/11.[95] The CCSA's voted budget was only R176.7 million ($12.5 million) in 2013/14—around 1/1000th of that spent on cash transfers—and it achieved a 0.40 percentage points reduction in overall poverty by breaking cartels in the four products (table 2.5). This underscores the importance of anticartel enforcement alongside cash transfers, particularly since a large share of cash grants to the young and old is spent on food products. Without strong competition enforcement there is a risk that some of the impact of cash transfers leaks to firms in the form of higher profits.

These results on the harm that anticompetitive arrangements can cause to the poor should be seen within the context that only 4 of more than 70 detected cartels have been analyzed here, and cartel detection rates are estimated at 10–33 percent, even in mature agencies. This suggests that the real impact of cartels on the poor is far higher than the values put forward here. In the longer term, the deterrent effect of anticartel enforcement may well grow, with enforcement benefits manifesting themselves in harm avoided rather than actual changes in welfare.

Table 2.5 Comparison of the cost-effectiveness of direct transfer programs and anticartel enforcement

	Anticartel enforcement (1)	Direct transfer programs (2)	Multiple difference (1)/(2)
Overall poverty impact (percentage points)[a]	0.40	13	1/33
Budget as a proportion of 2011 annual GDP[b]	0.0031%[a]	3.80%	1/1,233
Overall poverty impact per $ billion	32.1	0.85	37.7

a. Total budget for CCSA in 2013/14.
b. Calculated in dollar terms.
Source: World Bank 2014; World Development Indicators; SA-IES; CCSA Annual Performance Plan 2013/14.

Conclusion: Making competition work toward faster growth and poverty alleviation

In an environment of low growth and high fiscal deficits and debt, the government has to look to avenues outside the fiscal area to reignite growth and poverty alleviation in the economy. Sound competition policies that address anticompetitive behavior and promote market regulatory frameworks conducive to the development of competition offer one such means for South Africa to address its growth and poverty alleviation challenges. The country has had much success in using competition enforcement powers to detect anticompetitive behaviors such as cartels. Its competition authorities rank as one of the most active in Africa. The powers under the competition act have allowed it to effectively detect and successfully challenge anticompetitive cartels in key markets that provide inputs to firms and consumer goods to the poor.

If South Africa reduces the regulatory restrictiveness of professional services sectors, growth in value added in industries which use professional services intensively would be $1.4–$1.6 billion—equivalent to an additional 0.4–0.5 percentage points of GDP growth

Yet despite a successful history of active detection, more could be done. Network analysis of the nonconstruction cartel cases between 2005 and 2015 reveals that key firms persist in forming cartels across different markets and that they have extensive ownership linkages between them. As in other countries, the cartels that are detected and sanctioned likely represent only the tip of the iceberg, with rates of detection about one-tenth to a third of potential. New detection tools, such as network analysis could be deployed, and complemented with screening tools that increase the likelihood of detection and thus foster greater deterrence.

As a first step, the CCSA could use its data on cartels to identify other potential markets and sectors where cartels are more likely to form to increase the chance of detection—in markets not yet investigated. The CCSA can also monitor market outcomes following cartel detection to see how the market reacts with lower prices, greater availability, or higher quality. Our analysis also reveals that detected cartels are prevalent in highly concentrated markets where previous regulatory conditions (including price controls, marketing boards, and regional sales quotas) and trade associations acted as facilitating factors. These factors could be used to screen other markets possibly prone to cartel behavior.

In light of the forthcoming introduction of personal criminal liability for participating in a cartel, it will be important to enhance the effectiveness of the Corporate Leniency Policy (CLP) by ensuring a close working relationship between the competition authorities and the prosecuting authorities—and by specifying clear and properly sequenced procedures to grant individuals immunity from prosecution. This would avoid dampening incentives for individuals to come forward. The CLP can be complemented by advocacy efforts to raise public and corporate awareness of competition law, particularly within business associations and firms at the center of networks of firms that colluded in the past. Also important is monitoring firm behavior after sanctioning a cartel following a leniency application to evaluate whether firms have incentives to reoffend.

Despite two decades of domestic market and trade liberalization, markets across many manufacturing and export sectors remain dominated by a handful of large firms, stifling new more efficient entrants and potentially raising prices for downstream firms that rely on manufactured inputs. Boosting competition and innovation in these markets, can give a jolt of energy to the economy; resuscitating productivity growth and thus spur economic expansion. Indeed, in cement, we saw how the break-up of a cartel, followed by new entry, has generated investment, created jobs, and lowered cement prices.

If South Africa is to succeed in promoting its competitiveness internationally, it also needs to lower input costs for key services that firms use and that have spillover effects across the economy, such as telecommunications and professional services. Our simulated scenario in which South Africa reduces regulatory restrictiveness of professional services sectors suggests that growth in value added in industries which use professional services intensively would, other things being equal, be between $1.4–$1.6 billion—equivalent to an additional 0.4–0.5 percentage points of GDP growth.

In telecommunications, where competition hinges on the broader regulatory environment beyond competition enforcement, the Competition Commission has striven to complement ex ante regulations

by promoting greater competition ex post in telecoms markets. Yet the balance between ex ante and ex post regulation may need to be reoriented to allow for more timely regulation ex ante, creating the right incentives for firms to invest in new capacity and innovation and to provide reasonably priced, high-quality services. In particular, timely actions by the sector regulator and effective policy direction on spectrum licensing will be key in boosting competition and improving market outcomes. Options that ensure access to small network operators, such as spectrum caps, secondary markets or pooling of spectrum, could be considered.

Tackling anticompetitive practices can also accelerate progress toward the goal of poverty reduction. Our analysis shows that removing cartels in basic food products and commodities can bring substantial benefits to households, especially the poor. In the case of four cartels in maize, wheat products, poultry, and pharmaceuticals—products which make up 15.6 percent of the consumption basket of the population's poorest 10 percent—conservative estimates indicate that around 200,000 South Africans stood to be lifted out of poverty by enforcement action against cartels. This is equivalent to a 0.4 percentage point reduction in the overall national poverty rate. Moreover, the gains for the bottom 40 percent of the consumption distribution are around 3.4 times as large as for the top 40 percent, indicating the potential positive distributional impacts of competition enforcement actions. Anticartel enforcement therefore represents a cost effective complement to other poverty reduction measures.

Finally, expanding advocacy efforts and research to show such benefits from enforcement of competition law would help build awareness of the social costs of such anticompetitive practices. There is certainly ample scope for further research on the ability for competition enforcement and a better regulatory environment to boost competition in South Africa, for the benefit of all South Africans, and especially the poor.

Notes

12. WBG-ACF Report on Boosting Competition in African Markets, forthcoming and CCSA Annual Report, 2014/15.
13. This process probed 300 projects that were subject to collusive conduct between major construction companies to allocate projects and tenders, sharing the profits. These projects include some key infrastructure projects such as 2010 FIFA World Cup infrastructure, as well as several large private projects.
14. Competition Act (No. 89 of 1998) and the Competition Amendment Act (No. 1 of 2009).
15. Accessed from http://www.compcom.co.za/wp-content/uploads/2014/09/CLP-public-version-12052008.pdf on April 10, 2015.
16. Under the Competition Amendment Act (2009).
17. While collusion in the construction industry is an important issue it is not covered here. First, the intention of this section is to focus on final consumer goods and intermediate input markets that affect household welfare and competitiveness (in construction the most important direct impact is often on government finances). Second, the project-based bid-rigging nature of construction cases mean that there have been a very high number of cases brought forward, and so their inclusion may hide patterns in other sectors. A large number of leniency applications have been made in construction, primarily the result of a fast-track leniency and settlement process in 2011 for disclosing bid-rigging and collusion.
18. The time period between the referral of a case to the Tribunal and its adjudication often amounts to several years. The reason behind the time lag between a referral and adjudication is a topic worthy of further analysis.
19. Food and construction inputs have both been priority sectors for the CCSA, so the frequent rate of detection is likely to reflect the focus of the CCSA as well as the propensity for these markets to become cartelized.
20. Public information available in 2015 based on Tribunal decisions would not yet be representative of cartel breakups over the last few years due to the time lag between the beginning of an investigation and the conclusion of the case

Tackling anticompetitive practices can accelerate progress towards the goal of poverty reduction

by the Competition Tribunal—often several years. However, the trend in the number of investigations completed and referred to the Tribunal for adjudication seems to indicate that the number of cases being detected continued to increase after 2008, given that in most cases, the Competition Tribunal follows the CCSA's referred recommendation.

21. Based on information on the identity of firms provided in Competition Tribunal reports or CCSA media releases. This does not take into account smaller shareholdings which may, nevertheless, influence a firm's strategy.
22. http://ftp.zew.de/pub/zew-docs/dp/dp12071.pdf.
23. Here this is classified as greater than or equal to 10.
24. Martinez Licetti and Goodwin (World Bank Policy Research Working Paper, forthcoming). "Trends and networks in cartels and cartel enforcement in Latin America."
25. Public information has been used to augment the 2005–15 cartel database with information on all publicly disclosed shareholders of the colluding firms, as well as ultimate ownership of those firms. Where available, we have also collated information on linkages between firms where two firms have a common individual sitting on their boards; and a member of a firm's executive management team has held a managerial position at another colluding firm.
26. The network analysis could be developed further to take into account other cartels, strengthen data on ownership (by using non-public sources), and see if colluding firms are operating in other markets where cartels have not been detected. As a first step, limiting the number of cartels analyzed for the demonstration has the benefit of showing patterns more clearly.
27. Social network analysis uses network and graph theories to characterize and investigate social structures consisting of actors (and in some cases, events) and the relationships between them.
28. Fraas and Greer (1977).
29. Hay and Kelley (1974).
30. Lübbers (2009); Dixit (1979).
31. Where firms meet in several different product or geographic markets. See, for example, Bernheim and Whinston (1990).
32. Airport services and network testing equipment. These are not included in table 2.2.
33. This analysis is based on a detailed assessment of the facilitating factors across markets. The source assessment is available in the background note to this section. The information has been depicted for all markets which had enough information to draw conclusions; and which involved domestic firms operating domestically (rather than foreign export cartels, where the market structure is less determined by domestic factors). Where several cartels were present in a particular market, they have been combined. For year of deregulation, green indicates that the market was not regulated with price controls or a control board; orange indicates regulation ended in the 1980s or the 1990s; and red indicates regulation ended in 2000 or later, or is still in force.
34. See Pieterse et al. 2015.
35. Aghion et al. 2005.
36. Zalk (2014) replicates Aghion et al.'s measure of markups using the same cross-country sectoral dataset and finds that South African aggregate manufacturing markups have in fact since 1993 been consistently lower than developing and transition economy averages.
37. World Bank 2010.
38. See *South Africa Economic Update* Edition 5, World Bank 2014.
39. Including accounting, legal, engineering and architecture services.
40. Following Barone and Cingano (2011), a significant decrease in relative regulatory restrictiveness is defined as an improvement of at least two quartiles in the distribution of countries according to their regulatory restrictiveness, i.e. a country that moves from the 75th percentile to the 25th percentile sin the professional services (or other relevant sector).
41. 66 percent owned by the Public Investment Corporation and 2 percent held by Holcim. http://www.bdlive.co.za/

business/industrials/2014/12/19/knight-in-shining-armour-envisions-merger-between-ppc-and-afrisam.

42. PPP has seven integrated cement plants. NPC, Lafarge, and Sephaku each have one integrated plant, Afrisam two. The country has 12 integrated cement plants and six grinding facilities. The bulk of the cement production sites are in the north-western provinces of North West Province and Gauteng. KwaZulu-Natal also has a relatively high number of cement plants.
43. http://www.compcom.co.za/wp-content/uploads/2014/09/Competition-News-web.pdf; http://www.mmegi.bw/index.php?sid=4&aid=576&dir=2012/April/Friday27#sthash.JdvOr3u0.dpuf; http://www.engineeringnews.co.za/article/commission-refers-alleged-collusion-case-against-npc-to-tribunal-2015-02-24, CCRED Quarterly, November 2014.
44. http://www.compcom.co.za/wp-content/uploads/2014/09/On-measuring-the-economic-impact-savings-to-the-consumer-post-cement-cartel-burst-CC-15-Year-Conference.pdf.
45. It took Sephaku around five years from the day the license was granted to the day it produced its first ton of cement.
46. Owned by the Chinese firm Jidong Cement.
47. http://www.globalcement.com/magazine/articles/894-the-cement-industries-of-southern-africa; Mbongwe et al., 2014
48. Although information for other periods is unavailable, because shares in this figure are based on capacity, the proportions of capacity-based market share among the four incumbents would no doubt have been similar before the entry of Dangote and Mamba.
49. Bank of America Merrill Lynch Global Research, May 2015.
50. http://www.sephakucement.co.za/2012/83-sephaku-cement-finalises-3-4bn-project#2
51. http://www.ujuh.co.za/new-cement-player-sephaku-makes-localisation-promise/
52. It was claimed that the price of Pakistani-made cement was $55/ton, which undercuts the roughly $128/ton cost of South African-produced cement. See http://www.globalcement.com/magazine/articles/894-the-cement-industries-of-southern-africa
53. http://www.globalcement.com/news/item/2830-pakistan-cement-export-wars-return-to-south-africa
54. http://www.globalcement.com/news/item/3627-south-africa-imposes-duties-on-cement
55. These players share common ownership via PIC.
56. Bank of America Merrill Lynch Research.
57. Calculated from South Africa Supply and Use Tables, 2013, provided by Statistics South Africa. Note that a report released in March 2014 by StatsSA, the Information and Communication Technology Satellite Account for South Africa (2006–11), shows that the direct contribution of the ICT sector towards GDP ranged between 3.2–4.0%.
58. Broadband is defined as "always on, high speed, multimedia capable connection" of at least 256 kbit/s download speed.
59. 15 percent household penetration, and broadband within 2 km of any household.
60. http://www.ellipsis.co.za/wp-content/uploads/2014/01/DOC-Presentation-NBP-2013-PPC-19-February-2014-.pdf
61. No. 36 of 2005.
62. No. 89 of 1998, the Competition Act.
63. The Competition Tribunal ruled on some 24 mergers and decided on three complaints in the telecommunications sector between 1999 and 2013 (Competition Tribunal, 2013).
64. http://www.techcentral.co.za/zuma-assents-to-new-ict-laws/47486/.
65. The Readiness indicator reflects aspects including infrastructure, competition, affordability, and skills.
66. This includes mobile network coverage and international internet bandwidth plus the number of secure internet servers, mobile cellular tariffs, fixed broadband tariffs, and an indicator of competition in internet and telephony sectors.
67. Authors' calculations based on International Telecommunication Union (ITU), ITU World Telecommunication Regulatory 2013 Database. This variable

measures the degree of liberalization in 17 categories of ICT services, including 3G/4G telephony, international long-distance calls, and international gateways. Full liberalization across all categories yields a score of 2, the best possible. For more information, consult http://www.itu.int/ITU-D/ICTEYE/Reports.aspx.

68. GSMA Intelligence database, Q4 2015. Based on total connections.
69. World Economic Forum Network Readiness Index database, 2015
70. CCSA Neotel-Vodacom Non-Confidential Report, 2015.
71. Although current price comparison data was not available at the time of writing this report, the 2014 figures provide an idea of the state of the market and the potential outcomes of the issues raised here.
72. Ookla, 2013. See www.speedtest.net.
73. Ookla, 2013b.
74. RIA (2014) using Ookla.
75. For example Vodacom and MTN have "refarmed" existing spectrum in the 1.8 GHz band. Telkom has also rolled out LTE and LTE-Advanced on its previously unused spectrum in the 2.3 GHz band, although this frequency has not been widely adopted in smartphones.
76. http://www.ellipsis.co.za/wp-content/uploads/2015/10/Summary.pdf.
77. The General Household Survey of 2013 for example found that whilst medical aid coverage for South Africa overall was 18.4%, this varied widely across the population. For example, in coverage in the two lowest consumption provinces Limpopo and Eastern Cape was 9% and 10.5% respectively, whilst in the two highest consumption provinces Gauteng and Western Cape it was 29.3% and 25.7%.
78. The cartels were selected from our database of cartels on the basis that these items constitute a basic consumption good; data were available in the SA-IES; some prior estimate of the price effect of the cartel was available to provide a check against the 10 percent assumed price effect; and the end date for the cartel was before 2010 (i.e. before the SA-IES survey was completed) to ensure the survey data reflects the "competitive" price.
79. Mncube, 2014.
80. http://static1.squarespace.com/static/52246331e4b0a46e5f1b8ce5/t/52d8ede8e4b08a516dd5c749/1389948392455/CCE+Working+Paper+01–2013+PoultryandMilling.pdf.
81. Following complaints from bread distributors in the Western Cape.
82. See the CCSA's press statement (http://www.compcom.co.za/assets/Uploads/AttachedFiles/MyDocuments/Wheatmilling-cartel-referred-for-prosecution.pdf). Also see the consent order between the CCSA and Pioneer Foods (Competition Tribunal Case Nr. 15/CR/Mar10).
83. Connor, 2014 (from a CCSA report).
84. http://www.compcom.co.za/wp-content/uploads/2014/09/Competition-Commission-settles-poultry-case-with-Astral-Operations-2.pdf
85. http://mg.co.za/article/2010-11-05-egg-and-poultry-cartels-in-the-wings
86. In this note, we will assume that the price effect of the cartel extended to provinces beyond the Western Cape. The aim is to capture the fact that i) there is likely to be some inter-provincial competition between poultry firms and ii) the pricing behavior of firms outside the cartel is likely to be affected by the pricing level of the cartel. This is consistent with the approach taken by competition authorities internationally in estimating impacts—where price effects are often applied to the turnover of the entire market and not only the firms that have been colluding.
87. Connor, 2014 (from a CCSA report).
88. UNCTAD (2015). Note, as in poultry we apply the price effects of the cartel to all pharmaceuticals products, and not simply those of the colluding firms.
89. Three key assumptions are used to calculate poverty measures: expenditure on consumption has been used to proxy for household income; adults consume the same amount as children, i.e. equivalent scale is not used (a similar assumption has been used by Statistics South Africa 2015 in calculating the current poverty rate); and elasticity of demand is zero. The forthcoming WBG Working Policy Paper sets out the methodology.

90. This measure replicates precisely the results obtained and published by Statistics South Africa: http://beta2.statssa.gov.za/publications/Report-03–10–11/Report-03–10–11.pdf
91. A key caveat to the analysis is that the results do not account for changes in consumption patterns in response to a price changes due to data limitations (for example, lack of consumption quantity data). We would typically expect households to increase the quantities of goods they consume in response to a price reduction, which may offset to some extent the impacts outlined. This kind of behavior would usually be incorporated using elasticity of demand, a measure of sensitivity to price. However, Dubihlela and Sekhampu, 2014 estimated price elasticities for bread, maize, and chicken in Gauteng and found all to have inelastic demand, with the poorest having the lowest elasticities. Absolute elasticities are below 0.22 for the very poor for all three products, and for poultry in particular elasticity is very close to zero. These low elasticities mean that we can be fairly comfortable that the second-order effects would not be of a magnitude to negate the general findings of an overall reduction in poverty.
92. At the 1 percent level of significance.
93. In both cases, the impacts are statistically significant.
94. Some agricultural households engage in the production of wheat, maize, or poultry and this may affect our findings. The household survey data reveal that the proportion of households involved in producing the goods examined (particularly poultry) is low overall: less than 15 percent of households involved in grains or poultry production in most categories, 5.5 percent in the lowest income decile and 8.7 percent in the second-lowest decile in poultry production, and 11.6 percent and 15.5 percent in grains production in the lowest and second-lowest deciles. In rural formal settlements, only 7.5 percent and 5.7 percent of households produce poultry and grains. The impact of the production role of households may, however, need to be taken into account for traditional settlement households where 20.2 percent and 32.7 percent of households are involved in poultry and grains, respectively. Only 1.5 percent of households overall are involved in selling their agricultural products (1.6 percent in the lowest and second-lowest income deciles).
95. See World Bank (2014a) http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2014/10/30/000470435_20141030130616/Rendered/PDF/921670WP0P131400SAEU60for0web01029b.pdf.

References

Abrahams, L., Kedama, Y., Naidu, E., and Pillay, K. 2014. "Regulating Radio-Frequency Spectrum to Advance the Digital Economy: Issues of Economic Regulation for the Electronic Communications Sector." University of Johannesburg, Centre for Competition, Regulation and Economic Development, 6 June 2014.

Aghion, P., Bloom, N., Blundell, R., Griffith, R., and Howitt, P. 2005. "Competition and Innovation: An Inverted-U Relationship." *Quarterly Journal of Economics* 120: 701–728.

Aghion, P., Braun, M., and Fedderke, J. 2008. "Competition and Productivity Growth in South Africa." *Economics of Transition* 16(4): 741–768.

Aghion, P., Fedderke, J. W., Howitt, P., and Viegi, N. 2013. "Testing Creative Destruction in an Opening Economy: The Case of the South African Manufacturing Industries." *Economics of Transition* 21(3): 419–450.

Alesina, A., Ardagna, S., Nicoletti, G., and Schiantarelli, F. 2005. "Regulation and Investment." *Journal of the European Economic Association* 3(4): 791–825.

Bank of America Merrill Lynch. 2015. "We Like the Talk. Now for the Walk." BofA Merrill Lynch Global Research, Equity South Africa, 20 May 2015.

Barone, G., and Cingano, F. 2011. "Service Regulation and Growth: Evidence from OECD Countries." *The Economic Journal* 121(555): 931–957.

Bernheim, B. D., and Whinston, M. D. 1990. "Multimarket Contact and Collusive Behavior." *The RAND Journal of Economics* 1–26.

Bertrand, M., and Kramarz, F. 2002. "Does Entry Regulation Hinder Job Creation? Evidence from the French Retail Industry." *Quarterly Journal of Economics* 117(4): 1369–1413.

Bijwaard, G. E., Janssen, M. C. W., and Maasland, E. 2008. "Early Mover Advantages: An Empirical Analysis of European Mobile Phone Markets." *Telecommunications Pol.* 32: 246–261.

Blanchard, O., and Giavazzi, F. 2001. "Macroeconomic Effects of Regulation and Deregulation in Goods and Labor Markets." NBER Working Paper Series No. 8120.

Boyer, M., and Kotchoni, R. 2014. "How Much Do Cartel Overcharge?" TSE Working Paper No. 462.

CCRED. 2014. "Quarterly Competition Review." University of Johannesburg Centre for Competition Economics. Available at: http://us-cdn.creamermedia.co.za/assets/articles/attachments/52365_ccred_quarterly_review_november_2014.pdf.

Combe, E., Monnier, C., and Legal, R. 2008. "Cartels: The Probability of Getting Caught in the European Union." Bruges European Economic Research Paper.

Competition Commission of South Africa. 2014a. "Annual Report, 2013–14." Available at: http://www.compcom.co.za/wp-content/uploads/2014/09/Competition-Commission-AR-201314-web.pdf.

Competition Commission of South Africa. 2014b. "Annual Performance Plan 2013–14." Available at: http://www.compcom.co.za/wp-content/uploads/2015/03/Annual-Performance-Plan-2014–15.pdf.

Competition Commission of South Africa. 2015a. "Annual Report, 2014–15." Available at: http://www.compcom.co.za/wp-content/uploads/2014/09/COMPETITION-COMMISSION-ANNUAL-REPORT-2015.pdf.

Competition Commission of South Africa. 2015b. "Neotel-Vodacom Non-Confidential Report, 2015." Available at: http://www.comptrib.co.za/assets/Uploads/vodacom-neotel_non-confidential-report.pdf.

Connor, J. M. 2014. "Price-Fixing Overcharges." Revised 3rd Edition Feb 24, 2014. Available at: http://ssrn.com/abstract=2400780.

Connor, J. M., and Bolotova, Y. 2006. "Cartel Overcharges: Survey and Meta-analysis." *International Journal of Industrial Organization* 24(6): 1109–1137.

Connor, J. M., and Lande, R. 2006. "The Size of Cartel Overcharges." *Antitrust Bulletin* 51: 983–1022.

Connor, J. M., and Lande, R. 2008. "Cartel Overcharges and Optimal Cartel Fines." In S.W. Waller (ed.), *Issues in Competition Law and Policy* Volume 3. Chapter 88, pp. 2203–2218. ABA Section of Antitrust Law.

Connor, J. M., and Lande, R. H. 2012. "Cartels as Rational Business Strategy: Crime Pays." *Cardozo Law Review* 34: 427.

Cordes, T., Kinda, T., Muthoora, P., and Weber, A. 2015. "Expenditure Rules: Effective Tools for Sound Fiscal Policy?" IMF Staff Paper No. 15/29.

Das Nair, R., and Roberts, S. 2014. "The Interface of Competition and Regulation in Energy, Telecommunications and Transport in South Africa." Presented at Competition Commission and Tribunal Annual Conference, GIBS, Johannesburg, 4 and 5 September 2014.

Das Nair, R., Mondliwa, P., and Sylvester, A. 2014. "Assessment of the Long Steel Cartel: Rebar Overcharge Estimates." Presented at Competition Commission and Tribunal Annual Conference, GIBS, Johannesburg, 4 and 5 September 2014.

Davies, S., and Ormosi, P. 2014. "The Deterrent Effect of Anti-cartel Enforcement: A Tale of Two Tails." CCP Working Paper No. 14(6).

Dewenter, R., and Haucap, J. 2006. "First-Mover Vorteile im Schweizer Mobilfunk" Discussion Paper No. 56, University of Hamburg.

Dixit, A. 1979. "Model of Duopoly Suggesting a Theory of Entry Barriers." *A.J. Reprints Antitrust L. & Econ.* 10: 399.

Dubihlela, D., and Sekhampu, T. J. "The Impact of Price Changes On Demand Among Poor Households in A South African Township." *International Business & Economics Research Journal* 13(3): 463–474.

Edwards, P. 2014. "The Cement Industries of Southern Africa." *Global Cement Magazine*, 11 December 2014. Available at: http://www.globalcement.com/magazine/articles/894-the-cement-industries-of-southern-africa.

Ellipsis. 2015. "Summary of Icasa's Proposal for Licensing Spectrum in 700 MHz, 800 MHz and 2.6 GHz." Ellipsis Regulatory Solutions, 05 October 2015, Available at: http://www.ellipsis.co.za/wp-content/uploads/2015/10/Summary.pdf.

Fabrizio, K. R., Rose, N. L., and Wolfram, C. D. 2007. "Do Markets Reduce Costs? Assessing the Impact of Regulatory Restructuring on US Electric Generation Efficiency." *The American Economic Review* 97(4), 1250–1277.

Fedderke J., Kularatne, C., and Mariotti, M. 2007. "Mark-up Pricing in South African Industry." *Journal of African Economies* 16(1): 28–69.

Fedderke, J. 2014. "Exploring Unbalanced Growth in South Africa: Understanding the Sectoral Structure of the South African Economy." South African Reserve Bank Working Paper No. 14/07.

Fedderke, J., and Naumann, D. 2011. "An Analysis of Industry Concentration in South African Manufacturing, 1972–2001." *Applied Economics, Taylor & Francis Journals* 43(22): 2919–2939.

Fedderke, J., and Szalontai, G. 2009. "Industry Concentration in South African Manufacturing Industry: Trends and Consequences, 1972–96." *Economic Modelling* 26(1): 241–250.

Fedderke, J., Viegi, N., and Obikili, N. 2015a. "An Update on Concentration in South African Manufacturing." UNUWIDER and South African Revenue Authority Working Papers Series on the Analysis on South African Tax Return Data.

Fedderke, J., Viegi, N., and Obikili, N. 2015b. "Mark-Ups in South African Manufacturing for the Period 2010–2012." UNUWIDER

and South African Revenue Authority Working Papers Series on the Analysis on South African Tax Return Data.

Fraas, A. G., and Greer, D. F. 1977. "Market Structure and Price Collusion: An Empirical Analysis." *Journal of Industrial Economics* 21: 39–42.

Frank, R. G., and Salkever, D. S. 1992. "Pricing Patent Loss and the Market for Pharmaceuticals." *Southern Economic Journal* 10(1).

Frank, R. G., and Salkever, D. S. 1997. "Generic Entry and the Pricing of Pharmaceuticals." *Journal of Economics and Management Strategy* 6(1): 75–90.

Gillwald, A., Moyo, M., and Stork, C. 2014. "Understanding What is Happening in ICT in South Africa." Research ICT Africa, Evidence for ICT Policy Action Policy Paper No. 7.

Global Cement. 2015. "South Africa Imposes Duties on Cement." *Global Cement Magazine*, 18 May 2015. Available at: http://www.globalcement.com/news/item/3627-south-africa-imposes-duties-on-cement.

Goodwin, T., and Pierola, D. 2015. "Export Competitiveness: Why Domestic Market Competition Matters." ViewPoint Public Policy for the Private Sector Series No. 348.

Govinda, H., Khumalo, J., and Mkhwanazi, S. 2014. "On Measuring the Economic Impact: Savings to the Consumer Post Cement Cartel Bust." Paper submitted for the Competition Commission and Tribunal 8th Annual Conference on Competition Law, Economics and Policy, 4–5 September 2014.

Grimbeek, S., and Lekezwa, B. 2013. "The Emergence of More Vigorous Competition and The Importance of Entry—Comparative Insights from Flour and Poultry." University of Johannesburg Centre for Competition Economics Working Paper No. 1/2013.

Hawthorne, R. 2014. "Are Mobile Networks Always a Substitute for Fixed Networks?" University of Johannesburg, University of Johannesburg Centre for Competition Economics, Working Paper 7, 2014.

Hay, G. A., and Kelley, D. 1974. "Empirical Survey of Price Fixing Conspiracies." *Journal of Law and Economics* 17(1): 13–38.

Houssa, R., Mohimont, J., and Otrok, C. 2015. "Sources of Business Cycles in Low Income Countries." *Pacific Economic Review* 20(1): 125–148.

Hüschelrath, K., Laitenberger, U., and Smuda, F. 2012. "Cartel Enforcement in the European Union: Determinants of the Duration of Investigations." ZEW-Centre for European Economic Research Discussion Paper No. 12–071.

IMF. 2015. "World Economic Outlook: Adjusting to Lower Commodity Prices." Washington, DC: International Monetary Fund.

Independent Communications Authority of South Africa. 2015. "Discussion Paper on the Draft Framework for Dynamic and Opportunistic Spectrum Management 2015." *Government Gazette* 39302.

Institute of International Finance. 2016. "Capital Flows to Emerging Markets. Washington, DC: Author.

Khumalo, J., Mashiane, J., and Roberts, S. 2014. "Harm and Overcharge in the South African Precast Concrete Products Cartel." *Journal of Competition Law and Economics* 10(3): 621–646.

Kitzmuller, M., and Martinez Licetti, M. 2013. "Competition Policy: Encouraging Thriving Markets for Development." ViewPoint Public Policy for the Private Sector Series No. 331.

Klein, N. 2011. "South Africa: The Cyclical Behavior of the Markup and its Implications for Monetary Policy." IMF Working Paper No. 11/204.

Lakatos, C., Maliszewska, M., and Osorio-Rodarte, M. 2015. "China's Slowdown and Rebalancing: Potential Growth and Poverty Impacts on Sub-Saharan Africa." Mimeo.

Levenstein, M. C., and Suslow, V. Y. 2006. "What Determines Cartel Success?" *Journal of Economic Literature* 44(1): 43–95.

Lübbers, T. 2009. "Is Cartelisation Profitable? A Case Study of the Rhenish Westphalian Coal Syndicate, 1893–1913." Preprints of the Max Planck Institute for Research on Collective Good.

Madiba, L. 2009. "Raiding Cement Producers." *Competition News* 33(12): 4–5.

Makhubele, D. 2014. "Fighting Over Breadcrumbs: Cartels and the Competition Act 89 of 1998." *De Rebus* (539): 20–22.

Martinez Licetti, M., and Goodwin, T. 2016. "Trends and Networks in Cartels and Cartel Enforcement in Latin America." World Bank Policy Research Working Paper.

Mbongwe, T., Nyagol, O. B., Amunkete, T., Humavindu, M., Khumalo, J., Nguruse,

G., and Chokwe, E. 2014. "Understanding Competition at the Regional Level: An assessment of Competitive Dynamics in the Cement Industry Across Botswana, Kenya, Namibia, South Africa, Tanzania, and Zambia." African Competition Forum.

Mkhwanazi, S., and Govinda, H. 2014. "Savings to Consumers Post the Cement Cartel." *Competition News* 49(6). Available at: http://www.compcom.co.za/wp-content/uploads/2014/09/Competition-News-web.pdf.

Mncube, L. 2014. "The South African Wheat Flour Cartel: Overcharges at the Mill." *Journal of Industry Competition and Trade* 14(4): 487–509.

Mondliwa, P., and Zengeni, T. 2015. "Consolidation and Entry: Changing Dynamics in the Regional Cement." *Quarterly Review* 1(1).

Muzata, T. G., Roberts, S., and Vilakazi, T. S., and others. 2013. "An Economic Review of Penalties and Settlements for Cartels in South Africa." University of Johannesburg Centre for Competition Economics Working Paper No. 9/2012.

Nicoletti, G., and Scarpetta, S. 2005. "Product Market Reforms and Employment in OECD Countries." OECD Economics Department Working Paper No. 472.

OECD. 2008. "OECD Economic Surveys: South Africa 2008." Paris: Organisation for Economic Co-operation and Development.

Olley, G. S., and Pakes, A. 1996. "The Dynamics of Productivity in the Telecommunications Equipment Industry." *Econometrica* 64: 1263–1297.

Oxford Business Group. 2013. "The Report: South Africa, 2013." London: Author.

Perilli, D. 2014. "Pakistan Cement Export Wars Return to South Africa." *Global Cement Magazine,* 27 August 2014. Available at: http://www.globalcement.com/news/item/2830-pakistan-cement-export-wars-return-to-south-africa.

Pieterse, D., Farole, T., Odendaal, M., and Steenkamp, A. 2015. "Enhancing South Africa's Export Competitiveness: Reform of the Port and Rail Network." Policy Research Working Paper No. 7532. Washington, DC: World Bank.

Qiang, C. Z. W., Rossotto, C. M., and Kimura, K. 2009. "Economic Impacts of Broadband." Information and Communications for Development 2009: Extending Reach and Increasing Impact, 35–50.

Research ICT Africa. 2014. "SA Broadband Quality Drops but Prices Remain High." RIA Broadband Policy Brief No. 3.

Schiffbauer, M., Sy, A., Hussain, S., Sahnoun, H., and Keefer, P. 2015. "Jobs or Privileges: Unleashing the Employment Potential of the Middle East and North Africa." Washington, DC: World Bank.

Schivardi, F., and Viviano, E. 2011. "Entry Barriers in Retail Trade." *The Economic Journal* 121(551): 145–170.

South African Reserve Bank. 2015. "Quarterly Economic Bulletin." Pretoria, South Africa: Author.

Statistics South Africa. 2013. "Transport, Post and Telecommunication Industry Survey, 2013." Statistics South Africa, Statistical release P7000, Available at: http://www.statssa.gov.za/publications/P7000/P70002013.pdf.

Statistics South Africa. 2015. "Methodological Report on Rebasing of National Poverty Lines and Development on Pilot Provincial Poverty Lines—Technical Report." Statistics South Africa Report No. 03–10–11.

Telkom. 2013. "Telkom Integrated Report, 2013." Available at: http://www.telkom.co.za/flipping-books/annual-report-2013.

UNCTAD. 2015. "Roundtable on: Role of Competition in the Pharmaceutical Sector and its Benefits for Consumers. Contribution by South Africa." Seventh United Nations Conference to review the UN Set on Competition Policy, Geneva, 6–10 July 2015. Available at: http://unctad.org/meetings/en/Presentation/CCPB_7RC2015_RTPharma_SouthAfrica_en.pdf.

Van Rensburg, M. J., and van Niekerk, J. 2010. "Value differentiation: Creating Customised Value Propositions in the South African Cement Industry." *Management Dynamics: Journal of the Southern African Institute for Management Scientists* 19(4): 2–16.

WEF. 2013. "Global Competitiveness Report 2013–2014." Geneva, Switzerland: World Economic Forum.

World Bank. 2010. "South Africa: Second Investment Climate Assessment." Washington, DC: World Bank.

World Bank. 2011. "South Africa: Improving the Business Environment for Growth and

Job Creation in South Africa: The Second Investment Climate Assessment." Washington, DC: World Bank.

World Bank. 2014. "South Africa Economic Update: Focus on Export Competitiveness." *South Africa Economic Update No. 5*. Washington, DC: World Bank.

World Bank. 2015a. "Commodity Outlook (November)." Washington, DC: World Bank.

World Bank. 2015b. "South Africa Economic Update: Jobs and South Africa's Changing Demographics." Washington, DC: World Bank.

World Bank. Forthcoming a. "Elaboration on Data from Connor, Price-Fixing Overcharges, Revised 3rd Edition." Washington, DC: World Bank.

World Bank. Forthcoming b. "Report on Boosting Competition in African Markets." Washington, DC: World Bank.

Zalk, N. 2014. "Markups in South African Manufacturing: Are They High and What Can They Tell Us?" TIPS Conference 20–21 May 2014: Manufacturing Led Growth for Employment and Equality. Available at: http://www.tips.org.za/files/markups_in_south_african_manufacturing_may_2014_-_zalk.pdf.

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
www.facebook.com/WorldBankSouthAfrica

THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP