Transformation Audit

TA2013

Confronting Exclusion

Economic Governance
Intergenerational equity in SA

The Labour Market
Real earnings trends of the formally employed

Skills and Education
Accountability in SA education

Poverty and Inequality
Hunger and food security 100 years later

Confronting Exclusion

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Contents

List of tables and figures

Tables

Figures

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Acronyms and abbreviations

ANA	Annual National Assessment
ANC	African National Congress
ASGISA	Accelerated and Shared Growth Initiative for South Africa
DBE	Department of Basic Education
GEAR	Growth, Employment and Redistribution
GHS	General Household Survey
IJR	Institute for Justice and Reconciliation
LFS	Labour Force Survey
LMD	Labour Market Dynamics
LRA	Labour Relations Act 66 of 1995
NDP	National Development Plan
NEEDU	National Education Evaluation and Development Unit
NGP	New Growth Path
OHS	October Household Survey
PIRLS	Progress in Reading Literacy Study
QLFS	Quarterly Labour Force Survey
RDP	Reconstruction and Development Programme
SACMEQ	Southern and Eastern African Consortium for Monitoring Educational Quality
SAPS	South African Police Service
SARB	South African Reserve Bank
TIMSS	Trends in International Mathematics and Science Study
UNESCO	United Nations Educational, Scientific and Cultural Organisation

Preface

Growing inequality, rising poverty and a sense of faltering leadership have left South African citizens feeling disillusioned after 20 years of democracy. The question is asked: 'Is such ongoing injustice the fruit of reconciliation?' Today, many South Africans wonder if the Truth and Reconciliation Commission (TRC), the one institution most associated with post-apartheid reconciliation efforts, made any difference at all to how the country is governed. They ask whether the vivid and bitter 'truth' that emerged during and through the TRC process, was ever really taken as seriously as it ought to have been by those entrusted with the leadership of our fledgling democracy.

Despite these doubts, I believe that reconciliation is an idea whose time has indeed come, perhaps again, and perhaps more so than ever before. Indeed, we need more, not less, reconciliation in the years to come. Lingering social injustice and social exclusion, the thematic focus of this year's *Transformation Audit*, is not the result of too much reconciliation, but of too little reconciliation of the right sort – the kind that fosters solidarity across South Africa's historically entrenched divides. However, we need to be much more explicit about what this will demand of us.

While reconciliation has always required reflection on how we relate to and communicate with each other, it is becoming increasingly evident that meaningful interaction alone is not enough to sustain a process of national reconciliation. Perhaps it has been this emphasis on relational issues, underpinned by the idea that the country's central challenge is primarily a racial one, that has made us underestimate the task at hand over the past 20 years. Race has not ceased to be relevant to understanding exclusion, but what the IJR's own research shows is that most South Africans regard class inequality as the primary source of division between South Africans. Vast differences in income determine our mobility and make it possible for citizens to co-exist in parallel universes, oblivious to the circumstances that affect the other; and, when they interact, such encounters are more often than not characterised by unequal power relations and occur in spaces that are not neutral.

As much as economic inclusion is imperative for national reconciliation, it would be naive to believe that it is possible to undo historically entrenched inequality overnight. Indeed, our low economic growth trajectory postpones the prospect of more conducive circumstances. Nevertheless, what we can focus on right now is pressurising those who hold sway over the shaping of economic policy, be it the government, business or labour, to show the urgency required in finding joint solutions to the challenge of economic exclusion. They need to be held accountable by the nation and not only by those whose vested interests they represent. We need inclusive, rather than dogmatic winner-takes-all responses.

As we mourned the passing of our beloved former president, Nelson Mandela, at the end of 2013, it is worth bearing in mind that this was also his approach towards the stabilisation of South Africa's post-1994 political settlement. Mandela, despite his political loyalty and convictions, prioritised a winning South Africa, above any single winning faction. He has often been criticised for this approach, but I believe that alternatives producing one winner and a multitude of countervailing forces would have been far more destructive. It is this sense of shared vested interest that has held us together in the two decades following our political transition.

Still, if we are honest, we have to acknowledge that this sense of cohesion is fading. If anything, one should hope that Nelson Mandela's death will serve as a catalyst for renewed focus on the need for inclusive solutions. South Africans have been blessed with the likes of Mandela, but one gets the distinct sense that we will not have the luxury of another 20 years to relearn the critical lessons of our recent history.

Fanie du Toit
Executive Director: Institute for Justice and Reconciliation

Introduction

Jan Hofmeyr

In November 2013, the Institute for Justice and Reconciliation (IJR) extended its annual Reconciliation Award to the Socio-economic Rights Institute of South Africa (SERI). The IJR did so in recognition of the work that SERI has done to keep the interests of the victims and relatives of last year's Marikana massacre on the country's national agenda. Even though a national commission of enquiry, headed by Judge Ian Farlam, was instituted by the president to investigate the circumstances around the deaths related to this tragedy, it soon became evident that the families of the affected miners were at a distinct disadvantage in terms of the legal representation that they could muster to put forward their account of events before the commission.

In question was the point-blank shooting of 34 miners by the South African Police Service (SAPS) that followed a protracted stand-off between miners and the Lonmin mining company at its Marikana mine in the North West Province. The events, which were captured by television cameras, and repeated almost daily in the following weeks by media outlets around the world, signified for many what is to come if the country does not make faster progress in addressing its massive developmental challenges that are characterised by high levels of poverty and a frightfully big gap between the incomes of the rich and the poor. This was a confrontation between workers, desperate and propelled by a profound sense of material exclusion, and a state that in this instance seemed to have run out of strategies to cope with the growing pressure that protest action for greater economic inclusion had placed on it. These events might repeat themselves in other contexts in the not too distant future. Increasingly, a scenario seems to develop where the police and the security forces may have to fulfil the role of a bulwark that protects the state from its discontents. The so-called 'war against poverty´ could indeed see state and citizens fighting on different sides, instead of it being a joint national pursuit for the achievement of a better life.

It would be easy, of course, to reduce this tragic incident (and others where government force was employed against citizens) to a symptom of the impact that maladministration and corruption in different spheres of government has had on the state's ability to deliver on the basic needs of poor South Africans. This, is only partially the case. A singular focus on state inefficiency ignores the fact that even under conditions of optimal efficiency, it would take decades to eradicate the structural underpinnings of poverty and inequality. In addition, it deflects attention from the reality that inefficiency and wasteful expenditure are not only public sector phenomena, but are also pervasive in the private sector, as the Competition Commission's findings pertaining to construction sector collusion in the run-up to the 2010 World Cup Football has shown. What both the public and corporate sectors have in common, though, is their respective (and often intertwined) monopolies on political and economic power. Separately and together they seem to reinforce a configuration of South African society where the interests of some are protected at the expense of many who are relegated to lives of desperation on the margins. The rise in violent protest in poor communities in recent years may be symptomatic of this sense that the current dispensation offers them little or no recourse, let alone the prospect of a brighter future.

In few places has the impact of this skewed distribution of power been more apparent than in the course of the proceedings of the Farlam Commission to date. This state of affairs, arguably, has very little to do with the independence of its officers or the composition of the commission itself, but rather relates to pre-existing conditions and provisions that tip the scales in favour of those with power. While Lonmin and the SAPS have had pockets deep enough to foot their legal bills, the same has not been true for the victims. No public money was made available to support the primary victims of the massacre, and when this was challenged in a court of law, it ruled in favour of the state. Even if we agree that the court's interpretation of the law was correct in this regard, it does suggest that the drafters were not sensitive to the potential disadvantage that such a scenario would impose on impoverished communities when they have to face up to the political power of the state and the economic influence of corporate South Africa. It is here that SERI's work has been critical in giving miners and their families access to processes and procedures, which the constitution, at least in principle, offers to every South African. Nevertheless, it is disconcerting to see how wide the gap between principle and practice has been in this instance.

While the Marikana massacre offered the starkest proof of the consequences of social exclusion to date, the circumstances that give rise to such tragedies can be found in the daily experiences of ordinary South Africans. Whether it is the delayed delivery of an identity document, insufficient access to healthcare or deficient school infrastructure, it is without fail the most destitute who suffer disproportionately and who have the least access to institutions that can remedy their

situation. In the longer term, we may risk the legitimacy, and ultimately the cohesive force, of the institutions that are meant to strengthen the foundations of what still is a young democracy.

While public confidence in some of these key institutions may still be relatively high in comparison to older and more mature democracies, the downward trajectory of South African confidence levels in recent years is worth noting and must be cause for concern. In 2006, the IJR started measuring public confidence in key public institutions as part of its South African Reconciliation Barometer (SARB) Survey. This survey has been conducted annually since 2002 using a nationally representative sample of 3 500 South Africans to measure public opinion on matters relating to political and economic change, how these impact on national reconciliation and, ultimately, how they translate into the achievement of greater social cohesion in the wake of apartheid. Without exception, the positive responses that were recorded for each of the institutions in the most recent survey (in April 2013) were significantly lower than the first measurements in 2006. Confidence in parliament, for example, dropped from 69 per cent in 2006 to 56 per cent in 2013, in the presidency from 77 to 55 per cent, in national government from 73 per cent to 55 per cent and in provincial government from 66 to 52 per cent. These declines were particularly precipitous between the two most recent surveys, where institutions on average scored 9 percentage points lower than in the previous round. Following the Marikana disaster, the significant drop in confidence in the SAPS, from 60 per cent in 2012 to 48 per cent in 2013, should not come as much of a surprise. What is of concern, however, is the notable decrease in positive evaluations of the legal system, from 68 per cent in 2012 to 58 per cent in 2013, and for the Constitutional Court from 69 per cent to 59 per cent. In another measurement that gauges the responsiveness of leaders, 68 per cent of respondents indicated in 2004 that they 'trust the country's leaders to do what is right'; in 2013, the corresponding figure was 48 per cent. Viewed together, these figures translate into a qualitative decline in the esteem in which ordinary South Africans hold a number of key executive, legislative and judicial institutions, as well as the leadership that occupies them.

Again, it has to be underscored that these findings should not be read solely in the context of governmental failure and inefficiency. A history that underpins the structural nature of the country's developmental backlogs most certainly exists. Equally important to remember is that an adverse global environment continues to make it difficult for our government to accelerate spending on priority areas without risking the country's fiscal sustainability. Amongst the group of emerging economies, South Africa is certainly not alone in this regard. Yet, the contextual factors of the present and the past alone do not fully account for what appears to be the hollowing out of our key democratic institutions, at least from a legitimacy perspective. The nature and tone of the politics of the day also play a decisive role in this regard.

When one looks at the trajectory of the responses to the institutional confidence questions, it becomes apparent that the most significant declines in positive evaluations occurred in 2008 and 2013, both years that preceded a national election and followed a five-yearly national conference of the ruling African National Congress (ANC). While such a measurement will have to be repeated in 2018 to allow for a more conclusive judgement, these periods have typically been characterised by a jockeying for positions within the ruling party, which, in turn, has had an impact on the continuity of leadership within key institutions, and ultimately the quality of outputs delivered to citizens. In some instances, there were also suggestions that such institutions were instrumental in the support of particular political appointments, at the expense of their constitutional mandate. Apart from the intra-party dynamics of the ANC and the extended tripartite alliance, the inter-party contestation between the ruling party and the main opposition has also contributed, on occasion, to an unnecessary polarisation of the body politic.

Whether such incidents will repeat themselves during the first quarter of 2014, in the run-up to the country's fifth general election (which will coincide with the celebration of two decades of democracy) remains to be seen. At this stage, three dimensions, which were less salient during the 2009 elections, can be predicted to feature more prominently in 2014.

The first relates to the democratic and developmental legacy of the past 20 years. The ANC will want to convince citizens that it has done what was possible under prevailing circumstances during this period, and that it is best placed to provide continuity and to accelerate delivery from 2014 onwards. This time around, however, the nature of contestation has changed. To its right it will have to craft careful responses to the Democratic Alliance (DA), the official opposition, and Agang SA, the newly formed party of intellectual and struggle veteran, Mamphela Ramphele. In addition to the Democratic Alliance (DA), the most significant opponent on its right, the ANC will also have to frame a response to AgangSA, formed by struggle figure and businesswoman, Mamphela Ramphele, who will be vying for the disenchanted, mainly middle-class, ANC vote. On the other side of the spectrum, the ANC will have to counter the newly formed radical left-wing Economic Freedom Fighters (EFF), led by the ANC's controversial former Youth League leader, Julius Malema. Another unknown quantity, with a potentially significant impact, will be the outcome of the current factional battles within the Congress of South African Trade Unions (COSATU). Tensions between COSATU and its largest union, the National Union of Mine Workers (NUM), as well as the suspension of the federation's former secretary general, Zwelinzima Vavi, can potentially lead to a further realignment of politics on the left side of the spectrum.

However these factors play out in the months ahead, it is becoming clear that the second distinctive aspect of this election campaign will be the central role that economic policy will play. This is not to say that it has not featured in the past, but

contesting parties will have to articulate their proposals in much clearer and differentiated terms this time.

Thirdly, it is already clear that a focus on the youth vote will be a core feature of the 2014 campaigns. In a country with a predominantly youthful national demographic (more than two-thirds are younger than 35 years of age), political parties cannot ignore the potential influence of a generation that has lived most of its life in a democratic South Africa, but is still exposed to the structural legacies of the past. This will require a different political approach – one that speaks to their exclusion, but shaped by a more contemporary narrative of struggle. Whether they will actually make use of their vote, and whether the entry of new political entities, like AgangSA and the EFF, will be enough to entice them to do so, will be an insightful indicator of the robustness of our democracy.

Citizens' discontent with being excluded from decision-making processes that affect their lives between elections is rising, as is evident in the number and intensity of public protests, but also in the IJR's latest public opinion data. For the sake of the country's democratic health, it is important that such frustration is vented through democratic and peaceful means, rather than in confrontation, such as that witnessed during the Marikana massacre. Against the current backdrop of growing frustration, and rising percentages of stay-away voters in successive general elections, it will be critical for political parties to recommit themselves to greater social inclusion, through their articulation of policy concerns, but also in the practical pursuit thereof. This, by implication, also implies support for the strengthening of the key public institutions, mandated to provide access to rights and to counter the marginalisation of the most disadvantaged in society.

Chapter overviews

This 2013 edition of the *Transformation Audit*, titled 'Confronting Exclusion' takes this need for enhanced social inclusion, both through a more inclusive economic dispensation and through an institutional framework that prioritises the voice of ordinary citizens, as its point of departure. In each of the following chapters, which focus on the publication's traditional topic areas (economic governance; the labour market; skills and education; and poverty and inequality), different contributors reflect on what this demands in each of these contexts.

This year's publication takes a slightly different approach to that of previous years. Instead of several shorter articles, the IJR has commissioned four longer, in-depth articles that provide a thorough overview of the chapter's focal area. Through this we hope to make the final product a more focused publication that interrogates the issues at hand with even more rigour, and in a format that is more accessible to a broader policy audience.

Chapter 1: Economic governance

In the first chapter of this year's *Transformation Audit*, Iraj Abedian probes the question of intergenerational equity in South Africa. Although this is a topic that is receiving increasing prominence elsewhere, little has been written on it within the South African context, despite the fact that it stands central to the question of economic inclusion in an overwhelmingly youthful country. Its main conclusion is that South Africa's present pattern of resource allocation favours the current generation. It further points out that while monetary investments for the benefit of future generations in the form of the child grant and health expenditure have increased significantly since 1994, the non-pecuniary investments (strong social, political, economic and legislative institutions) have not expanded at the same rate.

Abedian suggests that this stems largely from the absence of a set of well-defined and generally accepted ethical and moral values that are internalised across society. Democratic South Africa, he suggests, is not an exception among many other young democracies that still need to craft their own identity and mode of engagement with their citizens, and with the outside world. Value systems that are at odds with each other, or with espoused constitutional norms, result in inefficiency and ethical inconsistency, as well as social distrust and instability. In the absence of such systems that govern social, economic and political conduct, the socially marginalised become more exposed to exploitative practices by those who hold power and abuse it for material gain. More often than not, future generations carry the burden of the excesses of their predecessors.

Within the analytical paradigm of complexity economics, Abedian's contribution suggests that the evolution of a complex, adaptive system of socio-economic structures requires well-articulated, shared values. Their adoption defines the current and likely drivers of competitive advantage and social progress over time. Despite this country's developmental challenges, its future is not predetermined – it can be shaped. While resources are critical for implementation, even more so are the value systems that inform decisions about their allocation.

Chapter 2: The labour market

The levels at which minimum wages are set, the considerations that inform them, and the processes through which they are determined are a frequent cause of friction between stakeholders in the economy. Some even decry their very existence. Those averse to the notion of a minimum wage argue that unemployment would rise if it is fixed above the market-clearing wage level, because of its impact on labour productivity. The counter-argument is that higher wages motivate people to work harder, thereby improving productivity and providing an incentive for employers to hire more workers.

In this contribution by Derek Yu, some of these assumptions are tested against the most readily available and reliable data for the South African labour market. Yu does this by analysing each of the main sectors in the South African economy to ascertain whether there are cross-sectoral patterns or whether

some sectors are affected more by fluctuations than others. The results pertaining to the relationship between mean real earnings, real gross value added, and formal sector employment by industry suggest that the impact of collective bargaining on the minimum wage might have been negative in terms of employment and labour demand in certain industries, such as mining and quarrying. According to Yu, the data indicate that this might be attributable to the pace of wage increases, which has outstripped the rate of labour productivity growth. He also contends that, in certain instances, the current approach to collective bargaining benefits the interests of the employed (insiders) at the expense of the unemployed (outsiders). While the unemployed may be eager to participate in the labour market, they face several institutional challenges, which may unintentionally exacerbate rather than alleviate the problem of unemployment.

Chapter 3: Skills and education

A lack of accountability for student learning outcomes is a major, if not the primary, obstacle to quality education for children from poor South African households, writes Nick Spaull, author of this year's skills and education chapter. As a result, says Spaull, they are doomed to remain trapped in conditions of poverty.

The consequences of weak accountability systems in South African schools are manifold. High rates of teacher absenteeism are prevalent and, as a result, low rates of curriculum coverage rob learners of the opportunity to broaden their knowledge and, importantly, to achieve. Moreover, it is increasingly evident that higher education expenditure has not led to improved education outcomes. Spaull suggests that weak accountability exists throughout the education system, from the national Department of Basic Education right to the classroom.

In his contribution, he argues for improved accountability, but notes that a greater emphasis on accountability without commensurate support is as flawed as an approach in which more resources and support are pumped into the system without holding officials to account for their use. Instead, structures of accountability must become more closely aligned to the process of capacity-building. According to Spaull, there will be an improvement in student outcomes only when schools have the incentive and capacity to respond to an accountability system.

When faced with limited resources, prioritisation is inevitable. The creation of an evidence-based hierarchy of constraints makes it possible to identify obstacles to progress, and to budget for and prioritise financial and human resources. Spaull further argues that a reliable indicator of student learning at the primary school level is critical for improved outcomes, and while the introduction of the Annual National Assessments represents a positive development, their inconsistent implementation unfortunately negates much of their value. Lastly, he cautions against the disproportionate influence that a politically organised minority (teacher unions) has over a politically atomised majority (parents and children).

In terms of immediate interventions, Spaull suggests in conclusion that meaningful learning opportunities are required to improve teacher skills. Accountability as an incentive to improve is pointless if the capacity to do so does not exist. He also feels that parents should be empowered with accurate information on their children's learning relative to appropriate benchmarks and the performance of socio-economically similar schools. Without accurate information on their children's learning, parents cannot put pressure on schools or express their concerns through appropriate political channels.

Chapter 4: Poverty and inequality

Against the backdrop of the 100th anniversary of the Natives Land Act of 1913, the piece of legislation that probably contributed more than any other to the dispossession of black South Africans, Dieter von Fintel and Louw Pienaar look at the incidence of hunger in the former homeland areas. Their contribution shows that although levels of hunger were much higher in the former homelands than in the rest of South Africa at the time of their reincorporation, they converged with the rest of the country by 2010. The authors argue that social grants, which expanded rapidly between 2002 and 2010, played an important role in this regard and that dependence on them grew faster in former homeland regions. Their analysis shows that these grants (or a lack of salary income) explain a large part of hunger differences across the region types, and that receipt of social pensions, in particular, reduced hunger substantially.

Economies of scale and tenure systems are also important contributors to food security, but small-scale farmers have also succeeded in reducing adult hunger levels. The authors contend that the food security damage caused by the 1913 Land Act and other laws can be undone gradually by way of support for small-scale farmers. Interventions that equip communities to farm together can reduce hunger, because they allow them to share risk and knowledge. Von Fintel and Pienaar argue that although social grants mitigate the effects of hunger on households, they are not a fiscally sustainable option. They cite research contending that sizable social pensions result in household formation patterns that isolate individuals from the mainstream of the labour market, and conclude that while grants should play a mitigating role in reducing the impact of poverty, the more sustainable option would be to promote the capacity of small-scale farmers and their links to the market economy.

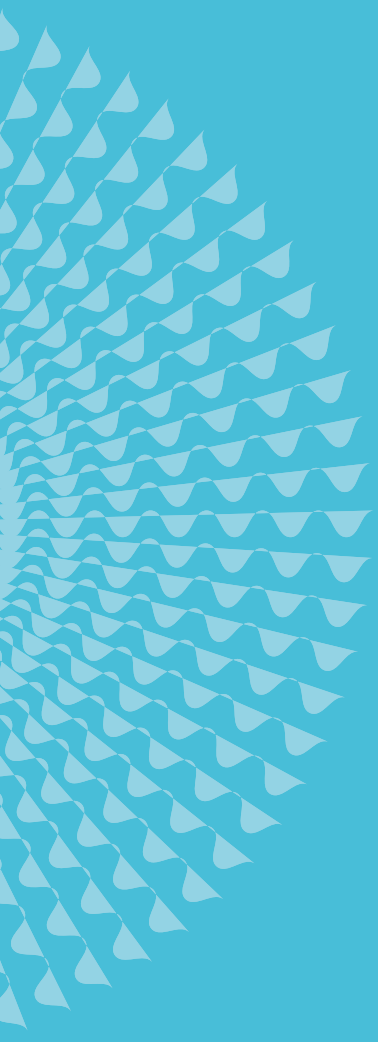
Confronting exclusion

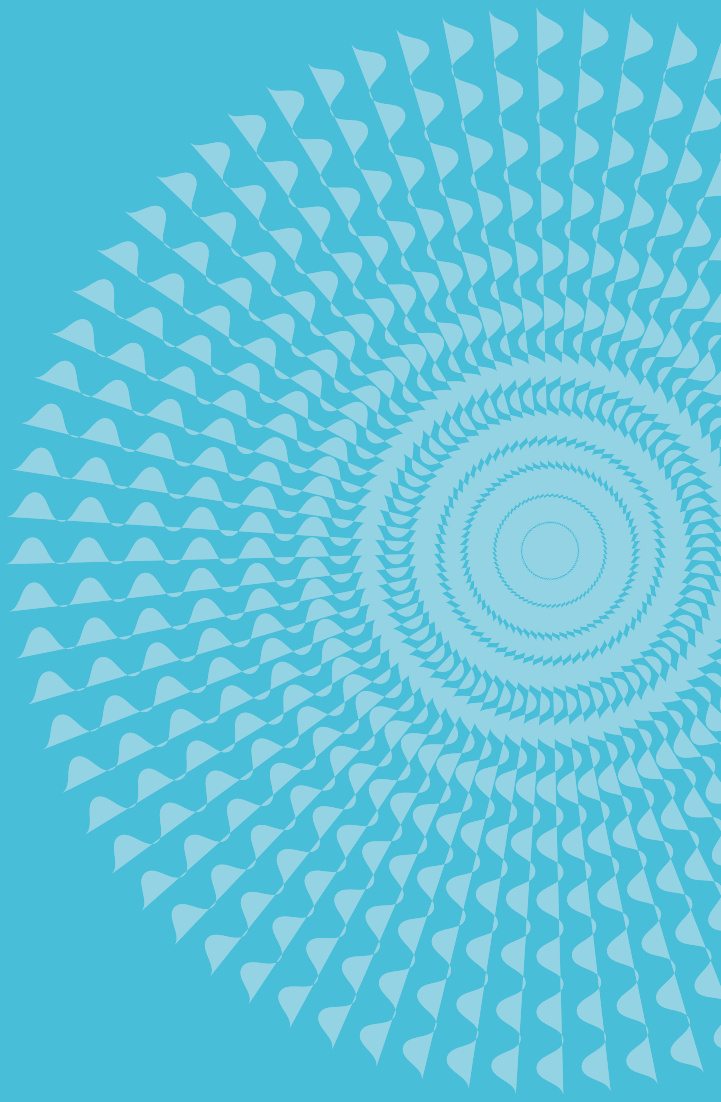
It is virtually impossible to decouple the health of a country's political life from its economic fortunes. When societies prosper materially, citizens typically feel empowered, are more likely to be content with the public institutions that support the status quo, and have confidence in the steering capability of

those who lead them. On the other hand, when they struggle, and economic deprivation becomes structurally entrenched over time, the most adversely affected can develop, in some instances, a sense of social marginalisation, characterised by despair and dwindling confidence in the capacity of public institutions and their leadership to address their plight. Under such conditions, friction between state and society can develop; if left festering, this may have implications for a state's longer-term political stability.

South Africa has made important political strides over the past two decades. It has created a framework of democratic legislative, executive and judicial institutions that mark a clear break from the apartheid past. In theory, they are inclusive and offer every citizen equal access to constitutionally protected rights. Yet, they are coming under increasing pressure, and citizen confidence in their abilities is waning, as declines in institutional trust in the IJR's 2013 Reconciliation Barometer have shown. Much of the pressure that these institutions are experiencing, which may ultimately affect their legitimacy in the eyes of ordinary citizens, has its roots in the desperation and sense of economic exclusion experienced by those who find themselves at the wrong end of South Africa's grossly unequal society. If these declines continue to follow their current trajectory, the cohesive effects of public institutions will wane, and political instability will become an increasingly likely prospect.

An immediate, but only partial, remedy to the current state of affairs would be to prioritise transparency, accountability and leadership integrity within the system to restore trust in the bona fides of key institutions. The longer-term challenge will be to counter a growing sense of economic exclusion, where violent police action, rather than democratic process, is employed to stave off the manifestations of material anxiety of struggling citizens. This edition of the *Transformation Audit*, titled 'Confronting Exclusion' focuses on instances of economic exclusion, but, as in previous years, also prioritises the search for inclusive economic policy. By looking at each of the four chapter areas, it seeks to find answers to the challenges of a society where the promise of true freedom and equal rights will remain only that, until people feel empowered to take charge of their own destiny.





Chapter

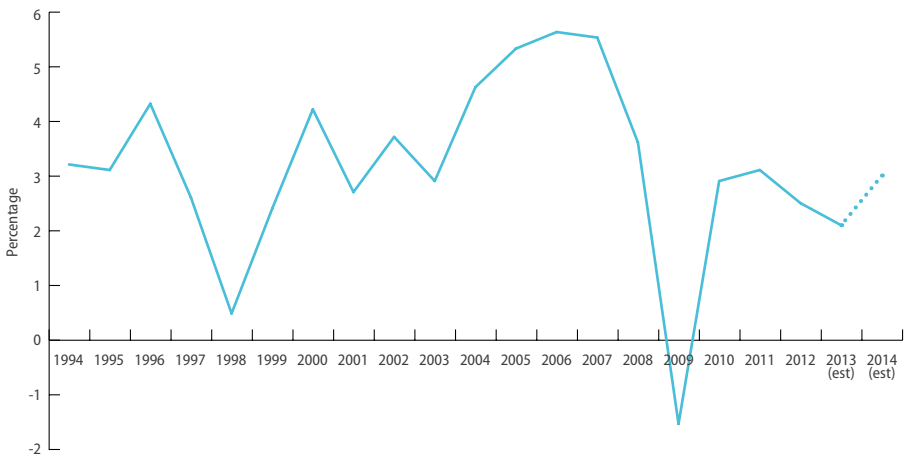
Economic Governance

ONE

The Economy at a Glance

By the end of the first quarter of 2013, unemployment showed a 0.8 per cent year-on-year decline from 25.5 per cent to 24.7 per cent. The current account deficit, moreover, remained at a worryingly high 6.5 per cent. Given a sluggish global economy, growth levels will remain subdued and these trends are unlikely to be reversed in the short term. In its recent medium-term budget statement, the National Treasury presented its downwardly revised growth projection for 2013 at 2.1 per cent, and stated that the 2014 figure should be only marginally higher. In terms of these growth rates, South Africa will not come close to the desired level of 5.6 per cent per annum that the National Development Plan regards as a prerequisite for achieving its most basic development goals. There will be anticipation to see whether and when the implementation of an employment tax incentive, to be implemented from January 2014, will make a significant contribution to job creation, especially amongst young South Africans.

South Africa year-on-year GDP growth since 1994

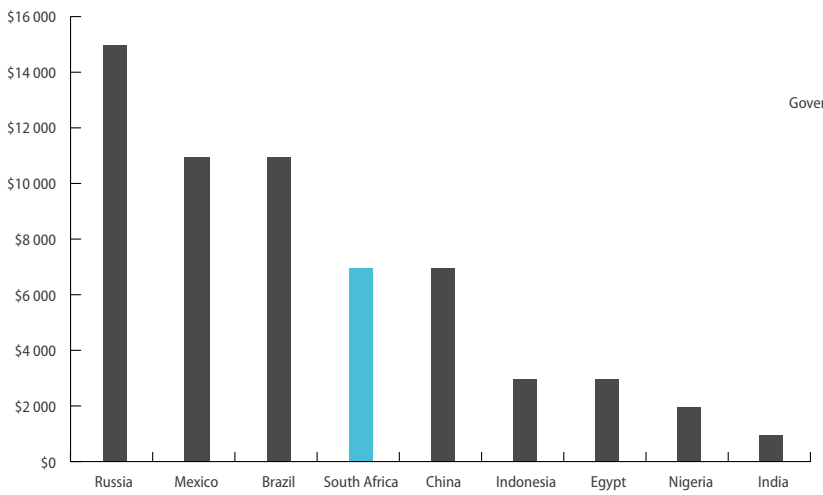


Source: World Bank, World Development Indicators 2013; National Treasury, Medium Term Budget Statement, October 2013
Source for 2014 data: National Treasury, October MTBS 2013

3.0%

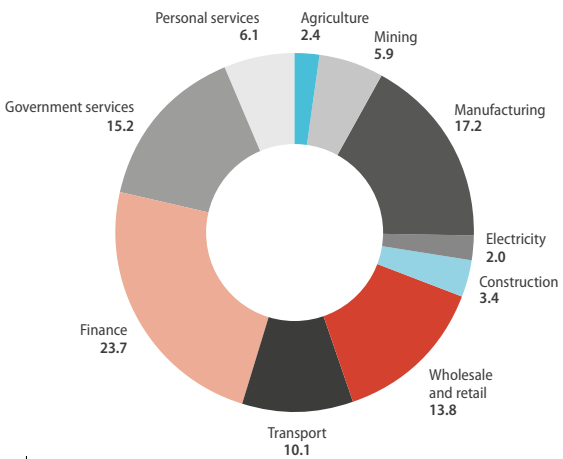
South Africa's projected GDP growth for 2014

Gross domestic product per capita (current US$ prices), 2013 (estimates) – Comparative perspective



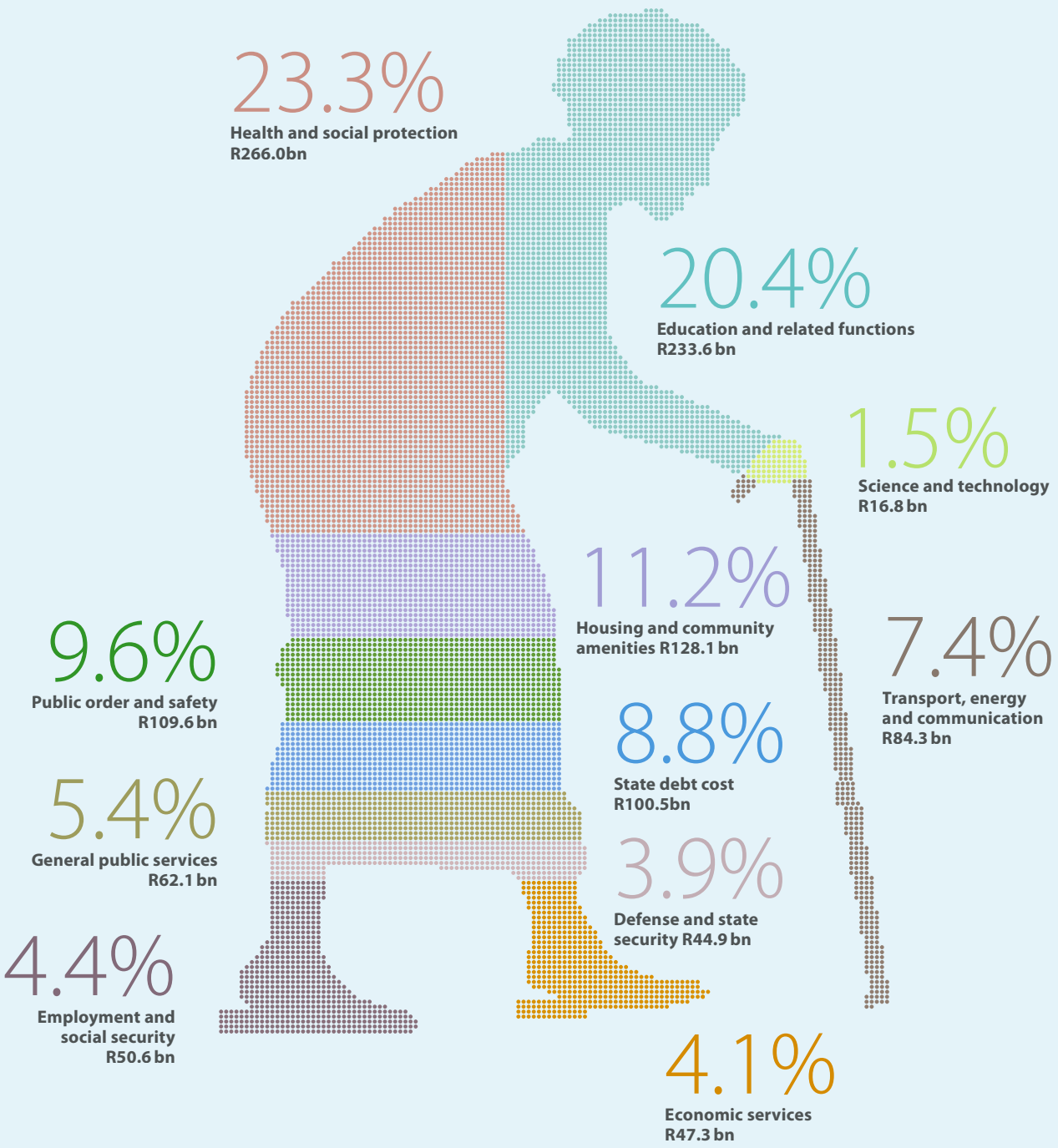
Source: International Monetary Fund: World Economic Outlook Database, October 2013
Note: GDP is expressed in current US dollars per person. Data are derived by first converting GDP in national currency to US dollars and then dividing it by total population.

Percentage GDP by sector 2012



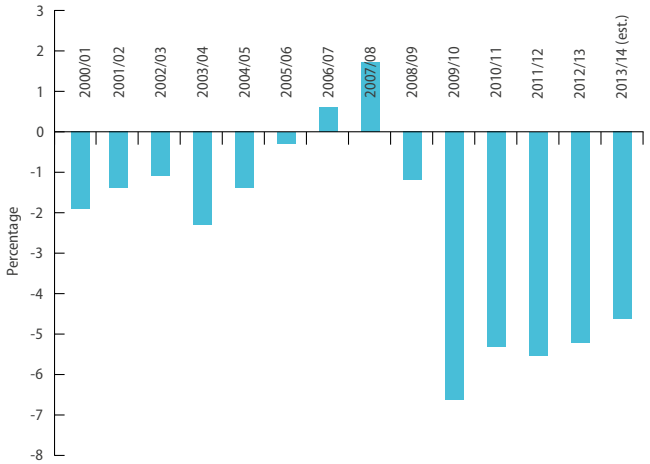
Source: National Treasury, Budget Review, February 2013

Budget expenditure 2013/14



Source: National Treasury, MTBS October 2013

South Africa budget balance as a percentage of GDP

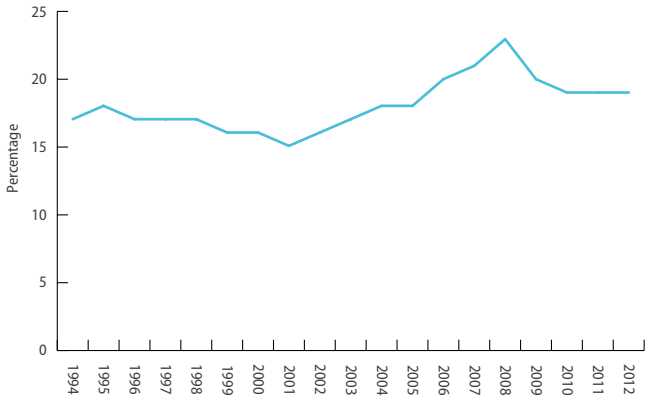


Source: National Treasury, October MTBS 2013

South Africa CPI inflation rate, 2005–2013

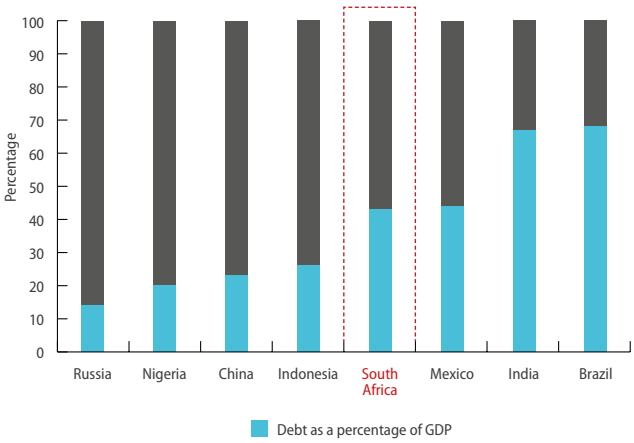
Source: National Treasury, October MTBS 2013

Gross capital formation of as a percentage of South African GDP



Source: World Bank Indicators, 2012

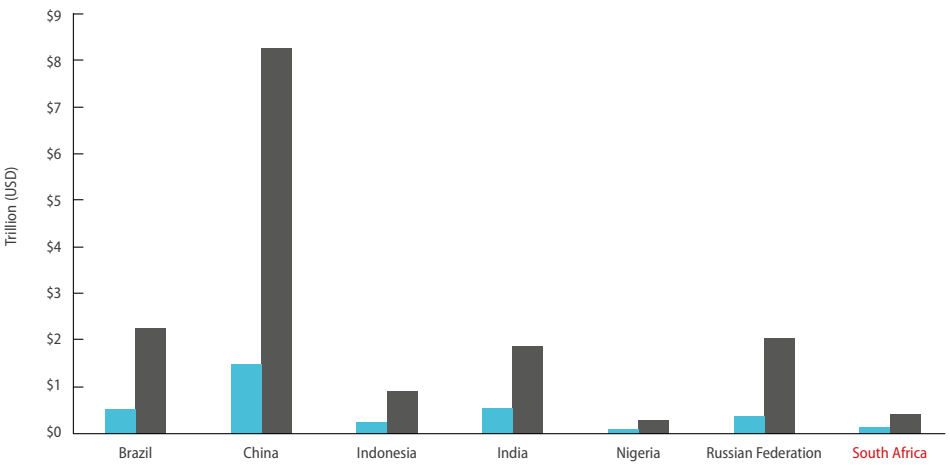
Gross debt to GDP ratio, 2013 (IMF estimates)



Source: International Monetary Fund: World Economic Outlook, October 2013

Gross debt consists of all liabilities that require payment or payments of interest and/or principal debt by the debtor to the creditor at a date or dates in the future. This includes debt liabilities in the form of SDRs, currency and deposits, debt securities, loans, insurance, pensions and standardised guarantee schemes, and other accounts payable. Thus, all liabilities in the GFSM 2001 system are debt, except for equity and investment fund shares and financial derivatives and employee stock options. Debt can be valued at current market, nominal, or face values (GFSM 2001, paragraph 7.110).

Relative size of emerging economies in perspective



Source: World Bank

Notes: GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in current US dollars. Dollar figures for GDP are converted from domestic currencies using single year official exchange rates. For a few countries where the official exchange rate does not reflect the rate effectively applied to actual foreign exchange transactions, an alternative conversion factor is used.

Intergenerational equity and the political economy of South Africa

Iraj Abedian

Introduction

Intergenerational equity is a complex issue in public policy, and the complexities may be compounded when one views it through the lenses of political economy, philosophy or applied ethics. More often than not, the notion is invoked in discourses around environmental sustainability or concerning the politics of public debt. The concept, however, is much deeper and wider in scope.

A range of sub-issues is embedded in the term 'intergenerational equity'. This is so because society is the intermediary between past, present and future generations. All social processes, be they political, economic, technological, ethical or environmental, have a systemic and dynamic impact upon the overlapping generations' welfare. Nevertheless, human beings are predominantly 'present-oriented' – they discount the future more heavily the more distant it is, or is perceived to be. In effect, the present is more important than the near future and the near future is more important than the distant future. Furthermore, human activities and enterprises are, more often than not, subject to uncertainty and imperfect information.

These simple, factual realities have profound and far-reaching consequences for the success and failure of nations. Moreover, our use of natural resources, our approaches to the ecosystem, and the political economy institutions, the social and ethical framework we promote and the ease with which we commit resources to social and human integrity are all affected by our implicit or explicit regard for the principle of intergenerational equity.

These issues have preoccupied philosophers since time immemorial and feature in classical economic thought. However, the modernist pursuit of economics as a value-free 'technical' science, particularly within the framework of neo-classical economics, effectively marginalised the intergenerational topics. The contemporary emergence of institutional economics, coupled with environmental concerns and globalisation, has repositioned intergenerational issues at the centre stage of the global political economy discourse. For the discipline of economics, this offers an interesting, but challenging, vista. In reality, ethical values are implicit and exogenous in virtually all models. Economics is yet to fully internalise this fact.

For South Africa, at this juncture in its social democratic evolution, intergenerational equity has an added significance. Nearly 20 years into the foundational phase of its new democratic dispensation, compelling evidence and complicated syndromes of disregard for intergenerational equity are emerging. From the utter failure of the public basic education system, to the widespread collusive and extractive conduct among corporations, to the near collapse of the public sector's administrative and management capabilities, particularly at local government level, glaring and worrisome signs are in evidence that social welfare across generations is being disregarded, or even compromised.

In the remainder of this chapter, the concept of intergenerational equity is explored in more detail, followed by an analysis of the patterns and trends in resource allocation across generations in South Africa. The analysis of non-pecuniary investments in future generations will be examined next, after which the challenges of intergenerational equity rebalancing are considered. The chapter ends with some conclusions.

Intergenerational equity: definition, application and significance

Intergenerational equity is a principle of distributive justice which concerns the relationship between past, present and future generations. We could conceptualise the basic contours of an equitable relationship between generations in many ways. From a social contract perspective, it is instructive to imagine that all generations are partners in an implicit social contract defining rights, duties and obligations between generations. The contractarian approach, however, ignores the intergenerational effects of power dynamics, as well as the critical role of the individual. The structure of political power and the binding influence of current generation interest groups shape the future.

Every national community, indeed the entire worldwide human community, is comprised of the multiple, complex, overlapping and interdependent systems that constitute our environment. Generically, this environment is made up of two components: one is the natural environment; the other is socially constructed (i.e. human-made). Throughout history, there have been profound philosophical and existential debates about the privileges and responsibilities of each generation with regard to each of these components (see Frischmann 2005).

In the recent past, intergenerational issues related to the ecosystem have received much attention under a variety of topics. For environmentalists and economists, the operative word is 'sustainability'. The concept of sustainability has a long tradition in academic economic literature, dating back to the 18th century when the sole concern was the ability of the earth to provide sustenance for a growing population. The interplay of biological forces, exhaustible resources and human-made technologies has been the focus of ongoing intellectual enquiry ever since. In the past century, Harold Hotelling (1931) formalised 'the economics of exhaustible resources'. Ever since, there have been both opponents and proponents. However, it was the Brundtland Report, *Our Common Future* (WCED 1987), that placed intergenerational equitability at the centre of the global political economy discourse. The report's often-quoted definition provided a technical and ethical challenge for humanity worldwide by stressing that 'sustainable development is development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs'.[1]

> Each generation inherits a wealth of pecuniary and non-pecuniary resources. In return for this boon, it is obliged to maintain and augment these resources for bequeathing them to the generations that follow.

Theoretically, the case of natural resources, exhaustible or otherwise, seems fairly straightforward insofar as we do not create them, we only inherit such resources. It, therefore, stands to reason to postulate, as Frischmann (2005: 463) does, 'that the present generation does not have a superior claim to the Earth's resources and consequently that each and every generation is both trustee for the planet with obligations to care for it and a beneficiary with rights to use it'. Intergenerational equity in this regard, therefore, rests heavily on the internalisation and operationalisation of this fairly straightforward moral principle of trusteeship.[2] In the complex dynamics of social evolution, however, the principle of stewardship intersects with the equally compelling presence of trade-offs between decision options and uncertainty of outcomes.

As important as the natural resources are the human-made resources and capabilities that collectively constitute a dynamic and ever-advancing civilisation. In econometric literature, this is often referred to as the 'made-capital' of a nation, in contrast with the natural endowment of the country. For each generation, then, the national resource (or capital) endowment is made up of the natural endowment plus the inherited made-capital. In this regard, each generation's heritage subsumes vital components, such as culture, knowledge, socio-economic and political institutions, logistical infrastructure and the effective governing legal paradigm. As is argued below, social capital is a critical component of made-capital. From the perspective of intergenerational equity, the treatment of such human-made resources is morally more complicated. It may be argued that the generation that created such resources has a superior claim to their benefits. As a corollary, the costs associated with, or damages arising from, the current generation's decisions ought also to be borne by it (or its members).

The reality of the social structure and its evolution over time is that, more often than not, both benefits and costs are externalised. In effect, neither the full benefits nor the entire costs of a given generation's decisions are born by it or its members. Prime examples of this are the investments made in building accountable political and legal institutions, economic and industrial infrastructure, investment in research and development, social security contributions, the national debt and global warming. For societies that have experienced wars of liberation, or domestic national struggles towards unification, the costs and benefits of such periods of disruption are borne disproportionally by the subsequent generations.

Thus, the substance of intergenerational equity is complex, and its operational requirements are both tangible and intangible. Importantly, the implications are not merely theoretical and academic – the future trajectory of a society's developmental path is defined largely by the depth of understanding of, and commitment to, intergenerational equity. It is interesting to note that as early as 1838, Abraham Lincoln, the visionary USA president, in his Lyceum Address, recognised the enormity of the moral burden of trans-generational equity in the following words:

> We find ourselves in the peaceful possession, of the fairest portion of the earth, as regards extent of territory, fertility of soil, and salubrity of climate. We toiled not in the acquirement or establishment of them—they are a legacy bequeathed us, by a once hardy, brave, and patriotic, but now lamented and departed race of ancestors. Their's [sic] was the task (and nobly they performed it) to possess themselves, and through themselves, us, of this goodly land; and to uprear upon its hills and its valleys, a political edifice of liberty and equal rights; 'tis ours only, to transmit these, the former, unprofaned by the foot of an invader; the latter, undecayed by the lapse of time and untorn by usurpation, to the latest generation that fate shall permit the world to know. This task [of] gratitude to our fathers, justice to ourselves, duty to posterity, and love for our species in general, all imperatively require us faithfully to perform. (In Frischmann 2005: 464)

Lincoln's words envision a powerful, overlapping generational social contract, rooted in equity, inspired by a moral duty to promote prosperity, and driven by a strong reciprocity principle. Each generation inherits a wealth of pecuniary and non-pecuniary resources. In return for this boon, it is obliged to maintain and augment these resources for bequeathing them to the generations that follow.[3]

The operational intricacies of distributive justice multiply when we intersect the above principle of trans-generational morality with the intra-generational mal-distribution of resources. Economic and moral philosophers have grappled with these interrelated issues for centuries. The contemporary interest in philosophical discourse on the subject was ignited with the publication in 1971 of John Rawls' *A Theory of Justice*. The Rawlsian paradigm, which reintroduces the idea of the social contract, has been a significant but controversial intervention. Libertarian, Marxist, institutionalist, egalitarian and feminist critiques of Rawls abound. Amartya Sen, an economic philosopher and a one-time student of Rawls, in his book, *The Idea of Justice* (2009), credits *A Theory of Justice* with revitalising the socio-political discourse on the critical issues of redistributive justice. Sen offers a profound critique of the Rawlsian

paradigm by highlighting the shortcomings of the 'contractarian tradition' and by emphasising the significant impact that human behaviour has on institutions' ability to bring about and maintain a 'just society'.

At the heart of the controversies and complexities of redistributive justice lie the assumptions made about the nature of the human being, on the one hand, and the political economy construct of society, on the other. Furthermore, the fact that these two are themselves interactive makes the matrix even more complex.

With regard to the nature of human beings, two polar assumptions have driven the entire philosophical, psychological and political economy research. Eric Beinhocker (2007: 418) summarises the points as follows:

> If one digs deeply into the Left-Right divide, down to its philosophical and historical core, one finds two conflicting views of human nature. On the Left is the view that human beings are inherently altruistic, that greed and selfishness stem not from human nature, but from the construction of the social order, and that humans can be made better through a more just society. The lineage of this view descends from Jean-Jacques Rousseau and Karl Marx.
>
> On the Right is the view that human beings are inherently self-regarding and that the pursuit of self-interest is an inalienable right. The most effective system of government is one that accommodates rather than attempts to change this aspect of human nature…The Right claims, however, that if people pursue their self-interest through the mechanism of markets, then the general interests of society will be served as well. The lineage of this view descends from Hume, John Locke, and Thomas Hobbes.

Curiously, on the basis of these opposing philosophical perspectives, and ultimately personal views, competing systems of governance have been constructed, ideological battles have been waged, and socio-economic constructs have been subjected to revolutions and upheavals over the past two centuries. Yet, socio-political experimentation based on the assumptions of the Left and the Right have both failed to bring about an order that is capable of dealing satisfactorily with redistributive justice issues. It is no exaggeration to argue that both contemporaneous and intergenerational equity have deteriorated if judged by the prevailing disparities in wealth and income, as well as the compounded ecological and sustainability crises. Clearly, a new paradigm, based on an alternative and more nuanced perspective on human nature, is needed.

Modern scientific research in psychology, economics, anthropology and game theory has highlighted serious flaws in the simplistic assumptions made by both the Left and the Right about human nature. Recent empirical research conducted within a mutlidisciplinary framework and tested in a variety of socio-economic, racial, tribal and developmental regions, suggests that human beings are neither altruistic nor selfish. They are better defined as 'conditional co-operators' and 'altruistic punishers'.[4] Herbert Gintis, Samuel Bowles and Ernst Fehr (2005) label this type of behaviour as 'strong reciprocity', which they define as 'a predisposition to cooperate with others, and to punish (even at personal cost if necessary) those who violate the norms of cooperation, even when it is implausible to expect that these costs will be recovered at a later date' (in Beinhocker 2007: 419).

This critical revision of our assumptions about human nature opens up a new paradigm of thinking and a vast range of consequent systemic possibilities. Together with other recent scientific research in the fields of thermodynamics, networks, dynamic systems evolution, analytics of disequilibrium economics and empirical psychology, the 'strong reciprocity' assumption paves the way for what is currently known as 'complexity economics'. Complexity economics is a clear and substantive departure from nearly four centuries of traditional economics, reflected primarily, but not exclusively, in neoclassical economic analysis. No doubt it will take years, possibly decades, for the tenets of complexity economics to evolve and for its systemic ramifications to be revealed.

Meanwhile, and in the immediate future, the requirements of intergenerational equity entail a balancing of the human attributes of conditional co-operator and altruistic punisher. Arthur Dahl (2013: 3) offers a framework for transition:

> We desire a world of peace and prosperity, but much of economic and psychological theory depicts human beings as slaves to self-interest. Yet it can be argued that well-being for everyone necessitates a more just and sustainable social order. This would require qualities like moderation, justice, love, reason, sacrifice and service to the common good, which must be harnessed to overcome the traits of ego, greed, apathy and violence, which are often rewarded by the market and political forces driving current patterns of unsustainable consumption and production, in which the well-being of a few is attained at the expense of the many… A new social contract must have a broader view of human well-being founded on ethical principles.

With regard to the political economy construct of any given society, recent scientific research and cross-country comparative analysis offer equally insightful and instructive findings. Two attributes of the social order are of critical relevance to our analysis. The first attribute is that the political economy system is dynamic. Scientifically, this means that the system's current state is strongly related to its previous state, and its future state is a function of its current variables. By way of illustration, consider a country's national stock of capital – a critical variable in determining actual and expected growth

Intergenerational prosperity is dependent as much on social capital as on financial and technological capital.

rates. Capital accumulation is a dynamic process. The rate at which the national stock of capital is increased or decreased will be determined by the stock of capital at the start of the period (i.e. initial conditions and the rate of capital accumulation or destruction, and the time period). The same analysis holds for unemployment, savings, technological progress, the development of the country's commercial jurisprudence, the evolution of accountability and legal institutions, and numerous other processes.

The second attribute is the fact that within the complex web of the political economy system, there are countless processes with feedback loops. This means that developments in one dynamic process influence another set of processes within the system. What happens to the investment process has direct implications for unemployment, capital accumulation, growth, savings and other processes. These effects are both contemporaneous and trans-generational. For example, enhancing scientific research and development capabilities in the current period affects the current generation, but more so the future capability of the nation in the particular field in question. Likewise, the strengthening or weakening of the country's judicial infrastructure has implications for both current and future generations.

The dynamic nature of the political economy structures, therefore, has profound implications for both pecuniary and non-pecuniary variables that govern intergenerational equity. The interactions between politics and the economy, the governance institutions and the culture of citizen participation are critical factors in the success or failure of nations. Acemoglu and Robinson, in *Why Nations Fail* (2012), articulate the following relationships:

> Each society functions with a set of economic and political rules created and enforced by the state and the citizens collectively. Economic institutions shape economic incentives: the incentives to become educated, to save and invest, to innovate and adopt new technologies, and so on. It is the political process that determines what economic institutions people live under, and it is the political institutions that determine how this process works. For example, it is the political institutions of a nation that determine the ability of citizens to control politicians and influence how they behave. This in turn determines whether politicians are agents of the citizens, albeit imperfect, or are able to abuse the power entrusted to them, or that they have usurped, to amass their own fortunes and to pursue their own agendas, ones detrimental to those of the citizens. Political institutions include but are not limited to written constitutions and to whether the society is a democracy. (Acemoglu & Robinson 2012: 55)

A significant contributor with long-term impact on the sustainability of social development and human prosperity is the embedded value system that manifests within society's operations. Such values and codes of conduct need not be legislated or otherwise formalised; rather, they need to be internalised within society's political economy organs. With the help of such values, social trust is engendered and over time social capital is created, maintained and augmented. Intergenerational prosperity is dependent as much on social capital as on financial and technological capital. The co-evolution of these forms of capital ultimately leads to, and is required for, sustainable development across generations.

In the light of the foregoing account, four protagonists emerge as the primary contributors to intergenerational prosperity and equity – the national resource (capital) endowment (both natural and made),[5] the individual, the political economy institutions and the society, as defined by the embedded value system that is espoused formally and informally.

Empirical quantification of the foregoing aspects of intergenerational equity is not readily available. There are, however, some aspects that lend themselves to tracking by proxy indicators. For example, *Intergenerational Justice in Ageing Societies: A Cross-national Comparison of 29 OECD Countries*, produced under the auspices of the Bertelsmann Foundation's Sustainable Governance Indicators (SGI) project, attempts to create an Intergenerational Justice Index (IJI). It uses four pecuniary variables to construct its IJI – child poverty, public debt per child, ecological footprint and the extent of bias against older generations. Non-pecuniary variables are excluded from this proposed IJI. In what follows, some of the key indicators of intergenerational equity are discussed for South Africa.

Patterns and trends in resource allocation across generations

Amongst the quantitative indicators of intergenerational equity is the aggregate level of investments (savings) achieved by each generation in ensuring the sustainability of growth over time. National savings is an important intergenerational variable insofar as savings are the key source of funding for national investment. Without investment, economic growth is a near impossibility. In the absence of adequate national savings, investment in the national economy has to rely on foreign capital flows into the country. Imported capital, in turn, can

be fickle and footloose. More seriously, when a country is dependent on imported capital for a significant share of its national investments, this creates ongoing currency volatility and financial market sensitivity to domestic socio-political dynamics.

This is particularly significant with regard to the type of investments that lay the foundation and create the framework for unlocking the economy's inherent potential. This is central to the 'made-capital' referred to earlier. Made-capital itself is dependent on economic structure. For an economy whose natural endowment is primarily mineral resources, the type of investment needs to be focused on the mix of infrastructure that enables growth and development in this sector. Appropriate rail facilities, harbour logistics, industrial beneficiation capabilities, adequate and reliable energy and water supply are examples of such investments. In contrast, when an economy is oriented largely towards the tertiary sector, its investment requirements are vastly different.

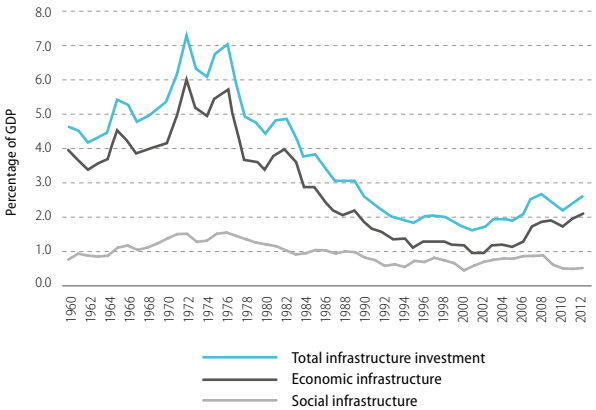
There is no particular level of aggregate investment that is technically optimal and universally applicable across the various phases of business cycles and technological waves. That said, 'the rule of thumb' in economic development history suggests that, over time, for the sake of sustainable growth, a country should spend an average of 5 to 8 per cent of its GDP on socio-economic infrastructure.

As illustrated in Figure 1.1, South Africa's average national investment, as a ratio of GDP, has fallen from its height of over 7 per cent in the mid-1970s to the current level of below 3 per cent. This sustained under-investment has created a cumulative gap in the required stock of socio-economic infrastructure, which, in turn, has undermined growth and retarded social development. At the time of writing, some of the manifestations of such backlogs are present in the lack of adequate energy, roads, export logistics, public education and health facilities, and urban amenities. Furthermore, for a number of years to come, it is highly likely that the country will struggle to catch up with the cumulative backlog.

South Africa's portfolio of natural endowment is heavily resource-based. As such, development and sustainability of growth depend heavily on a well-planned and appropriately sequenced stock of complementary infrastructure. Not only does this need adequate and reliable energy, it simultaneously needs rail, harbour, water and human skills, amongst others. So, the level of investment, per se, is only one requirement; the other is to get the mix, the scale and the timing of such investment right.

During the 1970s, 1980s, 1990s and 2000s, neither investment in public infrastructure nor its optimal mix received much attention. These periods also coincided with considerable political and social upheaval, accompanying the dawn of the new democratic dispensation in the country in 1994. For completely different reasons, infrastructure investment requirements were neglected during the periods prior to and after 1994. From an intergenerational viewpoint, the neglect

Figure 1.1: South African economic and social infrastructure investments, 1960–2013



Source: SARB (2013a)

of adequate investment in public infrastructure in these periods will exact heavy costs on subsequent generations.

Next to infrastructure investment trends, the stock of public debt and its relative magnitude constitutes one of the most commonly debated intergenerational statistics. More often than not, the stock of public debt is perceived as bequeathing a liability to future generations and, as such, it is regarded as morally questionable. However, whether or not public debt is a burden depends largely on what it has been used for. If debt is accumulated due to the current generation's welfare expenditure, or war financing, or abusive and extractive practices in the public sector, then the accumulated government liabilities will entail negative effects on the generations that follow. On the other hand, if the bulk of public debt is due to investments in productive national socio-economic infrastructure, then the effect on future generations will be potentially positive. The latter type of public borrowing is conducive to the expansion of the economy's productive capacity and, hence, future growth, job creation and social development.

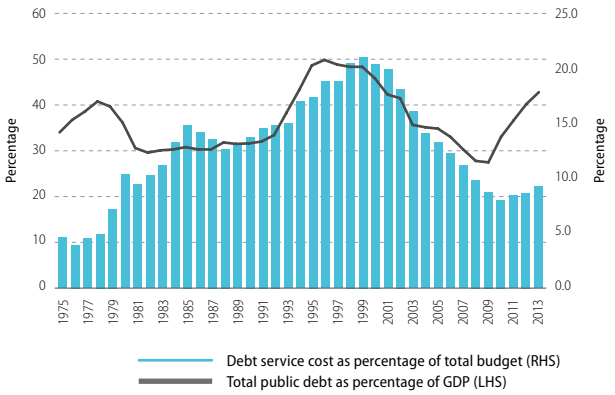
South Africa's public debt trends remain fairly benign. As illustrated in Figure 1.2, the government's fiscal policy paradigm since 1994 has resulted in a substantial decline in public debt to GDP ratios. From a high of 50 per cent of GDP, the public debt ratio fell to as low as 28 per cent in 2008. Meanwhile, debt service charges reached a peak of 20 per cent of government budget before sliding to a low of 7.6 per cent in 2010. At the time of writing, both these ratios were on the rise, due, in large part, to the government's anti-cyclical fiscal policies.

However, from an intergenerational perspective, while public debt ratios remain prudent, the stock of national socio-economic infrastructure, as shown in Figure 1.1, is considerably below its optimal level. If seen as a national balance sheet, it can be argued that the asset side of the ledger (i.e. the stock of infrastructure) is woefully weak, with accumulated backlogs, while the liability side (i.e. the national debt) is moderate at present. The former inhibits actual and expected growth, which, in turn, and over time, causes material sustainability concerns for government debt. Current and future generations are set to suffer welfare losses as a result.

The extent to which (and at what speed) public debt sustainability concerns emerge depends on the key drivers of public expenditure and the associated governing political economy ideology. An analysis of budgetary allocations over the past two decades, as shown in Figure 1.3, highlights the following:

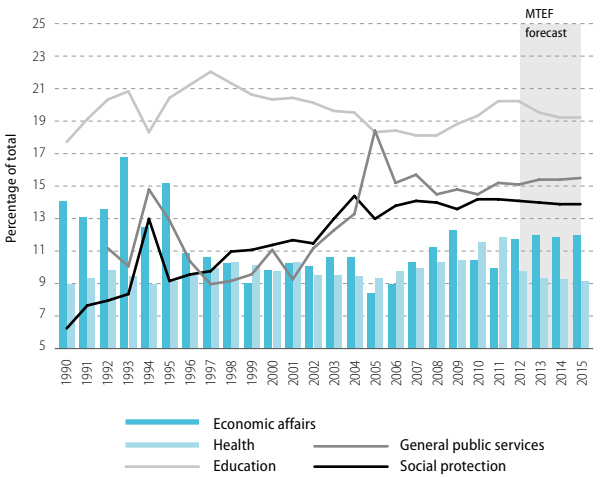
- The fastest growing budgetary item is the 'social protection' allocation. In effect, the welfare spend is the top driver of South Africa's fiscal trends. Whereas in 1997 the number of beneficiaries was at 2.6 million, by 2013 it had reached over 16 million.
- The second fastest growing item is expenditure on public administration. Whereas some growth in this component of

Figure 1.2: Public debt as a percentage of GDP, and debt service cost as a percentage of government budget, 1975–2013



Source: SARB (2013b)

Figure 1.3: Major components of the South Africa government budget, 1990–2015



Source: SARB (2013c)
Note: 2013–2015 are medium-term estimates

ONE

fiscal allocation was inevitable due to the imbalance of pre-1994 state structures, it is debateable if such expenditure produces commensurate value for money spent. Ongoing analysis of such spend by the office of the auditor-general suggests considerable inefficiencies and wasteful expenditure in this category of budgetary expenditure.

» The education budget has been stabilised. Nonetheless, it constitutes 20 per cent of the national budget.

» Economic infrastructure consistently receives a relatively small and variable budgetary allocation. This may well be due to the fact that much of the prevailing political economy discourse in the country is about intra-generational equity, with little consideration for future generations.

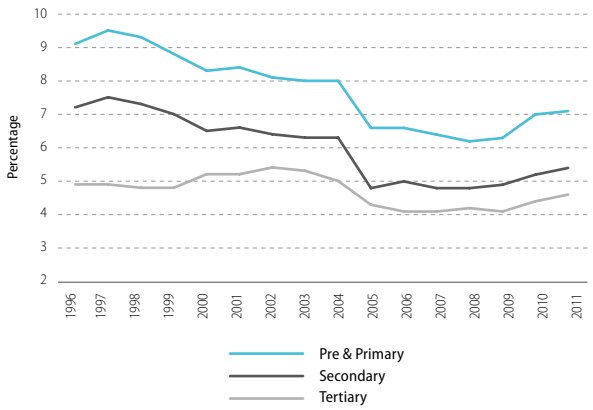
The most serious issue surrounding South Africa's public debt is not its level, or its relative size to GDP, but rather the quality of public expenditure. In effect, liabilities accumulate and there is little corresponding addition of social welfare for the present generation or the promise of future growth and welfare for the generations to come.

A further breakdown of fiscal expenditure reveals additional insights into the composition of public expenditure and its intergenerational implications. Figure 1.3 illustrates the composition of the fiscal expenditure.

Education is the most significant intergenerational item of budgetary allocation. Over the period 1995–2013, on average 20 per cent of the government budget was allocated to this vital investment in future generations. A further disaggregation of the education budget, as shown in Figure 1.4, reveals a sound allocation of resources among the various cohorts of the younger generations.

Judged by the aggregate budgetary allocation to education, or assessed in terms of the intra-generational allotment to the various types of education, South Africa's fiscal allocations are sound and in line with principles of intergenerational equity. However, the problem arises with the quality of education. Table 1.1 highlights the consistent underperformance of the

Figure 1.4: Public education budget allocation by category, 1996–2011



Source: SARB (2013d)

Table 1.1: South Africa's global competitiveness ranking of education, 2008–2013

Indicator	2008	2009		2010		2011		2012		2013	
	134 countries	133 countries	Adjusted rank	139 countries	Adjusted rank	142 countries	Adjusted rank	144 countries	Adjusted rank	148 countries	Adjusted rank
Quality of primary education	104	107	108	125	120	127	119	132	122	133	119
Primary education enrolment, net percentage	97	107	108	109	104	118	110	115	105	122	108
Quality of education system	110	119	120	130	125	133	125	140	120	146	132
Quality of maths and science education	132	133	134	137	132	138	130	143	133	148	134

Source: WEF (2013)
Note: The adjusted rank is calculated by adjusting the number of total sample size in successive years and recalculating South Africa's rank accordingly

South African public education system according to a variety of indicators. At present, the single most obstinate factor undermining poverty eradication across generations in South Africa is the prevailing inadequacy of the national education and training system. A widespread shortage of necessary skills in society is but one of the manifestations after nearly 20 years of the country's democratic dispensation.

It is a fact that the modernisation and technological upgrading of the economy since 1994 has increased the economy's skills intensity sharply. This, in turn, has accentuated the systemic skills mismatch problem. Meanwhile, the country's human capital accumulation has proved to be wanting. While much has been done to promote access to the public schooling system, little has been achieved with regard to improvement in the quality of the education offered.[6] Consequently, 'unemployability', widespread vacancies and huge skills gaps have emerged concurrently. Upward mobility of the poor has been curtailed; hence, their ability to participate in the economy is severely impaired. The poor and their children, who rely on public schooling, have been trapped in a vicious cycle of poverty and dependency. Within the country, the so-called 'second economy' has expanded as a result.[7]

In any modern economy, skills and work experience are the two key contributing factors for upward mobility and intergenerational equity. This is especially so as the economy becomes more sophisticated and its skills intensity rises over time. Over the past decade alone, the South African economy's skills intensity has risen by more than 10 per cent. This is illustrated in Table 1.2.

Rising skills intensity necessitates a matching qualitative upgrade in the school curriculum; in addition, the teaching skills of the educators and the instructional leadership of the school principal need to be enhanced. This is not to underestimate the importance of other factors such as the quality of infrastructure, the management system and the administration of the education budget. Over the period 1994–2013, there was little evidence of improvement in these variables. As a matter of fact, there has been a dilution of mathematics and science standards in the public schooling system, and there have been no signs of any improvement in the quality of teachers and their ability to upgrade their capacity to teach more effectively.[8] To complicate matters further, the political leadership has placed much too much emphasis on reconfiguring the system to improve the 'matriculation pass rate', an indicator that in and by itself is technically distortive and even misleading.

Perpetual stand-offs between the teachers' unions and the government have not helped matters. From the outside, it appears as if union resistance to meaningful skills audits and performance management systems has had the effect of entrenching mediocrity. The ongoing politicisation of this simple, but vital, exercise has exacted a heavy toll on the poor, and has arguably condemned many of the contemporary learner cohorts to a future life of unemployability and poverty.

Table 1.2: Formal sector workers in highly skilled occupations

Year	African	Coloured	Indian	White	National
2000	19.2%	18.8%	32.4%	50.1%	27.1%
2005	19.7%	21.4%	35.6%	50.1%	27.0%
2010	21.2%	28.9%	46.1%	60.2%	30.2%

Source: Hofmeyr J (ed.) (2011: 49)

The poor global ranking of South Africa's education performance places both current and future global competitiveness of the country at serious risk.

At present, there is no credible solution. Of course, there are many expressions of concern and numerous initiatives to deal with the various aspects of the education crisis in the country in a piecemeal manner. Yet, all of these pale into insignificance in relation to the enormity of the challenges facing the country in eliminating one of the most important systemic contributors to the anti-poor and intergenerational injustice of South Africa's public policy architecture. It is stating the obvious that the issue is profoundly political; however, no political leader since 1994 has had the vision and/or the courage to tackle it effectively. Put differently, no sizeable black middle class has arisen yet to create the necessary political pressure for change in the public education system. The rich, both black and white, opt out of the public education system, and the poor are unable to hold the government accountable.

After education, the budgetary spend on social protection is the next item with significant intergenerational consequences. A disaggregation of this budgetary expenditure is shown in Figure 1.5.

Social welfare has been the fastest growing expenditure category over the past decade and a half. With the extension of the child welfare grant to the age of 17 years, announced in October 2009, this budgetary item was set to rise sharply. It is a matter of time before welfare expenditure exceeds expenditure on education, which is the largest budgetary allocation in the national budget. It is noteworthy that ever since 2000, the share of child grants has consistently increased in the budget. The government's expenditure mix is bound to continue in favour of welfare spending. Over the next three to five years, a growing level of fiscal stress is likely to emerge, primarily as a result of the trade-offs between welfare expenditure and socio-economic infrastructure expenditure. This will be all the more so if GDP growth rates fall and stay below 3 per cent per annum.

It may be argued that such welfare expenditure is, in fact, a socio-political imperative to safeguard the poor and the vulnerable and, as such, is an investment in socio-political stability. There is a grain of truth in this argument, yet it does not constitute a sustainable policy. Nor is it a strategy conducive to a developmental society with rising levels of prosperity.

Critically, in the medium- to long-term fight against poverty, and for the sake of intergenerational upward mobility, there is no substitute for an effective education and human resource development system. The creation and augmentation of human capital is essential for breaking out of the vicious cycle of poverty. Historical evidence suggests that it takes at least one generation to make a real dent in systemic poverty, provided a sound education system operates within a well-integrated national human resource development framework. This is a key plank of a platform for sustainable socio-political stability and intergenerational upward mobility.

Seen in the context of the calculus of overlapping generations' assets and liabilities, the low returns on education investment, together with the ballooning child/youth grants expenditure, constitute a sure liability for future generations, without a corresponding revenue-generating capability. The extension of this grant to the unemployed youth has both sociological and fiscal implications

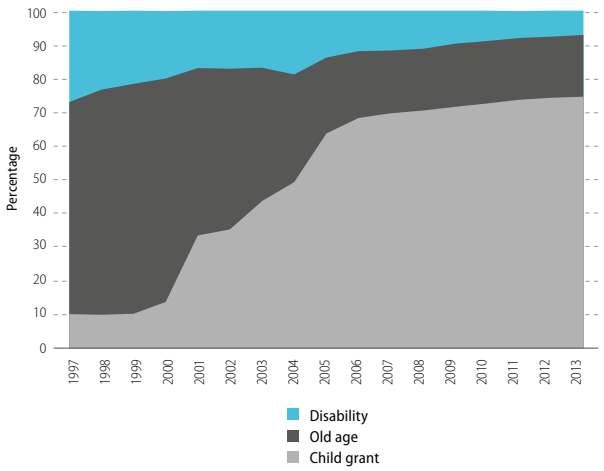
As stated above, socio-econometric processes are dynamic, with feedback loops. The poor education system and the resultant low skills base of the country's labour force leads to a 'low productivity-low wage' outcome. This, in turn, leads to the financial vulnerability of households, and a low and sub-optimal national savings rate. Figure 1.6 illustrates the trajectory of South Africa's national savings over the past three decades, with a projected trend until 2018.

Saving-consumption behavioural patterns are by nature intergenerational. In other words, in general, it is difficult to change savings patterns in the short term. In South Africa, this process is further complicated by the following factors:

- A 'low-productivity-low-wage' scenario keeps the majority of the working population on the breadline, leaving them with very little to save.
- Most saving instruments are structured to benefit the investment managers and their institutions, and not the savers. This, in turn, creates considerable dependency by the retired population on public resources and/or reliance on those who are currently employed. In either case, current savings are curtailed.
- High levels of unemployment and unemployability undermine savings.
- Erratic and unsustainably high levels of economic growth are not conducive to changing saving propensity.

The above trends point to a fairly problematic pattern with regard to the intergenerational equitability of resource allocation, and are indicative of a political economy policy paradigm that heavily discounts the welfare of future generations. As a corollary, the current generation places an undue premium on its own consumption and well-being. In the process, deep distortions and systemic complications in the political system are created.

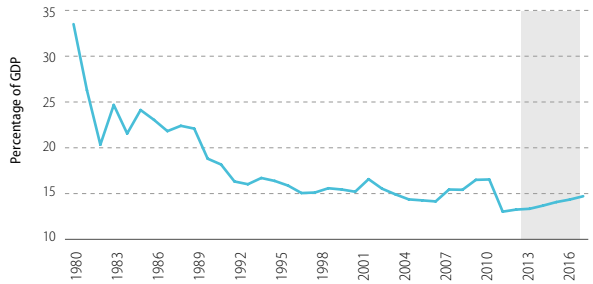
Figure 1.5: Social welfare budget by type of grant, 1997–2913



Source: SASSA (2013)

Note: Child grant = child support, foster and care dependency grants; Old age = grant in aid and war veterans' grants

Figure 1.6: South Africa's national savings as a percentage of GDP, 1980–2018



Source: IMF (2013a)

Non-pecuniary investments in future generations

As important as the pecuniary variables discussed above are, so too are the non-pecuniary investments in the well-being of future generations. At one end, non-pecuniary variables pertain to foundational socio-political and economic institutions and, at the other end, they relate to the significance of promoting social and personal value systems that help lay the ground for defining the nation, its social culture, its internalised moral and ethical codes and its national welfare objectives.

Through the interplay of these two sub-systems of the non-pecuniary network of variables, social capital may be created or destroyed. Contemporary research has underscored the importance of social capital as a critical ingredient of a sustainable political economy framework. The promotion of trust among diverse stakeholders is a key ingredient in the process of social capital formation. This is particularly so in heterogeneous societies like South Africa. The accumulation of social trust augments intergenerational social capital via an array of interrelated processes that include, *inter alia*, the trans-generational conversations within family structures, the workplace, community initiatives and not-for-profit enterprises. The promotion of reciprocity for the common good is a vital element of intra-generational and intergenerational social capital accumulation.

In effect, each individual or each agent lives in multiple 'networks', such as his or her religious, neighbourhood, professional, cultural, tribal or ideological groupings. Systemically, society is the collection of a large number of individuals or agents, each of whom has membership of different networks. Social trust, within a particular cultural norm, admits and promotes co-operation across and among varied networks. As Beinhocker (2007: 435) argues, 'in the terminology of Complexity Economics, if cultural norms provide the micro rules of agent behaviour, then social capital is the emergent result of agents creating co-operative networks'. However, inter-network co-operation obtains within a given institutional and legal platform, commonly defined by the governing constitution of the country.

South Africa's constitutional democracy has been recognised as a progressive platform for the establishment and maintenance of an inclusive system of social development. The Bill of Rights and the separation of powers of the legislative, executive and judicial arms of government are the essential pillars of the democratic dispensation. Furthermore, South Africa's modern history has been synonymous with an independent reserve bank and a credible and active auditor-general's office. The establishment of both the office of the public protector and the national prosecuting authority have further strengthened the constellation of governance institutions promoting accountability, access to justice and the protection of property rights. These are vital requirements for creating a political economy system of governance that has the promise of facilitating a prosperous socio-economic dispensation with resilient intergenerational prospects.

The significance of institutional structuring cannot be over-emphasised. Acemoglu and Robinson (2012) survey the evolution of diverse political economy institutions over a wide range of geographies, with varied socio-political and ideological histories over a span of a few centuries. Societies with 'inclusive' as opposed to 'extractive' institutions, they argue, have a clearly superior chance of success in bringing about stable, sustainable and prosperous societies. Their illuminating political economy review underlines the importance of inclusive institutional structuring for sustainable development. They note:

> This synergistic relationship between extractive economic and political institutions introduces a strong feedback loop: political institutions enable the elites controlling political power to choose economic institutions with few constraints or opposing forces. They also enable the elites to structure future political institutions and their evolution. Extractive economic institutions, in turn, enrich the same elites, and their economic wealth and power help consolidate their political dominance…
>
> Political and economic institutions, which are ultimately the choice of society, can be inclusive and encourage economic growth. Or they can be extractive and become impediments to economic growth. Nations fail when they have extractive economic institutions, supported by extractive political institutions that impede and even block economic growth. But this means that the choice of institutions – that is, the politics of institutions – is central to our quest for understanding the reasons for the success and failure of nations. (Acemoglu & Robinson 2012: 95, 97)

By design, South African governance institutions are inclusive. Furthermore, the country has a well-established, century-old judicial system with a credible and tested jurisprudence. Operationally, however, there has been growing concern in recent years about the over-politicisation of some of these institutions for partisan and individual gain. Corruption and criminality have manifested themselves widely across both private and public entities. Over the past five years, two successive commissioners of police, a number of ministers and premiers, as well as some high-profile members of provincial executive committees, have been implicated in corrupt activities. Private sector entities, ranging from construction, to manufacturing, to telecommunications firms, have been found guilty of collusive and extractive behaviour. State-owned enterprises and agencies, likewise, have been riddled with cases of ongoing misuse, abuse and corrupt use of public resources. The most recent survey of the perceptions of corruption across various sectors in South Africa reveals a disturbing pattern (see Figure 1.7).

It may not be an exaggeration to suggest that the two

interrelated phenomena of corruption and crime have been the topmost blights on the face of an otherwise successful, if not wondrous, democratic transition in South Africa. Increasingly, it is evident that the South African liberation movement's social democratic revolution is being tripped up by corruption. There is a growing danger that not dealing effectively with the problem could lead to the institutionalisation of corruption, the rationalisation of corrupt practices and the taking root of a culture of greed and self-enrichment at all costs. In the terminology of Acemoglu and Robinson (2012), institutions that are designed and intended to roll out an inclusive and accountable socio-political dispensation for future generations are captured by 'extractive practices' for opportunistic material gain by the current generation's political elite.

For intra-generational equity and sustainable prosperity, an effective check on poverty is a key imperative. Nearly 20 years into the democratic dispensation, the failure with regard to poverty eradication is the single most prominent concern in the context of intergenerational welfare and equity. Not only in absolute terms, but also in a global comparative context, South Africa has a serious poverty problem. Figure 1.8 illustrates the severity of the matter.

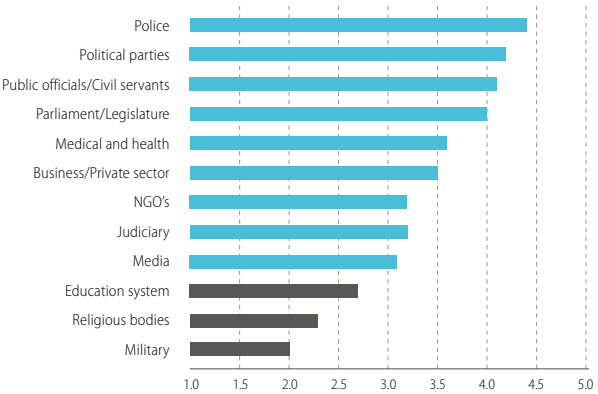
Poverty is a complex phenomenon. It is not self-eliminating, but rather has a built-in self-perpetuating tendency. As is well-acknowledged, the private sector economy is not intrinsically geared to eliminate poverty, although it could be a critical partner in the process of doing so. Thus, the role of the public sector in poverty alleviation is indispensable. The persistence of widespread poverty and, indeed, its deepening since 1994 is, in part, a reflection of the declining efficiency and effectiveness of the public sector. In its 2013 Governance Indicators Series, the World Bank provides an assessment of the South African government's decline in effectiveness (see Figure 1.9).

Increased public sector productivity is a prerequisite for the ability of the economy both to tackle poverty and to raise wage levels for the working classes. The recurring failure of the government and public sector unions to reach speedy and amicable agreements regarding the working conditions of public sector workers has been a major contributor to declining productivity in the public sector. An inability to forge a public service working environment that is conducive to high performance has led to the deepening of a culture of mediocrity, satisfied with little more than adherence to bureaucratic formalities. This normally takes decades to eliminate, while several generations suffer as a result.

Public service delivery is inherently labour-intensive, and labour-intensive production processes more readily lend themselves to the systemic inefficiency and x-inefficiency syndromes.[9] These processes are typically far more management-intensive and system-intensive, and require ongoing performance assessment. Yet, these are the very attributes that the South African public sector operations lack at present.

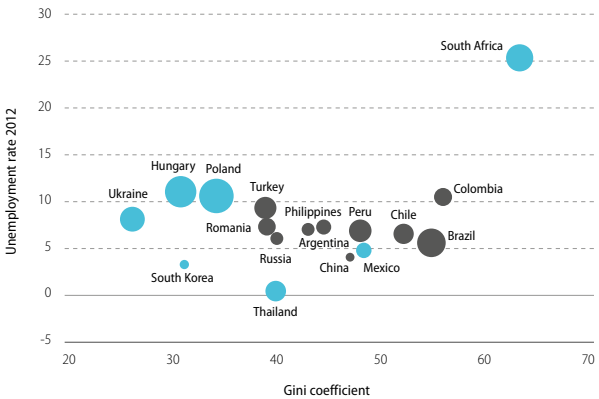
Furthermore, since 1994, the social imperative of black economic empowerment has deepened the politicisation of

Figure 1.7: Perceptions of corruption by institution, 2013



Source: Transparency International (2013)
Note: On a 1–5 scale, 1 = not at all corrupt, 5 = extremely corrupt

Figure 1.8: South Africa's unemployment rate and Gini coefficient in global context



Source: IMF (2013b)
Note: Grey represents a decrease and blue an increase in unemployment between 2008 and 2012 (the size of the bubble illustrates the magnitude of change in unemployment)

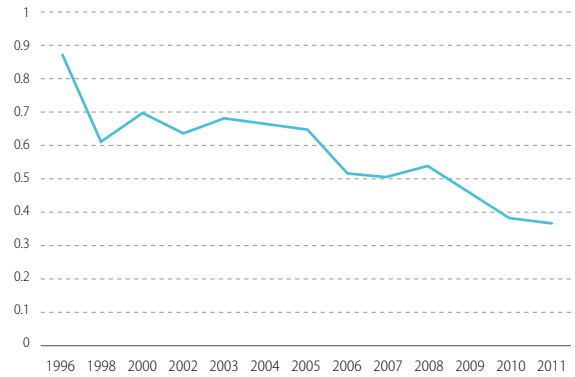
the public service. This does not imply that the public service was not politicised prior to 1994; the historical record shows that it was indeed heavily populated by the followers of the then ruling National Party. However, while there has been an apparent racial transformation of the public service since 1994, certain managerial cultural practices of the previous dispensation remain deeply entrenched. It is, then, not surprising that certain transgressions and abuses of public resources, associated with the apartheid years, continue to be perpetuated in post-apartheid South Africa. Managerial ineptitude, misappropriation of public resources and corruption pervade the three spheres of government. It is this managerial culture that generates an inordinate degree of inefficiency, and exacts heavy losses on present and future generations.

Cross-country evidence suggests that in times of sustained economic growth, an ineffective public sector widens the income distribution gap, thereby deepening structural unemployment and prolonging systemic poverty in the country (see Euromonitor International 2012). It is, therefore, not surprising that the super-cycle of growth over the past decade and a half has bequeathed an income distribution pattern that is more unequal than ever before. The longer public sector inefficiency persists, the more complex effective developmental, sectoral and micro-financial management becomes. By extension, intra-generational equity becomes so much more difficult to achieve.

Comparable global experience, moreover, shows that changing the operational culture of a complex and varied organisation, such as the public service, takes time and requires diligence from the political leadership. In the absence of such behavioural and managerial transformation, the promise of better public service delivery and cost-effective fiscal management of the country is likely to remain a mere slogan.

These government failures have non-pecuniary intergenerational implications and must be addressed before they become entrenched. The desired outcome is fairly easy to define. Firstly, the government has to learn to 'do more with less'. Secondly, the government structure has to be remodelled in a fashion that allows for the planning and implementation of a well-coordinated public sector investment programme, with a view to expanding productive capacity, catering for quality public service delivery and underpinning sustainable economic performance. The National Development Plan (NDP) defines these qualities as those of a 'capable state'.[10] To achieve such outcomes, the public sector will have to undergo extensive professionalisation, which is supported by an enforceable code of ethical conduct. These are vital ingredients of a

Figure 1.9: South Africa government effectiveness index, 1996–2011



Source: World Bank (2013)

ONE

Nearly 20 years into the democratic dispensation, the failure with regard to poverty eradication is the single most prominent concern in the context of intergenerational welfare and equity.

medium- to long-term poverty eradication strategy.

Much like poverty, public sector inefficiency has many root causes. It is often tempting to attribute such organisational inefficiencies to a single and elegant factor, but empirical studies worldwide suggest otherwise. One factor amongst the primary contributors, however, is the rift between the country's socio-economic 'formal (professed)', as opposed to 'informal (practiced)', ethics. This duality is not unique to the public sector. I have argued elsewhere that, like many other societies nowadays, South Africa is trapped in an evident 'value duality quagmire' with considerable socio-political consequences, especially for the present and subsequent generations of the poor (see Abedian 2008, 2009).

Apart from this duality of values, there are other forces that have contributed to the rapid rise of public sector inefficiencies and public resource misuse in the country. The political imperative of socio-economic transformation has necessitated policies such as affirmative action, black economic empowerment and preferential procurement. Furthermore, the nature of the political transition in South Africa and the evolution of the process of change in power, in 1994 and beyond, have given birth to ineffective political deployment strategies by the ruling party, without due regard for competence, at both the national and sub-national levels of government. While these policies and corrective measures have been created with good intentions, and there may be some rationale for them, too, in practice one of the unintended consequences of such political and regulatory interventions has been the rise in corruption and abuse of power, particularly with regard to public resources. As far as governance is concerned, their most deleterious effects are manifest at the local government level.[11] With regard to the broader developmental impact, the combined effects of the abovementioned factors are much wider and equally detrimental.

The duality of values has been accentuated by the processes of socio-political transformation. In general, it is much easier to create a convergence of values in homogeneous societies than it is in communities where tribal, cultural, religious and ideological differences prevail. Interestingly enough, for the classical economists, the consistency of values was almost axiomatic. For example, on the socio-economic significance of honesty, Adam Smith, in his *Theory of Moral Sentiments*, argued that a well-functioning society was dependent on compliance with what he termed a 'code of honour'. The absence of a 'code of honour' ultimately leads to corruption in one or other form. Corruption in society acts much like a cancer in the human body – if not stopped, it will spread! While, initially, some acts of corruption may even be deemed to be expedient, their ultimate and cumulative effect will be detrimental to the developmental path of society. Most significantly, corruption erodes the moral authority of the state and the party in power.

There is convincing and mounting evidence that real and alleged corruption in South Africa have gradually tarnished internal and external perceptions of state operations, as well as the political authority of the government. As a result, the poor's trust in the government has been considerably undermined. While the economy and society at large suffer the consequences of widespread corruption, the poor bear the brunt of its impact. After all, the poor are far more dependent on the performance of the public sector. The rising disparity in income, the growing gap between the rich and the poor over the past decade, is due, in part, to the growing spread of corruption across all sectors and spheres of the economy. Given the historical inequalities inherited from the previous dispensation, it is South Africa's manifest moral failure since the dawn of democracy in 1994 that it has failed to curb the scourge of corruption. The extent of this failure is perilous, as depicted in Figure 1.10.

It is hard to overemphasise the destructive effects of corruption on society. This systemic bias against the poor, and against future generations, remains highly problematic in today's South Africa. It entails considerable adverse effects on intergenerational equity and social inequity. Miles Corak (2013: 79–80) highlights this point in his cross-country research on intergenerational upward mobility:

> an emerging body of evidence suggests that more inequality of income in the present is likely to make family background play a stronger role in determining the adult outcomes of the young people, with their own hard work playing a commensurately weaker role… rising income inequality can stifle upward social mobility, making it harder for talented and hard-working people to get the rewards they deserve. Intergenerational earnings mobility is low in countries with high inequality …and much higher in…countries where income is distributed more evenly.

The last and by no means the least of the systemic anti-trans-generational equity and upward mobility factors in today's South Africa is the nature of our economic growth and its inherent limitations. Since 1994, there has been a growing recognition that for the country to make a meaningful dent in poverty eradication, sustainable job creation and the promotion of trans-generational upward mobility, the average sustainable growth has to be lifted to a multiple of what it has registered so far. This means that the country requires an average GDP growth rate of between 6 and 9 per cent, sustained over a period of 15 to 20 years. For such growth levels to be a real possibility, there is a need for a much higher level of social trust, as well as stakeholder convergence on approaches to economic growth and development.

The contested and fractured approach towards economic policy-making since 1994 has almost become one of the defining features of public policy-making in South Africa. No sooner is a policy announced that either organised labour or organised business casts serious doubts on its motive,

legitimacy and validity, never mind its success. Thereafter, every effort is made to discredit the announced policy and ensure procrastination and delay in its implementation. While open engagement with policy approaches and their technical underpinnings and objectives is an integral part of the democratic process, protracted contestation and ongoing adversarial ideological battles over policy are not conducive to sustained high growth levels. In essence, these adversarial approaches ultimately divert attention away from medium- to long-term issues and channel resources and energies toward short-term crisis management. The opportunity cost of such a *modus operandi* is considerable and, for the poor, it is unbearable. Future generations are set to suffer the consequences accordingly.

One of the major casualties of South Africa's contested public policy domain has been a near total neglect of the country's industrialisation base. Despite numerous public policy statements and pronouncements, South Africa has experienced a real decline in its industrial base. More specifically, the key productive sectors of agriculture, mining and manufacturing have been neglected over the past decade or so. This process of de-industrialisation has been costly in terms of job losses and the loss of productive opportunities. In the manufacturing sector alone, over the past decade, more than 500 000 jobs have been lost and the relative contribution of this sector has declined from 22 per cent to 16 per cent of GDP. The effects of these trends on the poverty of current and ensuing generations have been considerable.

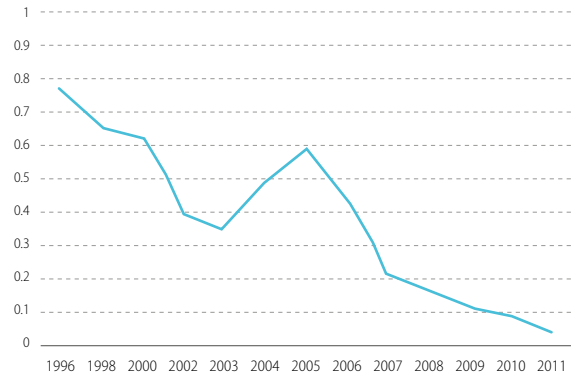
These sectors are vital for medium- to long-term success in the fight against poverty and for trans-generational social development. A focus on rejuvenating the country's industrial base within the framework of integrated beneficiation of mineral and agricultural resources requires a much higher level of collaboration and stakeholder commitment than has been the case thus far since 1994. The re-industrialisation of the economy demands co-ordinated policy implementation and cross-sectoral co-operation between stakeholders in mining, manufacturing and the finance sector, among others. Policy contestation is not going to deliver on this vital socio-economic objective.

The above analysis of non-pecuniary elements of inter-generational equity is by no means exhaustive. Rather, it is illustrative of a select number of factors highlighting the fact that, in addition to quantifiable variables such as investment in multi-generational infrastructure, and the quantum of public debt bequeathed to future generations, there are other foundational variables that do not lend themselves to statistical quantification, yet are key to the success or failure of economic prosperity and social development of future generations.

Challenges in rebalancing intergenerational equity

As argued in the preceding section, it is safe to assert that South Africa's political economy resource allocation is tilted

Figure 1.10: South Africa's control of corruption index, 1996–2011



Source: World Bank (2013)

Configuring society for success over time and across generations is the overarching challenge.

heavily in favour of the current generation. Moreover, intra-generational resource allocation is in favour of the urban and the politically connected elites. Rebalancing this distorted configuration requires, first and foremost, the establishment and promotion of a sustainable and prosperous South African socio-economic and political system. Configuring society for success over time and across generations is the overarching challenge. This topic has been the subject of much scientific and historical research in the recent past.

In his analysis of Western ascendancy over the past 500 years, Niall Ferguson (2011) identifies the following six 'killer apps' as the drivers of socio-economic prosperity: (i) competition; (ii) scientific revolution; (iii) the rule of law; (iv) modern medicine; (v) the consumer society; and (vi) work ethics. Acemoglu and Robinson (2012) emphasise the importance of 'inclusive political economy institutions', and highlight the dangers of politically driven and expedient 'extractive practices'. While such retrospective analyses of socio-economic prosperity or failure are instructive, they often do not fully take into account the time-sensitive dynamics of socio-political and economic evolution.

Social development, by its nature, is a complex, adaptive evolutionary process. As stated above, the four protagonists of socio-economic prosperity (or decline) are: the individual; societal culture with its embedded value system; political economy governance structures; and national capital endowment. Each of these is subject to its own dynamic evolutionary process; and the interplay of the four defines the contours of social progress over time. Furthermore, there is a need for a set of norms to guide and govern the conduct of the protagonists in the iterative game of social progress and wealth generation over time.

Critically, the two interrelated portals of intergenerational equity are the family and the education system. For both intra-generational and intergenerational value transmission, role-model setting and cultural inculcation, the family fulfils an indispensable and irreplaceable function. In many respects, the foundations of success in ethical, emotional and cultural evolution are laid within the family. The education system, in turn, reinforces this complex process with a systematic expansion in both cognitive and deductive capabilities. The compatibility of these two portals is particularly critical for social capital formation over time.

As for the individual, intergenerational upward mobility requires a set of norms supporting a strong work ethic, accountability and self-reliance. As Beinhocker (2007: 430) points out, 'it is also important to believe that there is payoff to hard work and moral life in this world, and not just in the next'. The societal norms pertaining to co-operative behaviour are as important. Belief in non-zero-sum game is a prerequisite for co-operative strategies within society. Communities and nations that believe in zero-sum games lack mutual trust and find it hard to engage in co-operation. In line with the above-mentioned notion of strong reciprocity, it is important for society to promote and value fairness and generosity, on the one hand, and to discourage and penalise free-riding, dishonesty and abusive behaviour, on the other.

Societal norms with regard to competition and celebration of scientific and commercial achievements are vital for intergenerational risk-taking and innovation. Last but not least is how society views time:

> Cultures that live for today (or, conversely, are mired in the past) have problems across the board, ranging from low work ethic, to an inability to engage in complex cooperation and low levels of investment in innovation. Why work hard, and invest in cooperation and innovation if tomorrow doesn't matter? In contrast, cultures that have an ethic of investing for tomorrow tend to value work, have high intergenerational savings rates, demonstrate a willingness to sacrifice short-term pleasures for long-term gain, and enjoy high levels of cooperation. (Beinhocker 2007: 430–431)

These norms, collectively and interactively, help to define a socio-political and business milieu that, over time, contributes towards an upwardly mobile trans-generational social process. As noted earlier, however, South Africa at present faces a serious crisis in its social value system. To rectify the prevailing divide between formal (professed) and informal (practiced) values in South African society requires resolute business and socio-political leadership. A key portal in this regard is a high-quality education system capable of not only imparting skills but also fostering active and responsible citizenship. Clearly, this is not a goal that the government can achieve on its own. A much broader set of national capabilities has to be brought to bear on the subject. However, the government has a critical role to play in this regard. To this end, a conscious de-politicisation of the public service is the first necessary step. This needs to be further reinforced by a political and managerial leadership whose actions are congruent with their formal policy pronouncements.

At the same time, business leadership, as well as labour unions and broader social groupings, have equally significant parts to play. Their commitment to, and the promotion of, an explicit value system is critical for changing the current

pernicious culture of national resource utilisation. This is particularly so in the light of the reprehensible conduct of big business in a variety of sectors, as recently revealed by the Competition Commission reports on price fixing by, *inter alia*, the banking sector, the petrochemical industry, construction firms, bread makers, glass manufacturers and cement producers. The abusive and unethical behaviour of trade union leaders is unravelling too. At the time of writing, the scandal surrounding the COSATU general-secretary, Mr Zwelinzima Vavi, offers a case in point. The shameful sexual abuse of students by lecturers at the University of the Witwatersrand is another example of deep moral decay within society. Equally reprehensible is the reported widespread abuse of learners by their teachers, as is the reported ill-treatment of children and the elderly within society at large. This is but a sample of unethical conduct across a variety of social segments. Clearly, the problem is not confined to these segments. Procrastination in addressing the value consistency question in the country is bound to deepen a culture of operational mediocrity across private and public sectors, with a corrosive impact on society.

Such are the challenges of intergenerational equity in present-day South Africa.

Concluding remarks

This chapter has reviewed the challenges of intergenerational equity in South Africa. Overall, it suggests that the country's resource allocation is skewed in favour of the present generation. Moreover, it has argued that while pecuniary investments for the benefit of future generations in the form of education, child grant and health expenditure have increased considerably since 1994, the non-pecuniary investments in this regard have left much to be desired.

The trans-generational policy framework in South Africa faces many challenges, the toughest of which arises from the absence of a set of well-defined and generally accepted ethical and moral values. As the forefathers of modern economics convincingly argued, no socio-economic system is sustainable, let alone prosperous, without a set of moral values that are generally internalised across society. Democratic South Africa is no exception. An environment filled with a duality of values is conducive to operational inefficiency and ethical inconsistency, as well as social distrust and instability. In the absence of a coherent ethical code of honour and practice, the poor suffer, and while the elite benefit materially, their welfare remains at risk. Future generations are set to suffer the consequences of inaction today.

In this light, it is a matter of grave concern that the newly released NDP is silent on the importance of ethics for economic growth and social prosperity. Indeed, given the analysis in this chapter, it would have been most appropriate to begin the NDP with a discussion of the role in social progress of ethics and moral conduct, especially on the part of those in public office.

Intergenerational equity is a complex, multifaceted virtue, which is easier to profess than to achieve. In general, when resource allocation is tilted in favour of the present generation, it is harder to correct the imbalance than the other way around. Visionary and resolute political and social leadership is required to achieve success in this regard. Institutional, systemic, social and individual changes are required, too.

Within the analytical paradigm of complexity economics, this chapter has argued that the evolution of the complex adaptive system of socio-economic structures requires a set of norms for success. The adoption of such norms defines the current and likely drivers of competitive advantage and social progress over time. South Africa has one past, but numerous futures. Which one will be realised depends on the decisions made today.

Acknowledgements

I would like to acknowledge the research assistance of my colleagues, Mr Patrick Kanda and Ms Gloria Mabindisa. I owe special gratitude to Ms Tania Ajam who offered insightful comments on an earlier draft of this paper. I am also grateful to Mr Francis Antonie who provided thoughtful editorial inputs. All errors and omissions, nonetheless, remain mine.

Endnotes

1 Note that, in this definition, the consequences of power dynamics are assumed away. In reality, the dominant groups ensure that their needs are met, and not necessarily the needs of the entire present generation.

2 The principle of trusteeship resonates with the saying: 'We do not inherit the earth from our ancestors, we borrow it from our children.'

3 An associated argument is the extent of intra-generational equity in terms of access to resources. If and when a large proportion of the current generation is condemned to poverty and unemployment, it is hard to expect them to care for the future generations.

4 For a detailed and instructive synthesis of this research, see Beinhocker (2007).

5 Increasingly, it is becoming clear that 'global', as opposed to 'national', endowment of capital needs to be introduced into the discourse around intergenerational equity.

6 A lethal blend of factors contributes to this outcome. The Department of Education has mismanaged the sector for years. The teacher unions refuse to allow any form of monitoring of teacher attendance and performance. When teachers take the tests set for students at the level they are supposed to teach, they fail the tests themselves. A big part of the failure of education is also the fact that the family structures malfunction in South Africa. Studies show that only one-third of South African children live in a household with at least one biological parent. Parents, not the state, are generally the first teachers. In South Africa, that is simply not the case for a large proportion of the population.

7 President Thabo Mbeki coined the term 'second economy', referring primarily to a segment of the population that is unable to engage proactively with the mainstream economy of the country.

8 This is so despite the increase in teacher qualifications. In 1994 only about 60 per cent of teachers had three-year degree qualifications. Now, more than 95 per cent do, but there has been little improvement in the quality of teaching and learning.

9 In general, x-inefficiency occurs when certain decision-making units use more inputs than required, which results in higher average costs than necessary. This usually occurs in a monopoly where the company has no incentive to cut unnecessary costs, or in public entities where competition does not prevail due to market structure.

10 The NDP is a document produced in August 2012 by the National Planning Commission of the South African government.

11 For a review of the extent of such public resource abuse, see the various reports of the auditor-general's office (www.agsa.co.za).

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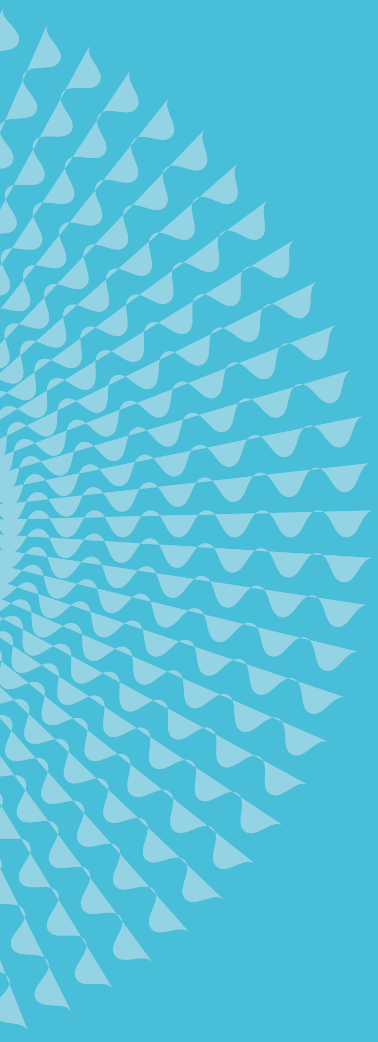
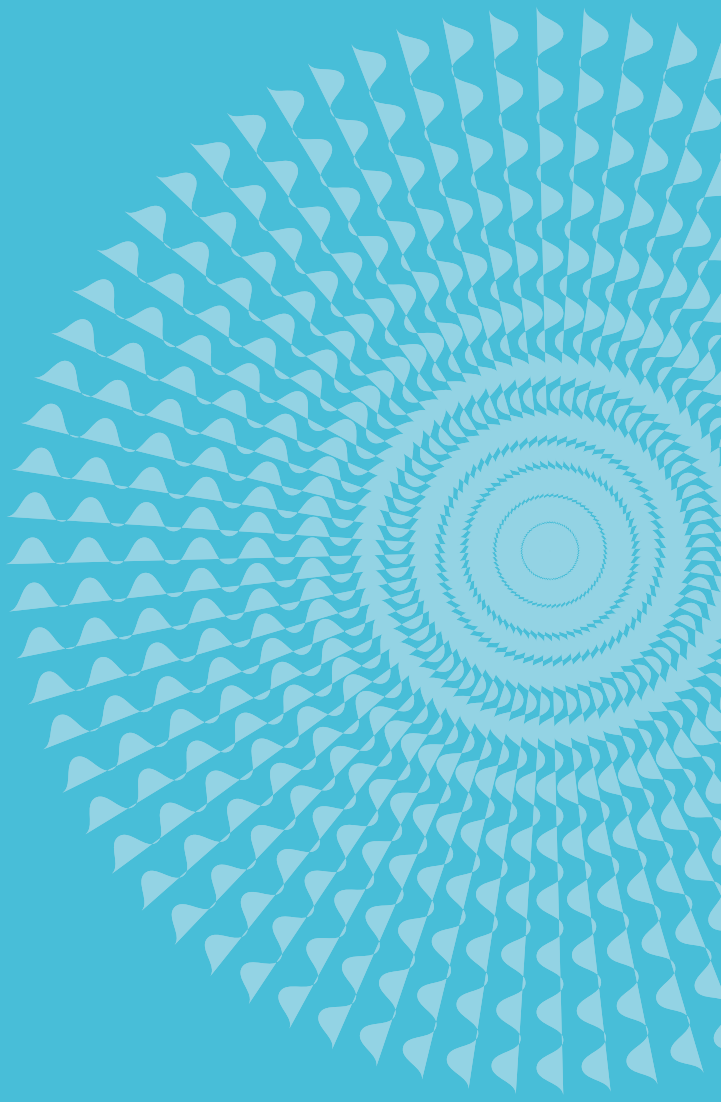




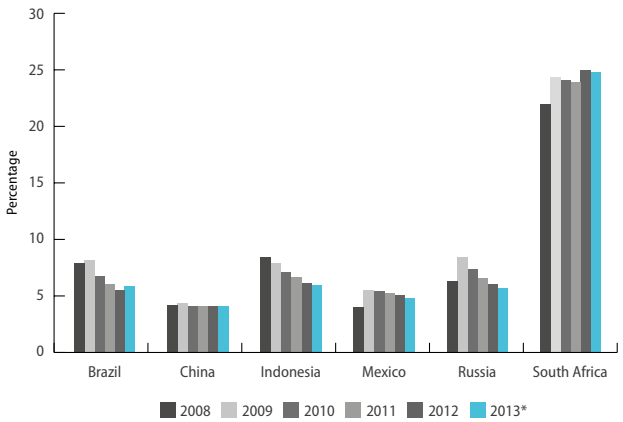
Chapter TWO

The Labour Market

The Labour Market at a Glance

By the end of the third quarter of 2013, unemployment had recorded a year-on-year decline of 0.8 percentage points from 25.5 per cent to 24.7 per cent. While such modest improvements are encouraging, it is likely that unemployment will rise again in the first quarter of 2014, due to losses in seasonal employment, as has been the case in preceding years. Although the employment absorption rate was somewhat higher at 41.9 per cent of the labour force, compared to the 41.3 per cent of last year, this figure remains low and South Africa should continue to focus attention on the need to draw more working-age South Africans into employment. Statistics from the Department of Labour for 2012, such as the 99 work stoppages reported, show that poor relations between unions and employers, leading to undesirable strikes, continue to undermine productivity and growth. While the data for 2013 were not available at the time of going to press, this trend appeared to have continued during 2013. There will be keen anticipation to see whether and when the implementation of an employment tax incentive, as mooted this year by the ANC, will make a significant contribution to job creation, especially amongst young South Africans.

South African unemployment in comparative perspective



Source: International Monetary Fund, World Economic Outlook Database, October 2013
* estimated for all countries excluding SA

COUNTRY NOTES
Brazil source: National statistical office latest actual data: 2012. Primary domestic currency: Brazilian reais. Data last updated: 09/2013. *China source*: CEIC latest actual data: 2012. Employment type: National definition. Primary domestic currency: Chinese yuan. Data last updated: 09/2013. *Indonesia source*: CEIC latest actual data: 2012. Employment type: National definition. Primary domestic currency: Indonesian rupiah. Data last updated: 09/2013. *Mexico source*: Haver analytics latest actual data: 2012. Employment type: National definition. Primary domestic currency: Mexican pesos. Data last updated: 09/2013. *Russia source*: Haver analytics latest actual data: 2012. Employment type: Harmonised ILO definition. Primary domestic currency: Russian rubles. Data last updated: 09/2013. *South Africa source*: Stats SA Quarterly Labour Force Surveys (Q4, 2008–Q3, 2013), actual figures for Q3 2013 updated by the IJR.

South Africa's key labour statistics	
Unemployment	24.7%
Unemployment (expanded definition)	35.6%
Unemployed young South Africans (15–34) as a percentage total unemployed	72.0%
Number of employed ('000)	14 029
Number of unemployed ('000)	4 609
Not economically active working-age population ('000)	14 826
Employment absorbtion rate	41.9%
Labour force participation rate	55.7%

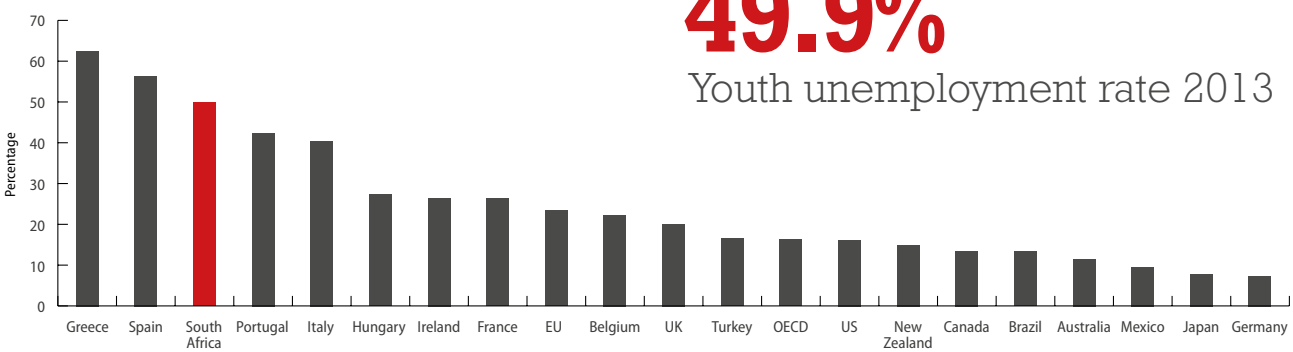
Source: Stats SA, Quarterly Labour Force Survey, 3rd Quarter, 2013

Key youth (15–24) labour market statistics, 2013	
Unemployment rate	49.9%
Unemployment ratio	12.8%
Labour force participation rate	25.5%
Inactivity rate	74.5%

Source: Stats SA, Quarterly Labour Force Survey, 3rd Quarter, 2013

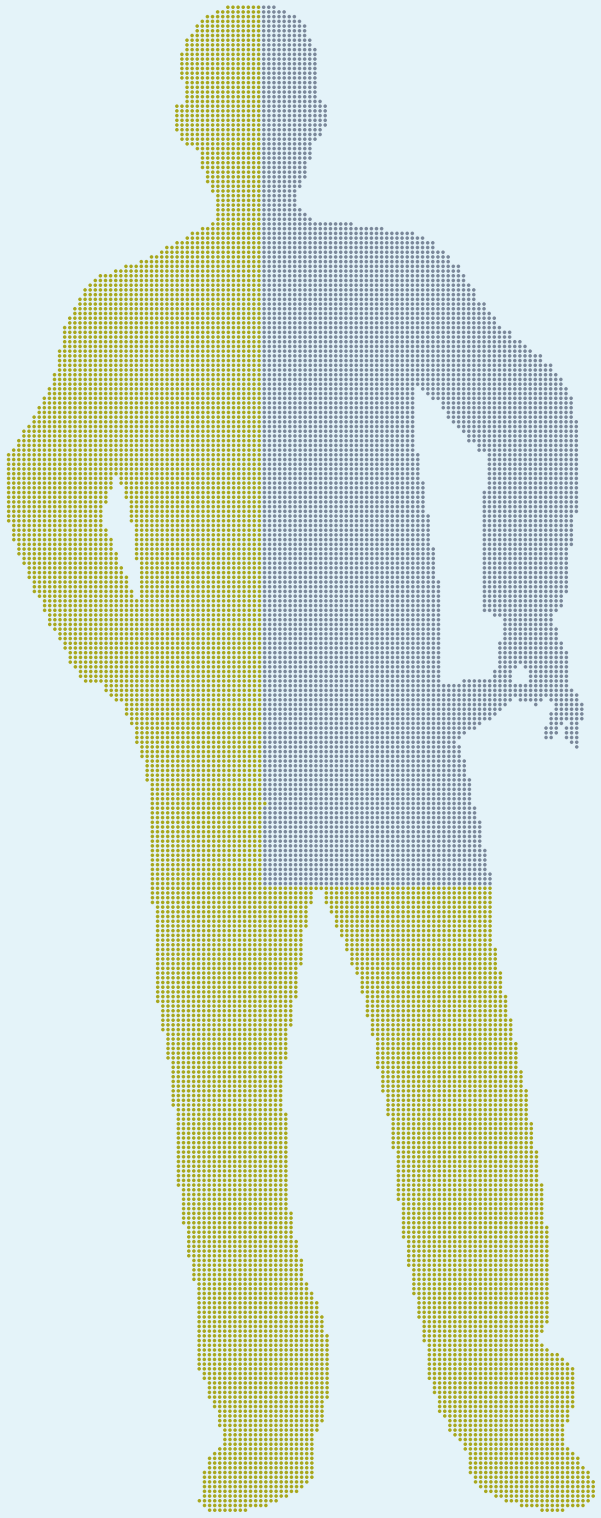
OECD youth unemployment, selected countries

49.9%
Youth unemployment rate 2013



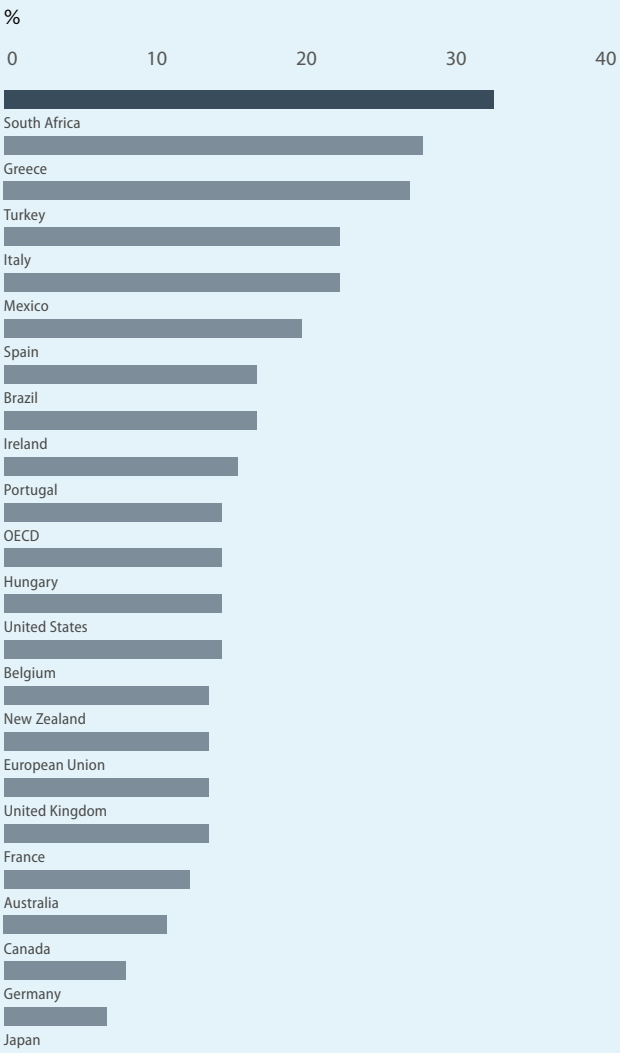
Source: OECD Short-term Labour Market Statistics Database
1) 2012 Q4 for Switzerland; 2013 Q1 for New Zealand; February 2013 for Greece, Turkey and the United Kingdom; March 2013 for Chile, Estonia, Hungary, Norway and Slovenia; May 2013 for Canada and the United States
2) Q3 of 2013 for South Africa – figure updated by the IJR – *Source:* Quarterly Labour Force Survey, 3rd Quarter, 2013
Note: Youth (15/16–24) age group

NEETs 2012, Quarter 4



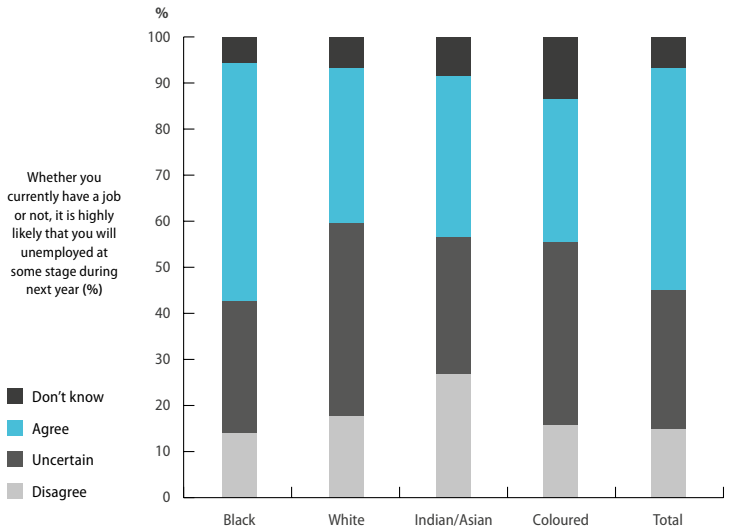
31.5%
of youths are not in employment, education or training

Percentage of youth aged 15–24 not in employment, education or training



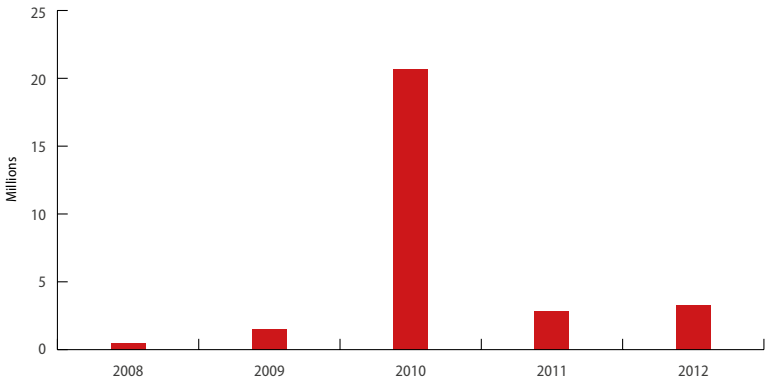
Source: OECD estimates based on national labour force surveys
Data notes: 1) 2009/10 only for India; 2010 for China; 2011 Q4 for Saudi Arabia; March 2013 for Australia; and 2013 Q1 for Canada, Mexico, New Zealand and the United States
2) Q3 of 2013 for South Africa – figure updated by the IJR – *Source*: Quarterly Labour Force Survey, 3rd Quarter, 2013

Youth perceptions of employment prospects, during the next year (15–34 year-olds), by race, 2013



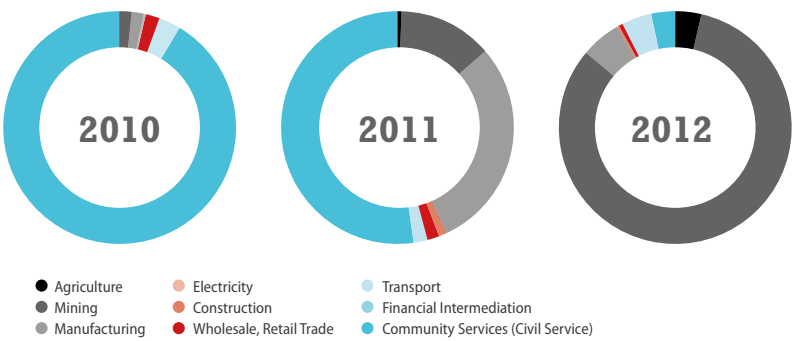
Source: Institute for Justice and Reconciliation, 2013 South African Reconciliation Barometer
1) Response categories for 'Agree' and Strongly Agree' have been combined for readabililty
2) Response categories for 'Disagree' and 'Strongly Disagree' have been combined for readability

Number of working days lost in South Africa due to industrial action

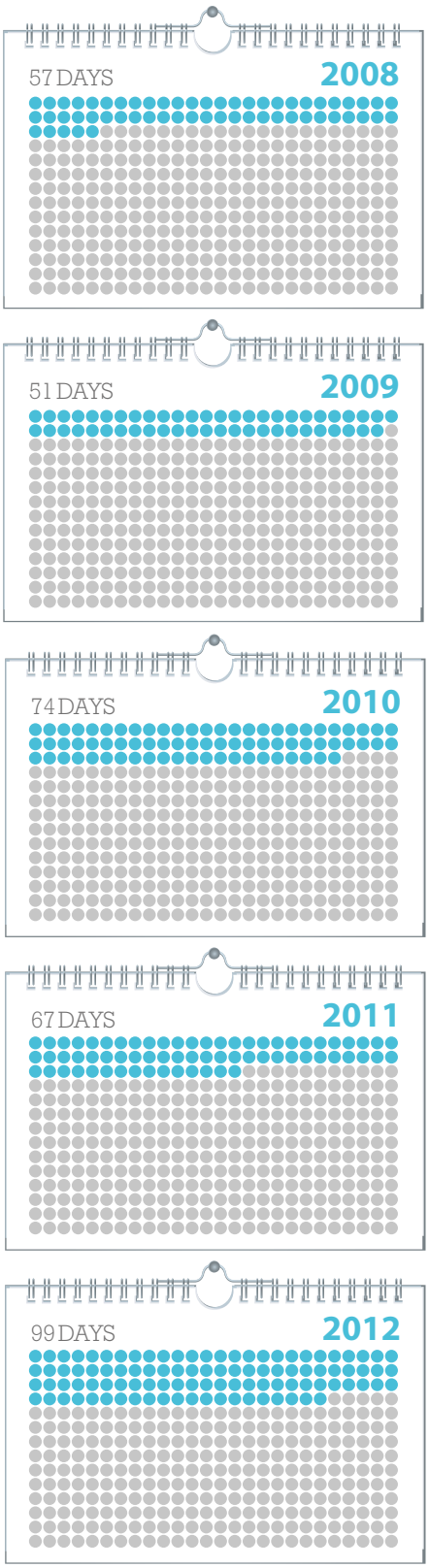


Source: Department of Labour, 2012 Annual Industrial Action Report
Note: According to the Department of Labour's 2012 Annual Industrial Action Report, the spike in 2010 was largely due to the major public sector strike that occured during this year

Percentage of working days lost by industry, 2010–2012



Number of work stoppages as a result of industrial action



An overview of real earnings trends of the formally employed in post-apartheid South Africa

Derek Yu

Introduction

While South African policy debates about solutions to the country's developmental challenges may be highly polarised, there is little disagreement about their underlying cause – a skewed and dysfunctional labour market. Both poverty and inequality are being reinforced by the pattern of wage distribution in our society.

As such, employment creation has been at the heart of a host of economic strategies that have seen the light over the past two decades. These include the Reconstruction and Development Programme (RDP), the Growth, Employment and Redistribution (GEAR) strategy, the Accelerated and Shared Growth Initiative for South Africa (ASGISA) and, most recently, the New Growth Path (NGP), which was launched in 2011. That the targets for reducing unemployment have been ambitious to date is largely a reflection of both the magnitude of the problem and the urgency of stemming its impact on the country's developmental agenda. The NGP has set its sights on bringing down unemployment levels to 15 per cent by 2020. This, coincidentally, was the target set by its predecessor, ASGISA, for 2014 (National Treasury 2007). However, at the time of the writing, the narrow unemployment rate in the first quarter of 2013, just one year away from the ASGISA deadline, is 25.2 per cent (Stats SA 2013). If the current growth trajectory is not altered significantly, the country is also likely to miss the 6 per cent unemployment target of the National Development Plan (NDP), which was adopted by the government in 2012 to guide its economic planning until 2030 (NPC 2012).

The question of youth unemployment, in particular, is most serious. The narrow unemployment rate of the labour force for those aged 18–29 years (the target age group of the proposed youth wage subsidy) is 41.8 per cent, compared with 17.3 per cent for 30–65 year olds, in the first quarter of 2013 (Stats SA 2013). This indicates the deeply structural nature of the challenge, which, rather than being reversed, is being reproduced. Thus, it is critical to try and understand the factors that sustain this configuration of circumstances. Inevitably, as indicated above, the results of such analyses tend to elicit polarised responses from stakeholders with vested interests on all sides of the economic spectrum.

Various studies have investigated the main causes of high and persistent unemployment in South Africa. Some highlight the extent to which capital deepening and technological advancements have changed the structural nature of the economy, leading to a growing demand for highly skilled labour, and the retrenchment, as well as declining recruitment, of low-skilled and unskilled workers (Banerjee, Galiani, Levinsohn & Woolard 2006; Lam, Leibbrandt & Mlatsheni 2008; Bhorat 2009; Marcus 2013). Others have also highlighted the extent to which the provisions of the Labour Relations Act 66 of 1995 (LRA) have made it difficult and time-consuming for employers to shed non-performing workers, thereby causing unnecessary employment rigidity, which makes it difficult for employers to switch to capital-intensive methods if they so choose (Mahadea 2003; Bhorat 2009; Mahadea & Simson 2011). Arora and Ricci (2005), Bhorat (2012) and Bhorat, Jacobs and Van der Westhuizen (2013) all note the extent to which the high procedural costs associated with the dismissal of unproductive workers and the hiring of new employees have impacted on higher levels of employment. Such arguments have been given credence by the World Economic Forum's 2013 *Global Competitiveness Report* (WEF 2013), which ranked South Africa 116th out of 148 participating countries for its labour market efficiency. The report also ranked the country 144th in the flexibility of wage determination, 147th in hiring and firing practices, and last for employer-employee relations.

Much debate has centred on the contentious issue of the determination of minimum wages, which is also the focus of this article. Critics have suggested that the existing process of collective bargaining is stifling the growth of new business (and, hence, employment), because larger firms agree to minimum wages that are frequently unaffordable to emerging smaller firms. As a result, these nascent businesses, which are typically more labour intensive and, consequently, create more employment, are being forced to either shed jobs or become more capital intensive. If they cannot afford the latter, they inevitably close down (Nattrass 2000; Bhorat 2009). Certain studies (Armstrong & Steenkamp 2008; Bhorat, Van der Westhuizen & Goga 2009) have found that employees who were members of trade unions or were covered by a bargaining council were paid relatively higher wages than those who were not, even after controlling for the differences in educational, demographic and work characteristics.

Some also point to an inherent asymmetry between the desires of the currently employed (the insiders) and the unemployed (the outsiders). The insiders, as might be expected, prefer to keep wage levels high, while those struggling to gain access are willing, in some instances, to sell their labour at prices below the minimum wage (Von Fintel & Burger 2009; Paton 2011). Unfortunately, the views of the outsiders are not considered during collective bargaining processes. Almost counter-intuitively, wages tend to remain sticky and slow to fall during times of low labour productivity and demand, such as during a recession. As a result, the outsiders, frequently young, inexperienced work-seekers, fail to find employment in the formal sector (Von Fintel & Burger 2009; Paton 2011). Some of them may still be able to survive in the informal sector, but this sector also is riddled with obstacles to entry, ranging from crime, lack of access to formal or even informal credit, weak infrastructure and services, insufficient provision of training facilities, and inadequate government promotion of micro-enterprises and informal enterprises (Kingdon & Knight 2004, 2007; Rogerson 2004; Burger & Woolard 2005; Devey, Skinner & Valodia 2006). Consequently, the outsiders become and remain chronically unemployed.

> That the targets for reducing unemployment have been ambitious to date is largely a reflection of both the magnitude of the problem and the urgency of stemming its impact on the country's developmental agenda.

As far as its impact on employment is concerned, the minimum wage has various pros and cons. Its detractors argue that unemployment would rise if the minimum wage is above the market-clearing wage level,[1] and there is no longer a clear linkage between wages and labour productivity (Barker 2007; Klein 2012) or between wages and employment (Wakeford 2004; Marcus 2013). On the flip side, there are arguments in favour of the idea that higher wages motivate people to work harder, thereby improving productivity and providing an incentive for employers to hire more workers (Barker 2007).

In this article, some of these assumptions are tested against the most readily available and reliable data for the South African labour market. This is done by looking at each of the main sectors in the South African economy to determine whether there are fixed patterns or whether our findings are sector-specific. In conclusion, we comment on the implications that these findings have for minimum wage determination. Before we proceed, however, it is necessary to provide a broad overview of the parameters and context of wage formulation in South Africa.

Wage formulation in the South African labour market

Wages in South Africa can be negotiated either within or outside of the statutory system of wage determination. With regard to the former, the LRA provides the legislative framework for the establishment of bargaining councils. In terms of the Act, one or more registered trade unions and one or more registered employers' organisations may establish a bargaining council for a particular sector. The Act, in addition, provides for the state to be a party to any bargaining council if it is an employer in the sector and area in which the bargaining council is established.

The LRA makes it possible for the bargaining council to request the minister of labour to extend a collective agreement (regarding minimum wages, for example) to non-parties that fall within its jurisdiction. Various provisions have to be satisfied before the minister may agree to such an extension. Amongst other things, it is a prerequisite that the trade unions representing the majority of workers in such negotiations vote in favour of the extension, as is the case for employers' organisations that employ the majority of workers affected by the negotiations. Once the minister is satisfied that all requirements have been met, the collective agreement is extended and is published in the government gazette (for more detailed information on the legislative environment of bargaining councils, see Bhorat et al. 2009; Godfrey, Maree, Du Toit & Theron 2010).

In June 2013, there were 124 registered trade unions and 163 registered employers' organisations in South Africa (SALG 2013a, 2013b). In addition, there were 42 private bargaining councils, as well as six local government and government bargaining councils (SALG 2013c).

Sectoral determination provides another statutory avenue for setting wages. The minister of labour, following a process of research and consultation that involves employers, employees and the Department of Labour, has the discretion to decide on a sectoral determination that establishes basic conditions of employment (including minimum wages) in a specific sector and area. Such a determination has to be made in accordance with the provisions in Chapter 8 of the Basic Conditions of Employment Act 75 of 1997 and must be published in the government gazette.

The following areas of economic activity (which cannot easily be reduced to formal sectors and sub-sectors) have sectoral determinations in place: children in the performance of advertising, artistic and cultural activities; civil engineering; contract cleaning; domestic workers; farm workers; the forestry sector; hospitality workers; learnerships; the private security sector; the taxi sector; and the wholesale and retail sector (DoL 2013).

Non-statutory collective bargaining can take place either in centralised bargaining forums or at the company and plant level (Godfrey 2007). Centralised non-statutory collective bargaining typically takes place in the mining, automobile manufacturing and pelagic fishing sectors. In the mining sector, centralised bargaining takes place only in the gold- and coal-mining industries. In the case of gold and coal mining, the employers' organisation, the Chamber of Mines, bargains on behalf of these industries with the relevant unions. To date, the dominant union in this sphere has been the National Union of Mineworkers (Godfrey 2007; Bhorat et al. 2009). Gold and coal mines that are not members of the Chamber of Mines are covered by firm-level or mine-level collective bargaining agreements (Godfrey 2007).

Non-statutory collective bargaining can also take place at the decentralised or single-employer level, with common examples found in the retail and food manufacturing sectors.

How do these forms of bargaining affect wage levels? Calmfors and Driffill (1988) argue that if collective bargaining were to be either completely centralised (i.e. taking place at national level), or completely decentralised (i.e. taking place at company or plant level), the negotiated wages would be at

their lowest. In the case of the former, trade unions represent both the employed (insiders) and the unemployed (outsiders) and, hence, are more likely to exercise wage constraint to ensure that unemployment is kept to a minimum. Conversely, in the case of completely decentralised bargaining, the unions would have too little market power to increase wages significantly and, thus, both wages and unemployment would remain low.

This suggests that at intermediate levels of bargaining, such as the industrial or sectoral level (e.g. the current South African bargaining councils), wages would be higher because unions are powerful enough to negotiate significantly higher settlements for their workers. Higher wages, however, are likely to exert downward pressure on employment. Since they are not accountable to the unemployed, unions' bargaining strategies within this context are aimed at maximising wages, not employment (Calmfors & Driffill, 1988). This line of reasoning is suggestive of an insider-outsider model, as discussed above.

Information on minimum wage levels is available on the Department of Labour website and from the 'bargaining indicators' released by the Labour Research Service (LRS). For instance, the LRS (2011) found that, in 2010, the average minimum wage was highest in the transport, storage and communication industry, followed by the manufacturing and mining industries. These were the only industries where the average minimum wage was above the overall average minimum wage of all industries. In contrast, the average minimum wage was lowest in agriculture, followed by construction and financial and business services. In the discussions below, wage trends over a prolonged period in each industry are analysed in greater detail, and their relationship with employment and production (in terms of gross value added) is examined. Whether the current system of collective bargaining has a detrimental impact on employment, as hypothesised by Calmfors and Driffill (1988), is also investigated.

Data and methodology

The focus of this analysis falls on formal sector employees. Informal sector employees are excluded from this study, because only a small proportion (approximately 2.5 per cent in 2013) are members of trade unions, compared with more than one-third in the case of formal sector employees. Furthermore, 90 per cent of formal sector employees are employed in terms of a written contract, while this is the case for only 40 per cent of informal sector employees. The employment data used come from the 1997–1999 *October Household Survey (OHS)*, 2000–2007 *Labour Force Survey (LFS)* and 2008–2011 *Quarterly Labour Force Survey* (QLFS). With regard to information on earnings, the data are from the 1997–1999 *OHS*, 2000–2007 *LFS*, and the 2010–2011 *Labour Market Dynamics (LMD)*. It is important to note that the 2010 *LMD* consists of the pooled data from all four 2010 *QLFS*. The same applies to the 2011 *LMD*. At the time of writing, the 2012 *LMD* data were not yet available.

One shortcoming of this analysis is that it is not possible to use the *OHS* 1995–1996 data, because the questionnaire did not make a clear distinction between formal and informal sector employees (Essop & Yu 2008). As a result, the focus falls on the 1997–2011 period. In addition, it has become typical behaviour for respondents in labour surveys to report extremely high earnings (Burger & Yu 2006). Hence, for the purpose of this discussion, these outlier earnings values are excluded from the analysis to render more reliable results on the real earnings trends. In the section that follows, monthly earnings trends by industry between 1997 and 2011 are considered. The earnings are expressed in 2012 constant prices. The relationship between wage trends and employment trends is also investigated.

Empirical findings

Before proceeding with our analysis of real wage trends by industry, it is important to look at the employment and gross value added contributions by each industry. From Table 2.1 we can infer that structural change in the South African economy has resulted in a surge in demand for highly skilled and educated workers in the tertiary sector. Between 1997 and 2011, employment in this sector increased by 2.67 million (3.9 per cent), with the financial and business services industry showing the highest level of growth. In the secondary sector, employment increased by only 0.48 million (2.6 per cent), and was driven mainly by the construction industry. Employment in the primary sector decreased marginally by 41 000 (0.3 per cent). During this 14-year period, only mining and quarrying and electricity, gas and water, suffered net job losses.

Table 2.2 presents the real gross value added by industry between 1997 and 2011 in constant 2005 prices. As expected, the increase was greatest in the tertiary sector (4.0 per cent), followed by the secondary sector (2.8 per cent), while the primary sector's growth was negligible (0.3 per cent). The three industries that showed the greatest increase of real gross value added in percentage terms (exceeding 5.0 per cent) are construction, financial and business services, and transport, storage and communication. Electricity, water and gas recorded the lowest growth (1.1 per cent), while mining and quarrying is the only industry that showed a decline (of 0.2 per cent) in real gross value added.

Together, Tables 2.1 and 2.2 clearly suggest that the economic and employment contributions were the weakest in the mining and quarrying, and electricity, gas and water industries. The best performers, on the other hand, were the construction, and financial and business services industries. The results also suggest the weakening global demand for minerals, and the structural change in the South African economy, as indicated by the relatively more rapid employment and gross value added growth of the industries in the tertiary sector.

Table 2.1: Formal sector employees (1 000s) by industry, *OHS* 1997 vs *QLFS* 2011Q4

Industry	Number		Share		Change	
	OHS 1997	*QLFS* 2011Q4	*OHS* 1997	*QLFS* 2011Q4	Absolute	Relative
Primary sector	878	837	13.3%	8.8%	-41	-0.3%
Agriculture, forestry and fishing	496	511	7.5%	5.4%	15	0.2%
Mining and quarrying	382	326	5.8%	3.4%	-57	-1.1%
Secondary sector	1 773	2 252	26.9%	23.7%	479	1.7%
Manufacturing	1 347	1 514	20.4%	15.9%	167	0.8%
Electricity, gas and water	107	81	1.6%	0.9%	-26	-1.9%
Construction	320	658	4.8%	6.9%	338	5.3%
Tertiary sector	3 735	6 411	56.6%	67.4%	2 676	3.9%
Wholesale and retail trade	1 071	1 870	16.2%	19.7%	799	4.1%
Transport, storage and communication	409	543	6.2%	5.7%	134	2.1%
Financial and business services	612	1 451	9.3%	15.3%	839	6.4%
Community, social and personal services	1 643	2 547	24.9%	26.8%	904	3.2%
All formal sector employees	6 602	9 064	100.0%	100.0%	2 462	2.3%

Source: Author's calculations using *OHS* (1997) and *QLFS* (2011Q4) data

Table 2.2: Gross value added (R million, 2005 prices) by industry, 1997 vs 2011

Industry	R million (2005 prices)		Share		Change	
	1997	2011	1997	2011	Absolute	Relative
Primary sector	*134 806*	*141 252*	*12.5%*	*8.3%*	*6 446*	*0.3%*
Agriculture, forestry and fishing	33 012	41 580	3.1%	2.4%	8 568	1.7%
Mining and quarrying	101 794	99 672	9.5%	5.9%	-2 122	-0.2%
Secondary sector	*261 951*	*385 516*	*24.3%*	*22.7%*	*123 565*	*2.8%*
Manufacturing	205 293	292 733	19.1%	17.2%	87 440	2.6%
Electricity, gas and water	29 729	34 798	2.8%	2.0%	5 069	1.1%
Construction	26 929	57 985	2.5%	3.4%	31 056	5.6%
Tertiary sector	*680 083*	*1 174 059*	*63.2%*	*69.0%*	*493 976*	*4.0%*
Wholesale and retail trade	137 123	235 404	12.7%	13.8%	98 281	3.9%
Transport, storage and communication	*85 590*	*172 549*	*7.9%*	*10.1%*	*86 959*	*5.1%*
Financial and business services	195 356	402 500	18.1%	23.7%	207 144	5.3%
Community, social and personal services	262 014	363 606	24.3%	21.4%	101 592	2.4%
All formal sector employees	*1 076 840*	*1 700 827*	*100.0%*	*100.0%*	*623 987*	*3.3%*

Source: Author's calculations using South African Reserve Bank (SARB) *Quarterly Bulletin* data

Mean monthly earnings in comparison to employment gains

Figures 2.1–2.10 present mean monthly earnings in 2012 prices and number of formal sector employees. Since there are no earnings data available for 2008–2009 (despite the fact that the information on formal sector employment and gross valued added data are available), only the 1997–2007 and 2010–2011 results are presented in these figures.

Primary sector

Figure 2.1 clearly shows that a decrease in real earnings coincided with an increase in employment in the agriculture, forestry and fishing industry between 1997 and 2003. However, the slight upward trend in real earnings between 2004 and 2007 was accompanied by stagnant employment levels. In 2010–2011, mean real earnings increased again, while employment declined. Thus, there is an inverse relationship between real earnings (on average terms) and employment, which suggests that wage increases may have been too quick to match productivity increases in recent years and, hence, gave rise to a growth in retrenchments. However, as mentioned above, it could also partly be attributed to the use of more capital-intensive technologies in production, thereby causing agricultural employment to decline.

Figure 2.2 shows that mean real earnings remained fairly stable in the mining and quarrying industry between 1997 and 2003. Between 1997 and 2000, there were significant gains in employment, which stabilised at a relatively high level up to and including the first half of 2004. Employment, however, plunged as mean wages increased during the second half of 2004. In the following years, employment levels went up slightly as mean wages declined, but plummeted again to new lows in 2010 and 2011 as mean wages reached new highs. The 2010–2011 data may suggest that the extent of the increase in real earnings was too rapid, and not matched by an equally rapid increase in productivity of workers. As a result, some of the less robust mining and quarrying firms either had to close down or retrench workers in order to switch to more capital-intensive production techniques. Also, as suggested in Table 2.2, there seems to have been a reduction in the demand for production in the mining and quarrying industry. Furthermore, the high incidence of strikes and relatively greater number of working days lost can be regarded as an added impediment to employment in this industry in recent years (Jacobs & Yu 2013).

Secondary sector

Figure 2.3 shows that both real monthly earnings and employment levels were fairly stable in the manufacturing industry, with a slight upward trend during the 1997–2011 period. Over the same period, the pattern of mean earnings and employment levels in the electricity, gas and water industry, however, was erratic and with no clearly discernible relationship between the two variables (see Figure 2.4).[2] The picture for the construction industry (see Figure 2.5), one of those that recorded rapid growth in both employment and gross value added (see Tables 2.1 and 2.2), shows that the downward trend in earnings between 1997 and 2004 was accompanied by a slight upward trend in employment. However, it is interesting to note that since 2005, both mean real earnings and employment showed a general upward trend. This may suggest that the rise in real earnings was matched by an increase in labour productivity, thereby leading to more production and an increase in demand for labour.

Tertiary sector

In the wholesale and retail industry (see Figure 2.6), mean real earnings were fairly stable during the period under review, with the exception of a sudden surge in 2010–2011. During the same period, employment showed an upward trend, particularly between 2004 and 2007. It is interesting to note that in 2010 and 2011 formal sector employment remained high, even though mean real earnings increased. These results are not surprising, as Tables 2.1 and 2.2 have already shown that this is one of the industries with a relatively more rapid increase in gross value added. This may have led to an increase in labour demand to meet the increasing product demand and, consequently, an increase in employment. It is also possible that the workers in this industry have become more productive over the years.

Figure 2.7 shows that the trajectory for employment in the transport, storage and communication industry was stable, albeit slightly downward, between 1997 and the first half of 2007. With three exceptions (the first halves of 2000, 2003 and 2004), the mean monthly wage was located within the R7 000–R8 000 band. However, in 2007 there was a significant upward surge in employment, which remained at that level into 2011.

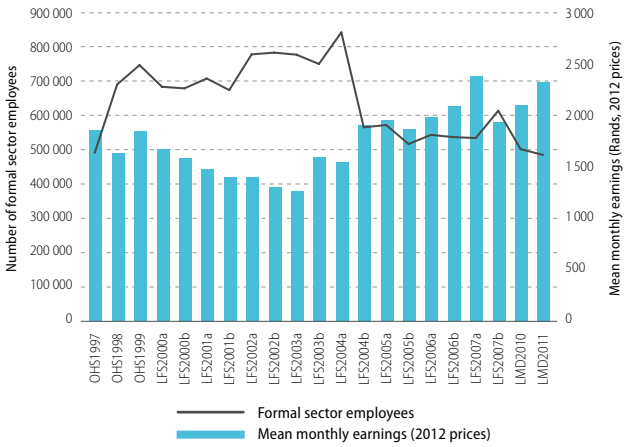
Looking at financial and businesses services (see Figure 8), the other industry that recorded very rapid improvement along with construction (see Tables 2.1 and 2.2), it is evident that, other than the surprisingly high increase during the second half of 2007,[3] mean real earnings were quite stable during the period under review.

Formal employment in community, social and personal services showed incremental growth between 1997 and 2006, but then witnessed a rapid increase between 2007 and 2011 (see Figure 9).

In summary, the findings for the three sectors between 1997 and 2011 suggest that mean real earnings and employment levels were most stable in the tertiary sector, while fluctuations occurred in the two industries in the primary sector. Figure 2.10 shows the overall picture, with formal sector workers from all industries included, and points to a slight upward trend in both the mean real monthly earnings and formal sector employment levels for the period under review.

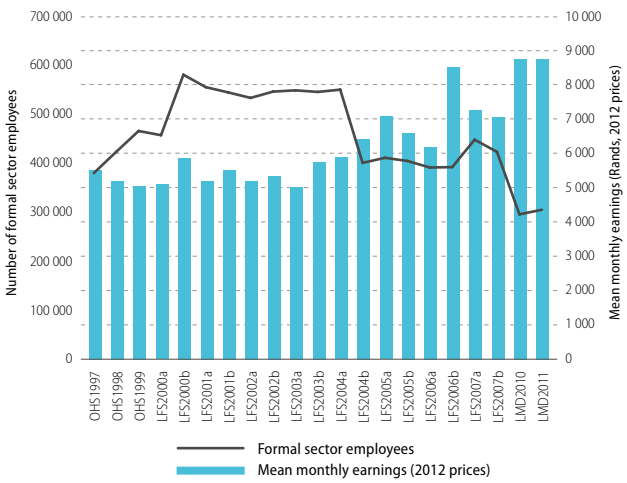
The results of the above analysis suggest that the obvious downward trend in formal sector employment in the two

Figure 2.1: Mean monthly real wages (2012 prices) and number of formal sector employees – agriculture, forestry and fishing



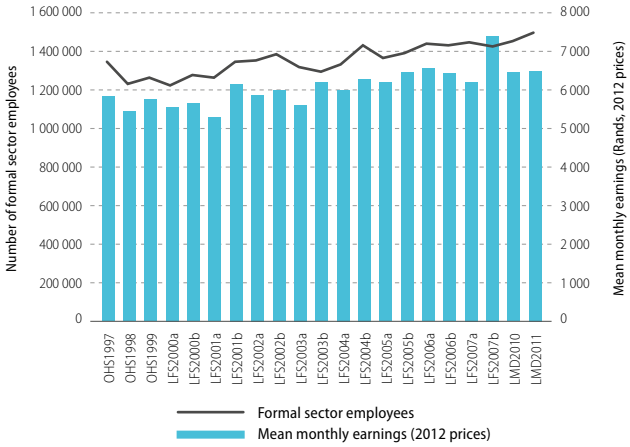
Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data

Figure 2.2: Mean monthly real wages (2012 prices) and number of formal sector employees – mining and quarrying



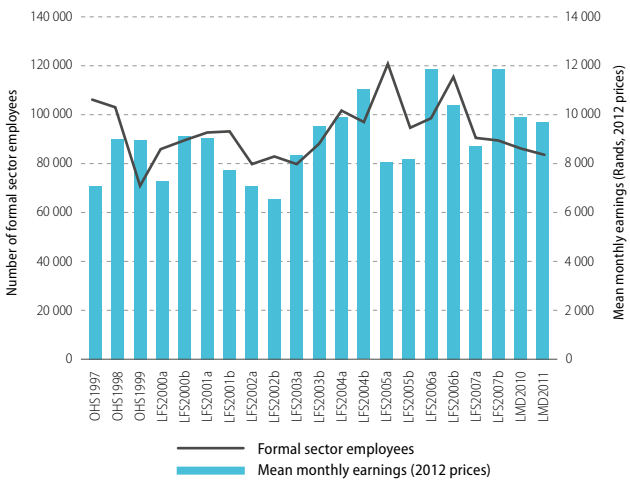
Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data

Figure 2.3: Mean monthly real wages (2012 prices) and number of formal sector employees – manufacturing



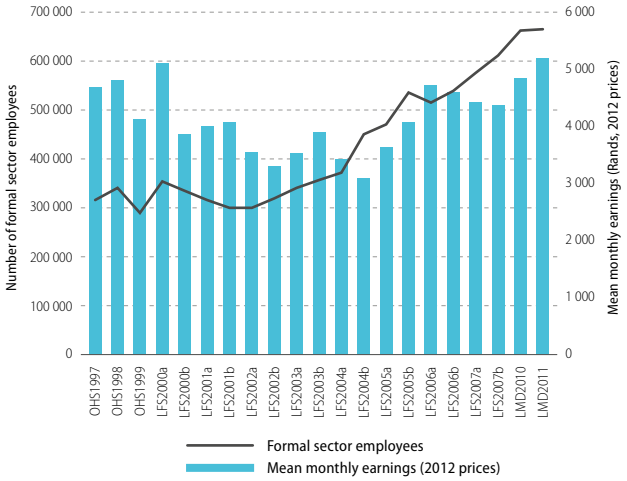
Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data

Figure 2.4: Mean monthly real wages (2012 prices) and number of formal sector employees – electricity, gas and water



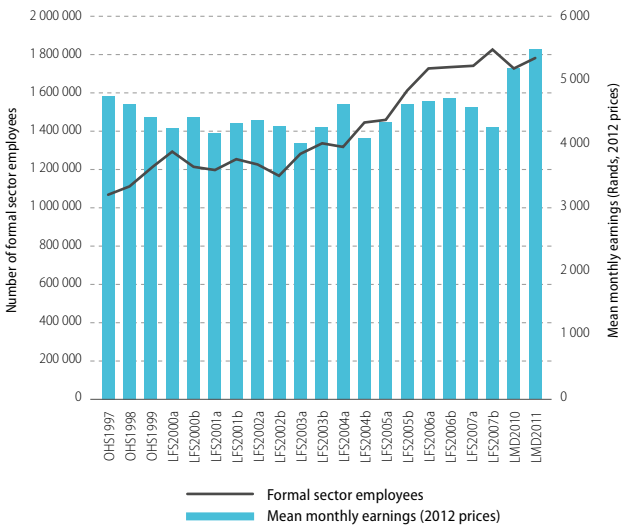
Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data

Figure 2.5: Mean monthly real wages (2012 prices) and number of formal sector employees – construction



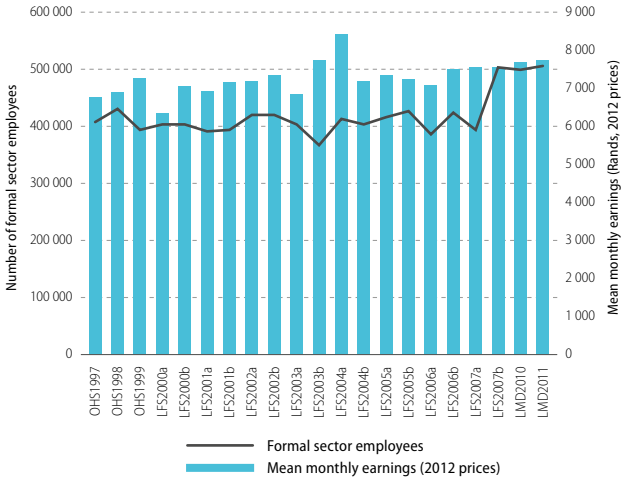
Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data

Figure 2.6: Mean monthly real wages (2012 prices) and number of formal sector employees – wholesale and retail trade



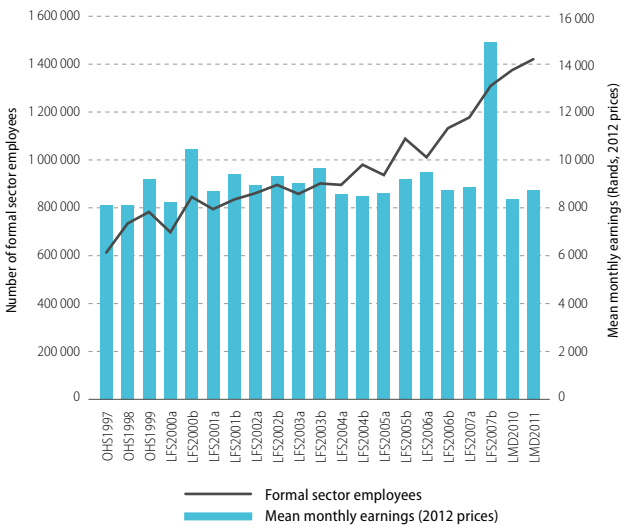
Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data

Figure 2.7: Mean monthly real wages (2012 prices) and number of formal sector employees – transport, storage and communication



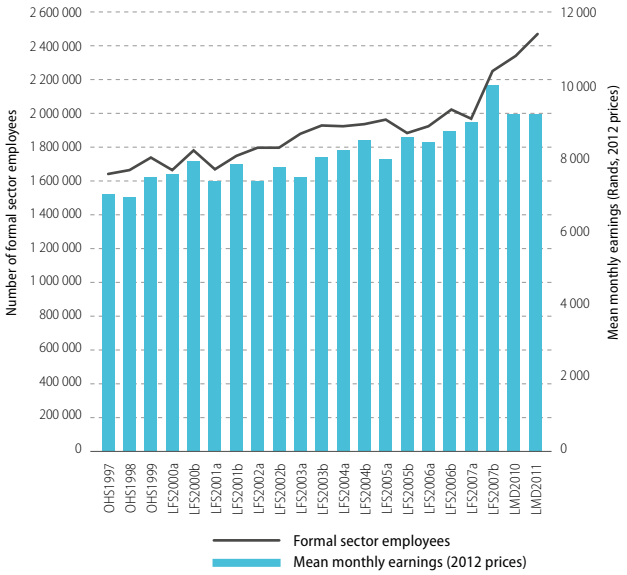
Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data

Figure 2.8: Mean monthly real wages (2012 prices) and number of formal sector employees – financial and business services



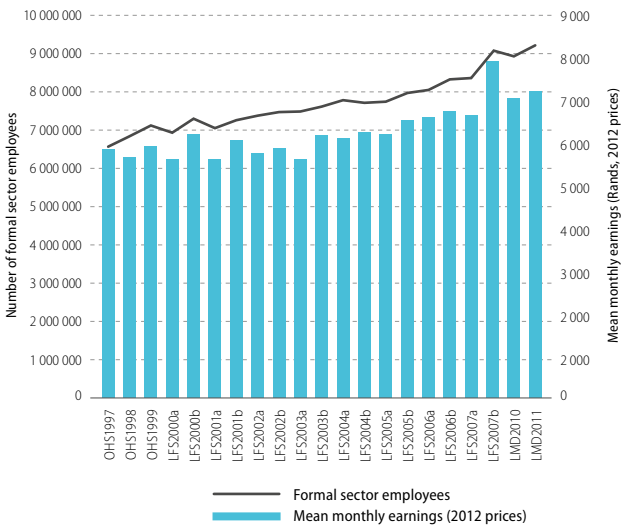
Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data

Figure 2.9: Mean monthly real wages (2012 prices) and number of formal sector employees – community, social and personal services



Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data

Figure 2.10: Mean monthly real wages (2012 prices) and number of formal sector employees – all formal sector employees



Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data

industries in the primary sector in recent years could be attributed to factors ranging from minimum wages, to structural change of the South African economy, to decreasing global demand for the products in these industries. However, Figures 2.1–2.10 focus only on the average real earnings of formal sector employees; further analysis would require consideration to be given to the distribution of earnings of between different levels of employment. Table 2.A.1 (see Appendix) shows the Gini coefficients of real earnings in three surveys, and it can be seen that the coefficient increased continuously (from 0.4678 to 0.5341) for all formal sector employees.[4] When looking at each industry, the Gini coefficient was highest in the construction industry (0.5471) in 2011, followed by financial and business services (0.5351). However, community, social and personal services was the industry showing the greatest increase in the Gini coefficient (from 0.3798 in 1997 to 0.4850 in 2011 – an increase of 28 per cent).

Figure 2.11 illustrates the preceding discussion on mean real monthly earnings and formal sector employment increases from the perspective of annual percentage change. The results show that in five industries (financial and business services; construction; wholesale and retail; community, social and personal services; and transport, storage and communication), employment growth was more rapid than mean real earnings growth (in particular, in the financial and business services and the construction industries). In the manufacturing sector, annual employment and real monthly earnings increased at the same rate, while the positive growth rate in mean real earnings in the agricultural sector was accompanied by a slightly negative growth rate in employment. The more concerning findings relate to the performance of the electricity, water and gas industry, and the mining and quarrying industry. These two industries showed the most rapid increase in mean real earnings, but also the most precipitous decline in formal sector employment. The results suggest that the minimum wages agreed upon during consecutive collective bargaining processes might have been too high, even in real terms (i.e. the extent of the increase in nominal wages far exceeds the inflation rate) in these industries. It can also be assumed that these increases were not matched by equal gains in labour productivity, which resulted in higher unit labour cost.[5] Under such circumstances, where production declines and international competitiveness is lost, firms are forced either to close down or to retrench workers.

Comparison of mean real monthly earnings, percentage contribution to formal sector employment, and gross real value added in respective industries

Figures 2.12–2.20 present the relationships between mean real monthly earnings, percentage contribution of formal sector employment and percentage contribution of real gross value

added in each industry between 1997 and 2011. The aim of these figures is to investigate if the mean real earnings trend is linked to the structural change of the economy (as indicated by the decreasing employment share and gross value added share of the industry concerned).

Primary sector

Figure 2.12, which reports on trends within the agriculture, forestry and fishing industry, points to a strong inverse relationship between employment and real monthly wages in the period 1997–2011. However, the trend in the relative gross value added in this industry has remained fairly stable, with a slight downward trajectory. The mining and quarrying industry (see Figure 2.13) shows a continuing downward trend both in gross value added and in its contribution to employment. It is interesting to note that the most precipitous declines in both occurred at around the same juncture, where real monthly wages show a substantial increase, which was sustained right through to 2011.

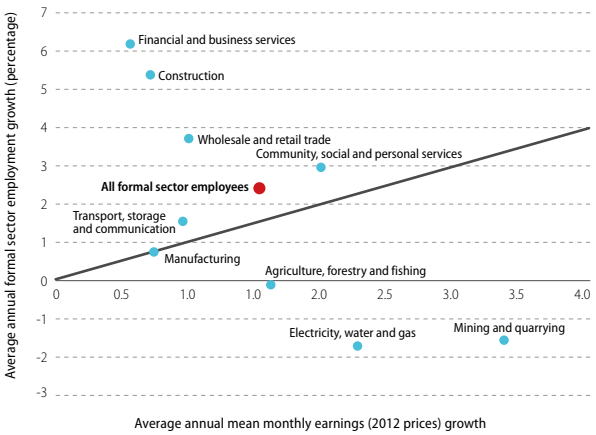
Secondary sector

Figure 2.14 shows that gross value added in the manufacturing industry remained fairly stable over the period measured, while the industry's contribution to employment shrank, and mean earnings increased. In the electricity, gas and water industry (see Figure 2.15), there was a slight downward trend in relative contribution to gross value added, which might explain the very similar trend in its contribution to formal sector employment. The general trajectory for mean income over the period was upward. As far as the construction industry is concerned, it is evident from Figure 2.16 that although this industry's relative contribution to gross value added was quite low (around 2.5–3.5 per cent), its contribution to formal sector employment increased very rapidly from 2002. This occurred even against the backdrop of a general upward trend in mean real earnings from 2004.

Tertiary sector

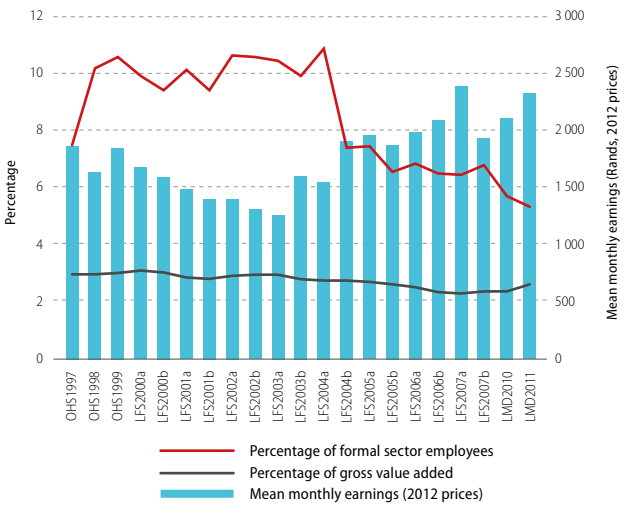
In the wholesale and retail industry (see Figure 2.17), gross value added did not change significantly. Between 1997 and 2003, the general trajectory for mean earnings pointed downward, but rose again from 2004. Although the percentage of formal sector employees remained stable between 1997 and 2004, the trajectory of growth increased in the years thereafter. Although the relative contribution of the transport, storage and communication industry to formal sector employment was constant at approximately 5.5–6.0 per cent for the period under review, its relative contribution to gross value added increased continuously between 1997 and 2006, before stagnating at around 10 per cent (see Figure 2.18). Coincidentally, this stagnant trend in 2007–2011 occurred when the mean real earnings increased continuously. Other than the abrupt increase in 2007, the level of mean real earnings was fairly stable in the financial and business services industry

Figure 2.11: Average annual percentage growth in mean monthly earnings (2012 prices) and formal sector employment by industry, 1997 vs 2011



Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data

Figure 2.12: Mean monthly real wages (2012 prices), formal sector employment as a percentage of total employment, and relative gross value added – agriculture, forestry and fishing



Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data, as well as SARB *Quarterly Bulletin* data

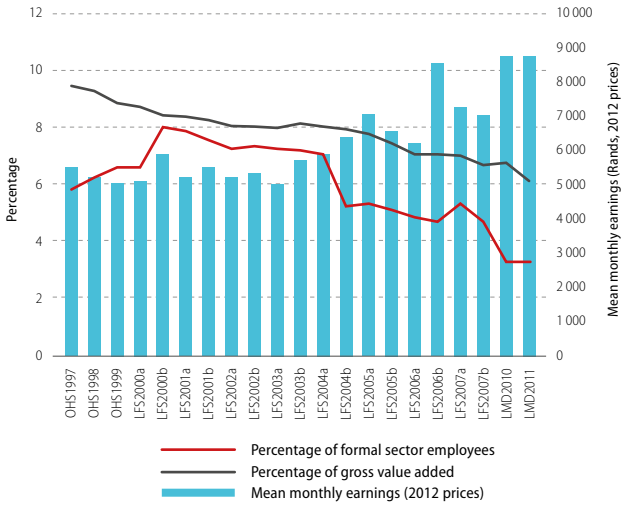
(see Figure 2.19). A particularly encouraging finding in this industry was that relative contributions to both gross value added and formal sector employment showed a continuous upward trend in general. Finally, for the community, social and personal services industry (see Figure 2.20), the slight upward trend in mean real earnings between 1997 and 2007 was accompanied, firstly, by a stagnant relative contribution to formal sector employment (of approximately 25 per cent) and, secondly, by a slight decline in relative contribution to gross value added (from 25 per cent in 1997 to 21.4 per cent in 2007). Interestingly, the industry's relative contribution to formal sector employment increased again from 2008, while the mean real earnings level stagnated during the same period.

Table 2.3 provides a summary overview of the information presented in Figures 2.12–2.20, by highlighting the average annual percentage growth rate of the mean real wage, real gross value added (2005 prices) and formal sector employment between 1997 and 2011. It clearly indicates that the mining and quarrying sector witnessed the largest average annual growth rate in mean real earnings between 1997 and 2011. However, at the same time, this is the only sector that achieved negative growth rates for both real gross value added and formal sector employment. Although agriculture, forestry and fishing, and the electricity, gas and water sector, attained positive growth in terms of mean real earnings and real gross valued added, they experienced declines as far as formal sector employment is concerned. Interestingly, the industries that showed the biggest growth rates in both formal sector employment and real gross value added, construction and financial and business services, were also those with the lowest growth rates in mean monthly real earnings (0.7 per cent and 0.6 per cent, respectively).

Figure 2.21 presents the preceding discussion on real gross value added and formal sector employment increases from an annual percentage change perspective. It shows that only three industries (wholesale and retail; financial and business services; and community, social and personal services) recorded more rapid employment growth than real gross value added growth. In four industries (agriculture, forestry and fishing; manufacturing; construction; and transport, storage and communication), both variables showed positive growth rates between 1997 and 2011, but the growth of real gross value added was relatively greater. For the electricity, water and gas industry, positive real gross value added growth was accompanied by negative formal sector employment growth in 1997–2011. Mining and quarrying was the only industry showing negative growth rates in real gross value added and formal sector employment (see Table 2.3).

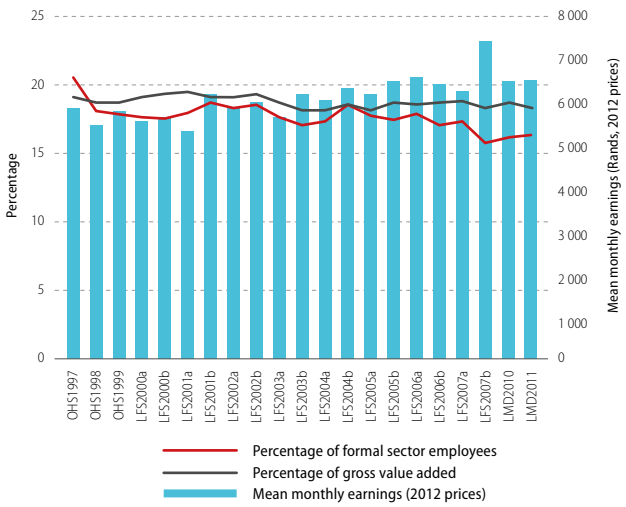
The above analyses seem to suggest that the rapid growth in real gross value added and formal sector employment in some industries (the construction, and financial and business services industries, in particular) could at least partially be attributed to the stable trend or slow growth of mean real earnings. In contrast, the decline of formal sector employment

Figure 2.13: Mean monthly real wages (2012 prices), formal sector employment as a percentage of total employment, and relative gross value added – mining and quarrying



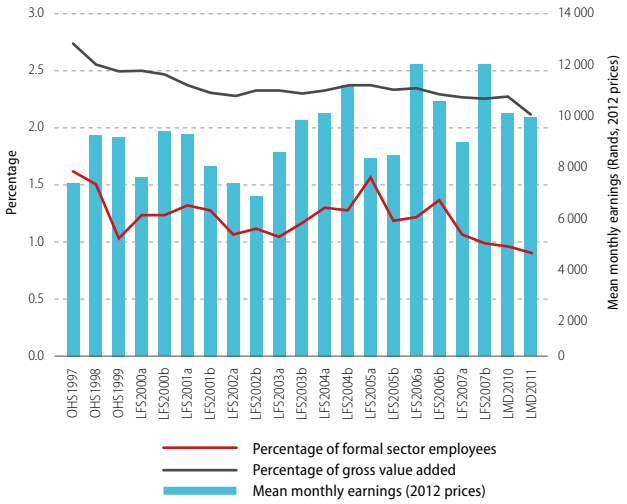
Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data, as well as SARB *Quarterly Bulletin* data

Figure 2.14: Mean monthly real wages (2012 prices), formal sector employment as a percentage of total employment, and relative gross value added – manufacturing



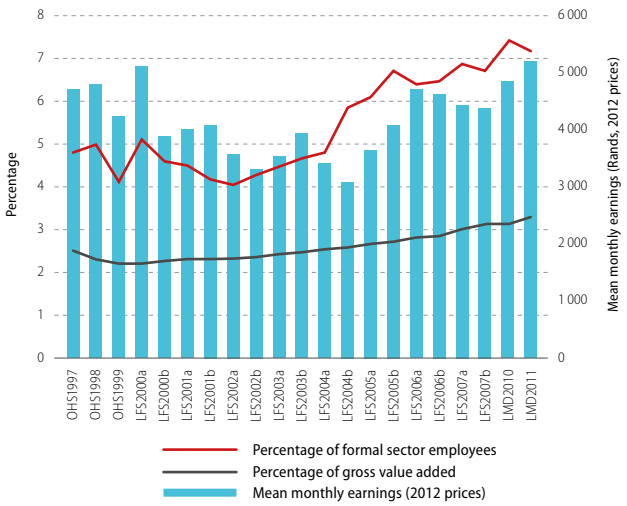
Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data, as well as SARB *Quarterly Bulletin* data

Figure 2.15: Mean monthly real wages (2012 prices), formal sector employment as a percentage of total employment, and relative gross value added – electricity, gas and water



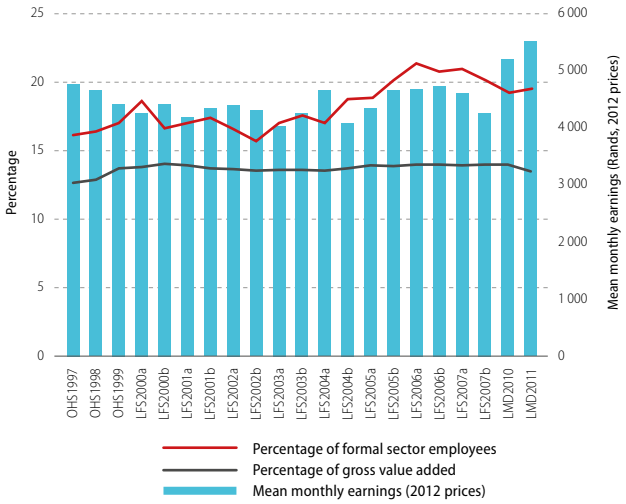
Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data, as well as SARB *Quarterly Bulletin* data

Figure 2.16: Mean monthly real wages (2012 prices), formal sector employment as a percentage of total employment, and relative gross value added – construction



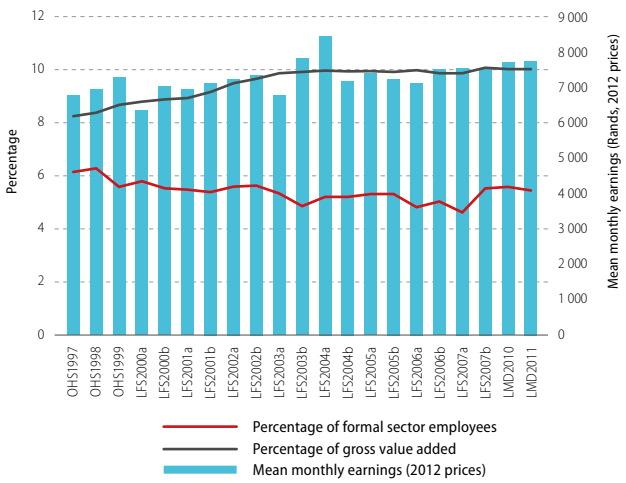
Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data, as well as SARB *Quarterly Bulletin* data

Figure 2.17: Mean monthly real wages (2012 prices), formal sector employment as a percentage of total employment, and relative gross value added – wholesale and retail trade



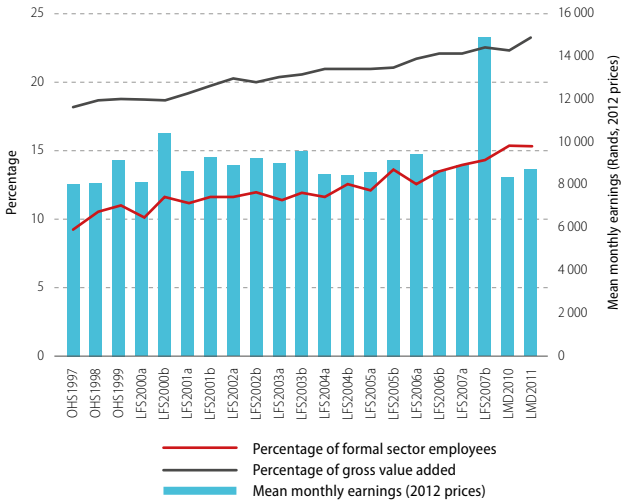
Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data, as well as SARB *Quarterly Bulletin* data

Figure 2.18: Mean monthly real wages (2012 prices), formal sector employment as a percentage of total employment, and relative gross value added – transport, storage and communication



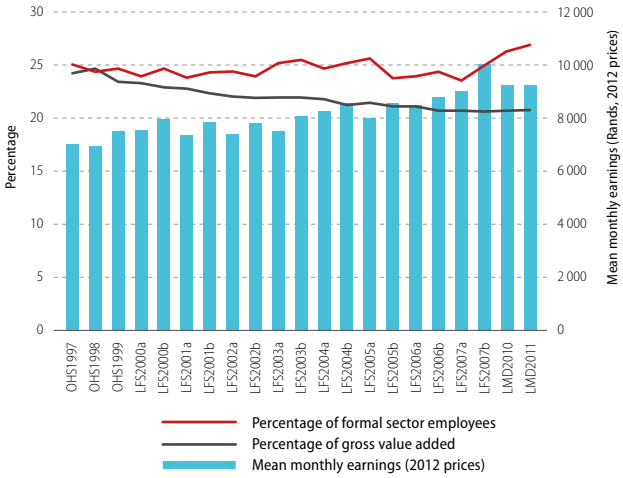
Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data, as well as SARB *Quarterly Bulletin* data

Figure 2.19: Mean monthly real wages (2012 prices), formal sector employment as a percentage of total employment, and relative gross value added – financial and business services



Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data, as well as SARB *Quarterly Bulletin* data

Figure 2.20: Mean monthly real wages (2012 prices), formal sector employment as a percentage of total employment, and relative gross value added – community, social and personal services



Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data, as well as SARB *Quarterly Bulletin* data

Table 2.3: Average annual percentage growth in mean monthly earnings (2012 prices), gross value added (2005 prices) and formal sector employment by industry, 1997 vs 2011

Industry	Mean monthly earnings (2012 prices)	Gross value added (2005 prices)	Formal sector employment
Agriculture, forestry and fishing	1.6%	1.7%	0.2%
Mining and quarrying	3.3%	-0.2%	-1.1%
Manufacturing	0.8%	2.6%	0.8%
Electricity, gas and water	2.3%	1.1%	-1.9%
Construction	0.7%	5.6%	5.3%
Wholesale and retail trade	1.0%	3.9%	4.1%
Transport, storage and communication	1.0%	5.1%	2.1%
Financial and business services	0.6%	5.3%	6.4%
Community, social and personal services	2.0%	2.4%	3.2%
All formal sector employees	1.5%	3.3%	2.6%

Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data, as well as SARB *Quarterly Bulletin* data

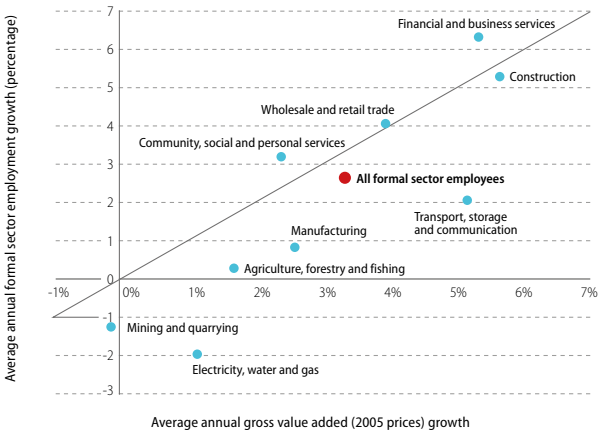
in others (the agriculture, forestry and fishing, mining and quarrying, and electricity, gas and water industries) correlates with the relatively rapid growth of mean real earnings in these industries. Viewed together, the question arises as to whether the increase in mean real earnings can be attributed to a minimum wage that has been growing too rapidly in real terms, as a result of the collective bargaining process. Should we, moreover, conclude from the above that an increase in the minimum wage will automatically translate into a decline in employment? If we posit a scenario where a real increase in the minimum wage is matched by an equally rapid increase in labour productivity, what impact will this have on employment?

Figures 2.22 and 2.23 can assist us in answering these questions. In Figure 2.22, D_1 and S_1 represent labour demand and labour supply, respectively, and they intersect at equilibrium e_1 (i.e. the supply of workers exactly matches the demand that exists for them in the economy). At this equilibrium, the market-clearing wage level is W_1 and L_1 workers are employed. Assuming that a higher minimum wage of W_2 is agreed upon during collective bargaining, where the labour supply is higher (more people are willing to supply their labour at this higher wage), but the quantity of labour demanded in the economy is lower (the economy might be sluggish or labour market uncertainty might convince employers to substitute labour with relatively cheaper capital alternatives), higher levels of unemployment would result. Employment, thus, drops from L_1 to L_2, while unemployment is equal to L_3-L_2.

However, a scenario may also arise where lower wage levels, associated with high unemployment, can lead in the long run to the hiring of more workers. The efficiency wage theory posits that higher wages can, under certain circumstances, result in at least an equivalent increase in productivity (Barker 2007). It is possible that a higher minimum wage could improve the morale of workers, resulting in harder work and increased productivity. As a result, labour turnover will decrease as workers feel more secure about their employment, after being offered a higher wage. This will lead to an increase of labour demand from D_1 to D_2. The cumulative effect would be that the new equilibrium will become located at e_2, and employment will increase from L_1 (before the imposition of the minimum wage) to a higher level of L_2 (after the imposition of the minimum wage). This may help to explain why both mean real earnings and formal sector employment increased in industries like construction, as discussed above. Therefore, if the extent of increase in the minimum wage is acceptable and is matched by an equally rapid increase of labour productivity, the minimum wage could help in boosting employment.

Unfortunately, another scenario is possible: the retrenchment of workers and a decline in recruitment can become a long-term phenomenon when the extent of minimum wage increases over a protracted period remains too high. If we look at Figure 2.23 and assume for a moment that workers now demand an even higher minimum wage of W_3, labour

Figure 2.21: Average annual percentage growth in gross value added (2005 prices) and formal sector employment by industry, 1997–2011



Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data, as well as SARB *Quarterly Bulletin* data

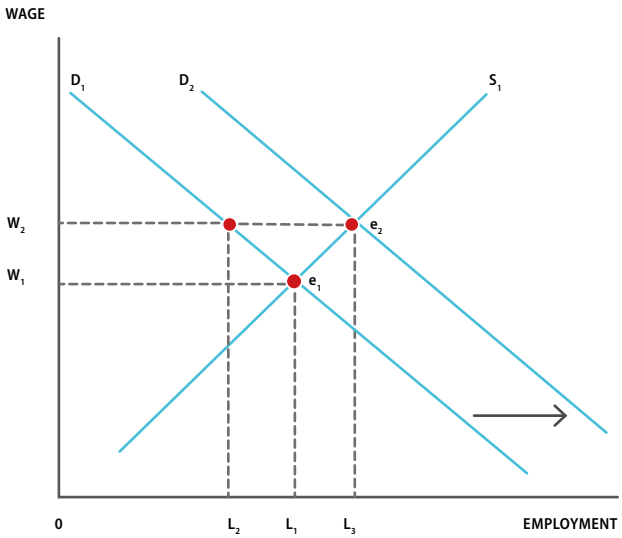
productivity may increase as a result, but it will not be sufficient to catch up with the substantial increase of the wage (from W_1 to W_3). At W_3, the quantity of labour supplied is L_4 while the quantity of labour demanded is only L_3. Ultimately, only L_3 workers are employed, which would result in a drop from L_1, before the minimum wage is imposed, or L_2-L_1 workers are retrenched. Unemployment is equal to the difference between L_4 and L_3. This could help to explain the negative relationship between mean real earnings and formal sector employment trends in industries like mining, and electricity, gas and water, where wages have increased, but employment has plummeted.

The stark reality of the dynamics relating to the minimum wage is that it protects only those who are currently employed. Its fluctuation, however, has a profound impact on the extent to which unemployed outsiders (e.g. those stuck in the informal sector, or the long-term unemployed, or those youths who have just started seeking work) can access the workplace. Many of these workers may not mind being paid a wage below the minimum wage. At present, the South African collective bargaining regime is structured in a way that makes it biased against people who fall into this category. For this reason, some have argued that there is room for making collective bargaining more flexible, especially as it pertains to small, medium and micro enterprises (SMMEs) that are bound to wage agreements struck between labour and larger corporations within their respective sectors.

Conclusion

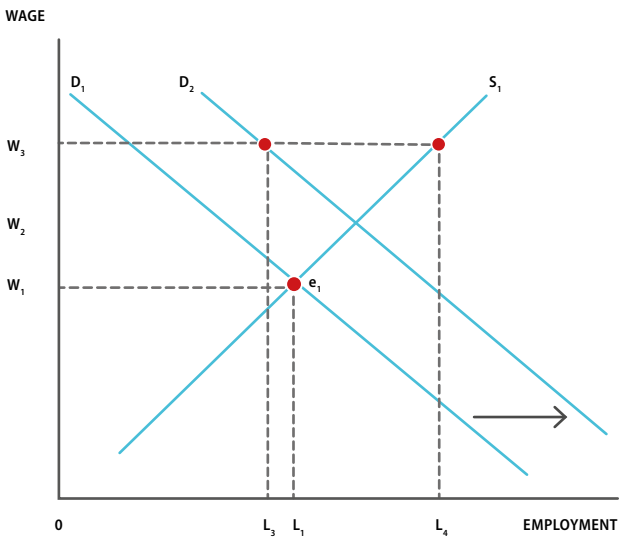
This article first reviewed the main mechanisms of wage determination in South Africa, before using various labour survey data to examine the mean real earnings trends for 1997–2011 in each industry. The results pertaining to the relationship between mean real earnings, real gross value added, and formal sector employment by industry suggested that the impact of collective bargaining on the minimum wage might have been negative in terms of employment and labour demand in certain industries (such as mining and quarrying). By drawing on the appropriate employment data, it was suggested that this might be attributable to the pace of wage increases outstripping the rate of labour productivity growth. It was also suggested that in some instances the current approach to collective bargaining benefits the interests of the employed (insiders) at the expense of the unemployed (outsiders). While the latter may be eager to participate in the labour market, they face several institutional challenges, which may unintentionally exacerbate rather than alleviate the problem of unemployment.

Figure 2.22: The impact of the imposition of a minimum wage on formal sector employment – Case 1



Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data, as well as SARB *Quarterly Bulletin* data

Figure 2.23: The impact of the imposition of a minimum wage on formal sector employment – Case 2



Source: Author's calculations using *OHS* 1997–*QLFS* 2011 and *LMD* 2010–2011 data, as well as SARB *Quarterly Bulletin* data

Endnotes

1 The market-clearing wage level occurs when labour supply equals labour demand. All persons who are looking for work at this wage can find a job. In other words, there is zero unemployment (Barker 2007). At any other wage level, there would be too many work-seekers competing for too few available jobs (that is, excess supply of labour) or too many jobs chasing too few available work-seekers (that is, excess demand for labour) (Borjas 2013).

2 These erratic trends could be due to the fact that the employees in this industry account for a very small proportion of the sample size in the *OHS*, *LFS*, *QLFS* and *LMD* data.

3 The abruptly high real mean earnings in this industry in LFS 2007b are due to the high earnings reported by some of the respondents in the sample, even after removing the outliers.

4 The Gini coefficient is a statistical measure of the extent of income inequality and is ranged between zero and one. The higher the coefficient, the more unequally the income is distributed amongst the population.

5 Unit labour cost stands for the cost of labour to produce one unit of output (Barker 2007).

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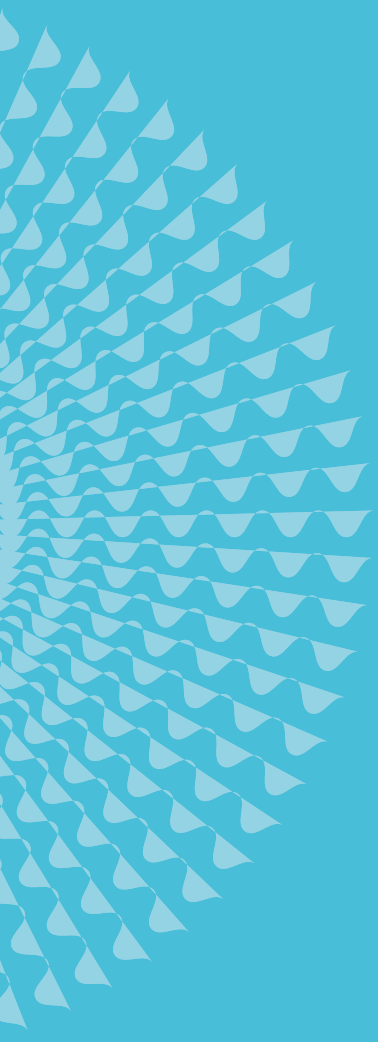
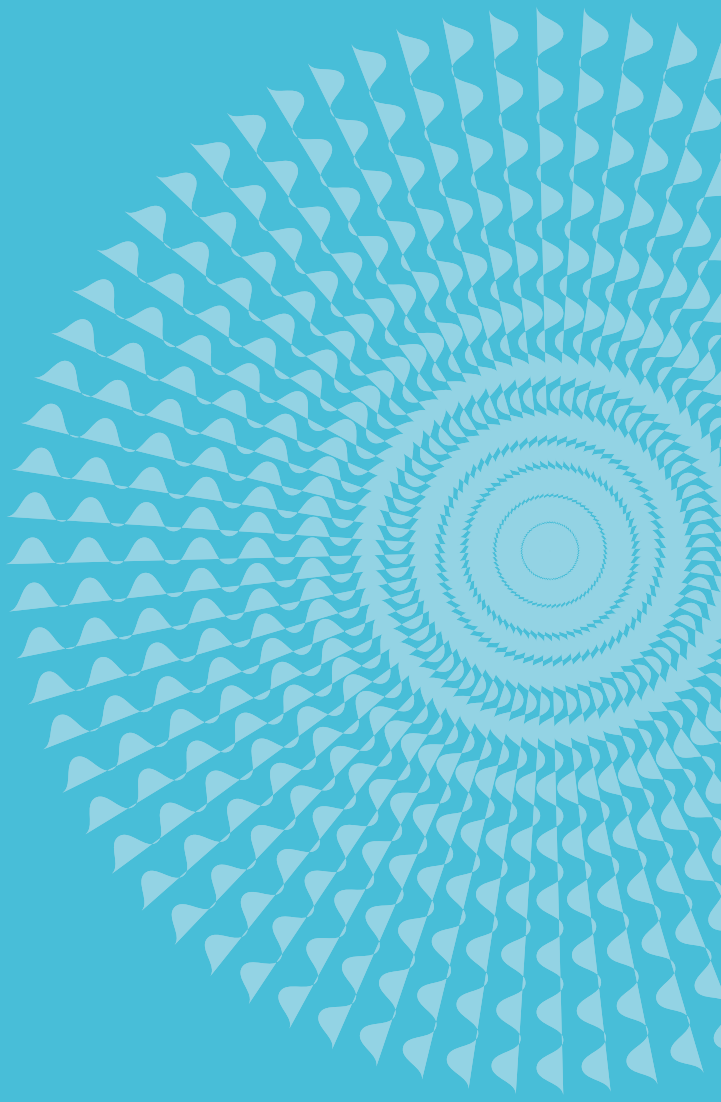




Chapter THREE

Skills and Education

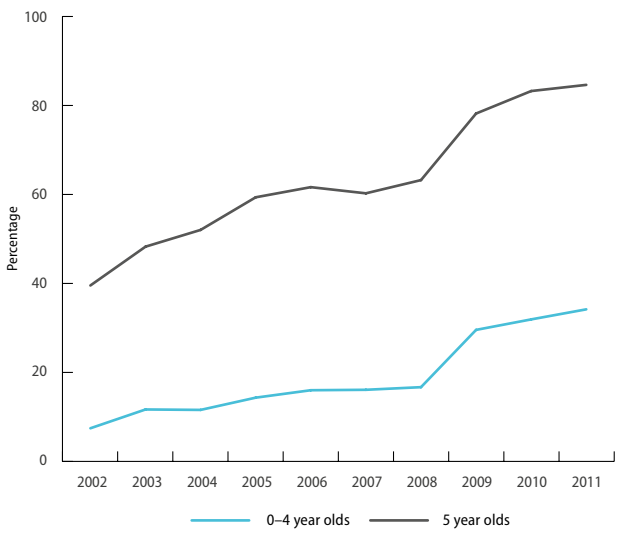
Skills and Education at a Glance

Following scepticism in some quarters about rapid improvements in matric pass rates in recent years, Minister of Basic Education Angie Motshekga set up a ministerial committee in 2013 to review a number of pertinent curriculum issues, amongst which was the controversial pass mark of 30 per cent. Although the senior certificate still holds currency amongst some employers, others no longer regard it as a reliable indicator of the abilities of the certificate holder. While the introduction of subjects like 'mathematical literacy' might contribute to the improvement of maths pass rates, it does not enlarge the pool of students that graduate with the scarce skills that our economy requires. According to available statistics, only 30 per cent of South African graduates hold qualifications in the critical fields of science, engineering and technology. Interventions are required to ensure that education system outputs meet the needs of South Africa's developmental objectives.

Education: Vital statistics	
National percentage of 2012 NSC candidates that qualify for bachelor programmes	26.6%
National percentage of 2012 NSC candidates that qualify for diploma programmes	29.9%
National percentage of 2012 NSC candidates that qualify for higher certificate programmes	17.3%
National percentage of 2012 NSC candidates performance at 30% and above in mathematics	54.0%
National percentage of 2012 NSC candidates performance at 30% and above in mathematical literacy	87.4%
Natonal percentage of 2012 candidates performance at 30% and above in physical sciences	61.3%
Gross enrolment ratio (GER) – Total (Grades 1–12)	91
Gross enrolment ratio (GER) – Total (Grade R–12)	89
Learner-educator ratio (LER) in ordinary schools	29.2:1
National average educator-school ratio (ESR) in ordinary schools	16.3:1
National average learner-school ratio in ordinary schools	475:1

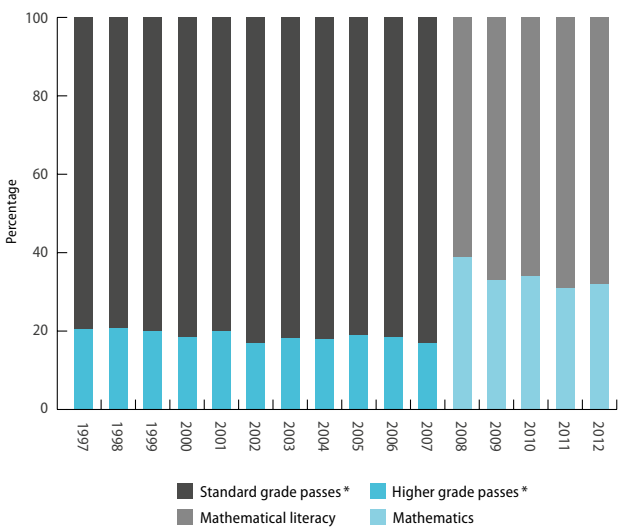
Source: Department of Education – National Senior Certificate Examination: Technical Report 2012
Data notes: National Senior Certificate (NSC)

Percentage children attending early childhood development facilities



Source: Department of Basic Education

Mathematics proficiency of matriculants



Source: Department of Education
Data notes: Standard grade data not available for 1995–1996
*From 2008 onwards, standard grade and higher grades were replaced with mathematical literacy and mathematics

Adult literacy rates 2011

74%
Eastern Cape

77%
Mpumalanga

79%
Free State

74%
North West

90%
Gauteng

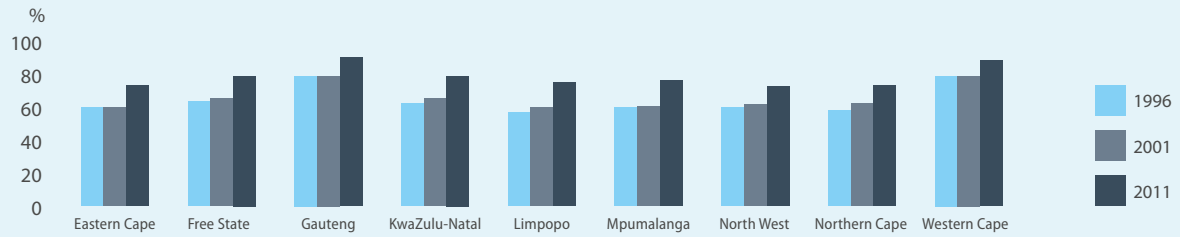
74%
Northern Cape

78%
KwaZulu-Natal

87%
Western Cape

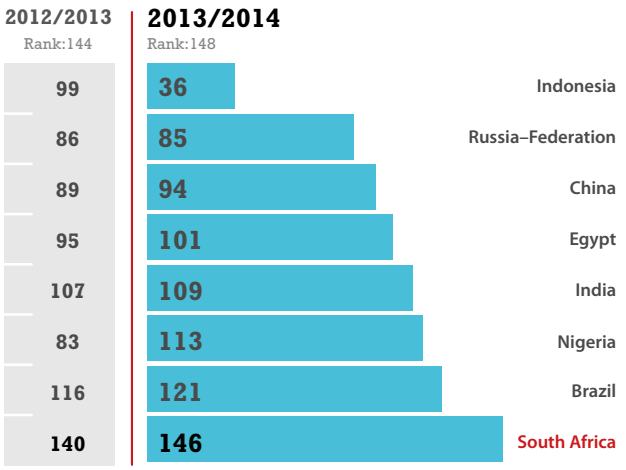
75%
Limpopo

Adult literacy rates by province

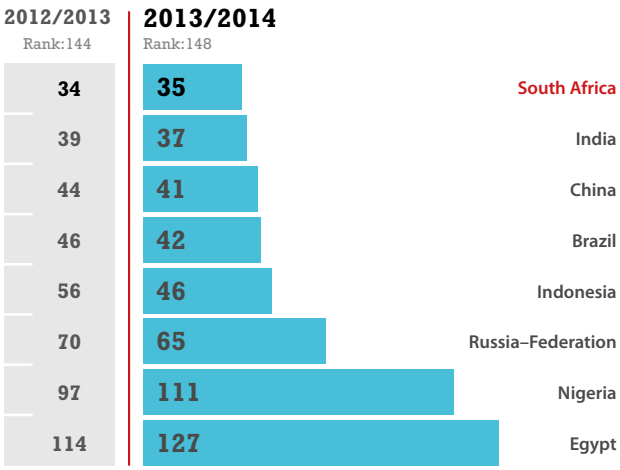


Source: Census 1996, 2001, and 2011

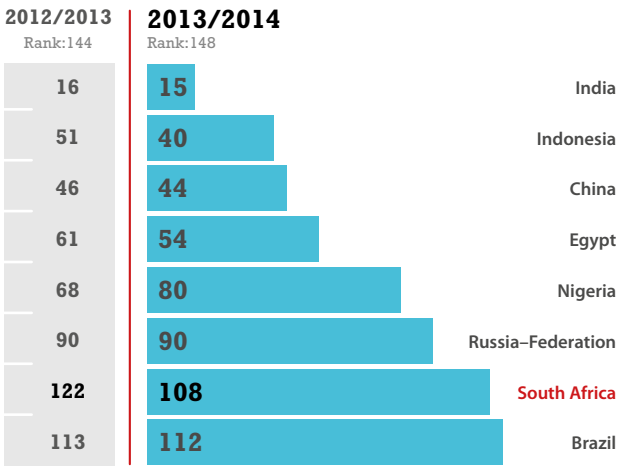
Quality of the educational system in global comparison



Quality of scientific research institutions



Availability of scientists and engineers



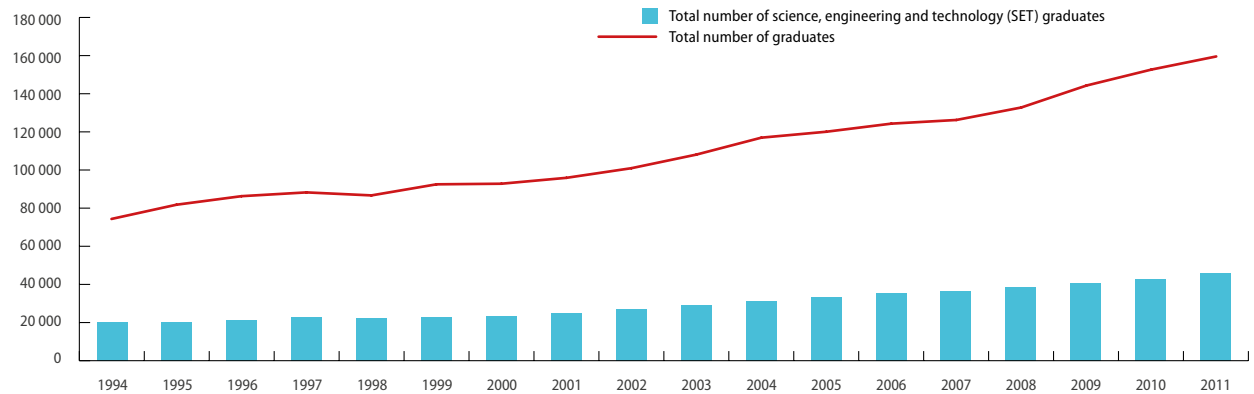
Source: World Economic Forum: The Global Competitiveness Reports: 2013–2014
Data notes: Rank/148 reports the country's position among the 148 economies covered by the GCI 2013–2014. Rank/144 reports the country's position among the 144 economies covered by the GCI 2012–2013.

11.8%

The proportion of South Africans aged 20 years and older with higher education

Source: Stats SA, census 2011

Total graduates to SET graduates, 1994–2011



Source: Department of Higher Education and Training, Higher Education Management Information System

Accountability in South African education

Nicholas Spaull

Introduction

In South Africa, there is a widespread perception that the national, provincial and local levels of government are not held accountable for how they use public resources. As democratically elected representatives of the people, each of these levels has a constitutional mandate to use tax revenues and other state resources to provide certain public services to South Africans. Often, however, for reasons that range from poor administration to corruption, these resources are not converted into public services. Furthermore, given that there are few (if any) tangible consequences for non-performance, there now exists a cycle of poor service delivery, weak accountability and low expectations. This lack of accountability and service delivery is especially acute in the basic education sector in South Africa. One of the ten 'critical actions' outlined in the National Development Plan (NDP) of the National Planning Commission (NPC) is the creation of an 'education accountability chain', because 'education outcomes cannot improve unless accountability is reinforced throughout the system, from learner results to the delivery of textbooks' (NPC 2012: 55).

The aim of the present analysis is to discuss the notion of accountability with respect to education in South Africa. Starting with an overview of the international literature on accountability, the article then turns to the South African context and focuses on one particular capacity constraint as an illustrative example – low mathematics teacher content knowledge. After explaining two important problems identified in the literature – accountability without capacity and capacity without accountability – the focus becomes what needs to be done in South Africa to improve accountability.

Accountability

An overview of the international literature on accountability in education shows economists and educationists making different sense of the issue. Economists highlight the importance of information, choice, incentives and decentralisation (see, for example, Bruns, Filmer & Patrinos 2011). Educationists, in contrast, argue that capacity-building and support should precede accountability (Elmore 2004a). These differences stem largely from differing *a priori* assumptions about teachers, principals and schools, as Taylor, Van der Berg and Mabogoane (2013: 24) note:

> The traditions of school effectiveness research and the economics of education bring complementary perspectives to bear. While the former assumes that individual actors, and in particular school principals and teachers, are motivated by altruism and the desire to do the best for the learners in their care, economists assume that actors are motivated largely by self-interest. Taken together, these views sound like a good description of human behaviour.

In keeping with this line of thinking, the present analysis draws from both literatures in an attempt to understand how accountability should be conceptualised and implemented in the South African context.

What is accountability?

Darling-Hammond and Ascher (1991: 2) regard an accountability system to be a:

> set of commitments, policies and practices that are designed to: 1) heighten the probability that students will be exposed to good instructional practices in a supportive learning environment; 2) reduce the likelihood that harmful practices will be employed; and 3) provide internal self-correctives in the system to identify, diagnose, and change courses of action that are harmful and ineffective.

In terms of this conceptualisation, it follows that accountability can be defined as the state of being answerable for something to someone. It refers to having to account for one's outcomes or performance and to accept responsibility for those outcomes. It also implies that there are consequences for non-performance. In education, there is a significant body of research that suggests a serious need for increased accountability, particularly in developing countries. Bruns et al. (2011), in their influential book *Making Schools Work*, point to high levels of teacher absenteeism, funding leaks and inefficiencies, as well as the very weak correlation between spending and outcomes, as tell-tale signs of a weak accountability system. They see these problems as arising primarily out of a lack of information and incentives; and, consequently, their solutions are primarily administrative in nature. These solutions include:

- Information for accountability: *generation and dissemination of information about schooling rights and responsibilities, inputs, outputs, and outcomes*.
- School-based management: *decentralization of school-level decision making – autonomy – to school-level agents*.
- Teacher incentives: *policies that link pay or tenure directly to performance*. (Bruns et al. 2011: 13)

Many of the generic accountability problems they identify are also prevalent in the South African context. Taylor (2002: 12), in commenting on South Africa's public schooling system, highlights the 'vast slack of inefficiency and corruption which bloats every corner of the enterprise of public schooling'. Local research on three particular problems – teacher absenteeism, low curriculum coverage (inefficient time use) and insufficient information for accountability – supports this conclusion:

1. **Teacher absenteeism**. A 2010 study by the Human

Sciences Research Council found that 'a conservative, optimistic leave rate of educators in South Africa is between 10% and 12%' (Reddy et al. 2010: 84), which amounts to 20–24 days per year for the average teacher. The study also reveals that slightly more than 'three-quarters of all leave instances recorded on the PERSAL[1] system are for one or two days in duration, that is, discretionary leave not requiring a medical certificate. Mondays and Fridays are the most popular discretionary leave days' (Reddy et al. 2010: x). Spaull (2011), using the Southern and Eastern African Consortium for Monitoring Educational Quality (SACMEQ) 2007 data, finds that the average Grade 6 mathematics teacher in South Africa reported being absent from school for 19 days. This was much higher in the poorest 20 per cent of schools (23 days), compared to the wealthiest 20 per cent of schools (11 days). While it is true that there were severe teacher strikes in 2007, which inflated the absenteeism figures, these were also self-reported rates of absenteeism and, thus, almost certainly were under-reported.

2. **Low curriculum coverage**. A 2009 study observing 58 schools in the North West concluded that 'teachers did not teach 60% of the lessons they were scheduled to teach' (Carnoy, Chisholm & Chilisa 2012: xvi). Similarly, in 2008 and 2009, the National School Effectiveness Study (NSES) showed that in a nationally[2] representative sample, only 24 per cent of Grade 4 and 5 topics were actually covered in Grade 4 and 5 classrooms in South Africa (Taylor & Reddi 2013). This is for a variety of reasons, including teacher absenteeism, poor time management and lack of a culture of teaching and learning.

3. **Insufficient information for accountability**. Prior to 2011, the only nationally standardised exams that existed in South Africa were at the exit level of the schooling system (matric). In response to this serious lack of information on primary school performance, the Department of Basic Education (DBE) implemented the Annual National Assessments (ANAs) in 2011, which tested all school children in Grades 1–6 and 9 using nationally standardised exams. However, as they are currently implemented, these exams are fraught with serious problems, which are discussed in more detail below.

In addition to the above, perhaps the most convincing evidence of a serious lack of accountability in the education system is the weak correlation between increased expenditures and improved educational outcomes. Van der Berg (2007: 849) notes that, 'despite massive resource shifts to black schools, overall matriculation results did not improve in the post-apartheid period'. Given that South Africa participates in a number of cross-national assessments of educational achievement, it is useful to provide a broad outline of the country's performance relative to other countries on the continent and around the world. The three major cross-national assessments are the Progress in Reading Literacy Study (PIRLS – Grade 4 and 5), the Trends in International Mathematics and Science Study (TIMSS – Grade 8 and 9) and the SACMEQ (Grade 6). Each of these is discussed separately below:

» **PIRLS**: In the 2006 round of PIRLS, South African Grade 5 students achieved the lowest score of the 45 countries that participated (and almost all other countries tested their Grade 4 students), including other middle-income countries such as Morocco, Iran, Trinidad and Tobago, Indonesia and Macedonia. Seventy-eight per cent of South African Grade 5 students were not minimally competent in reading, that is to say that they did not reach the Low International Benchmark. Trong (2010: 2) elucidates the practical value of this benchmark: 'Learners who were not able to demonstrate even the basic reading skills of the Low International Benchmark by the fourth grade were considered at serious risk of not learning how to read'. In response to the extremely weak performance of South African students in PIRLS 2006, South Africa opted to take part in the 2011 prePIRLS, which is an easier assessment (primarily for underachieving developing countries) rather than the proper PIRLS of 2011. Although South African Grade 4 students performed similarly to Grade 4 students in Botswana, they are almost three years (2.9) behind the average child in Columbia. This was in spite of the fact that public current expenditure on primary education per pupil was 49 per cent higher in South Africa (US$1 685) than it was in Columbia (US$1 132), using 2010 figures for expenditure from the 2012 *Education for All* report (UNESCO 2012).

» **SACMEQ**: South Africa's performance relative to poorer African countries highlights that having additional financial resources does not in any way guarantee better outcomes. Using the SACMEQ 2000 and SACMEQ 2007 data, Van der Berg et al. (2011: 4) conclude that 'South Africa performed slightly below the average of the other participating African countries in Grade 6 mathematics and reading, despite benefiting from better access to resources, more qualified teachers and lower pupil-to teacher ratios'. Similarly, Spaull and Taylor (2012) show that South African Grade 6 children perform significantly worse than Kenyan Grade 6 students, even after accounting for higher rates of non-enrolment and dropout in Kenya. This is in spite of the fact that in 2007 public current expenditure per pupil was five times higher in South Africa (US$1 225) than it was in Kenya (US$258), using 2007 expenditure figures from the 2010 *Education For All* report (UNESCO 2010).

» **TIMSS**: Given that South Africa participated in the 1995, 1999, 2002 and 2011 TIMSS studies, these datasets provide for the most extensive comparison of South African performance

since the transition. The TIMSS study testing mathematics and science showed that there was no improvement in Grade 8 mathematics or science achievement between 1995 and 2002. Subsequently, it was decided that the international Grade 8 tests were too difficult for South African Grade 8 students; thus, in 2002, both Grade 8 and Grade 9 students wrote the Grade 8 test, and in 2011 only Grade 9 students wrote the grade eight test. Comparing the performance of Grade 9 students in 2002 and 2011 showed that there was an improvement in maths and science performance amounting to approximately one and a half grade levels of learning (Reddy et al. 2012). While this offers hope, it is difficult to celebrate when one considers how low the post-improvement level of performance really is. For example, in 2011 one-third (32 per cent) of South African students performed worse than guessing (i.e. no better than random) on the multiple-choice items. Furthermore, three-quarters (76 per cent) of Grade 9 students in 2011 still had not acquired a basic understanding of whole numbers, decimals, operations or basic graphs, and this is at the improved level of performance. Part of the reason for the improvement is the fact that South Africa started from an exceedingly low base in 2002. To place this in perspective, South Africa's post-improvement level of performance is still the lowest of all participating countries, with the average South African Grade 9 child performing between two and three grade levels lower than the average Grade 8 child from other middle-income countries (Spaull, 2013).

In the light of these dismal figures, there is considerable evidence to support the view that there is a need for increased accountability in the South African education system.

Types of accountability

The most pertinent literature distinguishes between various types of accountability. Darling-Hammond and Ascher (1991) identify five different types of accountability mechanisms that operate alongside each other: political accountability, legal accountability, bureaucratic accountability, professional accountability and market accountability. For the purposes of this discussion, the two most relevant forms are bureaucratic accountability and professional accountability, although legal accountability is becoming increasingly prominent in the basic education sector in South Africa.

The former involves promulgating laws and regulations that specify norms and standards of exactly what agents must do. The promotion of standard procedures aims to ensure standardisation across the system. In South Africa, one might argue that bureaucratic forms of accountability could work well in regulating teacher absenteeism and in monitoring textbook procurement and delivery. Bureaucratic forms of accountability are effective to the extent that one can prescribe rules for practice and codify exactly what must be done, in what order and at what time. Doing so can ensure that agents respond in identical and predictable ways (Darling-Hammond & Ascher 1991). However, bureaucratic forms of accountability work less well when trying to regulate the complex process of teaching and learning in the classroom. As Bruns et al. (2011: 10) explain:

> If education were like producing pizzas or kebabs or samosas or empanadas, the delivery process could be reduced to a set of predefined tasks that agents are instructed to carry out. Quality could be monitored by ensuring that workers follow the predefined steps. But education services are complicated. At the point of delivery – the interaction of teachers with the students – the service provided is highly discretionary, variable, and transaction-intensive:
>
> - ***Discretionary***, in that teachers must use their own judgement to decide what part of the curriculum to deliver and how,
> - ***Variable***, in that in a single classroom a teacher must customise services to a large number of different students with different aptitudes, motivations and learning styles,
> - ***Transaction-intensive***, in that producing learning results requires repeated and frequent interaction between teachers and individual students.
>
> These features make it difficult to predefine in sufficient detail the actions teachers must take, either to specify a complete contract of what they are expected to do or to monitor that contract completely.

It is within this context that most educational researchers recognise the importance of professional accountability in education. It shifts the focus away from specifying the minutiae of procedures and standards and moves towards a reliance on professional knowledge and judgement, as well as mutual accountability among those in the profession. In South Africa, there is widespread recognition that there is currently a severe lack of professional accountability among teachers, especially within teacher unions, and that there is a need to promote it (NPC 2012; NEEDU 2013).

Following on from the above, it is important to be more circumspect when discussing accountability in South Africa. Saying that there is a need for 'more accountability' without specifying what forms of accountability and to what end is not very helpful. It is true that in South Africa we need both more professional accountability and more bureaucratic accountability, but the latter will only be able to solve administrative, logistical problems like teacher absenteeism and textbook procurement. To the extent that desirable teaching and learning cannot be prescribed by rules and procedures, increasing bureaucratic accountability to improve the amount of learning in the classroom will not yield much. Given that

increasing the volume and quality of learning that takes place in the classroom is the current central concern in South Africa, it is imperative to understand what forms of accountability will lead to such an increase, and, conversely, what the existing constraints are to increasing the volume and quality of teaching and learning. This is where the 'new accountability' movement in the education literature is particularly helpful, especially in the case of South Africa.

In contrast to the World Bank approach, which stresses incentives and information (Bruns et al. 2011), the key insight from the 'new accountability' movement is that capacity precedes accountability. While increasing information and incentives may improve teacher effort (e.g. attendance), it does not follow that increasing information and incentives will increase the number of topics taught, for example. This is especially the case if the reason the teacher is not teaching those additional topics is because he or she *can't* teach them, rather than because he or she *won't*. Thus, there is an important distinction between capacity and willingness. The 2012 report by the National Education Evaluation and Development Unit (NEEDU) makes this same distinction and argues that different solutions are required, depending on the diagnosis. If it is a case of *teachers won't*, this requires institutional solutions, while if it is a case of *teachers can't*, this requires capacitation solutions (NEEDU 2013). As is argued in the report, South Africa is beset by both types of problems. The remainder of this chapter will focus on the capacitation issues surrounding accountability, and then will outline in more detail one such capacitation issue that is especially problematic in South Africa – weak mathematics teacher content knowledge.

Accountability without capacity

In the 'new accountability' literature, perhaps the most eminent and prolific scholar is Harvard's Richard Elmore. One of his key insights relates to the capacity of principals and teachers, and how this capacity is a prerequisite for schools and teachers to respond to external accountability systems. To stress this notion, Elmore (2008: 43) defines capacity as 'the fund of skill and knowledge that the organisation can bring to bear in responding to external pressure'. Both Elmore (2004b) and Loveless (2005) note that schools and teachers need to know what to do when faced with information that they are underperforming. They argue that simply lobbying for 'incentives to improve performance' is simplistic since it presumes that teachers and principals know how to improve performance – something that may not in fact be true. If, for example, a teacher is not covering certain topics because he or she does not understand the content, no amount of incentives will work unless they are incentives to take advantage of opportunities to acquire the skills and knowledge needed to teach those content areas (capacitation). The following quotes may help to illustrate these concerns:

> Accountability systems and incentive structures, no matter how well designed, are only as effective as the capacity of the organisation to respond. The purpose of an accountability system is to focus the resources and capacities of an organisation towards a particular end. Accountability systems can't mobilise resources that schools don't have…the capacity to improve precedes and shapes schools' responses to the external demands of accountability systems. (Elmore 2004b: 117)

> If policy-makers rely on incentives for improving either a school or a student, then the question arises, incentives to do what? What exactly should educators in failing schools do tomorrow – that they do not do today – to produce more learning? What should a failing student do tomorrow that he or she is not doing today? For both parties, perhaps it is as simple as trying harder, a behavioural change ripe for incentives to influence. If the solution is not that simple, however, trying harder will lead to marginal gains. Greater gains will materialise only for those who know what to do. There will be students and teachers who try hard and fail – and they will be penalised for their failures. The spectre of that entails political risks…At the classroom level, even teachers who have been motivated to change by accountability must know what to do differently to convert struggling learners into accomplished ones… It is difficult to sanction someone for an unacceptable outcome – and, in democratically governed institutions, to justify the sanctioning as fair – when no one can describe, with reliability and precision, how to produce an acceptable outcome. (Loveless 2005: 16, 26)

Similarly, simply providing principals and teachers with ANA results is unlikely to yield considerable improvement if the cause of low performance is not primarily effort-related (attendance, time-use and motivation) but, rather, is linked to the lack of core competencies of the staff. While the South African literature suggests that there are serious effort-related problems, and that those problems may well be amenable to incentives and a bureaucratic form of accountability, the gains from improving teacher attendance are likely to be modest if the binding constraint is teacher content knowledge, for example. As Elmore (2002, in Shalem, 2003: 41) notes:

> Giving test results to an incoherent, atomized, badly run school doesn't automatically make it a better school. The ability of a school to make improvements has to do with the beliefs, norms, expectations, and practices that people in the organisation share, not with the kind of information they receive about their performance. Low-performing schools aren't coherent enough to respond to external demands for accountability…Low-performing schools, and the people who work in them, don't

What exactly should primary school mathematics teachers do if they are themselves not competent in the curriculum which they are teaching (despite having an 'appropriate' qualification)?

> know what to do. If they did, they would be doing it already. You can't improve a school's performance, or the performance of any teacher or student in it, without increasing the investment in teachers' knowledge, pedagogical skills, and the understanding of students. This work can be influenced by an external accountability system, but it cannot be done by that system.

Elmore explains that systems need a 'theory of improvement', which is essentially what is required to answer Loveless' (2005: 16) question: 'What exactly should educators in failing schools do tomorrow – that they do not do today – to produce more learning?' Elmore (2004a: 21) explains what he means by a theory of improvement as follows:

> In order for an accountability system to be based on improvement, it has to embody an underlying theory of how schools improve their performance. Simply constructing an incentive structure of standards and testing around the expectation of steady improvements in performance is not a theory of improvement. A theory of improvement actually has to account for how people in schools learn what they need to know in order to meet the expectations of the accountability system.

Unfortunately, in South Africa such a theory of change – an explication of what principals and teachers need to do to improve – is sorely lacking. This is especially the case for mathematics teachers with weak content knowledge. What exactly should primary school mathematics teachers do if they are themselves not competent in the curriculum which they are teaching (despite having an 'appropriate' qualification)? This is surely one of the motivations behind Shalem's (2003: 29) caution on the topic of performance-based accountability in South Africa: 'until we are sure that we have given our teachers meaningful learning opportunities, the belief in performance-based accountability remains highly problematic'. The example of weak mathematics teacher content knowledge in South Africa is a case in point, highlighting the prerequisite of capacitation for any accountability system.

Mathematics teacher content knowledge in South Africa

Perhaps the best example of a capacity constraint to progress is the low content knowledge of mathematics teachers in South Africa. Teacher mastery of subject matter is essential to curriculum implementation and, at its most basic level, teachers cannot teach what they do not know. In its comprehensive report, *The Mathematical Education of Teachers*, the Conference Board of the Mathematical Sciences (CBMS 2001) recommends that mathematics teachers need 'a thorough mastery of the mathematics in several grades beyond that which they expect to teach, as well as of the mathematics in earlier grades'. Yet, the literature on the content knowledge of South African teachers reveals that many have not mastered the curricula they are expected to teach (for examples, see Taylor & Moyane 2004; Fleisch 2008; Spaull 2013). Taylor and Vinjevold's (1999: 230) conclusion in their book *Getting Learning Right* is particularly explicit:

> The most definite point of convergence across the [President's Education Initiative] studies is the conclusion that teachers' poor conceptual knowledge of the subjects they are teaching is a fundamental constraint on the quality of teaching and learning activities, and consequently on the quality of learning outcomes.

More recently, Carnoy et al. (2011) found that Grade 6 mathematics teachers in the North West achieved an average score of 40 per cent on a test consisting primarily of Grade 6-level items (see also Taylor & Reddi 2013; Taylor & Taylor 2013). While most previous studies of mathematics teacher content knowledge in South Africa have been local, isolated, project-based inquiries, the SACMEQ 2007 survey tested a nationally representative sample of students and their teachers (Moloi & Chetty 2011). SACMEQ 2007 South Africa tested 9 083 Grade 6 students from 392 schools sampled to be nationally representative of the Grade 6 student population. Of the 498 Grade 6 mathematics teachers from the 392 schools, 401 teachers wrote the mathematics teacher test, providing valuable information on the mathematics content knowledge of South African teachers. While SACMEQ 2000 also contained a teacher test, South African teachers did not write it in 2000, due to union objections at the time.

In the international SACMEQ report, *Levels and Trends in School Resources among SACMEQ School Systems*, Hungi et al. (2011) report that only 32 per cent of South African Grade 6 mathematics teachers have desirable levels of mathematics content knowledge. This is in stark contrast to many other poorer African countries with much higher proportions of maths teachers with desirable levels of mathematics content knowledge; for example, Kenya (90 per cent), Zimbabwe (76 per cent) and Swaziland (55 per cent). The situation is

also highly variable by province in South Africa, with Mpumalanga having almost no Grade 6 maths teachers with desirable content knowledge (4 per cent). The figure for the Eastern Cape is 17 per cent, for Gauteng it is 41 per cent and for the Western Cape it is 64 per cent.

One of the most common methods of reporting the results of the SACMEQ teacher test is to tabulate the average standardised mathematics score for different subgroups (see, for example, Moloi & Chetty 2011). However, knowing that the South African average Grade 6 mathematics teacher test score is 764 is not particularly illuminating since these scores cannot be interpreted intuitively. While they may be useful for comparing the *relative* performance of provinces (for example, the average score in the Western Cape was 852, while in Mpumalanga it was 700), it is difficult to discern the *absolute* or level of performance using this measure. One way to report the level of performance of South African teachers in an intuitive way is to consider examples of test items as well as the achievement levels of South African Grade 6 maths teachers on those items.

In addition to the performance of South African teachers on these items, we can also calculate the performance of Grade 6 mathematics teachers from other African countries as well as of students from wealthier countries around the world. This is because the SACMEQ mathematics tests developed for teachers and students included overlapping items from earlier studies, including the TIMSS of 1995 (see TIMSS 1997; Ross et al. 2005). This makes it possible to compare the performance (on the same items) of Grade 6 mathematics teachers from SACMEQ countries with Grade 8 students from the 38 countries that participated in the TIMSS Grade 8 study in 1995. Of the 42 questions asked in the SACMEQ mathematics teachers' test, 16 are taken from the 1995 TIMSS Grade 8 test.[3] To provide an indication of the type of questions asked and the levels and distribution of underperformance, an example item (Question 35) from the test is shown in the column opposite.

This question reveals just how low South African Grade 6 mathematics teachers' content knowledge really is. It is well within the Grade 6 maths curriculum, yet only 33 per cent of the South African Grade 6 maths teachers could answer it correctly. This is only marginally above what teachers would get if they just guessed the answer, since they would get it right 25 per cent of the time on a four-choice test item. In contrast, 82 per cent of Kenyan Grade 6 maths teachers and 53 per cent of Tanzanian Grade 6 maths teachers could answer it correctly. Looking at the performance of Grade 8 TIMSS (1995) students on this same item shows that while an astonishingly low 16 per cent of South African Grade 8 students could answer this question correctly, 87 per cent of Korean Grade 8 students and 95 per cent of Singaporean Grade 8 students could answer it correctly (TIMSS 1997). In other words, the average 14-year-old in Singapore or Korea would perform better on this item than the average Grade 6

35. To mix a certain colour of paint, Enni combines 5 litres of red paint, 2 litres of blue paint, and 2 litres of yellow paint. What is the ratio of red paint to the total amount of paint?

A. ☐ **5 : 2**
B. ☐ **5 : 4**
C. ☐ **5 : 9**
D. ☐ **9 : 4**

Student or teacher	Country	Question 35 (percentage correct)
Grade 6 mathematics teachers (SACMEQ 2007)	South African average	33%
	SA Quintile 1	28%
	SA Quintile 5	54%
	Kenya	82%
	Botswana	52%
	Tanzania	53%
Grade 8 students (TIMSS 1995)	South Africa	16%
	Singapore	95%
	Korea	87%

maths teacher in South Africa. In fact, of the 16 questions that were common to both the Grade 6 maths teacher test (SACMEQ 2007) and the Grade 8 student test (TIMSS 1995), South African teachers scored only 30 per cent correct after adjusting for guessing.[4] The figure for Kenyan Grade 6 maths teachers is 72 per cent, and for Singaporean Grade 8 students it is 71 per cent (both also adjusted for guessing). Four additional example items are provided in Appendix 3.1, together with a table reporting the average percentage of correct answers for each of those items after correcting for guessing.

Given that the evidence base is large, consistent and unambiguous, Taylor and Reddi (2013: 228) are correct in concluding that 'the subject knowledge base of the majority of South African Grade 6 mathematics teachers is simply inadequate to provide learners with a principled understanding of the discipline'. Such a situation epitomises a lack of capacity. As Elmore (2004a: 117) observes, 'accountability systems can't mobilise resources that schools don't have'. This is not to say that incentives cannot improve student outcomes by changing teacher behaviour. Various outcomes are achievable through the use of tangible sanctions and rewards (incentives) that encourage changes in behaviour – for example, increasing the amount of pressure on teachers to get to school on time, to teach for the full duration of the day and to decrease unwarranted teacher absenteeism. All of these are effort-related deficiencies and the teacher action required (the theory of change) is clear – to be in school, on time, teaching. Creating an accountability system to monitor teacher attendance is an administrative problem with an identifiable solution. However, it is less clear what incentives could effectively raise teacher content knowledge. To paraphrase Loveless (2005), what exactly should weak mathematics teachers do tomorrow – that they do not do today – to raise their content knowledge? In South Africa, no teacher-training programme has been piloted, implemented at scale, evaluated and proven to raise mathematics teacher content knowledge. It is one of the scandals of higher education in South Africa that 20 years into democracy we still cannot point to a single programme (or set of programmes) that has been proven to raise mathematics teacher content knowledge at scale. In some instances, there are small, localised training programmes – often run by NGOs – offering in-service teacher training. However, there is no 'teacher curriculum' that outlines what different teachers need to know for each phase in order to teach the subjects they are teaching. There is no standardised teacher-board-exam that tests new teachers to see if they have the knowledge and skills necessary to teach students in their particular subject or phase. Rather, it is assumed that teachers qualifying with a Bachelor of Education degree automatically possess the requisite knowledge and skills, which may not be true.

In sum, while traditional accountability mechanisms and incentives may be effective in decreasing teacher absenteeism and increasing teaching time, they are unlikely to raise teacher content knowledge. Increasing pressure on teachers who lack mathematics content knowledge, and know of no way to improve it, is unhelpful and likely to lead to teachers subverting the aims of the accountability system rather than working towards those aims.

Capacity without accountability

One of the major insights from the discipline of economics is the importance of incentives. Without something to motivate actors to use the resources available to them, it is difficult to overcome the inertia of existing behaviour. While the previous section argues that accountability systems cannot mobilise resources that schools do not have, this section argues that without an accountability system additional resources will not be 'mobilised'. Taylor (2002: 17) provides a compelling argument that training initiatives should be aligned with the accountability mechanisms in the system:

> In the absence of accountability sub-systems, support measures are very much a hit and miss affair. Accountability measures provide motivation for and direction to support measures, by identifying capacity shortcomings, establishing outcome targets, and setting in place incentives and sanctions which motivate and constrain teachers and managers throughout the system to apply the lessons learned on training courses in their daily work practices. Without these, support measures are like trying to push a piece of string: with the best will in the world, it has nowhere to go. Conversely, the performance gains achieved by accountability measures, however efficiently implemented, will reach a ceiling when the lack of leadership and technical skills on the part of managers, and curricular knowledge on the part of teachers, places a limit on improved performance. Thus, the third step in improving the quality of schooling is to provide targeted training programs to managers and teachers. To achieve optimal effects, these will need to connect up with and be steered by accountability measures.

This is in agreement with Shalem (2003), who argues that more conceptual work is needed regarding the alignment between pressure and support in South Africa. This notion of alignment between accountability and capacity (or pressure and support in Shalem's terms) is an important one, which deserves further discussion.

Alignment between accountability (incentives/ pressure) and capacity (support)

As mentioned above, much of the 'new accountability' literature focuses on the interplay between capacity and support. Figure 3.1 provides a graphical overview of the two scenarios

discussed above, as well as integrating the issue of alignment between pressure and support. The size of each circle corresponds to the amount of accountability or capacity, with a larger circle representing more accountability or more support. The overlap of the two circles corresponds to the extent to which the accountability mechanisms and the support mechanisms are aligned – the greater the overlap, the better the alignment. These overlapping sections are labelled 'improvement' since, it is argued, only when schools have both the incentive to respond to an accountability system and the capacity to do so will there be an improvement.

In the 'Status quo' quadrant there are two circles representing accountability (on the left) and capacity (on the right) with some overlap (alignment). These correspond to the existing levels of accountability, capacity and alignment in the system at the moment. If one improves only the amount of capacity and support in the system (a move to 'Scenario 1'), without an improvement in accountability or alignment, the size of improvement (the area of the overlap) does not change by very much. Similarly, if one increases only accountability and incentives, without an improvement in capacity and support (a move to 'Scenario 2'), the size of the improvement (the area of the overlap) remains much the same. Scenario 1 here refers to the problem of capacity without accountability, while Scenario 2 refers to the problem of accountability without capacity. These are essentially the areas of no overlap between the two circles. The area of the accountability circle where there is no overlap corresponds to the situation where teachers cannot respond to the incentives of the accountability system because they do not have the knowledge or skills to do so. In contrast, the area of the capacity circle where there is no overlap corresponds to the situation where teachers have no incentive to deploy the knowledge and skills that they already possess in the task of improving student outcomes.

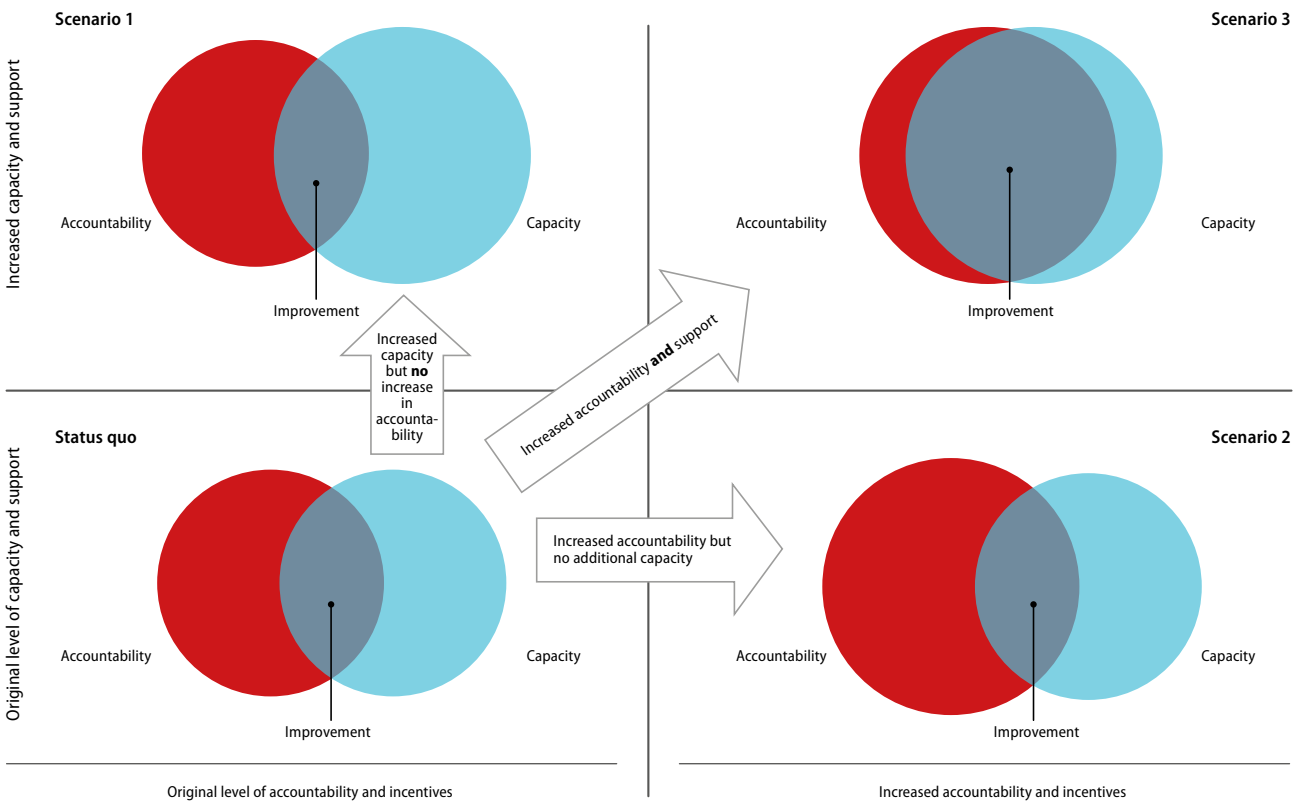
There are obviously several other scenarios, and Figure 3.1 is intended to illustrate a conceptual point rather than to posit an empirical or general theory of accountability and support. One such scenario is where there is no increase in either accountability or support, but rather an improvement in alignment (overlap) between the two circles. By better aligning the incentives of teachers with what they are currently capable of achieving, it is also possible to increase the amount of improvement in the system.

How to improve educational outcomes by increasing accountability

Binding constraints to progress

The above discussion focuses primarily on the broad ideas of accountability and capacity. However, these are overarching,

Figure 3.1: The alignment between accountability/incentives and capacity/support



catch-all concepts that can be difficult to operationalise. The broad notion of capacity includes the content knowledge of teachers, the administrative capacity of principals, the logistical capacity of district officials and so on. While there may be deficits in any of these areas, it is highly unlikely that each of these constraints binds equally. In other words, some capacity constraints are more binding than others. Similarly, the broad notion of accountability includes the systems that prevent unwarranted teacher absenteeism, monitor textbook delivery, ensure parents are well informed about the performance of their children, and so on. While there are certainly deficits in each of these areas, it is also highly unlikely that the lack of accountability in each area is equally detrimental. Should policy-makers aim to improve mathematics teacher content knowledge, or introduce biometric teacher attendance-monitoring devices, or externally evaluate the ANAs and provide parents with information on their children's learning? While all of these and other issues are important, a 'do-everything' approach will be ineffective due to limited physical and human resources. When faced with a plethora of problems (both capacity constraints and accountability deficits) and limited resources, prioritisation is essential.

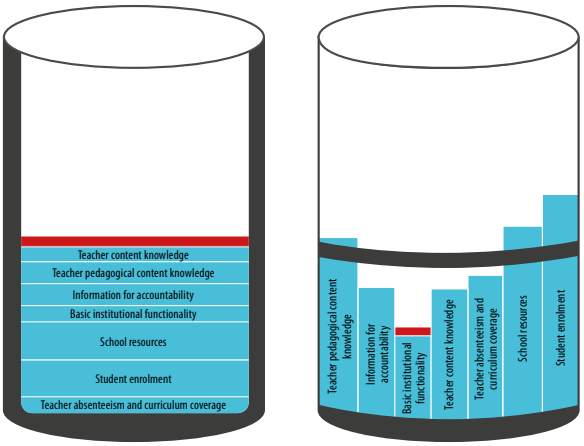
The binding constraints approach of Hausmann, Klinger and Wagner (2008) is helpful here. This method is based on the idea that not all constraints bind equally and, therefore, that the most sensible strategy is to identify the most serious constraints at work – the binding constraints (Rodrik 2009).

Hausmann et al. (2008) provide a helpful illustration of the conceptual difference between a binding constrants approach and an all-constraints-bind-equally approach. Figure 3.2 adapts their illustrative example and applies it to the case of education in South Africa. As they explain:

> The left hand barrel has horizontal wooden slabs, while the right hand side barrel has vertical slabs. The volume in the first barrel depends on the sum of the width of all slabs. Increasing the width of any slab will increase the volume of the barrel. So a strategy on improving anything you can, when you can, while you can, would be effective. The volume in the second barrel is determined by the length of the shortest slab. Two implications of the second barrel are that the impact of a change in a slab on the volume of the barrel depends on whether it is the binding constraint or not. If not, the impact is zero. If it is the binding constraint, the impact will depend on the distance between the shortest slab and the next shortest slab. (Hausmann et al. 2008: 17)

The heights of the various slabs in the hypothetical example presented in Figure 3.2 provide an example of how addressing one constraint may not be effective if it is not the binding constraint. Implementing measures to improve curriculum coverage may not help very much if teachers lack the content knowledge to teach those additional areas of the curriculum.

Figure 3.2: How much liquid will the barrel hold?



In reality, the situation is likely to be neither the left-hand-side barrel nor the right-hand-side barrel but some combination of the two, as Hausmann et al. (2008) themselves note. Using the above example, increasing teacher content knowledge in the absence of basic institutional functionality is likely to have some effect, even though it is not the shortest slab in the diagram and technically the barrel would not be able to hold more water. However, that effect is reduced by the lack of basic institutional functionality (the binding constraint in the example).

In the example, 'basic institutional functionality' is listed as the binding constraint (the shortest slab). The reason for this is that unless schools can manage the school day and ensure that teachers and students are at school and in class teaching and learning, no amount of capacitation will improve results. If a school is a completely dysfunctional unit, teacher training initiatives or additional resources are unlikely to yield gains. The 2012 NEEDU report comes to a similar conclusion: 'The school improvement research literature is unequivocal that institutional functionality must be fixed before capacitation strategies can ''take''. This is partly why INSET [in-service teacher training] initiatives have delivered such disappointing results so far.' (NEEDU 2013: 72)

The constraints in Figure 3.2 are only a selection of the full range of constraints in the South African education system, and the relative heights of the slabs (i.e. the degree to which each constraint is binding or not) is subjective. While different researchers may allocate different weights to different constraints, the final set of constraints and relative heights should ultimately be determined in consultation with a range of experts and the research community at large. The reason why this way of thinking is helpful is that it makes the prioritisation process explicit. When faced with limited human and physical resources and a large number of constraints – such that one cannot realistically solve all problems simultaneously – one is forced to choose which problems to solve first. This is not possible without an evidence-based hierarchy of problems, which can then be used to garner consensus among various interest groups as to which problems need to be addressed in what order (in other words, which can be delayed legitimately). Without prioritisation, resources are spread too thin and there is no meaningful progress.

The central importance of the Annual National Assessments

It is now generally accepted that the widespread implementation of the Annual National Assessments (ANAs) in 2011 was an important milestone on the road to improving educational quality in South Africa. Until this point, the only standardised national exams that existed were at the exit level of the schooling system (matric). All other exams were either provincial (Systemic Evaluations in the Western Cape), limited to a nationally representative sample (Systemic Evaluations, TIMSS, PIRLS, SACMEQ) or, more commonly, decided at the school or classroom level. Without a nationally comparable (standardised) exam at the primary school level, one could not compare schools across provinces or districts, or over time. Consequently, it was not possible for policy-makers or parents to determine if a primary school was underperforming, at least not with any measure of certainty. This absence of any externally evaluated, standardised exam at the pre-matric level led to a number of serious problems. Due to a lack of information and a lack of capacity to deal with the problems, many schools promoted students to higher grades with little regard for whether or not the children had acquired the knowledge and skills necessary for those grades. This has led to a situation where there is very little drop-out before Grade 11, but up to 50 per cent of the cohort dropping out between Grade 10 and Grade 12 as students approached the externally evaluated matriculation exam (Grade 12). As Van der Berg et al. (2011: 4) explain, 'low quality education combined with high and lenient grade progression up until Grade 11 means when a standardised assessment occurs, i.e. the Matric examination, this serves to filter a large proportion of weak students out of further attainment'. It would be wrong to look at the high drop-out rate in Grade 11 and conclude that the problem lies primarily in Grade 10 and 11, or even in high school. Although it is likely that there are problems in these grades as well, much research shows that South African students do not acquire the foundational skills in primary school that are needed to succeed in high school. Every single international assessment shows that the majority of South African primary school children do not acquire the basic skills of the grade they are in or of previous grades (see, for example, Fleisch 2008; Moloi & Chetty 2011; Taylor et al. 2013).

Given that the research shows that most South African students are incurring learning deficits early on in their academic careers, it is only logical that the focus of government intervention should be on the primary school years (see Spaull 2013). However, without an accurate indication of the levels and trends of school performance, support cannot be targeted at where it is needed most. The same is true for principals providing targeted support to individual teachers, and teachers to individual students. This points to the fundamental importance of the ANAs; if implemented properly, they can provide reliable information on learning outcomes at the primary grades. Unfortunately, the ANAs have not been implemented properly to date.

Various concerns have been raised by numerous academics, including those on the ANA advisory committee, such as Dr Surette van Staden, who refers to the reported improvements between 2011 and 2012 as 'highly unlikely' (John 2012). Professor Mary Metcalfe, former higher education director general, reiterates this point when she cautions that 'we need to be sceptical of these results' (John 2012). Mr Vishnu Naidoo, the chairman of the Foundation for English, Mathematics, Science and Innovation of South Africa (FEMSISA) – the body that runs the national mathematics Olympiads – has voiced

concern regarding the credibility of the ANA Grade 9 mathematics paper, referring to the test as 'an absolute disaster' (Naidoo 2012). Van der Berg & Spaull (2012) stress that many of the reported 'improvements' between ANA 2011 and ANA 2012 are exceedingly improbable, if not impossible. For example, the average Grade 3 literacy score improved from 35 per cent in 2011 to 52 per cent in 2012 (a 49 per cent increase), which would make South Africa the fastest improving country in the history of standardised assessments around the world – improving more in a year than the fastest improving countries did in seven years (Spaull 2013). More plausibly, the 2011 and 2012 tests are not legitimately comparable. The 2012 NEEDU report captures these concerns as follows:

> There are many factors which raise questions about the validity and reliability of the ANA results, rendering comparisons between schools on the same test, or within the same school or unit of the system over time, prone to significant margins of error. These include psychometric comparability of successive question papers, the fidelity of administration, scoring and collating procedures. (NEEDU 2013: 55)

While the implementation of the ANAs should be praised for beginning to rectify one of the major deficiencies in the South African education system, the above concerns require increased attention from ANA implementers. For the ANAs to fulfil their role as a means of targeting support and holding schools accountable, they must be a valid and reliable indication of student learning. This has implications for curriculum alignment, psychometric validity and external evaluation. The ANAs should be externally evaluated and marked by an independent body (like Umalusi, the matric certification body) for at least one grade per year – perhaps Grade 3 and Grade 6. Although this will require considerable resources, implementing a reliable system of testing and support at the primary level is arguably one of the greatest needs in the South African system. Without such an externally evaluated and independently administered test, much of the value of the ANAs is eroded, and can actually do harm. Providing schools with inaccurate (or simply incorrect) measures of performance means that schools, teachers and parents are receiving erroneous feedback. For example, the reported improvements between ANA 2011 and 2012 create the impression of a remarkable improvement in school performance, which did not really occur. This makes it so much more difficult to promote improvement in behaviour at the classroom level, and that is central to real advances in learning outcomes.

Balancing the rights and concerns of children and teachers

From an ethical and public policy perspective, it is important to remember that one cannot focus on the rights and concerns of children to the exclusion of those of teachers, but neither can one focus on the rights and concerns of teachers to the exclusion of those of children. Rather, one has to find a balance between the rights and concerns of both parties. Much of the economic literature discussed above foregrounds the rights of children – primarily the right to acquire the knowledge, skills and values needed to be full members of society (i.e. the right to a quality education). In contrast, many of the objections to accountability reforms made by educationists are on the grounds that these reforms demean teachers and undermine their professionalism and dignity. In a democratic society, one has to find an equitable equilibrium by weighing up the relative concerns of all interest groups. This is especially the case when the concerns of one party (for example, parents) may diverge from the concerns of another (for example, teacher unions). Let us take an illustrative example of releasing the ANA results to parents. Given the concerns around the reliability and validity of the ANA results, there are serious technical matters that have to be addressed before one could consider releasing ANA results to parents. Even if we assume that in the next three years the DBE will provide additional resources to Umalusi to externally evaluate the ANAs in Grade 3 and Grade 6 across the country, such that we have reliable estimates of student learning for those grades, the question remains as to whether or not those results should be provided to parents, and in what format.

Clearly parents have a right to know what their children are learning. This right is independent of the resources or capacity constraints of the school or the teachers at the school. Whether or not the teachers in a particular school have received adequate training and support is immaterial to the right of parents to know whether or not their children are learning anything. While it is true that it is unfair to hold teachers accountable for something they cannot do (for example, if they do not have the content knowledge to teach certain content areas), it is equally unfair, if not more unfair, to deprive parents of performance information on the basis that teachers do not currently have the capacity to respond to external pressures. One could think of a similar scenario in the health-care sector, where it would be unthinkable to withhold a medical diagnosis from a patient because a particular hospital does not have the skills or resources to treat a particular problem.

With respect to the ANAs, the debate in South Africa is less about whether or not results should be released to parents than about what format those results should take. Should report cards only indicate the absolute performance of a particular child and the particular school (this is the current departmental policy), or should there be an element of comparative performance, indicating where that school is in relation to other socio-economically comparable schools in the district, province or country? The latter is likely to place increased pressure on school principals and teachers, as parents either move their children to better performing

schools, or demand explanations for why their Grade 4 child cannot read, for example. Often, the interests of parents and teachers are portrayed as being aligned – everyone wants quality education – however, there are several scenarios where the interests of these two groups seem to diverge. In these situations, the political power of each group comes into play. Almost all teachers in South Africa belong to organised and politically powerful teacher unions, enabling them to speak with one voice and command considerable political influence. The interests of teachers are well represented in the South African polity. In contrast, parents are often atomised and find no coherent body through which they can express their educational interests as parents, except for the normal political process of voting every five years. Parents of primary school children lack reliable information on the performance of their children relative to normal benchmarks (like being able to read by 8 years of age), or relative to socio-economically similar schools in the region. As it stands, parents have to use proxies for primary school performance, such as the levels of order and discipline in the school, or the appearance of the school, all of which are only very loose indicators of performance.

Given the reality of politically organised and empowered teacher unions and politically disorganised and disempowered parents, any situation where there is a conflict of interests between parents and teachers should be carefully considered. Furthermore, for obvious reasons, children do not have direct political representation (as teachers do) but, rather, are 'spoken for' by parents or care-givers (where these exist). This is especially important to remember when one considers that there are roughly 12 million children of school-going age and only around 400 000 educators in South Africa.

Conclusion

After even a cursory glance at the data on South African education, no one would argue that we have too much accountability in the South African education system. The schooling system in the country is characterised by high rates of teacher absenteeism, low rates of curriculum coverage and an exceedingly weak correlation between increased expenditures and improved education outcomes. These low levels of accountability permeate all levels of the system, from the national department down to the classroom, revealing a lack of bureaucratic accountability as well as a lack of professional accountability among teachers.

In searching for a way forward, this article outlines two dead-end possibilities – increasing accountability without increasing support, and increasing support without increasing accountability. Both scenarios fail to improve performance because, in the case of the former, schools cannot mobilise resources they do not have and, in the latter, teachers have no incentive to mobilise themselves or the resources at their disposal. This highlights the importance of aligning the structures of accountability with the processes of capacitation. Only when schools have both the incentive to respond to an accountability system and the capacity to do so will there be an improvement in student outcomes.

After discussing the theoretical concepts of accountability, support and alignment, the latter half of the article focuses on three issues central to the policy-making process: prioritisation, measurement and balancing the concerns of constituencies. When faced with limited resources, prioritisation is inevitable. By creating an evidence-based hierarchy of constraints, it becomes possible to identify the binding constraints to progress and to target existing financial and human resources towards solving those problems first. Secondly, it is argued that without a reliable indicator of student learning at the primary school level, it is not possible to improve outcomes. While the ANAs are a clear move in the right direction, their current implementation negates much of their value. Lastly, the article cautions against prioritising the concerns of a politically organised minority (teacher unions) over those of a politically atomised majority (parents and children).

Moving forward, teachers should be provided with meaningful learning opportunities to improve their skills, and parents should be empowered with accurate information on their child's learning relative to appropriate benchmarks and the performance of socio-economically similar schools. The latter should not be contingent on the former. Without accurate information on their children's learning, parents cannot put pressure on schools or express their concerns through appropriate political channels.

The wholesale lack of accountability for student learning outcomes in South Africa is arguably one of the major impediments to quality education for the poor. The substandard education offered to the poor in South Africa does not develop their capabilities or expand their economic opportunities; instead, it denies them dignified employment and undermines their sense of self-worth. Until there is an increase in both accountability and capacity, there is little reason to believe that there should be any measurable improvement in student learning outcomes in South Africa.

Endnotes

1 PERSAL is the personnel salary system used by the Department of Basic Education.

2 Gauteng was the only province that did not participate in the NSES, since other tests were being administered there at the same time.

3 In the SACMEQ III (2007) mathematics teachers test, the 16 items and corresponding TIMSS 1995 Grade 8 items (in brackets) are as follows: tmath04 (R-12); tmath09 (P-08); tmath18 (I-08); tmath19 (J-14); tmath20 (J-18); tmath21 (K-04); tmath23 (K-06); tmath24 (L-11); tmath25 (K-08); tmath26 (L-14); tamth27 (L-17); tmath28 (M-06); tmath30 (Q-01) tmath31 (R-07); tmath32 (R-09); tmath35 (V-03). For further information, see Ross et al. (2005) and, given that all 16 items have now been released, they can be found at IEA (1997). One important proviso is that in the SACMEQ 2007 tests there were four multiple choice options while in the TIMSS 1995 tests there were five options. Thus, while TIMSS 1995 Grade 8 students and SACMEQ 2007 Grade 6 teachers were given the same 16 questions, in the TIMSS test there was one additional possible answer. This could lead to an overestimate of SACMEQ teachers' achievement relative to TIMSS students because the rate of successful guessing will be higher in SACMEQ than in TIMSS.

4 See Frary (1988) for the formula used to adjust for guessing.

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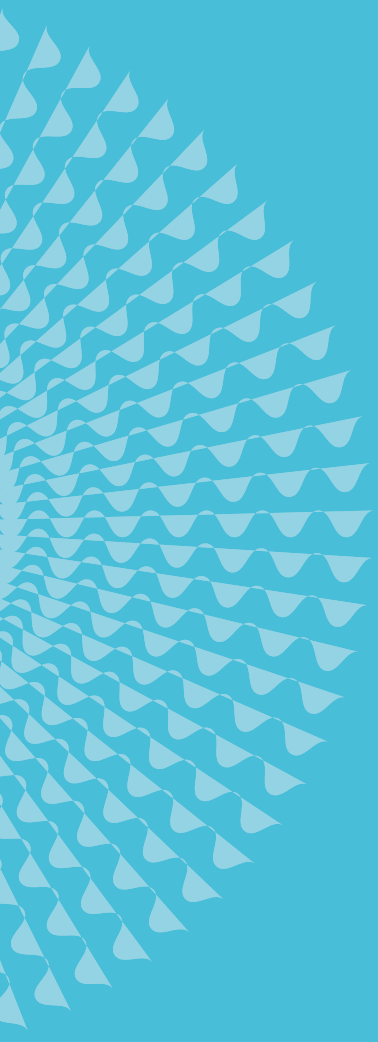
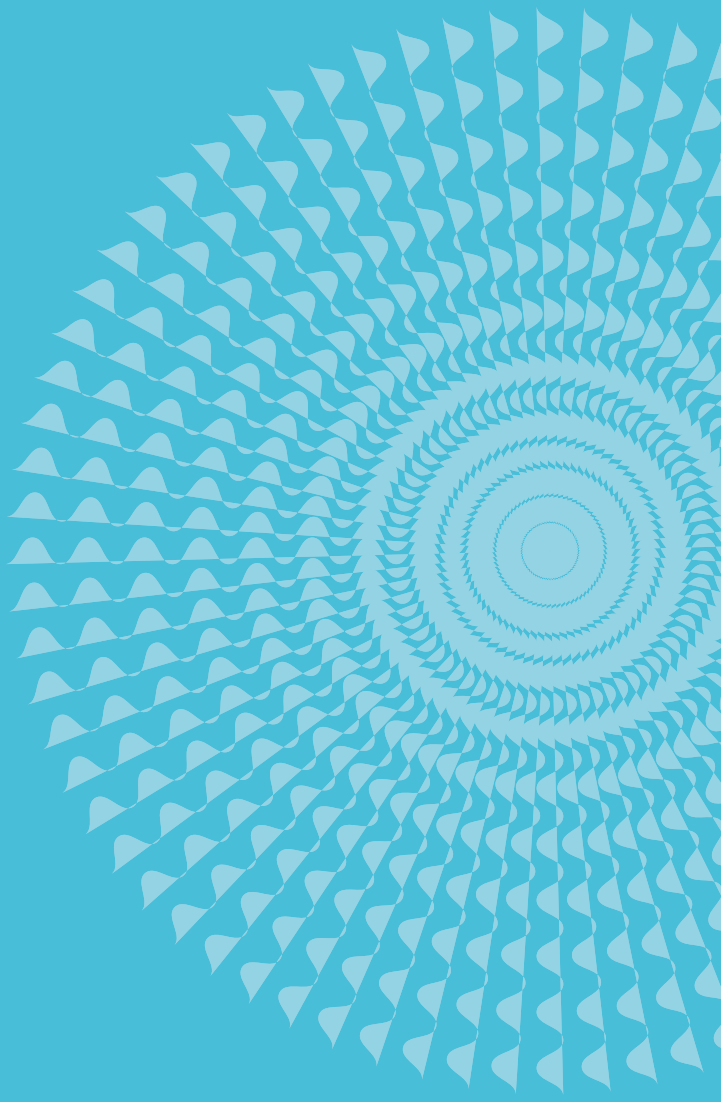




Chapter FOUR

Poverty and Inequality

Poverty and Inequality at a Glance

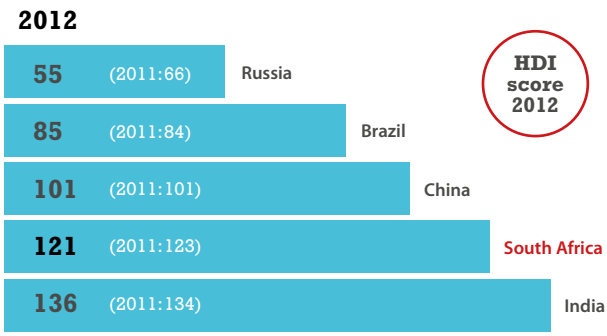
Despite significant gains in the provision of basic services, many South Africans are still waiting for access to elementary services such as housing and sanitation. While the percentages of those without access may have declined, the real numbers remain high. We may continue, therefore, to experience eruptions of public protest and, in some instances, violence in response to inadequate services. Internal migration from rural provinces to urban centres continues to place pressure on authorities in the latter category to provide adequate shelter. The results of the 2012 General Household Survey, released earlier in 2013, however, point to general improvements in the living conditions of South African households. In 2012, for example, there were far fewer households not living in formal dwellings than was the case in 1996.

Vital poverty and inequality statistics	
Total population	51.7m
South Africans living under the poverty line *	28.37%
Gini Coefficient	0.70
Households living in informal dwelling	14.1%
South Africans receiving government grant or pension support **	16.1m
Population living below the international poverty line $1.25 (in purchasing power parity terms) a day	13.8%

Sources: South African Census 2011. Poverty Headcount: National Income Dynamic Study wave 2. 2012/13 number of government grant recipients: National Treasury, National Budget Review 2013. Socopen system. International poverty line: World Bank, World Development Indicators 2013. Gini Coefficient 2010: IES data

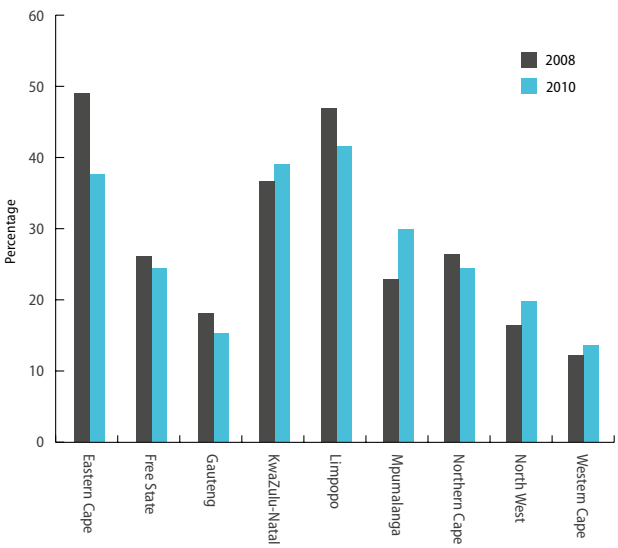
* R305 per capita, per month (In 2011 constant prices) **2012/13 National Treasury estimates

South Africa's human development indicators in perspective



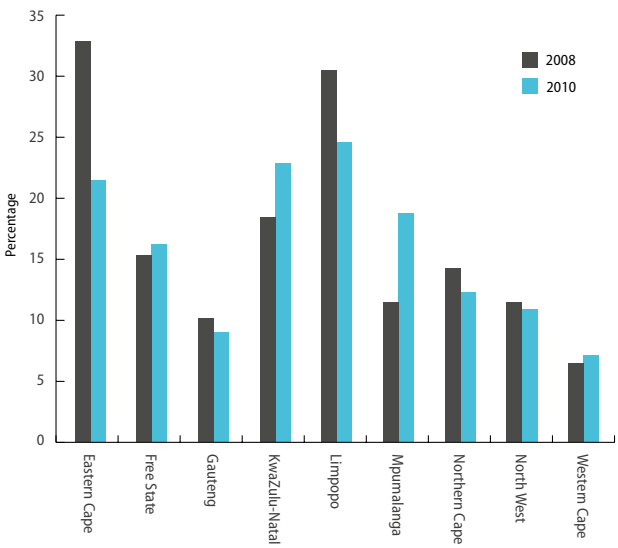
Source: HDRO calculations based on data from UNDESA (2011), Barro and Lee (2011), UNESCO Institute for Statistics (2012), World Bank (2012) and IMF (2012)
Source 2011: UNDP 2011 Human Development Report

Percentage of population living below R305 a month per person poverty line (in 2011 constant rand)



Source: Data for 2008 and 2010's calculations are based on NIDS wave 1 and wave 2 data respectively

Percentage of population living below R191 a month per person poverty line (in 2011 constant rand)

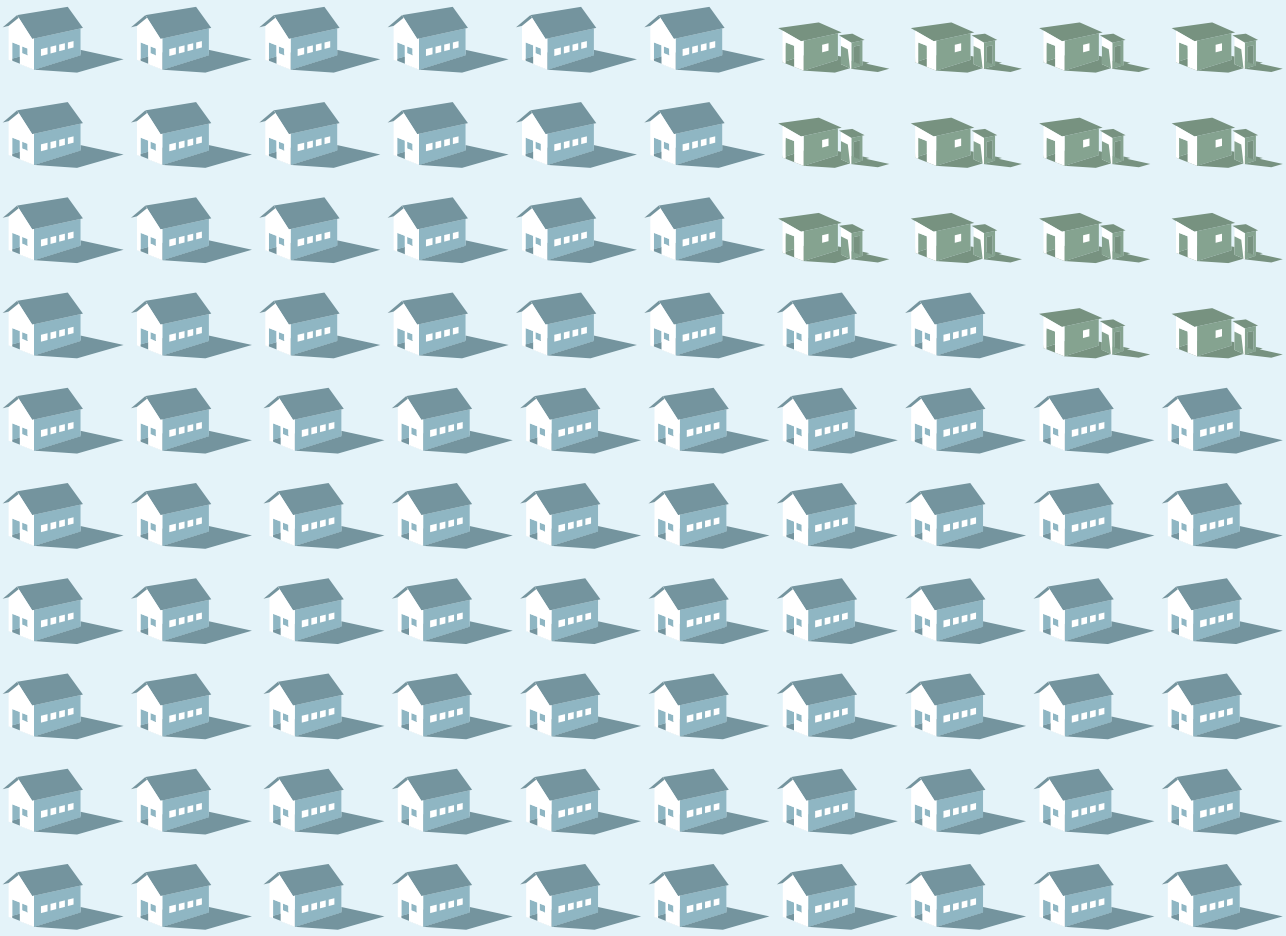


Source: Data for 2008 and 2010's calculations are based on NIDS wave 1 and wave 2 data respectively

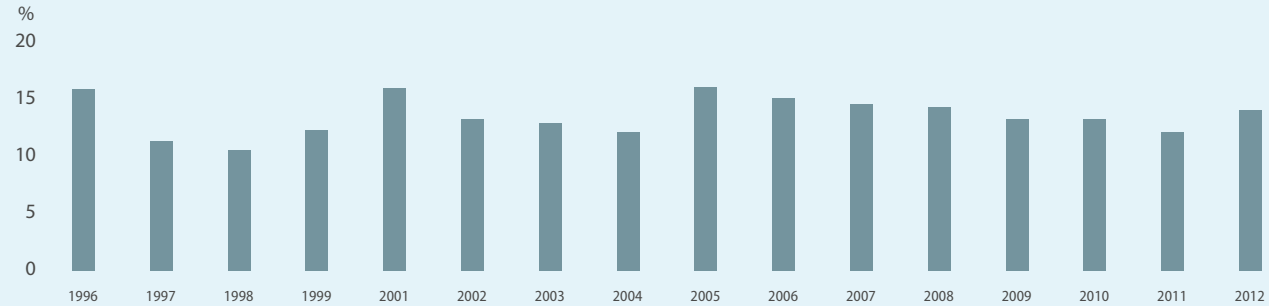
Households not in formal dwelling 2012

14.1%

of households are not in a formal dwelling

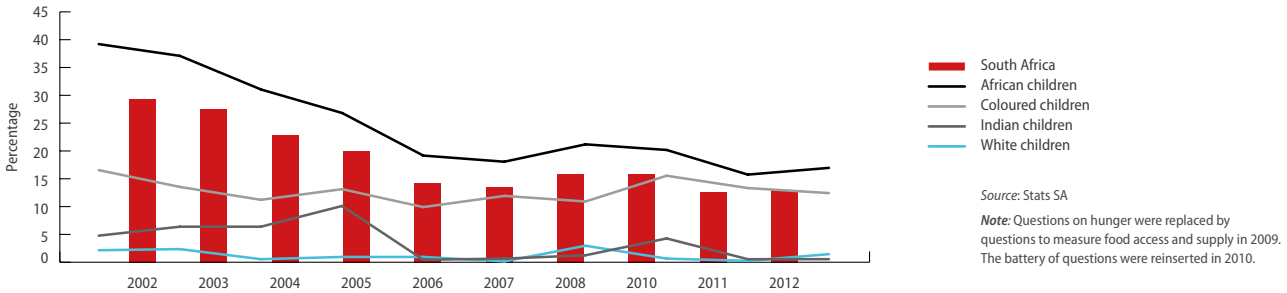


Households not in formal dwelling showing South African trend from 1996 to 2012



Source: South Africa's Development Indicators 2012. Source for 2012 Statistics: Stats SA – General Household Surverys
Household figures are based on Statistics South Africa's data (OHS 1997–1999, Census 1996 and 2001, GHS 2002–2011. Data for year 2000 not available.

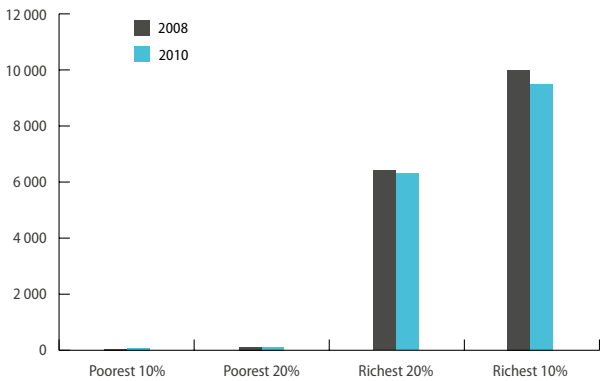
Percentage of children living in households that reported hunger, 2002–2008, 2010–2012



Source: Stats SA

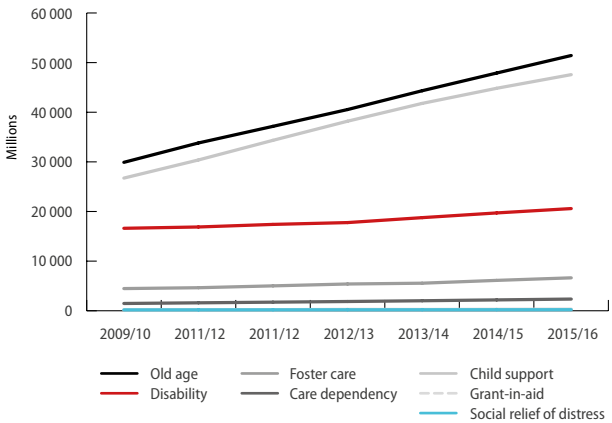
Note: Questions on hunger were replaced by questions to measure food access and supply in 2009. The battery of questions were reinserted in 2010.

Average annual per capita income (in 2011 constant rand prices)



Source: National Income Dynamic Study (NIDS) wave 1 and wave 2 data sets

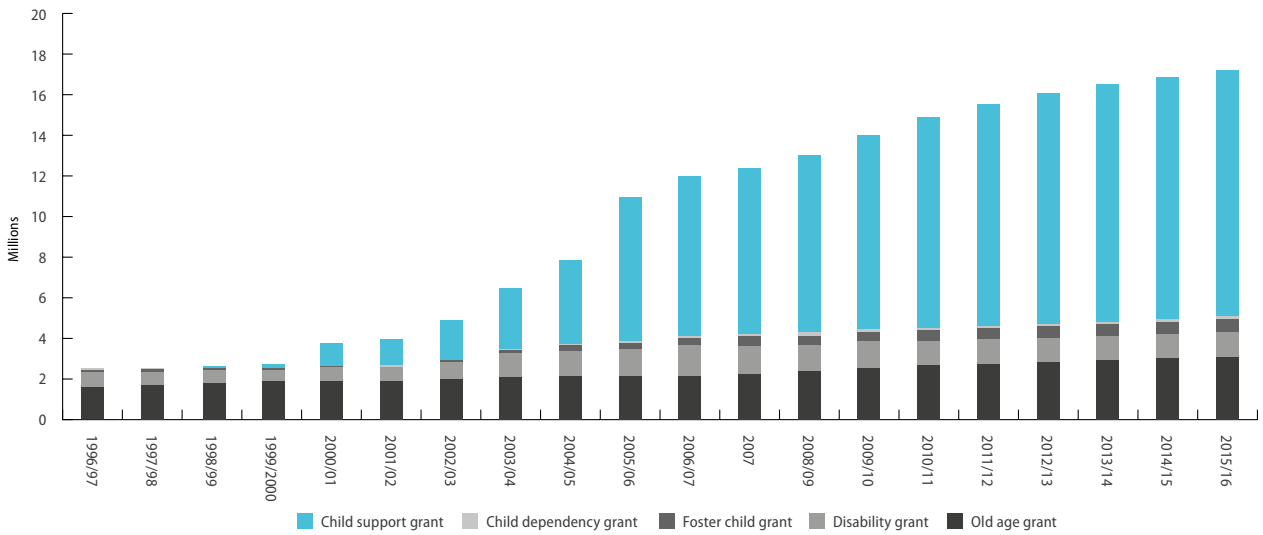
Social grant expenditure trends as percentage of GDP, 2009/10–2015/16 (R million)



Source: National Treasury, National Budget review 2013

Data note: Old age includes expenditure on war veterans grant; 2012/13 figures are estimates; 2013/14 –2015/16 figures are medium-term estimates

Total number of recipients of social-assistance grants by type, 1996/1997–2011/2012 and future projections



Sources: Figures 1996/97–2011/12: South African Social Security Agency's (SASSA) Social Security Pension System (Socpen). Figures from 2012/13 are estimates and 2015/16 projections sourced from National Treasury, National Budget Review, 2013. Socopen system. Projected numbers at fiscal year end.

Data note: The total figures does not include Grant-in-aid as Grant-in-aid is an additional type of grant awarded to persons who might already be receiving other forms of grants such as old age grants, disability or war veteran's grants as a result of being unable to care for themselves. Grant-in-aid may create duplicates in terms of head counts. Disability grant total consists of temporary disability grant (which is a disability grant that is awarded for a period no less than 6 months and not more than 12 months) and permanent disability grant (which is a disability grant that is awarded for a period longer than 12 months). Figures for old age grant include recipients of war veterans grant.

Hunger in the former apartheid homelands: Determinants of converging food security 100 years after the 1913 Land Act

Dieter von Fintel and Louw Pienaar

A critical determinant of the success of any poverty alleviation strategy is the extent to which it promotes food security amongst the most vulnerable in society.

Introduction

The year 2013 marked the centenary of the enactment of the 1913 Natives Land Act in South Africa. This Act still dominates public debate, as it laid the foundation for the formation of apartheid homelands and separate development. By 1994, the formalities of apartheid legislation, including the Land Act, had been dismantled, though many of the legacies of separate development remain. This article assesses the impact of post-apartheid rural and agrarian development, using linear probability models of the prevalence of household hunger, and of the historic context and impact of the Land Act 100 years after its inception. As illustrated in the empirical section, differences in hunger levels between homeland and non-homeland regions were eliminated by 2008. The article assesses the role that agriculture played in this progress, as well as the role played by government social assistance to households.

One of the sectors still heavily impacted on by the effects of the Act is agriculture. South Africa is afflicted by high levels of unemployment, which, together with low levels of subsistence farming and informal employment, threaten socio-economic well-being and, in particular, food security of its households. These are consequences of many historical factors, among others the Land Act and the Group Areas Act, which limited the freedom of black South Africans to acquire land and engage in economic activity in the geographic areas of their choice.

This article starts with a review of the state of food security in South Africa, followed by a historical contextualisation of farming since the 19th century in South Africa, and then proceeds to provide a current assessment of farming in the former homeland areas. Food security within these areas will be analysed, together with the agricultural background, in an attempt to gauge the impact of post-apartheid policy interventions and of farming on food security. As late as 2004 (ten years after the abolition of legislated apartheid), differences in food security persisted between former homeland regions and other parts of South Africa. The homelands were created on the basis of the demarcations of the Land Act and, 90 years later, were still distinct in terms of relative food insecurity. However, as the evidence shows, many of these differences were eliminated by 2008. We conclude with a discussion of policy issues to establish whether the current trajectory of progress is sustainable into the future.

Food security and agriculture

Although an upper-middle income country, South Africa is afflicted by extremely high levels of absolute poverty and is often referred to as one of the most unequal countries in the world (Pauw 2007). Poverty is pervasive, but particularly acute in rural areas (Dercon 2009), with the former homeland regions, where 65 per cent of the poor are located (Machethe 2004), the worst affected. Many South African rural inhabitants are linked either directly or indirectly to agricultural activities (Pauw 2007) and, in theory, agriculture should thus provide vital income and employment for rural inhabitants, as is the case in many other African countries (Ojediran 2011).

A critical determinant of the success of any poverty alleviation strategy is the extent to which it promotes food security amongst the most vulnerable in society (Altman, Hart & Jacobs 2009). Simply explained, food security refers to the ability of an individual to obtain or have access to sufficient food (Du Toit 2011). Its measurement, however, has become a complex exercise because of the multiple definitions and indicators that exist in a wide range of disciplines (Altman et al. 2009).

Household food security is heavily dependent on the income and the asset status of the household (Jacobs 2009). Other determinants of household food security are household composition, livelihood strategies and geographic location. Households typically access food through subsistence production, markets, government transfers or other households (Baiphethi & Jacobs 2009). It is well known that rural households historically produced most of their own food, but recent evidence suggests that there is an increase in market dependence of both urban and rural households (Baiphethi & Jacobs 2009). According to Baiphethi and Jacobs (2009), greater household food production has the potential to improve the food security of poor households because of the lower exposure to food inflation in the market. Agriculture, in addition, has proven to be a crucial mechanism for rural growth and poverty alleviation (Birner & Resnick 2010; Diao, Hazell & Thurlow 2010). However, in the context of its declining long-term share in the economy, and given the constraints imposed by a century of restrictive legislation, there are significant obstacles to the revival of this form of livelihood. The combined effects of political, economic, social and historical factors have resulted in duality within the sector (Essa & Nieuwoudt 2003). Thus, rural livelihoods in South Africa today are marked by ever-present legacies of poverty, which are both racially and spatially defined (Neves & Du Toit 2013).

The post-apartheid government has directed large amounts of public spending towards rural development and poverty alleviation. Currently, a significant share of public spending is devoted to social grants and improved services in these poor regions (Perret, Anseeuw & Mathebula 2005). Yet, progress

in the improvement of rural livelihoods has been limited, as many of the policy interventions, such as land reform, smallholder support and rural development, have been ineffective (Perret et al. 2005). Indeed, Hoegeveen and Özler (2004) show that poverty increases in the years immediately after the end of apartheid were concentrated in rural homeland regions.

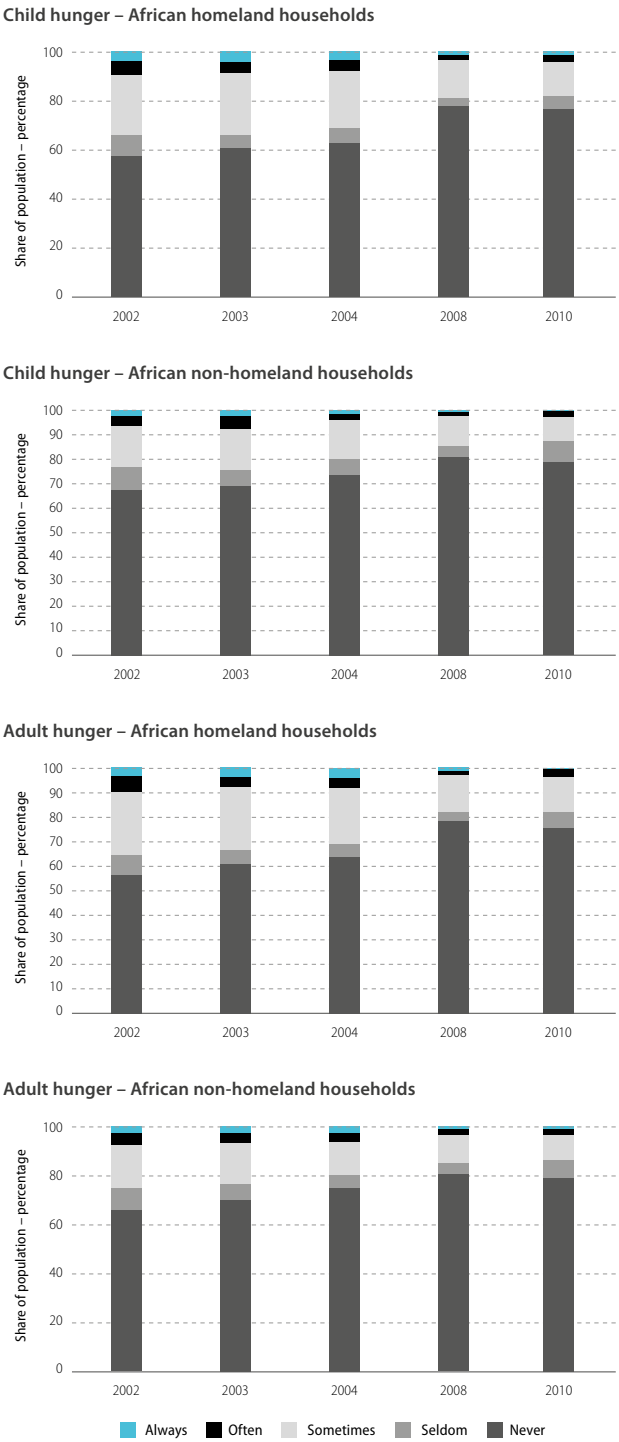
In the early post-apartheid years, academics actively monitored whether reforms had led to an improvement in household welfare. While Census (1996 and 2001) and Income and Expenditure Survey (1995 and 2000) data showed that poverty had increased in the first half decade after transition (Hoogeveen & Özler, 2004; Leibbrandt, Levinsohn & McCrary (2005); Ardington, Lam, Leibbrandt & Welch 2006), alternative sources showed that it had actually declined, and that steady improvements in welfare continued to be made (Van der Berg, Louw & Yu 2008). Notably, Van der Berg et al. cite the decline in reported hunger in the General Household Survey (GHS) as a firm indicator of declining poverty. Figure 4.1 exploits the same data source, but differentiates hunger trends by whether households resided in former homelands or not.[1] It is evident that regardless of location, hunger declined for both adults and children in the post-2000 decade. It is also notable that hunger was initially higher in former homeland regions, but that the decline in prevalence thereof was much quicker here, so that hunger levels converged between regions. The question is how this differential in food security across homeland and non-homeland regions was eradicated in the period of a decade. One possible explanation is the rapid expansion of social grants, as emphasised by Van der Berg et al. (2008) to substantiate a declining poverty trend. While they do not establish this link formally, they infer a link between declining poverty and better food security, and (more pertinently) the expansion of grants in establishing both. Here we try to quantify the impact of household agricultural activities on improvements in food security, while also controlling for the importance of social grants, in order to understand which of the policies had greater effect.

A brief historic overview of African farming in South Africa

The history of South African agriculture revolves around two core themes: land ownership and land rights (Tihanyi & Robinson 2011). Agriculture in the mid-19th century consisted of large white-owned settler farms with hired labour, some settler estates with indigenous tenant farmers and free indigenous farmers farming on black-owned land (Lahiff 2000; Mbongwa, Vink & Van Zyl 2000).

Before the establishment of the Union of South Africa, African farming was relatively viable during the second half of the 19th century. African farmers at the time, whether farming on private land or as tenants, proved competitive with large-scale settler farmers. According to Bundy (1979) these African farmers supplied major towns with grain and exported surplus

Figure 4.1: Changes in hunger patterns for African households by former homeland status



Source: Own calculations from General Household Survey (GHS) (2002, 2003, 2004, 2008, 2010)

FOUR

to the Cape between 1850 and 1870. Compared to large-scale farming, the African family farming units were efficient in producing agricultural products with simple technologies and plentiful land. Labour was said to be the most important success factor in farming at the time, and white settlers with low profitability could not offer wages that would attract indigenous labourers, who could choose rather to live off subsistence farming (Mbongwa et al. 2000). White landowners, therefore, depended heavily on rental payments from successful black tenant farmers (Oettle, Fakir, Wentzel, Giddings & Whiteside 1998).

The ultimate inability of white farmers to compete with black farmers resulted in the large settler farmers persuading the colonial government of the time to intervene on their behalf. The interventions were designed to limit African competition in the marketplace and to establish native reserves to create artificial land shortages. These shortages forced African farmers to seek work on farms, enabling settlers to attain profitability. Measures that were used included various taxes (poll taxes on livestock and huts), road rents, location, vagrancy and pass laws and enforced confinement to the reserves that were allocated to Africans (Mbongwa et al. 2000).

The 1913 and 1936 Land Acts of the Union of South Africa enforced *complete* discrimination in access to acquiring land (Mbongwa et al. 2000). This effectively prohibited black people from acquiring land anywhere outside of boundaries stipulated by the Acts, and made farming possible only in the allocated reserve areas (Lahiff 2000). In contrast, 87 Acts were passed in the Union parliament which supported the needs of white commercial agriculture between 1910 and 1937 (Mbongwa et al. 2000). The apartheid government further entrenched these patterns. In the 1960s and 1970s, policy towards the regulation of the reserve areas was revised, and around 3.5 million people, including tenants evicted from white farms, were forcefully evicted to the homelands (Lahiff 2000).

Post-apartheid policy changes in the agricultural sector included the deregulation of the marketing system, abolishment of certain tax concessions, reduction in expenditure via the national budget, land reform, trade reform and new labour legislation (Groenewald & Nieuwoudt 2003). The African National Congress (ANC) stipulated that the improvement of small-scale agricultural production and increased participation of emerging farmers in the economy were among the pillars of the Reconstruction and Development Programme (RDP) (Makhura & Mokoena 2003). The general aim of the new agricultural policy was to create a unified economy, where both large and small farming enterprises could compete in harmony in the domestic and international markets (Van Averbeke & Mohamed 2006).

Towards undoing the effects of decades of policies that affected black South Africans, the new government initiated a series of land reform programmes in 1994, with the intention of redistributing 30 per cent of total agricultural land to the previously disadvantaged. These reforms were intended to make land accessible to rural people, provide for security of tenure, and improve small-scale production capacity (Lyne & Darroch 2003).

Data, methodology and descriptive analysis

Data and descriptive analysis

This section illustrates the current situation with regard to farming and food security in the former homeland areas of South Africa. Smallholder African farmers are settled predominantly in the former homeland areas, which comprise approximately 13 per cent (16 million hectares) of the country's total agricultural land (Fenyes & Meyer 2003). Agriculture in these areas is commonly known for its subsistence orientation and is extremely marginalised in comparison with the commercial sector (Lahiff 2000). Production is aimed mostly at providing staple foods for household consumption, which can be grown anywhere from gardens to demarcated fields and open rangelands.

To understand the current state of subsistence farming and food security in these areas better, the GHS has been used to capture a static picture for 2010. Considering the lack of data on smallholders, and, more specifically, subsistence farming in many datasets,[2] the GHS of 2010 was selected as the most comprehensive to date. In later analysis, additional years of this survey are added, but the sample is limited to variables that are consistently enumerated over time.

To be able to assess and describe subsistence farming, this article exploits Geographic Information Systems (GISs) to locate the former homeland areas in South Africa with information from the Department of Rural Development and Land Reform (2004). This indicates the former homeland areas as they were spatially administered during the apartheid regime, following the first demarcations under the Land Acts of 1913 and 1936. Census Enumerator Area (EA) and Primary Sampling Unit (PSU) (which can be identified in the GHS from 2008 onwards) layers are used to locate households situated within the former homeland areas of South Africa. The EA is the smallest geographical unit used to enumerate or divide a country for census purposes, dividing sub-places into small areas consisting of no more than 185 dwelling units (Mokgokolo 2011). The former homeland households were sampled by selecting EAs whose central points are inside the boundaries.

The former homeland areas consisted of 10 distinct 'states', which took up 13.96 per cent of the total 122.1 million hectares of land in South Africa. Out of the ten former 'states', the Transkei area was the biggest with 4.42 million hectares, followed by Bophuthatswana and KwaZulu with 3.80 and 3.61 million hectares respectively (see Table 4.1).

A breakdown of the sample used in the study is displayed in Table 4.2. It includes all black South African households sub-divided into homeland and non-homeland areas.

Table 4.1: Land area of former homelands		
Former homeland 'states'	**Hectares**	**Percentage of total RSA**
Transkei	4 426 338	3.63
Bophuthatswana	3 801 642	3.12
KwaZulu	3 606 063	2.96
Lebowa	2 217 131	1.82
Ciskei	799 223	0.66
Gazankulu	739 838	0.61
Venda	648 729	0.53
Kangwane	351 214	0.29
Kwandebele	325 893	0.27
Qwaqwa	104 985	0.09
Total area	**17 021 056**	**13.96**

Source: Own calculations from Department of Rural Development and Land Reform (2004)

Table 4.2: Sample of black farming households in South Africa					
	All black homeland households		**All black non-homeland households**		
GHS 2010	**Survey**	**Population**	**Survey**	**Population**	**Total**
South Africa	9 845	4 794 694	9 826	5 901 897	10 696 591
Involved in farming	4 788	2 191 252	1 257	686 584	2 877 836

Source: Own calculations from GHS (2010)
Note: Population figures are weighted by sampling weights

Approximately 4.79 million black individuals reside in the former homeland areas, of which 2.19 million are involved in agricultural production. Substantially fewer black farming households (approximately 686 000) were located outside of the homeland areas. Of these, the majority were urban inhabitants: only 28 per cent of the households were listed as living in rural or tribal areas. Yet, when these two farming groups are compared, we see that there are already significant differences between those in the former restricted areas and those outside.

Table 4.3 indicates key differences between black farming households in South Africa across regions. African homeland households were, on average, more advanced in age, had lower education and were more likely to be headed by females compared to their non-homeland counterparts. Important differences are also manifest in terms of household incomes, with homeland households having a much lower salary income of R1 446.29 per month compared to the R2 979.79 of non-homeland households. This shows that non-homeland farming households have greater access to salary income, while homeland households have typically higher dependence on (lower) government social grants.

On average, with two recipients, homeland households received about R1 000 in total grants per month. Non-homeland households received an average of only one grant per month, amounting to roughly R630.00. The main grants for homeland households were old age grants, reflective of the many elderly people who reside there, and the families that are dependent on them for livelihoods. Another important source of income was remittance payments, which averaged R214.00 for homeland households compared to the non-homelands figure of R143.00.

Figure 4.2 adds a time dimension, and illustrates that social grants played a progressively greater role as a main source of income for African households in homeland and non-homeland regions. However, the expansion was much larger in former homelands, with the role of remittances and labour income waning over time in these regions.

Table 4.3: Descriptive statistics of all African farming households by homeland status			
Variable	**Unit**	**All African homeland households**	**All African non-homeland households**
Age of head	years	52.01	46.96
Education of head	years	5.77	7.29
Gender of head	% male	0.49	0.63
Household salary income	rand	1 446.29	2 979.79
Household remittance income	rand	213.97	143.16
Household grant income	rand	1 000.15	632.01
War veterans' grant	rand	2.71	1.30
Child support grant	rand	364.19	219.38
Care dependency grant	rand	7.86	3.54
Foster care grant	rand	37.92	37.80
Grant-in-aid	rand	0.03	0.00
Disability grant	rand	132.40	127.32
Old age grant	rand	455.07	242.67
Household size	number	4.68	4.03
Grant receivers in Household	number	2.06	1.27
Economically active in Household	number	0.54	1.02
Elderly living in Household	number	0.29	0.15
Total observations	n	2 191 252	686 584

Source: Own calculations from GHS (2010)
Note: Figures are weighted by sampling weights

Moving now into a more detailed analysis of farming in the former homeland areas of South Africa, Table 4.4 provides descriptive statistics related to farming. The sample is limited to households that indicated that they had access to land for farming. The main source of income was government grants for 49 per cent of African farming households, while salaries and remittances ranked second and third with 24 per cent and 16 per cent respectively. This suggests that the farming activities themselves did not provide sufficient means for a

livelihood in former homeland regions. These households (79 per cent of the total) produced agricultural products mainly as an extra source of food for the households; only 6 per cent did so for their main food supply. Together, this still highlights a fragile small-scale farming sector, on which households could not rely.

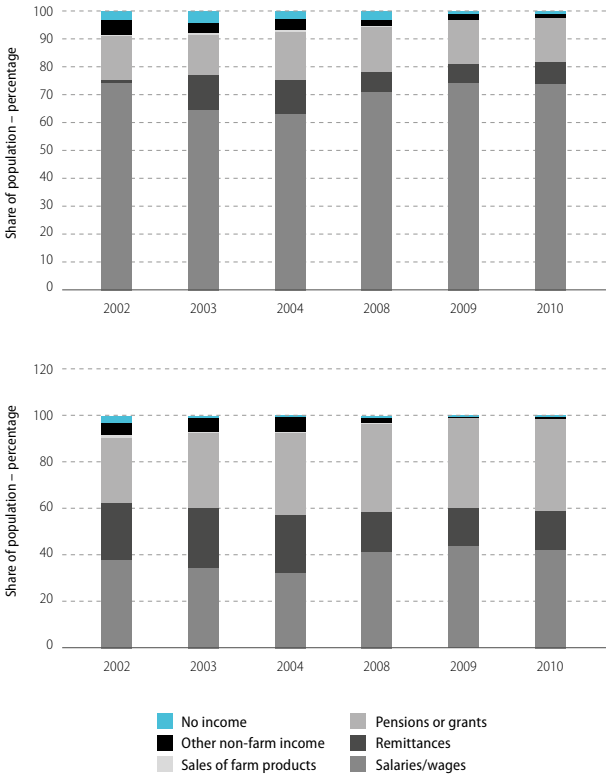
In terms of land ownership, most of the households involved in crop farming indicated that they owned the land. This was typically because many of these farmers were listed as back-yard farmers. Yet, adding the number of households farming on tribal land to those that keep livestock for communal

Table 4.4: Description of homeland farming

Variable	Sample	Population	Percentage
Main income source			
Grants	2 456	1 077 192	49.16
Salaries	1 075	520 621	23.76
Remittances	736	351 562	16.04
Income from a business	222	105 651	4.82
Pensions	51	20 753	0.95
No income	19	11 090	0.51
Other income sources	25	11 043	0.50
Sales of farm products and services	17	7 691	0.35
Why produce?			
Extra food source	3 846	1 746 593	79.71
Main food source	284	137 975	6.30
Extra income source	196	84 229	3.84
Leisure activities	111	53 958	2.46
Main income source	48	22 599	1.03
Land ownership			
Owns the land	2 175	922 137	42.08
Communal grazing	1 491	700 377	31.96
Tribal authority	1 021	517 808	23.63
Other (specify)	11	6 662	0.30
Sharecropping	11	6 059	0.28
Rents the land	11	5 537	0.25
State land	9	5 285	0.24
Sell produce			
Do not sell	4 194	1 916 630	87.47
Local buyers from this district	223	101 654	4.64
Buyers from neighbouring cities and towns	21	10 988	0.50
Formal markets in South Africa	19	4 591	0.21
Other	9	3 757	0.17

Source: Own calculations from GHS (2010)
Note: Population figures are weighted by sampling weights

Figure 4.2: Main household income source by homeland status (non-homeland above, homeland below)



Source: Own calculations from GHS (2002, 2003, 2004, 2008, 2009, 2010)

grazing, more than 50 per cent of the black farming households did not have title deeds to land for farming. This serves as a reminder of the persistent impact of the Land Acts on these households.

Figure 4.3 highlights that homeland households were more likely to participate in some form of farming than were African non-homeland households. In terms of farming, the composition of land rights changed substantially, so that the low levels of ownership highlighted for 2010 represent an improvement on the past situation. While homeland farmers cultivated tribal lands (which they did not own), ownership grew dramatically among this group towards 2010.

Table 4.5: Distribution of land size among African homeland crop farmers

Land size (hectares)	Sample	Population	Percentage
<0.5	2 791	1 244 983	56.82
0.5–1.0	311	154 414	7.05
1.0–2.0	102	50 496	2.30
2.0–5.0	31	12 298	0.56
5.0–10.0	3	1 481	0.07
10.0–20.0	2	669	0.03
>20.0	5	2 281	0.10
Did not know	7	3 070	0.14
Communal grazing (livestock)	1 491	700 377	31.96

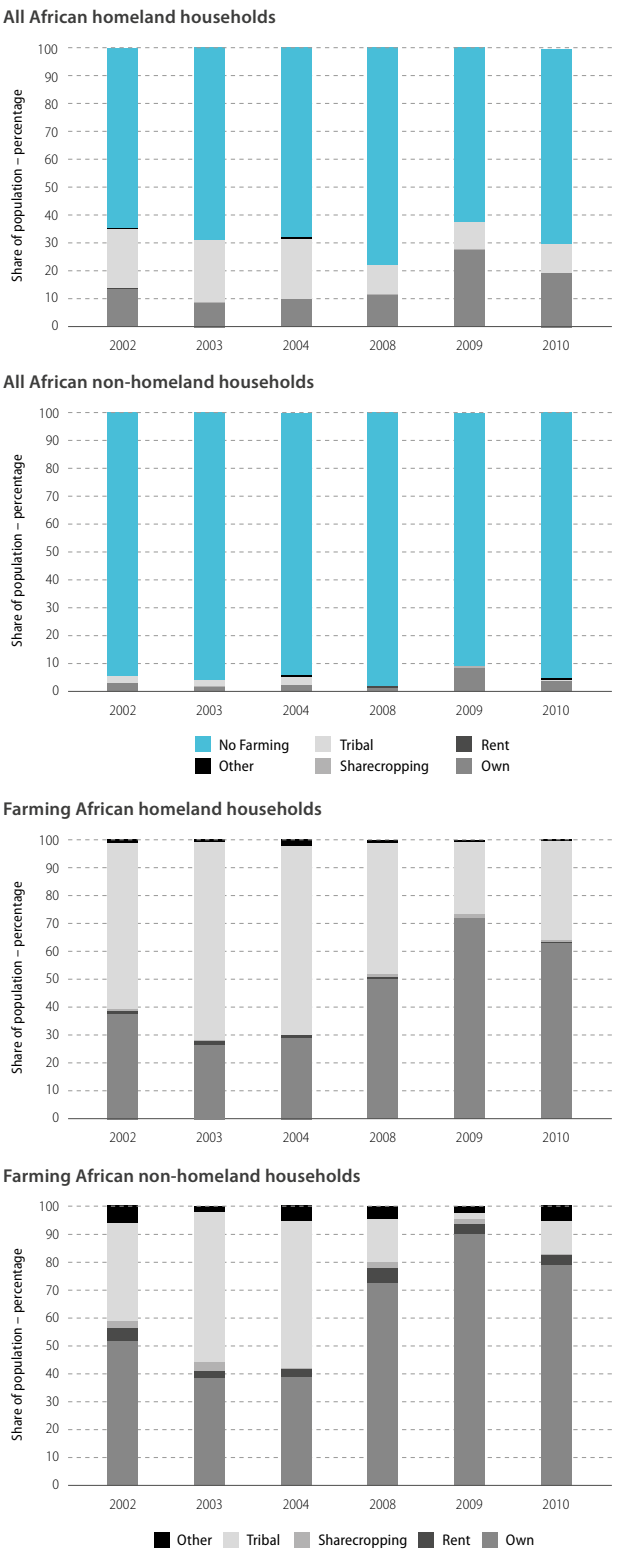
Source: Own calculations from GHS (2010)
Note: Population figures are weighted by sampling weights

Results from regression analysis

Using data from the 2010 GHS, this analysis continues with linear probability models,[3] which aim to identify the factors that are associated with the prevalence of hunger within households.[4] It seeks to understand whether household agriculture has a significant role to play in combating hunger and promoting food security in the former apartheid homelands, or whether other forms of economic activity or social grants have been the most important contributors to food security in these regions.

In Tables 4.6–4.8, each column represents a separate Ordinary Least Squares regression. Because the dependent variable is binary, each of the coefficients can be interpreted as the marginal increase in the probability of hunger associated with that characteristic, or the marginal difference relative to the base group. Hence, negative coefficients highlight household characteristics that are good for food security. Should the introduction of another variable to the model result in a coefficient that was initially statistically significant becoming insignificant, we know that there is a large degree of correlation between the new variable and the previously significant variable. For example, more concise models control for whether the household was found in a former homeland, which highlights

Figure 4.3: Black households' land tenure by former homeland status



Source: Own calculations from GHS (2002, 2003, 2004, 2008, 2009, 2010)

FOUR

a statistically larger incidence of hunger (see for instance column 1 of Table 4.6). However, controlling for income types, this homeland effect becomes statistically insignificant, so that the mechanism through which this type of household suffers from more hunger can be 'explained' by the unfavourable composition of income in former homeland regions. The rest of the analysis offers similar arguments. It is to be noted, however, that some of the associations discussed here should not be interpreted causally – this danger will be indicated when relevant.

Table 4.6 investigates the prevalence of adult hunger among all black households in South Africa.[5] Specification 1 shows that in 2010 former homeland regions still experienced statistically significant higher levels of hunger than did non-homeland regions (though the magnitude is small), with a 0.8 percentage point difference.[6]

Specification 2 proceeds to control for a set of indicators that denote the main income source of the household. Most importantly, as mentioned above, the homeland effect is reduced to statistical insignificance, so that the uneven distribution of various income types across these regions explains the difference (as depicted in Figure 4.2). Relative to salaried households, households whose main income stems from grants and remittances register significantly higher levels of hunger. This is not to say that grants and remittances cause hunger to be higher, it simply suggests that households that depend on these forms of income are at a disadvantage relative to households with direct connections to the labour market. The sale of farm products places households at a distinct advantage relative to households that derive income mainly from salaries, which suggests that the role of commercial agriculture is not only important for the generation of income, but has direct food security impacts.

Specification 3 differentiates between these associations in terms of whether households are located in homeland areas or not. The main effects represent non-homeland regions, while the interactions show whether there are significant differences for households in former homelands relative to non-homeland regions. Notably, the absence of an income in a former homeland has a more substantial impact on a household than is the case in non-homeland areas. In such instances, the prevalence of hunger is 10 percentage points higher in homeland than in non-homeland regions, which points to the fact that former homeland households are less exposed to alternatives that can offer food security. However, households that are dependent on remittances and grants have a lower probability of experiencing hunger when they reside in homeland regions, which suggests a high level of dependence on these income sources there (see Figure 4.2). By extension, they also play a critical role in mitigating hunger.

Specification 4 explores the role of agriculture more deeply in terms of a household's stated purpose for engaging in food production. The results show that in non-homeland regions, households that farm for a main source of food are about

Table 4.6: Linear probability models of adult hunger by household (1)

Dependent variable: Adult hunger dummy		1	2	3	4
	Homeland dummy	0.008**	-0.003	0.005	0.012***
Main income source (base: salary)	Remittances		0.043***	0.065***	
	Pensions/Grants		0.034***	0.042***	
	Sale of farm products		-0.018***	-0.018***	
	Other non-farm income		0.030*	0.023	
	No income		0.146***	0.107***	
Interaction of main income source with homeland	Remittances			-0.040***	
	Pensions/Grants			-0.015*	
	Sale of farm products			-0.005	
	Other non-farm income			0.027	
	No income			0.103*	
Reason for production (base: not farming)	Main source of food			0.030*	
	Main source of income			-0.029***	
	Extra income			-0.01	
	Extra food			0.017	
	Leisure			-0.016	
Reason for production interacted with homeland	Main source of food		-0.037*		
	Main source of income		0.048		
	Extra income		0.016		
	Extra food		-0.02		
	Leisure		-0.005		
	Constant	0.031***	0.020***	0.018***	0.029***
	R-squared	0.000	0.014	0.017	0.001
	N	19 952	19 290	19 290	19 216
	F statistic	3.858	53.384		29.592

Source: Own calculations from GHS (2010)

Note: * p<0.1, ** p<0.05, *** p<0.01. Hunger is defined as a binary variable indicating whether adults in the household had 'often' or 'always' experienced hunger in the preceding 12 months. Homelands are identified by linking enumerator areas to homeland boundaries in ArcGIS. Regressions are weighted to reflect population totals and standard errors are clustered at the PSU level.

3 percentage points more likely to experience adult hunger than are non-farming households. This association probably represents a pull factor (households that are hungry tend to farm for food) rather than a causal relationship in which choosing to farm for income leads to hunger. However, the large negative interaction in this category (that is, larger than the positive main effect in absolute value) with homeland status suggests that in these regions production for a main source of food does indeed reduce hunger successfully. As a result, subsistence farming does tend to offer food security in homeland regions. Households that set out to produce food for a main *income* source generally experience about a 3 percentage point lower hunger rate (with no significant differences for homeland regions), echoing the results from specifications 2 and 3. This suggests that market-oriented agriculture also improves household food security, although subsistence agriculture does so only in homeland regions. Hence, the subsequent analysis limits itself to African households that live within former homelands and that indicate they have access to land which they could cultivate.

Table 4.7 presents an exploration of hunger patterns for African adults *within* former homeland regions who had access to farming land. Specification 5 suggests that hunger is significantly lower (compared to households that did not farm with crops) only in households that rented their land or conducted sharecropping. However, the number of households in these groups is very small, so not much weight should be attached to these results. It is somewhat surprising, however, that farmers who owned their land or had access to tribal lands were not statistically significantly better or worse off than households that did not cultivate crops. Specification 6 sheds light on this observation. Controlling for a set of land size indicators, it is evident that both of these groups experienced significantly higher levels of hunger. Additionally, those that farmed on progressively larger lands experienced lower hunger rates than households that did not cultivate crops. Thus, hunger reduction is subject to economies of scale in crop production. Does ownership and farming on tribal lands, therefore, disadvantage producers in reducing household hunger? Two explanations are possible: firstly, given that we have controlled for the size of the land, the coefficients may display the effect for the smallest farmers, suggesting that landowners are not successful at curtailing household hunger; secondly, the null effect found for tribal lands in specification 5 may simply be masking the effect that tribal lands and sharecropped lands are generally larger than other land types (so that a food security disadvantage on tribal lands is cancelled out by a large farm advantage, both of which we see in specification 6). Controlling for a range of other factors in specification 7 renders tenure status insignificant in determining hunger.

In the first instance, it is evident that rather than cultivating crops on a farm, food gardens in schools, homes and communities are highly successful in reducing hunger. These

Table 4.7: Linear probability models of adult hunger by household (2)

Dependent variable: Adult hunger dummy		5	6	7
Property rights (base: households that did not plant crops)	Own	-0.008	0.028***	-0.012
	Rent	-0.036***	0.004	-0.03
	Sharecropping	-0.036***	-0.014	-0.052*
	Tribal	0.014	0.042***	-0.009
	State	0.116	0.156	0.105
	Other	-0.036***		-0.035
Land size (base: households that did not plant crops)	0.0–0.5 ha		-0.038***	0.056***
	0.5–1.0 ha		-0.018	0.073**
	1.0–2.0 ha		0.046	0.129*
	2.0–5.0 ha		-0.084***	0.019
	5.0–10.0 ha	-0.066***	0.082*	
	10.0–20.0 ha	0.554*	0.623*	
	>20.0 ha	-0.073***		
Location of land (base: households that did not plant crops)	Farm		-0.002	
	Backyard garden		-0.056**	
	School garden		-0.075***	
	Communal garden		-0.119***	
	Fallow public land		-0.124*	
	Other		-0.066*	
	Education			-0.004***
	Age			-0.001*
log (household income type)	Salary			-0.002*
	Remittance			-0.004***
	Child support grant		0.000	
	Old age pension		-0.005***	
	Disability grant		-0.001	
	Care dependency grant		0.003	
	Foster grant		0.003	
	Grant in aid		0.001	
	War veterans grant		-0.014**	
Government assistance received by household	Training		0.024	
	Visit		-0.018	
	Grant		0.163	
	Loan		-0.124***	
	Inputs on loan		0.063	
	Inputs for free		0.067**	
	Dipping of livestock		-0.016	
	Other		-0.048	

continued ...>

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Table 4.7: Linear probability models of adult hunger by household (2)

Dependent variable: Adult hunger dummy		5	6	7
	Female household head			0.01
	Water polluted		0.027**	
	Land degraded		0.009	
	Land grant			-0.02
	Constant	0.036***	0.036***	0.103***
	R-squared	0.003	0.012	0.054
	N	4 693	4 676	4 562
	F statistic		7.016	2.97

Source: Own calculations from GHS (2010)

Note: * p<0.1, ** p<0.05, *** p<0.01. Hunger is defined as a binary variable indicating whether adults in the household had 'often' or 'always' experienced hunger in the preceding 12 months. Homelands are identified by linking enumerator areas to homeland boundaries in ArcGIS. Regressions are weighted to reflect population totals and standard errors are clustered at the PSU level.

operations are usually smaller, but can draw on shared knowledge and shared risks, which reduce household exposure to hunger. Furthermore, the level of education of the household head reduces hunger rates significantly, though by a small magnitude. These two impacts suggest that knowledge, whether learnt at school or acquired in the community, and risk sharing are important in improving food security.

The analysis also shows that exposure to hunger is lower in households with older heads. This pattern is also evident in the rest of the specification: household incomes from grants that are targeted at older individuals (the old age pension and the war veterans' grant) significantly reduce hunger, while other types of grant are less likely to do so. Furthermore, the size of these effects is larger than those for total salary and remittance income. Evidently, then, within farming communities in former homelands, grants have become a vital channel to combat socio-economic differentials, as discussed above. However, the greater role of grants targeted at older individuals provides a more nuanced picture in this regard. Klasen and Woolard (2009) show that households which receive old age pensions, in particular, provide a safety net for the rural unemployed, given that the value of this grant is substantially higher than many other grants. While this household formation pattern also hedges against hunger (as noted in these results), Klasen and Woolard (2009) point out that this behaviour isolates individuals from labour market incomes. Grants, therefore, represent a double-edged sword: on the one hand, they reduce socio-economic distress; on the other hand, they perpetuate a reliance on resources outside of the labour market.

Table 4.8 turns the attention to explaining convergence in hunger between homeland and non-homeland regions over time, as depicted in Figure 4.1. To achieve this, we pool the data from the 2002, 2003, 2004, 2008 and 2010 GHSs[7] and build linear probability models similar to those for 2010, but this time relying on variables for which common definitions could be found across all years. Interaction effects between time periods and homeland status are included to monitor convergence patterns in food security across regions over time.

Specification 1 in Table 4.8 repeats the analysis in Figure 4.1 in parametric form, highlighting that in 2002 hunger rates were about 2.7 percentage points higher in former homeland regions than in non-homeland areas. By 2004, hunger rates in non-homeland regions had declined by 1.7 percentage points from the 2002 level, and by just more than 4.0 percentage points in 2008 and 2010 (both statistically significant). Notably, the interaction effects are large, negative and statistically significant, indicating that the rates of decline in hunger were faster in homeland regions. In particular, by 2008 the decline of 2.9 percentage points relative to 2002 eliminates the initial 2.7 percentage point homeland hunger premium. Hence, by 2008 at the latest, hunger differences between homeland and non-homeland regions were eliminated. However, the financial crisis followed, and by 2010 this improvement reversed slightly, so that the interaction effect is smaller than the 2.7 percentage points, and a slight gap in hunger rates re-emerges between homeland and non-homeland regions. From this we can conclude that hunger in the former homelands tends to be more responsive to upswings and downswings in the economy than elsewhere.

The following columns progressively control for other variables in an attempt to render the homeland coefficient and its interaction with time statistically insignificant. If this is the case, we know that that particular factor 'explains' the initial difference and the convergence over time.

Specification 2 investigates whether the differential change in main income sources across region (as highlighted in Figure 4.2) can explain the differences in hunger patterns. In Table 4.1, it is evident that this control eliminated the homelands difference in 2010. While controlling for income sources accounts for large variations in hunger, the expansion of grants in the homeland regions does not account entirely for time changes and convergence patterns in hunger. The decline in hunger for both former homeland and non-homeland households remains steep and statistically significant, despite conditioning on income source. Grants, therefore, do not explain the entire declining hunger trend. However, about half of the initial differences in hunger across regions can be explained by the greater access to salary incomes that non-homeland households enjoy.

Specification 3 looks at household property rights in an attempt to explain the patterns. In this case, the homeland and time coefficients hardly change relative to specification 1. The greater increase in land ownership in homeland regions is also dismissed as an explanation for the faster rate of decline in hunger amongst former homeland households.

Specification 4 attempts to understand whether scale economies assisted in reducing hunger among farmers. In other words, did only commercial, large-scale farming result in reductions in hunger? All coefficients reveal statistically

Table 4.8: Linear probability models of adult hunger by household (3)

Dependent variable: Adult hunger		1	2	3	4	5	6
Year (base: 2002)	2003	-0.004	-0.007*	-0.004	-0.004	-0.007	-0.006
	2004	-0.017***	-0.018***	-0.017***	-0.016***	-0.018***	
	2008	-0.043***	-0.040***	-0.043***	-0.043***	-0.044***	
	2010	-0.042***	-0.036***	-0.042***	-0.042***	-0.038***	-0.029***
	Homeland	0.027***	0.010*	0.023***	0.024***	0.011*	0.008
Interactions with homeland	2003	-0.014**	-0.011	-0.013*	-0.013*	-0.011	-0.012*
	2004	-0.003	-0.001	-0.001	-0.002	-0.001	
	2008	-0.029***	-0.026***	-0.026***	-0.028***	-0.029***	
	2010	-0.019***	-0.018***	-0.017**	-0.020***	-0.022***	-0.023***
Main household income source (base: salary income)	Remittances		0.068***			0.067***	0.072***
	Pensions/Grants		0.048***			0.054***	0.042***
	Sales of farm products		0.038***			0.036***	0.033
	Other non-farm		0.047***			0.046***	0.049***
	No income		0.167***			0.169***	0.194***
Property rights (base: households that did not plant crops)	Own			0.003		-0.025	-0.029
	Rent			0.007		-0.002	-0.013
	Sharecropping			0.017		-0.001	-0.006
	Tribal			0.015***		-0.015	-0.016
Land size (base: households that did not plant crops)	0.0–0.5 ha				0.010***	0.017	0.012
	0.5–1.0 ha				0.005	0.01	0.003
	1.0–2.0 ha				0.089	0.088	0.075
	2.0–5.0 ha				0.002	0.006	0.009
	5.0–10.0 ha				-0.038***	-0.026	-0.035
	10.0–20.0 ha				0.070*	0.090*	0.164**
	>20.0 ha				0.048	0.063	0.056
	Number of children in household					0.002***	0.003***
	Number of elderly in household					-0.011***	-0.007***
	Education of head						-0.006***
	Age of head						0.000***
	Age of head squared						-0.000***
log (household income type)	Child grant						-0.001
	Old age pension						-0.005***
	Disability grant						0.002***
	Care dependency grant						0
	Foster care grant						0.001
	Grant in aid						0.007*
	War veterans grant						-0.008***
	Land grant dummy						0.018*
	Constant	0.073***	0.051***	0.073***	0.072***	0.048***	0.081***
	R-squared	0.011	0.032	0.011	0.011	0.035	0.051
	N	95 485	94 694	95 090	95 012	94 104	55 395
	F statistic	42.604	63.13	29.93	24.53	35.877	31.898

Source: Own calculations from GHS (2002, 2003, 2004, 2008, 2009, 2010)
Note: * p<0.1, ** p<0.05, *** p<0.01. Standard errors are clustered at the enumerator area level and household weights applied.

insignificant differences compared to non-farming households, while the coefficients of interest are unaffected.

Specification 5 keeps all the preceding factors in the model, as well as conditions on changing household composition. These factors also do not 'explain' the faster decline in hunger in former homeland regions. While households with more children also faced higher levels of hunger, those with more pension-age adults experienced lower levels of hunger. Children, therefore, raise the dependency burden, while the elderly lighten the burden (more than likely through the additional pension income they bring to the household, as argued above). Evidently, it is still not possible to fully account for *initial* homeland and time differences. The results are similar to those encountered before.

Specification 6 is the first to eliminate initial differences in hunger between homeland and non-homeland regions. As before, the controls for income from various grants reveal the importance of pension income in reducing hunger. Controlling for whether households received a land grant (in other words, whether they were the subjects of land reform), contributes to 'eliminating' the initial homelands hunger premium (though not the time patterns in hunger reduction). Households that received these grants faced significantly higher levels of hunger. However, we cannot say that land reform *caused* hunger. It is merely the case that households that were initially subject to higher levels of hunger were also recipients of land reform, and the programme did not completely eliminate these initial disparities. Alternative identification strategies would remove this selection bias. What is important is that controlling for this factor 'explains' higher hunger rates in former homeland regions, by rendering the homeland coefficient statistically insignificant. Again, this does not suggest that hunger differences were eliminated by land reform, but it does suggest that land reforms successfully reached households that had greater levels of hunger. Nevertheless, Keswell and Carter (2012) present evidence on the impact of South Africa's land reform programme, showing that after three years, the treatment effect is a 50 per cent increase in household consumption.

Conclusions and policy discussion

While it is easy to paint a dire picture of socio-economic circumstances in former homeland regions, this article shows that hunger levels in these regions converged with those in other parts of South Africa. The descriptive and historical analysis shows how former homeland regions were set up for small-scale intensive farming that had little scope for success. Nevertheless, by 2008 hunger had decreased substantially in these regions. Social grants undoubtedly had a large role to play in this regard; they expanded rapidly over the period 2002–2010 in all regions, but dependence on them grew faster in former homeland areas. Access to these grants (or a lack of salary income) explains a large part of hunger differences across the region types. In particular, receiving social pensions reduced hunger substantially. However, it is also illustrated here that economies of scale and tenure systems are important for food security. Nevertheless, very small-scale (garden) farmers also successfully reduce adult hunger levels. These results, therefore, support the notion that the food security legacy of the 1913 Land Act and other apartheid legislation can be tackled by improving the capacity of small-scale farmers. While controlling for land reform programmes eliminates differences in hunger across regions, the estimates here cannot state causally that land reform has enhanced food security in these regions.

The more convincing evidence is that interventions that equip communities to farm together can reduce hunger, emphasising the role of risk and knowledge sharing. While social grants mitigate the effect of hunger on households, this is not a fiscally sustainable way forward in comparison to the benefits of promoting small-scale agriculture in communities. As noted by Klasen and Woolard (2009), sizable social pensions result in household formation patterns that isolate individuals from the mainstream of the labour market. While one of the legacies of the 1913 Land Act (hunger in the homelands) has been plastered over with social grants, the longer-term solution appears to be a focus on the effectiveness of small-scale farmers and their links to the market economy. If this is achieved, the impact (greater food security) is likely to provide more sustainable relief to these regions.

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Endnotes

1 In the 2002–2004 data, we identify homelands by former magisterial districts, which are coded in the GHS. While the correspondence of the boundaries is not perfect, some households that lived in a former magisterial district that partially contained a homeland would be classed as such; hence, some households that lived in areas adjacent to that homeland would also be classified as a homeland area. This is more conservative, as the homeland effects measured will be under- rather than over-stated, as some (wealthier) non-homeland regions are included in some of the homeland classifications. In the 2008–2010 data, we identify homeland areas by enumerator area, so that this definition is more precise.

2 These include the National Food Consumption Survey (NFCS); General Household Survey (GHS); Income and Expenditure Survey (IES); Food Insecurity and Vulnerability Information and Mapping System (FIVIMS); Labour Force Survey (LFS) and the Community Survey (CS) (Du Toit 2011). Government policy in South Africa is informed largely by the Statistics South Africa surveys, which are the GHS, IES, LFS and CS.

3 These are estimated by Ordinary Least Squares rather than by a probit or a logit model, as it eases interpretation. Average marginal effects do not differ substantially, and we do not wish to predict propensity scores; thus, we continue with this method to aid the discussion.

4 Hunger is defined as 'always' or 'often' going hungry due to a lack of sufficient food in the preceding 12 months. Results presented here consider this question for adults, though they are similar when analysing child hunger, and are also robust to classifying 'sometimes' as hungry.

5 Similar results hold true for child hunger, and are available on request.

6 As shown below, by 2008 hunger differences are negligible, but re-emerge after the financial crisis.

7 The intermediate years are excluded, as it is not possible to identify magisterial districts or census enumerator areas in order to define a household as living within a former homeland.

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Appendices

Chapter 2

Appendix 2.1: Gini coefficients of monthly real wages (2012 prices), selected surveys

Industry	OHS 1997	LFS 2004b	LMD 2011
Agriculture, forestry and fishing	0.5771	0.4484	0.4722
Mining and quarrying	0.4193	0.4104	0.4731
Manufacturing	0.4526	0.5203	0.5226
Electricity, gas and water	0.4287	0.5378	0.4910
Construction	0.4503	0.4008	0.5471
Wholesale and retail trade	0.4582	0.4556	0.5090
Transport, storage and communication	0.4261	0.4182	0.5012
Financial and business services	0.4847	0.5392	0.5351
Community, social and personal services	0.3798	0.4192	0.4850
All formal sector employees	0.4678	0.5125	0.5341

Source: Author's calculations using *OHS* 1997, *LFS* 2004b and *LMD* 2011 data

FOUR

Chapter 3

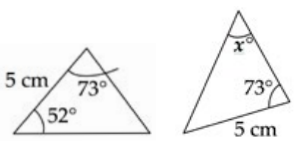
Appendix 3.1: Examples from the SACMEQ 2007 teacher test and the TIMSS 1995 Grade 8 student test

21. $^{x}/_{2} < 7$ **is equivalent to…**

- A. ☐ x > 14
- B. ☐ x < 14
- C. ☐ x > 5
- D. ☐ $x < \frac{7}{2}$

25. These triangles are congruent. The measures of some of the sides and angles of the triangles are shown. What is the value of x?

- A. ☐ 52°
- B. ☐ 55°
- C. ☐ 65°
- D. ☐ 75°



27. What is the value of: $\frac{2}{3} - \frac{1}{4} - \frac{1}{12}$ **?**

- A. ☐ $\frac{1}{6}$
- B. ☐ $\frac{1}{3}$
- C. ☐ 3
- D. ☐ $\frac{5}{12}$

31. A stack of 200 identical sheets of paper is 2,5 cm thick. What is the thickness of one sheet of paper?

- A. ☐ 0,008 cm
- B. ☐ 0,0125 cm
- C. ☐ 0,05 cm
- D. ☐ 0,08 cm

Examples of performance on specific questions								
	SACMEQ 2007 Maths teacher test item name	Question 21	Question 25	Question 27	Question 31	Question 35	Average of 16 questions (uncorrected for guessing)	Average of 16 questions (corrected for guessing)
	TIMSS 1995 item name	TIMSS k4	TIMSS k8	TIMSS l17	TIMSS r7	TIMSS v3		
Grade 6 Maths Teachers (SACMEQ 2007)	South Africa	50%	44%	62%	47%	33%	47%	30%
	Botswana	46%	62%	77%	44%	52%	56%	41%
	SACMEQ average	55%	53%	74%	54%	53%	56%	41%
	Swaziland	51%	68%	81%	62%	48%	63%	50%
	Uganda	75%	49%	82%	62%	84%	64%	52%
	Tanzania	65%	62%	85%	76%	53%	64%	53%
	Kenya	74%	66%	88%	73%	82%	72%	63%
	Eastern Cape	44%	40%	56%	46%	18%	39%	19%
	Free State	56%	56%	67%	53%	41%	55%	40%
	Gauteng	59%	41%	67%	41%	37%	46%	28%
	KwaZulu-Natal	50%	42%	61%	50%	44%	51%	34%
	Limpopo	60%	49%	67%	54%	31%	50%	33%
	Mpumalanga	38%	33%	50%	28%	21%	40%	20%
	Northern Cape	60%	51%	65%	54%	28%	52%	37%
	North West Province	38%	48%	53%	56%	33%	46%	28%
	Western Cape	42%	58%	69%	57%	38%	55%	40%
	SA Quintile 1	45%	40%	60%	47%	28%	45%	26%
	SA Quintile 2	51%	35%	66%	45%	30%	45%	27%
	SA Quintile 3	40%	43%	50%	37%	19%	42%	22%
	SA Quintile 4	51%	54%	54%	42%	35%	48%	31%
	SA Quintile 5	64%	49%	77%	66%	54%	58%	44%
	South Africa	50%	44%	62%	47%	33%	47%	30%
Grade 8 students (TIMSS 1995)	South Africa	22%	14%	20%	35%	16%	24%	6%
	TIMSS Gr8 average	44%	35%	51%	48%	41%	45%	31%
	Switzerland	39%	33%	62%	59%	42%	48%	35%
	Netherlands	49%	21%	51%	54%	65%	48%	35%
	Austria	52%	29%	60%	61%	21%	50%	37%
	France	42%	50%	67%	64%	51%	53%	41%
	Hong Kong	61%	61%	78%	73%	70%	62%	52%
	Korea	67%	66%	78%	66%	87%	63%	53%
	Singapore	69%	69%	93%	71%	95%	71%	63%

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Transformation Audit

2013 Transformation Audit: Confronting Exclusion

South Africa has made important political strides over the past two decades. It has created a framework of democratic legislative, executive and judicial institutions that mark a clear break from the apartheid past. In theory, they are inclusive and offer every citizen equal access to constitutionally protected rights. Their capacity to deliver, however, is coming under increasing pressure and, as this happens, citizen confidence in their efficacy is waning.

Much of the pressure, which ultimately may affect their legitimacy in the eyes of ordinary citizens, stems from the desperation and sense of economic exclusion experienced by those who find themselves at the wrong end of South Africa's grossly unequal society. If this decline in trust persists, the cohesive effects of the country's democratic institutions will diminish, and instability will become an increasingly common feature of political contestation.

An immediate, but only partial, remedy to the current state of affairs would be to prioritise transparency, accountability and leadership integrity within the system to restore trust in the *bona fides* of key institutions. The longer-term challenge will be to counter a growing sense of economic exclusion, where violent police action, rather than democratic process, is increasingly employed to stave off the manifestations of material anxiety experienced by struggling citizens. This edition of the *Transformation Audit*, titled 'Confronting Exclusion', focuses on instances of such exclusion but, as in previous years, also prioritises the search for inclusive economic policy and future strategies to address them. By looking at each of the four chapter areas, it seeks to find answers to the challenge of a society in which the promise of true freedom and equal rights will remain only that until people feel equipped to be in charge of their own destiny and that of their children.

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