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HIGHWAY OR BYWAY? THE NATIONAL DEVELOPMENT PLAN 2030

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SUMMARY

This publication, the first in a series of three, considers the feasibility of the central economic growth target that is set out in South Africa's National Development Plan 2030. It then explores some of the associated human development targets.

The paper first looks at the core characteristics of the economy. Against that background and analysis we argue that the core economic growth target of 5,4 per cent average gross domestic product, the associated size of the economy and the income per capita targets are very ambitious. With a huge effort, clear leadership and painful adjustments the targets may be achievable, but it is hardly possible to overestimate the effort that will be required from across South Africa's diverse interest groups and affected communities. Clearly the current capital-intensive nature of South Africa's economic growth model will not succeed in delivering sufficient jobs without structural changes to the economy and to current policies. Many other targets, for example in education and infrastructure, are achievable with lower rates of economic growth.

This may point to a lack of coherence between the models (and assumptions) used for detailed planning between the different sectors. While economic growth is very important for South Africa, the quality of growth is equally important if the country is to address its deep structural inequality and unemployment challenges.

Planning is inevitably an iterative process subject to continued new insights and data, such as the 2011 census, but this does not detract from the importance of the plan and its targets in setting South Africa on a new development trajectory able to respond to its varied human developmental and sustainable growth challenges.

THIS SERIES

This paper is the first in a three-part series, the goal of which is to test the central premises of South Africa's National Development Plan 2030 (NDP 2030; the plan). In the process we hope to contribute to the associated policy choices confronting South Africa over the coming two decades. As the first in the series, this paper provides additional context on the plan as a backdrop for the subsequent publications.

The National Planning Commission (NPC), which drafted the NDP 2030, has sought to ensure both transparency and inclusiveness by soliciting feedback from officials and citizens, and by achieving the best allocation of government resources to bring about those goals that are most pressing and attainable. The success of the NDP 2030 hinges on ownership and participation by all South Africans.

The NPC repeatedly emphasises that achieving the more equal and prosperous society envisioned in the plan requires a collaborative effort across various sectors of society. Crucially, it presents the plan as a multi-dimensional framework that is highly interconnected, with improvements in one sector impacting on another.

The graphics used in both the plan and its executive summary present these relationships as a series of cogs and gears all dependent upon and interdependent of one another. Thus, ‘... we propose a multidimensional framework to bring about a virtuous cycle of development, with progress in one area supporting advances in others’.¹

It is evident that the NPC is of the firm belief that faster economic growth is a prerequisite for achieving the numerous targets, e.g. an increase in sustainable employment and a reduction in inequality.² Thus, ‘[t]he best way to generate resources to implement the plan is to grow the economy faster. If the economy grows by more than five per cent a year, government revenue and the profits of private firms will more than double over the next 20 years’.³ This paper interrogates this assumption, using an integrated modelling approach to present an analysis of a) how easy or difficult it might be to achieve the targeted economic growth rate, and b) to explore how economic growth will impact other NDP 2030 targets. In doing so, we also respond to the invitation by the NPC for ongoing research on critical issues affecting long-term development.⁴

We find that the economic growth targets set by the NDP 2030 are very ambitious and only achievable on the back of large and systemic change in the structure and efficiency of the South African economy, as well as on the capacity of government to aggressively pursue reductions in HIV/AIDS and attract foreign direct investment (FDI). According to the NDP 2030, the transformation from the current poor performance of the public service and local government to the level of a ‘developmental state’ will require ‘... leadership, sound policies, skilled managers and workers, clear lines of accountability, appropriate systems, and consistent and fair application of rules’.⁵ However, our analysis indicates that other targets set by the NPC, such as those for education and infrastructure, are eminently achievable even at substantially lower rates of economic growth. This may suggest the absence of an integrated approach to the development of the NDP 2030 goals and/or the use of separate planning tools for different sectors without sufficient attention having been given to the impact of developments in one sector upon another.

The next publication in this series will employ the same integrated modelling approach used in this paper to explore the population projections that underpin some of the forecasts made in the NDP 2030 since the 2011 census data have subsequently become available. These will of necessity cascade through many of the other targets

set out in the plan and affect spending requirements on education, health and many other areas.

The third and final publication in the series will review the implications of the changing global energy market for South Africa, including the potential impact of horizontal drilling and hydraulic fracturing, also known as fracking. Given the current electricity shortage being experienced in South Africa, decisions about the adoption of renewable energy sources and/or potential further investments in nuclear power will greatly affect economic growth and carbon emissions in the coming decades.

Forecasting is inevitably a process of first understanding how the past has shaped our present and then determining how best to influence the future. In the light of this, and as additional insights come to light, the NDP 2030 will of necessity require continual updates, revisions and reviews for it to remain an informed expression of how things could evolve as time unfolds.

THE NATIONAL DEVELOPMENT PLAN 2030

The 26 members of the NPC responsible for the NDP 2030 were appointed by President Jacob Zuma in May 2010 with the mandate to take ‘a broad, cross-cutting, independent and critical view of South Africa’.⁶ The NPC released a diagnostic report in June 2011, which candidly discussed the major structural and societal challenges faced by South Africa, and published a draft national plan in November 2011. After extensive further consultations, the NPC submitted a final version of the plan to Cabinet and subsequently to the ruling African National Congress (ANC) at its elective conference in Mangaung in December 2012. The NDP 2030 therefore carries the support of both government and the ruling party, although the Mangaung endorsement of the plan does not necessarily equate to blanket approval of the analysis, targets and goals of the voluminous associated documentation.⁷

After the influential National Union of Metalworkers of SA (NUMSA) published a 32-page critique of the NDP in March 2013, the ANC’s labour federation ally, the Congress of South African Trade Unions (COSATU), expressed its ‘serious concerns’ about the plan early in June 2013 and announced that it would attempt to sway the ANC to modify the NDP 2030 at its forthcoming economic alliance summit early in July 2013. The concerns of COSATU and the third member of the tripartite alliance, the South African Communist Party (SACP),⁸ are broad, but focus on the implications for the labour market, and their support for a planned economy and a strong

interventionist state. In their view, the plan threatens to ‘... reverse certain progressive advances made by the ANC and government over the last few years’, particularly on the restructuring and industrialisation of the economy, on creating decent work for all, and on redistribution and fighting inequality.⁹

Nevertheless, the resulting capstone document, the ‘National Development Plan 2030: Our future – make it work’, sets out a comprehensive and detailed vision of a more equal and prosperous South Africa in 2030, and the signposts and markers to achieve this. The country will achieve this vision, it says, ‘... by drawing on the energies of [South Africa’s] people, growing an inclusive economy, building capabilities, enhancing the capacity of the state, and promoting leadership and partnerships throughout society’.¹⁰ There is already substantial momentum developing to orientate all components of government towards support of the plan, although not all departments appear equally committed to this task. Earlier this year, National Planning Minister Trevor Manuel explained in Parliament that the plan would be implemented over three five-year periods in line with the electoral cycle, with the 2014–2019 medium-term strategic framework forming the first five-year building block of the plan. This first framework would be submitted to Cabinet in July 2013 and subsequent plans would cover the periods 2019–2024 and 2024–2029.

At the same briefing, Minister for Performance Monitoring and Evaluation Collins Chabane emphasised that all departments would be expected to harmonise their departmental plans with the implementation framework of the plan as finalised by the Presidency.¹¹ During his 2013 State of the Nation address, President Zuma spoke enthusiastically about the plan, noting that it provided South Africa with a roadmap for the future.¹² In the subsequent budget speech, Minister of Finance Pravin Gordhan took the NDP 2030 as a point of departure and spoke of it as a new trajectory that ‘... invites us to look beyond the constraints of the present to the transformation imperatives of the next 20 and 30 years’.¹³

According to the plan, South Africa’s two principal challenges are patterns of distorted and exclusionary economic ownership, and a recent history of low economic growth. Other weaknesses of the economy include extreme pressure on natural resources, energy constraints, spatial inequalities and limited access to large markets because of geographical distance and an overdependence upon dirty, carbon-based fuels. The NDP 2030 states that South Africa’s current development

path is already a ‘worst-case scenario’,¹⁴ setting the country on a course towards a future characterised by sluggish economic growth, low import demand and stagnant employment. This is a view shared across the ideological perspective. For example, according to the World Bank, ‘[t]he unresolved set of complex economic challenges has locked South Africa into a low-level equilibrium of low growth, persistent poverty and widespread exclusion and unemployment’.¹⁵ The SACP, hardly a bedfellow of the World Bank, states that ‘... we are approaching 20 years of democracy ... with persisting crisis levels of unemployment, poverty and inequality’.¹⁶

Recognised in the NDP 2030, South Africa has been in a middle-income trap for more than four decades – a situation where gross domestic product (GDP) per capita moves up and down over time, but does not steadily rise to higher income levels. On the assumption that the country is unable to make a full transition from resource-driven growth to productivity-driven growth, Roux, using the analysis from Felipe, expects South Africa to remain in the resource-driven economic category for another two decades in the absence of significantly higher growth rates.¹⁷

To change this trajectory, the plan offers the following three interconnected interventions of particular importance:¹⁸

- Raising employment through faster economic growth
- Improving the quality of education, skills development and innovation
- Building the capability of the state to play a developmental, transformative role

The plan notes that pursuing this multidimensional strategy will create a ‘virtuous cycle of development with progress in one area supporting advances in others’.¹⁹ The plan mentions multiple priorities and targets, but repeatedly returns to the three interventions above, in particular the issue of achieving faster and more inclusive economic growth and the need for sustained improvements in productivity.²⁰

PURPOSE AND METHODOLOGY: INTERNATIONAL FUTURES

This paper relies upon a unique forecasting tool, namely International Futures (IFs),²¹ a software forecasting system that models relationships and interactions within and across key global systems for 183 countries from 2010 to 2100. It is an integrated assessment model, meaning that it is characterised by dynamically interacting subsystems rather than straight-line forecasts or

extrapolations. These subsystems include demographics as well as economic, health, education, infrastructure, agriculture, energy, environment, governance and international political modules. The relations modelled in IFs are structured in an interacting process that leverages a broad historical database and draws upon relevant academic literature. The system is open-source and freely available, and the assumptions and relationships that drive interactions are fully transparent and openly documented. Users can adjust the variables and parameters within IFs, a process that is described in the IFs Help System.

The scenario development for this project was preceded by several months of data gathering. This process began as a project commissioned by the Western Cape provincial government in 2012 as part of its OneCape 2040 process²² and has continued since then. A two-day workshop held at the Institute for Security Studies (ISS) in Pretoria in April 2013 gathered issue experts to validate data from this project and key issues within the extensive databases in IFs, and to evaluate the reasonability and fit of the associated forecasts with those done by the issue experts in each of the substantive sub-modules of IFs.

For the purposes of this paper, we largely measure selected targets set in the NDP 2030 against the IFs Base Case. The Base Case is a central tendency scenario, as opposed to a linear extrapolation, against which alternative scenarios can be compared across and within each of the key systems identified above. The Base Case formalises relationships and policy choices that reflect evidence gathered from predominant patterns over the last 20 years. This scenario assumes continued growth in technology (e.g. improving energy efficiencies), no major policy shifts (e.g. no global carbon tax) and no major black swans (e.g. a global pandemic). Users can build alternative scenarios around the Base Case by changing parameters within the model.

There are many things that IFs does not currently forecast. For the purposes of this paper, the most important one is that it does not include forecasts of unemployment – a crucial component of South Africa’s socio-economic and political challenges currently and in the future.

NDP 2030 ECONOMIC GROWTH TARGETS – HIGHWAY OR BYWAY?

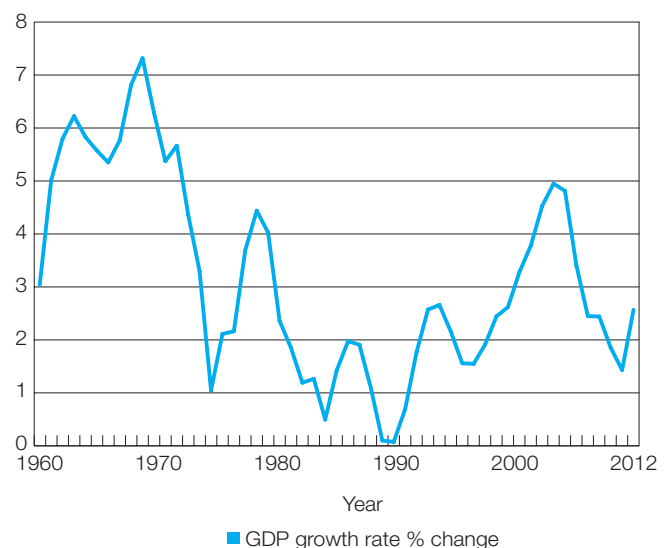
The NDP 2030 sets an average GDP growth rate target of 5,4 per cent per annum between 2011 and 2030, and argues that this would create an estimated 11 million additional jobs by 2030 and reduce unemployment to

about six per cent. At this rate, the plan forecasts that the proportion of the population with an income below the poverty measure of R418 per person per month (in 2009 rand, roughly equivalent to US\$ 45) falls from 39 per cent in 2009 to zero in 2030.²³

South Africa’s current unemployment is estimated at 25 per cent by Statistics South Africa and 37 per cent if a broader definition of unemployment is applied.²⁴ Today government has replaced the trade sector as the biggest employer in the country, reflecting the extent to which traditional economic sectors such as mining, textiles, vehicle manufacture and assembly, energy, financial and business services, and fisheries and agriculture are unable to provide sufficient job opportunities. One of many challenges is the apparent mismatch between the learner outcomes from the South African public education system and the skills required for a modern economy.²⁵

As shown in Figure 1, South Africa has achieved average economic growth rates in excess of five per cent per annum for more than three consecutive years only from 1962 to 1965 and again from 2005 to 2007. In 2009 South Africa’s output fell by 1,8 per cent, in sympathy with global trends.

Figure 1: Historical growth rates in GDP (five year moving average)

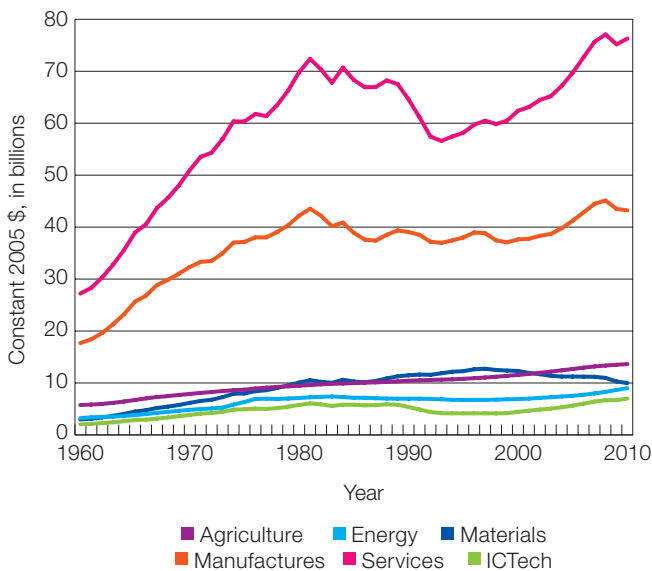


Source: World Bank and CIA Factbook.

South Africa has well-documented problems that hinder achievement of its full growth potential. According to the World Bank, the country’s labour participation rate is among the lowest in Africa and despite recent gains in inflows of FDI, its gross capital formation rate remains at the middle of the pack of middle-income countries.²⁶ Unemployment is particularly high among young black

people, many of whom have ceased searching for work with attendant risks for social stability.²⁷ The reasons given for this are generally shared across ideological perspectives, with NUMSA, COSATU and the SACP adding that the country is locked into a semi-colonial growth path that reproduces the crisis of unemployment, poverty, inequality, spatial distortions and lack of environmental sustainability.²⁸

Figure 2: Historical value added by sector



Source: IFs version 6.69.

As shown in Figure 2, the value added by the South African economy experienced serious stagnation and then decline during the apartheid era. Since 1994, when the country fully rejoined the international community, its economic growth path, inflation trajectory and balance of payments performance have moved to much more favourable levels, in part reflecting the normalisation of the country's international financial relationships, as well as prudent economic management.

Despite the wide-ranging improvements in macro-economic indicators since the first election victory of the ANC in 1994, government has struggled to address structural problems including the widening gap between rich and poor, a poorly skilled labour force, high unemployment rates, deteriorating infrastructure, and high rates of corruption and crime.²⁹ These challenges generally convert into poor rates of improvement in multifactor productivity. After the steady decline in the value-added growth rate in services and manufacturing during the final decade of apartheid, there has not been a return to even the relatively modest rates of improvement seen some decades earlier.

South Africa's economic growth after the global recession of 2008 has been tepid as a result of its strong economic ties with a poorly performing Europe and internal constraints, in particular the high cost of labour. During his February 2013 budget speech, for example, Minister Gordhan noted that South Africa's GDP growth for 2012 was a disappointing 2,5 per cent and that for 2013 the estimate was 2,7 per cent, rising to an estimated 3,8 per cent in 2015.³⁰ Recent data indicate that the 2013 to 2015 figures are not likely to be achieved. In fact, GDP in South Africa rose at an annualised rate of just 0,9 per cent in the first quarter of 2013.

According to Roux, 'The story of South Africa that unfolds is one of impressive advance, producing a growing number of (mainly) urban affluent citizens who are attuned to global realities, living alongside millions of unemployed citizens languishing in poverty and unemployment. Failure to narrow this gap can result in only one eventual outcome: social disorder, upheaval and the ultimate derailing of any progress made thus far.'³¹ Declining productivity levels have stabilised, but not improved significantly, and a frustrated populace feels that government can no longer blame current policy failures on the apartheid legacy.

The expected annual economic growth rates for South Africa within the IFs Base Case forecast for the time horizon 2014 to 2030 range from 3,2 to 4,5 per cent, with an average of 3,4 per cent. This is around two percentage points lower on average than the NDP 2030 target. It is also well below the average rate of 5,7 per cent expected for the Southern African Development Community (SADC) and the 6,5 per cent for sub-Saharan Africa, reflecting the fact that South African growth rates have recently lagged behind those of many countries in Africa.³² If the South African figures are removed from those of SADC and sub-Saharan Africa, the average growth rates of these regions increase to 7,7 and 8,4 per cent respectively. The UN Economic Commission for Africa (UNECA) in its *Economic Report on Africa 2013* lists South Africa as having one of the five worst performing African economies from 2008 to 2012, mainly because of South Africa's large exposure to the global financial markets.³³ On the positive side, an improved economic performance by South Africa would have a significant positive spillover for the region.

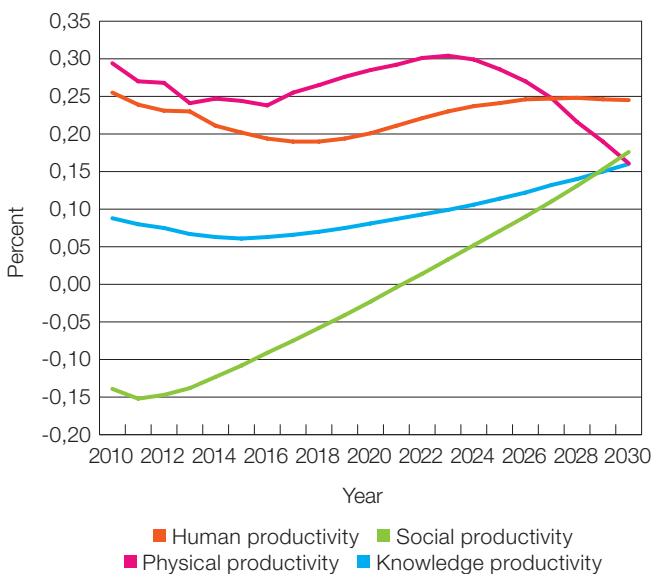
A number of factors account for these relatively disappointing prospects, beyond those mentioned above. Under apartheid, South Africa's economy became steadily more capital-intensive, also as part of a global process of capital-deepening that has seen less labour

and more capital required for every unit of production. As the demand for (mainly imported) technology and skilled labour increased, the demand for relatively unskilled labour in South Africa declined.

Within IFs, capital currently contributes around five times more to South Africa's GDP growth rate than labour. IFs uses multifactor productivity (MFP) to compute and represent those output gains that cannot be accounted for by the change in combined inputs from capital and labour alone. MFP is grouped into four sources, measured in human, social, physical and knowledge systems. Human productivity is measured in terms of education and health; social productivity in terms of governance quality, economic and social freedom, and gender empowerment; physical productivity in terms of infrastructure and energy prices; and knowledge productivity in terms of research and development (R&D) expenditure and economic integration with the world. Each is calculated relative to a country's level of development and expressed as a net boost or drag on overall GDP growth.³⁴

Figure 3 presents the current and expected future contribution of MFP. It indicates that South Africa is expected to perform better than most of its peers in the contributions of physical, human and knowledge components to multifactor productivity growth. By 2030, these three sources are forecast to contribute roughly 0,55 per cent in additional GDP growth to the economy.

Figure 3: Calculated multifactor productivity component contributions to South African GDP growth rates



Source: IFs version 6.69.

The reasons for the positive contribution of human productivity over the longer term lie in a large proportion of working-age citizens (roughly 65 per cent of South Africans will be between 15 to 65 years of age between 2013 and 2030) who will continue to provide a potentially substantial demographic dividend. In the shorter term, the impact of HIV/AIDS detracts from this contribution, pointing to a ready policy intervention area. Without education and work opportunities the demographic dividend could, of course, be a source of instability and unrest. The contributions of the physical and knowledge productivity components of MFP are also forecast to be positive, indicating relatively good levels of trade and investment in infrastructure/information and communications technology (ICT) and R&D up to 2030.

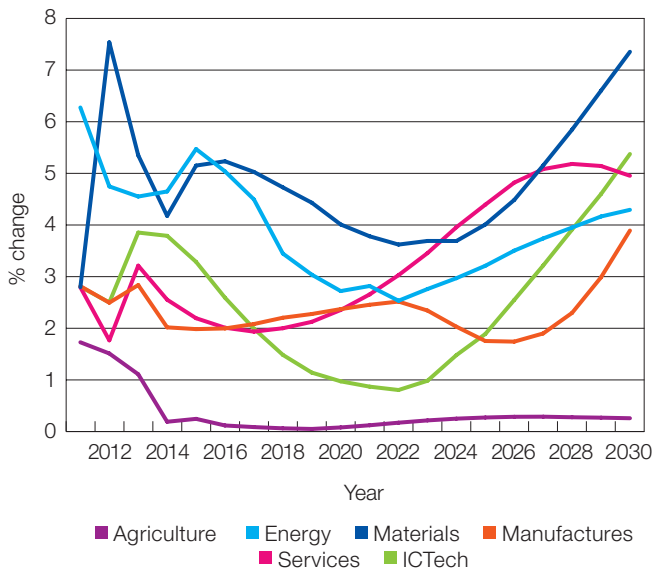
Despite expected improvements, social capital, by contrast, is expected to continue to serve as a net drag on the economy until the mid-2020s, currently detracting as much as 0,15 per cent per year from GDP growth compared to other countries at similar levels of GDP per capita.³⁵ This reflects a relatively high level of corruption and gaps in governance effectiveness. Recent strikes and protests in the mining and agricultural sectors, as well as persistent problems with social inclusion across income groups, would indicate a generally poor outlook in social productivity for South Africa in the near future, although still steadily improving over time.

In line with global trends, the NDP 2030 envisages a shrinking of the manufacturing sector from 12 per cent of GDP in 2010 to 9,6 per cent in 2030.³⁶ Nearly two-thirds of the 11 million new jobs envisaged in the NDP 2030 will come from services, domestic work and the informal sector, although the latter receives remarkably little attention in the plan. Looking at the relative changes in the contribution of the six economic sectors within IFs (agriculture, energy, materials, manufacturing, services and ICT) to the formal economy, Figure 4 provides a forecast of current trends (the percentage change in the contribution that each of these six sectors is expected to make to the economy in future). This is a picture of an economy where ICT and services could play a much larger role in contrast to the growing relative importance of materials and energy – a view that corresponds to the ideal growth path in the NDP 2030.

However, the limited forecasted growth in manufacturing and agriculture is of concern in light of the NDP 2030's goals of broadening employment opportunities. The plan notes that, similar to other countries at similar levels of development, most jobs in South Africa are likely to be found in domestically

oriented services where productivity and wage growth is low.³⁷ The plan's conclusion is that manufacturing/re-industrialisation presents few future growth prospects, a finding that is broadly supported by IFs in the medium term. The SACP's concerns regarding the weakness of the NDP 2030 on manufacturing growth (or lack of re-industrialisation) thus appear to be well founded, if out of step with trends elsewhere.³⁸

Figure 4: Per cent change to the value added by each of six sectors of the economy



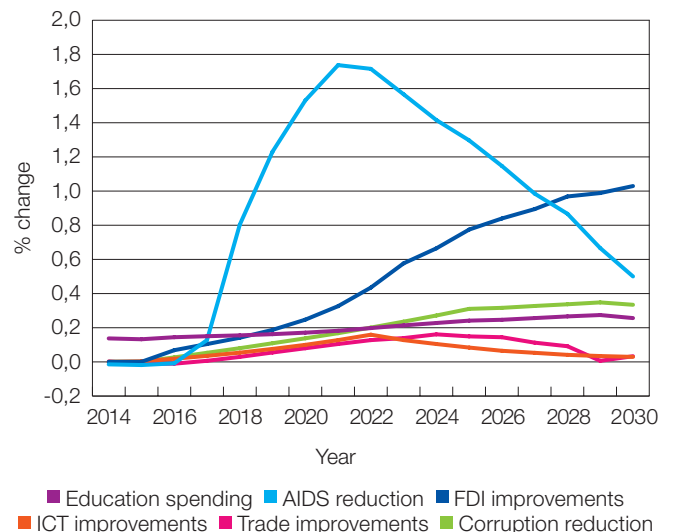
Source: IFs version 6.69.

The NPC undertook a detailed and exhaustive analysis of the South African economy and the NDP 2030 reflects its views on how best to change the current structure and growth trajectory. One example is the NPC's thinking on the future of economic and employment growth, namely that most jobs will be found in 'domestically oriented services such as retail, personal services, security, domestic work and office cleaning' with most people eventually juggling several jobs.³⁹ As expected, these views are contested. Because South African cost structures are already too high to compete in low-skilled industries internationally, and because the country lacks the skills to compete with advanced manufacturing countries such as Germany, the NPC argues that the only option is to compete in mid-skilled manufacturing and services areas, and in niche markets that do not require large economies of scale.⁴⁰ It states in summary that '[t]o stay competitive and to move up the value chain, three interventions are necessary: labour-market reforms aimed at promoting employment, particularly of young people; action to promote productivity gains and new entry by firms; and research and development for innovation'.⁴¹

Using IFs, we tested various interventions to attempt to construct a scenario in which economic growth rates overcome the challenges discussed above and achieve the targeted average (Figure 5). We increased spending on ICT infrastructure while reducing public expenditure on the military, which is already at a very low level but serves as a proxy for savings elsewhere in the fiscus.⁴² We also increased trade through export promotion and lowered tariffs. These interventions produced modest increases in GDP growth rates. We adjusted government spending figures on education to reflect the recent figures of more than six per cent of GDP promised in the 2013 budget and assumed that the same high level of spending would continue. Here it is important to recognise that the major challenge is not funding but the inefficiencies within the education system. Additionally, we simulated a significant improvement in perceptions about government corruption by raising South Africa's score on the Transparency International Index by about 1,5 points above its Base Case score over a 10-year interval. This is an important component of government's ability to raise and distribute revenue effectively.

The most significant boosts in GDP came from increasing FDI in South Africa and dramatically curbing HIV transmission and AIDS mortality. Improvements in FDI were achieved by greatly increasing both South Africa's stock of FDI and its annual inflows.⁴³ We simulated higher rates of progress in fighting HIV to reflect the acceleration of research and advances in fighting the disease in recent years. Deaths resulting from AIDS were manually reduced in order to simulate a widespread, intensive policy of treating HIV with anti-retroviral drugs. Contraceptive use was also increased.

Figure 5: Contributions of different interventions to GDP growth rates



Source: IFs version 6.69.

As shown in Figure 5, reduced corruption, improved educational outcomes, increased FDI and a large reduction in HIV/AIDS transmission and associated mortality would impact significantly on South Africa's GDP.⁴⁴ Taken together, all of the interventions give an average boost to growth over the 2014–2030 period of about 1,7 per cent per year. Though the exact impact of each intervention is dependent on the assumptions of IFs, collectively this analysis suggests that a path such as that modelled in Figure 5 could boost South African economic growth rates to above five per cent per year over the period. The theoretical implication of the combined interventions (theoretical because they are necessarily highly speculative and complex), can be thought of as a preferred 'Highway', compared to the current development path, or IFs Base Case scenario.

It is important to note that the Highway growth scenario is not easily achievable and assumes a remarkably favourable domestic and international environment beyond the tough domestic challenges faced by South Africa. For example, for the country to attract substantially higher levels of FDI it will have to compete with very high growth-rate economies in Africa, such as Angola, Ethiopia, Nigeria and others, as well as global high-growth countries such as Vietnam, Indonesia, Turkey, etc. It would require a turn-around in how South Africa portrays itself internationally. None of this is absent from the analysis presented in the NDP 2030, which calls for a 'social compact' between government, labour, business and civil society to achieve the vision, and devotes several pages to the need for broad support across society for the successful implementation of the plan.

It is also worth noting that the modelled interventions represent a tremendous amount of institutional, social and technological improvement, not just simple policy options. This reflects the long-term nature of IFs, which is better able to capture effects of large structural shifts in an economy as opposed to short-term policies. Moreover, the IFs Base Case does not capture the effects of unforeseen shocks, such as a crisis in the Eurozone or a collapse in Chinese growth. If such a shock were to occur, GDP growth could be compromised for reasons beyond the control of policymakers.

Lacking the type of interventions listed in the Highway scenario described above, the Base Case scenario is generally supported by forecasts from other organisations, although it is slightly more conservative in its forecast. The need for greater conservatism is perhaps borne out by more recent trends that reflect a continued and steady deterioration of South Africa's

immediate economic prospects. While the nature of shorter vs. longer-term forecasting necessarily involves very different calculations and results, Table 1 provides a comparison between the Base Case scenario and those of various other institutions that focus on shorter-term forecasts. In all instances the short-term forecast for 2013 has proven to be overly optimistic.

Table 1: Comparative GDP forecasts

Institution	2013	2014	2015	2016	2017
World Bank ⁴⁵	2,5	3,2	3,3	n/a	n/a
IMF ⁴⁶	2,0	2,9	3,4	3,2	3,3
EIU* ⁴⁷	3,1	3,8	4,0	4,5	5,2
Ernst & Young ⁴⁸	4,2	4,2	4,2	4,2	4,2
IFs Base Case	3,4	2,8	2,8	2,7	2,6

* EIU: Economist Intelligence Unit

Comparative longer-term projections by the International Institute for Applied Systems Analysis (IIASS) and the Organisation for Economic Co-operation and Development (OECD) forecast an average of 3,5 per cent and 3,8 per cent GDP growth respectively until 2030, versus the 3,4 per cent average growth forecast of the IFs Base Case scenario.⁴⁹

Though all organisations forecast positive growth for South Africa, none foresee economic growth at the level of other small emerging economies – many of which are situated in Africa – or for large countries such as India and China. The reasons for their relative pessimism are familiar to the NPC and expert observers of South Africa. Low rates of labour participation and social inclusion are consistently cited as a drag on economic performance, as is a real wage growth that outstrips productivity, which hurts competitiveness and exports. The IMF recently pointed to South Africa's rigidities in the labour and producer markets as key challenges, while also identifying power and transport bottlenecks as being a drag on the economy.⁵⁰

Historically, only a very small number of countries have been able to sustain average growth rates of five to six per cent or more over long periods of time. These include Botswana, Cambodia, China, Hong Kong and South Korea. Japan used to do so but its growth rates declined during the seventies to very modest levels. A slightly larger number of countries have been able to do so for shorter periods of time, including Equatorial Guinea, Ethiopia, Ireland, Norway, Turkey and, more recently, Vietnam. In some of these instances, such as with Equatorial Guinea and Norway, the exploitation of oil played a huge part, although with very different developmental

results. However, many high-growth countries have no large resource bounty and rely instead on investments in education, government efficiency and the choice of specific growth sectors to deliver high GDP growth.

South Korea would seem to offer an attractive and accessible example for South Africa, yet there are many important differences.⁵¹ South Korea is one of the most ethnically homogenous countries in the world, which allowed the introduction of a nationwide social mobilisation campaign as part of the *Saemaul* or 'New Village' movement. It also already had a high level of education. When it commenced its leap to a high-income nation, it was an authoritarian (and strong) state, had a high degree of autonomy in setting its trade policies and received substantial development assistance from the United States (US) for an extended period of time. None of these factors apply to South Africa today.

The analyses discussed in this paper suggest that there is room for improvement in South African GDP growth rates. But, similar to countries like Brazil and Turkey, very tough policy choices and determined implementation will be required to achieve the NDP 2030 economic growth target. Even then it will not be easy. In this sense, the implementation of the NDP 2030 vision requires leadership of the highest calibre from all sectors of society and extensive social mobilisation around its goals if the country is to convert the plan into a manageable target. Government will inevitably have to take the lead and set an example for other sectors in society, and this will need to be followed with an unwavering focus on delivering medium to long-term inclusive growth, even if the decisions require politically unpleasant short-term measures.

Indeed, during the joint media briefing by Ministers Manuel and Chabane on 19 February 2013, the two noted: 'Political leadership is critical for effective implementation. The President and Deputy President will be the lead champions of the plan within Cabinet, in government and throughout the country.'⁵² Already indications relating to proposed changes to South African policies on work permits to allow business to attract highly skilled foreigners is an example of a new direction and auger well for the future. Much more is required, however, including measures to improve the effectiveness of government procurement and expenditure at all levels and in all sectors.

BEYOND IMMEDIATE GROWTH

The purpose of the NDP 2030 is to eliminate poverty and reduce inequality in South Africa by 2030.⁵³ To this end,

it includes a raft of practical and policy interventions for immediate introduction that lie well beyond the purpose and scope of this publication and the ability of IFs to evaluate. Our focus here is to review some of the deeper drivers of growth in the medium to long term that have broader social value, as well as positive long-term growth implications, such as investments in education and infrastructure. Through the plan, the NPC expresses the belief that sustained, high levels of economic growth are a prerequisite for the delivery of large numbers of jobs, a reduction in inequality and an improvement in the general wellbeing or standard of living over time. The focus should therefore be on the quality and nature of growth.

Before addressing these issues, it is important to reflect on the potential impact of the simulated Highway scenario growth path for South Africa in comparison to the projected Base Case scenario. A few examples are the following:

- GDP per capita in purchasing power parity, roughly \$10 110 in 2013, would improve from an estimated \$14 380 (Base Case) to above \$17 000 (Highway) by 2030 (all figures in 2005 US\$).
- South Africa's score on the Human Development Index of 0,59 in 2010 would improve from an estimated 0,67 (Base Case) to 0,75 (Highway) by 2030.
- By 2030 South Africa would require more than 200 million barrels of oil energy-equivalent for its much larger economy and would probably emit an additional 20-25 million tons of carbon dioxide annually above the forecast of 162 million tons by 2030 (Base Case).

The South African population would probably have increased to almost 55 million (Highway) by 2030 (instead of the 53,7 million expected in the Base Case.)

With this in mind, we will now briefly examine some (and there are many) of the education and infrastructure targets, comparing the Base Case scenario with the impact of achievements under the 5,4 per cent economic growth target in the Highway scenario. In doing so, it is important to underline that IFs presents an integrated model where improvements in, for example, HIV/AIDS infection rates translate into improvements in human productivity, and thus in improvements in GDP per capita.

Education

The NDP 2030 has various targets relating to education. The key targets for 2030 include: (a) achieving an 80 to 90 per cent completion rate of 12 years of education; (b) an education throughput rate of 80 per cent; and (c) an

increase of tertiary education enrolment by 70 per cent. As noted earlier, the NPC makes explicit its expectation that a 5,4 per cent average GDP growth is necessary to generate enough revenue to achieve these targets.

IFs forecasts of education are driven fundamentally by changing levels of GDP per capita at purchasing power parity, as well as each country's particular initial conditions in 2010, government spending patterns, and historically observed patterns of throughput and graduation rates. For South Africa, this modelling approach results in an expectation of at least one NDP 2030 target, the throughput target, being reached without any additional intervention. In the Base Case scenario throughput rates for primary, lower secondary and upper secondary education all increase, with an overall rate of 88 per cent by 2030. Within a population pyramid, Figure 6 indicates what South Africa's education profile could be in 2030 under the Base Case scenario, differentiating between male/female and age.

In contrast to the throughput target, the two other targets are not achieved in the Base Case scenario by 2030. Tertiary enrolment improves from 15 to 23 per cent (roughly a 50 per cent increase) and completion of upper secondary education (the equivalent of 12 years in IFs) reaches 67 per cent in 2030.⁵⁴ However, the IFs forecasts have yet to capture recent increases in government spending on education. The 2013 budget allocates R232,5 billion to education, a figure that represents about 6,3 per cent of South Africa's GDP in 2012.⁵⁵

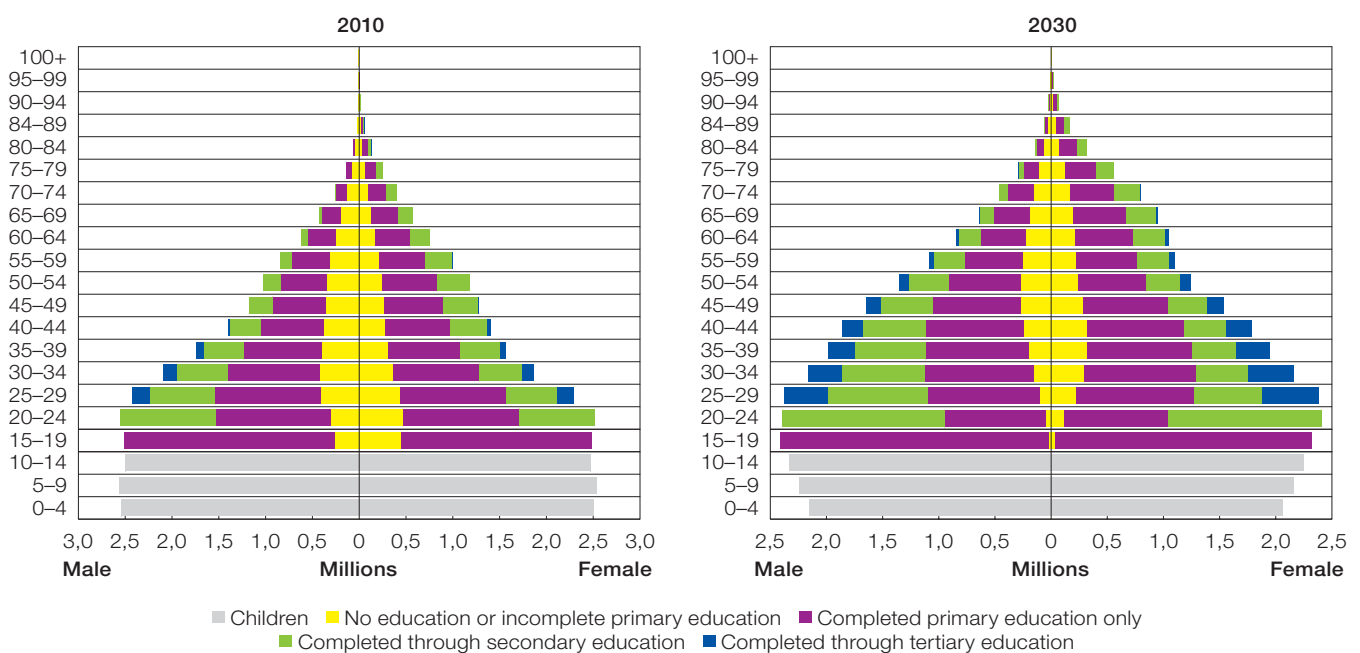
When education spending is adjusted in the Base Case scenario to account for these changes, by 2030 upper secondary graduation rates surpass the 80 per cent target and tertiary enrolment increases by almost 100 per cent, again surpassing the NDP target. The increases in the Highway scenario are even more impressive.

This suggests that if spending patterns on education continue on current trends, the education advances sought in the NDP 2030 can be achieved independently of other GDP growth ambitions, and could be more aggressive.⁵⁶ The weakness in this scenario intervention is, of course, that South African education is not hampered by a lack of money, but by a lack of quality and inability to educate for a knowledge and innovation economy.

Infrastructure

Even more so than in education, the NDP 2030 targets for infrastructure could be more aggressive. IFs forecasts access to grid electricity among the general population to reach 91 per cent in 2030, just over the plan's target of 90 per cent, while access to safe water reaches 95 per cent, just below the target of 100 per cent. These forecasts are driven by historical relationships between increasing GDP per capita and demand for improved infrastructure, as well as governmental ability to raise revenue to supply it. Metrics for South Africa suggest that government's ability to do so will improve markedly between now and 2030. Additional policy interventions have the potential

Figure 6: Forecast of human capital distribution in South Africa in 2010 and 2030



Source: IFs version 6.69 based on UNESCO and UN Population data.

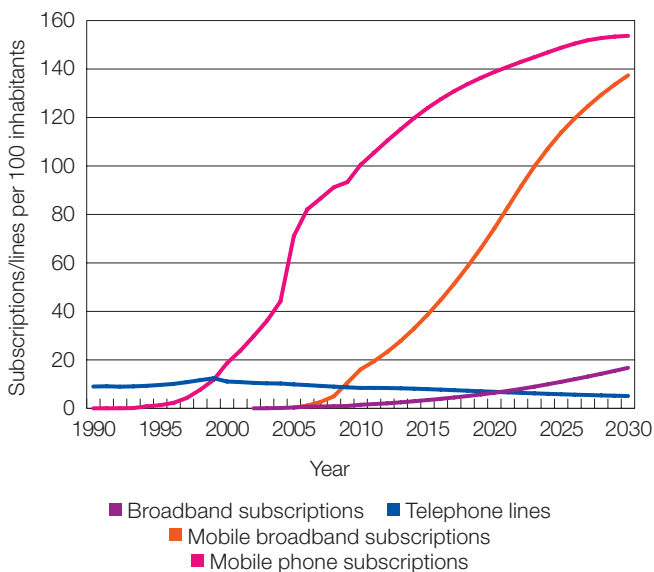
of increasing access to electricity and safe water even more, although reaching 100 per cent access may be difficult to achieve given the size of rural South Africa.

Even at the levels of economic growth forecast in the IFs Base Case, South Africa will make significant strides in improving access to electricity and safe water. These rates accelerate further under the Highway scenario.

In ICT (see Figure 7), South Africa has lagged in the provision of broadband ('abysmal' is the word used in the plan), leading the NDP 2030 to focus on the development of an affordable nation-wide network to be achieved through effectively regulated competitive markets complemented by targeted state intervention.⁵⁷ IFs modelling of ICT infrastructure assume that private capital investment, driven by profit incentives in that sector, is generally four times that of public investment. For this reason IFs forecasts growing private investment in improved mobile and fixed broadband in South Africa.

The NDP 2030 target is to make high-speed broadband internet, defined as at least 2 MB/s by 2030, universally available by 2020.⁵⁸ Figure 7 provides the IFs Base Case forecast of overlapping categories of broadband, fixed telephone, mobile broadband and mobile phone trends per 100 South Africans to 2030. Mobile phone penetration is already high. Development trends therefore suggest that even at the more modest levels of investment forecast as part of the Base Case, South Africa will achieve or make significant strides toward these infrastructure goals.

Figure 7: ICT penetration per 100 inhabitants



Source: IFs version 6.69 based on International Telecommunication Union data.

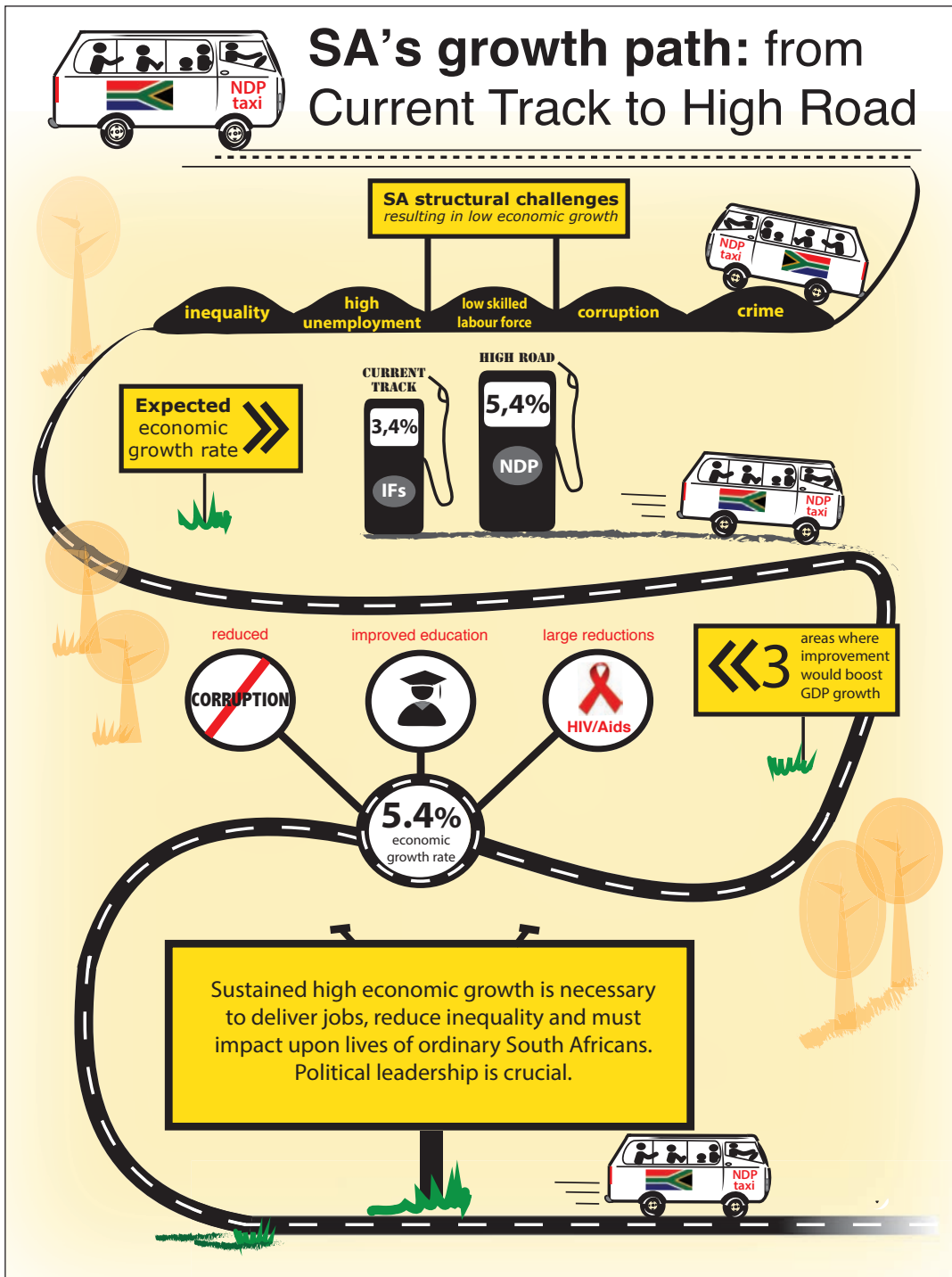
Fostering a more inclusive and equal society, as the NDP 2030 aims to do, must surely include improving access to education and basic infrastructure, and this analysis suggests that even in the Base Case there is significant opportunity for South Africa to do so. More importantly, progress in the provision of education and basic amenities to underserved South Africans is an important investment in future growth.

CONCLUSION

Much of the analysis presented here and by the NPC, indicates that South Africa's current relative political and economic size in Africa hides important challenges that reflect vast internal divisions in many areas. South Africa is one of the most unequal countries globally when measuring income inequality (through, for example, the use of the domestic Gini coefficient). The country can be compared to Honduras, Colombia and Bolivia, and is only slightly better off than neighbouring Zimbabwe. Other measurements of inequality present a still gloomy but less dire picture. For example, on the Human Development Index (a composite statistic of life expectancy, education and income indices) South Africa in 2013 compares with Iraq in having around 32 per cent of its population surviving on less than \$2 per day (2005 dollars).

On the labour front a declining number of unionised and employed workers demand successive increases in pay that far outstrip improvements in productivity, while an increasing number of youngsters have long ceased to seek employment. In effect, South Africa has two labour markets, one for skilled workers and another for unskilled persons. The polarised job market is mirrored in business, where job-creators and small businesses are mired in red tape; while large, established corporations are advantaged. Even the debate on the NDP 2030 reflects the divide between those on the left, who argue that the country is trapped in a semi-colonial growth path, and those who follow the more general economic analysis that recognises the extent to which the country has been in a middle income trap for several decades.

A second and associated characteristic of the South African economy is the low level of gross savings. In this respect the country is one of the poorest performing countries in the world. It has a current account deficit of more than six per cent of GDP and relies on foreign capital to bridge the gap between what it spends and what it earns. That makes it vulnerable to shifts in the mood of international investors, which is not helped by rising labour unrest. Sentiment in the country is increasingly negative.



These considerations are clearly recognised in the diagnostic report that informs the NDP 2030 and underpins many of its targets. The difficulty is that the NDP 2030 may be stuck in an ideological cleft within the ANC and that implementation will falter.⁵⁹

In the words of Ministers Manuel and Chabane, the NDP 2030 is a long-term strategy that serves the following four broad objectives:

- Providing overarching goals for what South Africans want to achieve by 2030.

- Building consensus on the key obstacles to achieving these goals, and what needs to be done to overcome these obstacles.
- Providing a shared, long-term strategic framework within which more detailed planning can take place in order to advance the long-term goals of the NDP 2030.
- Creating a basis for making choices about how best to use limited resources.⁶⁰

An impressive amount of work has gone into the NDP 2030 and it is evident that government is committed

to driving implementation forward in a coordinated, sequential and prioritised manner, although cognisant of the huge challenges that lie ahead and the inevitable resistance to change from vested interests.

Although policy matters, physical implementation is crucial, in line with the dictum that it is not what government says that is important, but what it does, with the understanding that the latter does not always correspond with the former.

Beyond the gap between policy and implementation, there is often an additional disconnect between the policies of different government departments and the impact this has on the ground. This is evident in the disconnect between government policies on land redistribution (premised on state subsidies) and agriculture (emphasising deregulation). This has, in the words of Cousins and Hall,⁶¹ had exactly the opposite effect to that intended. On the one hand '[t]oday commercial farming is increasingly concentrated in a shrinking number of very large enterprises, still mostly white-owned'; while on the other, after more than R53 billion has been spent on state-driven land reform since 1994, only about eight per cent of commercial farmland has been transferred to black farmers, many projects have experienced problems and the number of small black farmers has not increased substantially.

The NDP 2030 target is for the agricultural sector to contribute close to one million new jobs by 2030.⁶² Although we have not examined the restructuring of agriculture in this paper and IFs does not allow for the modelling of employment, these are exactly the stovepipes between departmental plans, and the forward and backward linkages between different sectors in the economy, that will lie at the heart of the successful implementation of the plan.

Perhaps inevitably, the release of the plan has unleashed an ideological debate between detractors on the left, particularly from COSATU with the position of the SACP being more nuanced, and those on the right. The former argue that the plan is a neoliberal imposition along the lines of the World Bank and IMF, and reject many of its components in favour of a broad programme of nationalisation and 'state intervention', despite current widespread inefficiencies within the state and state-led enterprises. In contrast, various commentators on the right state that the proposed answers to accelerated growth take the form of deregulation and privatisation. A full reading of the NDP 2030 reveals that it largely

presents a pragmatic agenda, calling for both a more effective and capable state (in fact, a much larger role than currently) and the use of the market where appropriate. The result provides sufficient ammunition to serve detractors on both side, but has produced few practical alternative proposals.

With a relatively diversified economy by comparative African standards, South Africa's formal economy is of necessity integrated into the global economic system and cannot adopt one-size solutions for its complex reality. Future employment, in particular, will largely be dependent upon growth in the private sector, which currently employs around three-quarters of South Africa's workers, although the public sector could also make an important contribution. Less well explored in the plan is the potential role of the informal economy, which by some estimates accounts for around 28 per cent of South Africa's GDP and employs more than two million people.⁶³ By its very nature, informal economic activity goes unrecorded and is therefore difficult to measure, but for many people it is the only alternative to unemployment. Given the importance the NDP 2030 places on employment, the lack of attention to this sector is surprising.

At a strategic level the plan sets out 20 'enabling milestones' and ten critical actions (beyond numerous others at lower level) covering all sectors of South African society, both public and private, though largely excluding the informal economy. These range from very detailed and specific interventions such as 'Developing the Durban-Gauteng freight corridor, including a new dug-out port on the site of the old Durban airport' to socially ambitious targets that would 'increase the share of national income of the bottom 40 per cent from six per cent to ten per cent'.⁶⁴

If anything, the plan tends to smooth over tough choices and the need for setting clear priorities by implying that everything is linked to everything else, and not being clear enough in its tough core message. This is partly a result of the complexity and length of its reports. The core message, and the reason for the opposition from COSATU and the SACP, is clear: it repeatedly calls for greater flexibility in the South African labour market, which is currently a significant drag on the country's growth prospects.

In general, the Base Case scenario already appears to tell a positive story of South Africa's future economic prospects, if disappointing by regional comparative standards and certainly insufficient to respond to the

multiple challenges facing South Africa. Our analysis underpins the need for the NDP 2030, the wide-ranging scope of its analysis, and detailed remedial targets and plans. As acknowledged by the NPC, South Africa's growth ambitions will be very difficult to achieve to the extent set out in the NDP 2030 without structural changes to the economy (dominated by the value-add of finance as part of the services sector, which contributes little to employment), substantial improvements in human productivity, and further improvements in the contribution of social systems, including the quality of governance. Under current conditions, growth in the non-manufacturing and agriculture sectors will struggle to provide sufficient employment opportunities for a country with very high levels of structural unemployment, and an education and jobs skills mismatch.

The quality of South Africa's economic growth is vitally important, as its post-1994 expansion has largely been driven by an increase in consumption expenditure. High economic growth targets alone are unlikely to create a significant number of jobs for the millions of South African job-seekers who are inadequately or inappropriately educated or skilled. Some, such as Roux,⁶⁵ argue that even six per cent annual economic growth levels will not, in the medium term, enable inroads to be made into the country's high level of unemployment. These types of challenges are, of course, exactly what the plan attempts to overcome. The acknowledgement of the obstacles ahead and the publication of the proposals by the NPC are a crucial step.

Achieving aggressive growth targets over a long period of time is challenging and the evidence from history is that bending the economic curve quickly and drastically is rarely possible without structural interventions, comprehensive social transformation and/or a wide-ranging transformation in technology. Some believe that revolutions in energy production such as the massive use of shale gas in South Africa or importing gas from its neighbours might be a game-changer, a possibility we will discuss in the third publication in this series. The NPC has itself expressed a concern that the reliance upon highly capital-intensive investments in nuclear energy, which, as stated in the NDP 2030 'will involve a level of investment unprecedented in South Africa',⁶⁶ could cut off other economic options. Perhaps more germane to this analysis, achievement of the NDP 2030 economic growth target will require South Africa to move from a growth model based on consumption expenditure, i.e. driven by private and public debt, to one based on investment, and from a civil service that is 'incapable' to one that is capable.⁶⁷

Comparable to the social movement that rid South Africa of apartheid, South Africans from all walks of life, irrespective of race, class or origin will have to focus laser-like on the future road they wish to travel, even if this is only by starting to save money for their future. Eventually much more will be required than the current carping from the sidelines, in terms of both the active involvement of ordinary citizens and the far-sighted leadership that the plan advocates.

An exploration of the IFs Base Case scenario has indicated that some of the key human development targets, such as those related to education and infrastructure, are achievable with lower levels of GDP growth than the target set by the NDP 2030. This could point to a lack of integration between the forecasting methodologies that were used by contributors to the Commission for different sectors of the economy in the plan.

The advantage of integrated modelling of the type done by IFs is that a clear connection is established between different components and sectors in the economy, such as investment in education, health, infrastructure, changes in productivity and government effectiveness. By formalising the relationships observed by development professionals and applying them to the vast store of cross-national historic data now available in the world, integrated modelling can reveal the large number of linkages in national economies and international structures that are difficult for any person or group, no matter how experienced, to undertake without the assistance of such tools. It is only one method of thinking about the future, but it is a powerful one, and its use could help to formulate a more integrated set of targets that can effectively and credibly link growth to development and vice versa.

Eventually forecasting, such as that reflected in this paper as well as in the NDP 2030, is merely a way to help understand how the future may unfold. It is not a prediction and will inevitably prove incorrect in many, if not most instances. In addition, the IFs Base Case assumes no major shocks, such as a crisis in the Eurozone, or a dramatic slowdown in Chinese growth rates (China is now South Africa's largest trading partner). If such a shock were to occur, GDP growth could be affected for reasons beyond the control of policymakers. None of this obviates the need to engage constructively with the NDP 2030 in all its aspects and for South Africans to commit to creating a highway to an inclusive and prosperous future.

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NOTES

- ¹ NDP 2030, Executive Summary, 15.
- ² See, for example, pages 16 and 17 of the NDP 2030 Executive Summary: National Development Plan 2030: Our future – make it work, <http://www.npconline.co.za/MediaLib/Downloads/Downloads/Executive%20Summary-NDP%202030%20-%20Our%20future%20-%20make%20it%20work.pdf> (accessed 8 July 2013).
- ³ NDP 2030, Executive Summary, 50.
- ⁴ *Ibid.*, 16.
- ⁵ *Ibid.*, 44.
- ⁶ NDP 2030, Diagnostic Overview, no date (accessed 19 June 2013).
- ⁷ For a detailed critique of the NDP 2030 process, see the SACP discussion document, Let's not monumentalise the National Development Plan, 14 May 2013, www.sacp.org.za/main.php?ID=3972 (accessed 31 May 2013). The document also details the various NDP 2030 decisions taken at Mangaung.
- ⁸ *Ibid.*
- ⁹ Meeting of the COSATU central executive committee, Political Commission, 7 June 2013, www.cosatu.org.za/show.php?ID=7422 (accessed 7 June 2013). Also see Ranjeni Munsamy, The NDP debate: Numsa draws its line in the sand, *The Daily Maverick*, 20 March 2013, <http://www.dailymaverick.co.za/article/2013-03-20-the-ndp-debate-numsa-draws-its-line-in-the-sand/#.UUkgxmGHOE> (accessed 19 March 2013); and Natasha Marrian, Cosatu says NDP threatens SA's 'progressive advances', *Business Day Live*, 7 June 2013, www.bdlive.co.za/national/2013/06/07/cosatu-says-ndp-threatens-sas-progressive-advances (accessed 7 June 2013).
- ¹⁰ NDP 2030, Executive Summary, 14.
- ¹¹ South Africa: NDP key to SA's long-term growth, 15 March 2013, <http://allafrica.com/stories/201303150289.html?viewall=1> (accessed 18 March 2013).
- ¹² State of the Nation Address by His Excellency Jacob G Zuma, President of the Republic of South Africa, on the occasion of the Joint Sitting of Parliament, Cape Town, 14 February 2013, <http://www.thepresidency.gov.za/pebble.asp?relid=14960> (accessed 11 April 2013).
- ¹³ Government Communications and Information Systems, Cape Town: 2013 Budget Speech by the Minister Of Finance, Pravin Gordhan, 27 February 2013, <http://allafrica.com/stories/201302271175.html?viewall=1> (accessed 15 April 2013).
- ¹⁴ *Ibid.*, 115.
- ¹⁵ World Bank, South African overview, updated April 2013, <http://www.worldbank.org/en/country/southafrica/overview> (accessed 27 May 2013).
- ¹⁶ SACP, 'Let's not monumentalise the National Development Plan', 14 May 2013.
- ¹⁷ This analysis is taken from André Roux, Stuck in the middle of an income trap (I), Institute for Futures Research (IFR), Strategy Insights (Economic) 20(10) (December 2012) 1, who uses the analysis of J Felipe, Tracking the middle-income trap: what is it, who is in it and why? ADB Economics Working Paper Series No. 306, March 2012.
- ¹⁸ NDP 2030, 115.
- ¹⁹ *Ibid.*, 25.
- ²⁰ *Ibid.*, 94, 109.
- ²¹ The forecasts for this paper and associated forecasts utilised IFs version 6.69 throughout. The full system can be downloaded from www.ifs.du.edu.
- ²² FuturesCape is a project to design a 2040 vision for the Western Cape Province.
- ²³ NDP 2030, 64.
- ²⁴ <http://www.statssa.gov.za/keyindicators/keyindicators.asp> (accessed 8 July 2013).
- ²⁵ Stef Terblanche, Ominous developments on labour and employment fronts: employment data statistics in South Africa, *Leadership*, 14 May 2013, <http://www.leadershiponline.co.za/articles/ominous-developments-on-labour-and-employment-fronts> (accessed 11 April 2013).
- ²⁶ See, for example, <http://www.worldbank.org/en/country/southafrica/overview> (accessed 24 March 2013).
- ²⁷ NDP 2030, 110.
- ²⁸ See, for example, SACP, 'Let's not monumentalise the National Development Plan', 14 May 2013.
- ²⁹ South African GDP growth rate, <http://www.tradingeconomics.com/southafrica/gdp-growth> (accessed 18 March 2013).
- ³⁰ Government Communications and Information Systems, Cape Town: 2013 Budget Speech by the Minister of Finance, Pravin Gordhan, 27 February 2013, <http://allafrica.com/stories/201302271175.html?viewall=1> (accessed 12 June 2013).
- ³¹ IFR, *Business Futures 2012*, Stellenbosch, University of Stellenbosch, 6–24.
- ³² These rates are all calculated for the period 2014 to 2030. The current economic development path of South Africa is therefore somewhat better than the worst case indicative scenario 1 set out in the NDP 2030 (mediocre minerals), but below even the mid-range forecast (scenario 2, solid minerals) and substantially poorer than scenario 3, which represents a diversified economy. NDP 2030, 122.
- ³³ UNECA, *Making the most of Africa's commodities: industrialising for growth, jobs and economic transformation*, Economic Report for Africa 2013, Addis Ababa, 2013, 30.
- ³⁴ For every economy, IFs computes the country's level of productivity in each of these systems relative to the 'expected' level of countries at a similar development stage. For each indicator included in the components, a global cross-sectional relationship is set up with another variable, usually GDP per capita, in order to create an 'expected' level for each indicator. For example, a country's social productivity would be measured by its actual performance in governance effectiveness, corruption perception, inclusion of citizenry in governance, etc. vs. its expected performance. MFP in IFs is more fully explained in 'Forecasting global economic growth with endogenous multifactor productivity: the International Futures (IFs) approach', <http://www.ifs.du.edu/assets/documents/MFPEconomicForecasting18.pdf> (accessed 14 June 2013).
- ³⁵ Within IFs social capital elements are computed from economic freedom, governance effectiveness, corruption, freedom/democracy, governance and security.
- ³⁶ NDP 2030, 122.
- ³⁷ *Ibid.*
- ³⁸ SACP, 'Let's not monumentalise the National Development Plan', 14 May 2013.
- ³⁹ NDP 2030, 112.
- ⁴⁰ *Ibid.*, 115.
- ⁴¹ *Ibid.*
- ⁴² In most instances, the intervention was introduced in 2014, after which it was maintained through to 2030. The exceptions are education spending, which was changed in 2012 and 2013 to reflect recent budget data, and the contraception component of the AIDS intervention, which was increased steadily starting in 2010. An examination of education and health spending per capita compared to countries with a similar GDP at purchasing power parity indicates that South Africa is spending at levels roughly comparable to Brazil, but below countries such as Turkey and Mexico. Education and health spending combined as a percent of GDP is, however, slightly higher than that of Turkey.
- ⁴³ The Base Case forecast already assumes that the current downward trend in FDI will reverse by 2015/2016 and that South Africa will thereafter benefit from substantive FDI. The scenario further increases FDI flows on top of this positive trend.
- ⁴⁴ An alternative approach is to increase MFP, which would increase productivity as a result of improvements in R&D and knowledge diffusion, and investments in human and social capital, but this would overlap with increases in education and R&D spending. The impact of changes in MFP is powerful. For example, doubling the contribution of MFP by 2030 produces a forecasted growth rate of 6,8 per cent by that year, and an economy that is 18 per cent larger than the Base Case forecast.
- ⁴⁵ World Bank drops SA economic growth bombshell, *Business Day Live*, 29 May 2013, <http://www.bdlive.co.za/economy/2013/05/29/world-bank-drops-sa-economic-growth-bombshell> (accessed 30 May 2013).
- ⁴⁶ International Monetary Fund, *World Economic Outlook Update*, July 9, 2013, <http://www.imf.org/external/pubs/ft/weo/2013/update/02/pdf/0713.pdf> (accessed 11 July 2013).
- ⁴⁷ EIU, *Country Report, South Africa*, January 2013, London, 6.

⁴⁸ Ernst & Young's Africa Attractiveness Survey 2013, Getting down to business, 3, [http://www.ey.com/Publication/vwLUAssets/The_Africa_Attractiveness_Survey_2013/\\$FILE/Africa_Attractiveness_Survey_2013_AU1582.pdf](http://www.ey.com/Publication/vwLUAssets/The_Africa_Attractiveness_Survey_2013/$FILE/Africa_Attractiveness_Survey_2013_AU1582.pdf). This is an average figure over the period 2013–2017.

⁴⁹ Both the IIASA and the OECD forecasts are captured in IFs. The IIASA forecast is for Shared Socioeconomic Pathways no 2, the equivalent to their base case forecast.

⁵⁰ Cited from International Monetary Fund Article IV Report available at <http://www.treasury.gov.za/publications/other/imf/2012/cr12247.pdf> (accessed 13 May 2013). Also see IMF urges SA to fix structural problems, 'do more on its own', Business Day Live, 8 May 2013, <http://www.bdlive.co.za/economy/2013/05/08/imf-urges-sa-to-fix-structural-problems-do-more-on-its-own> (accessed 9 May 2013).

⁵¹ In 1960 South Korea had a GDP per capita of \$79, lower than that of many African countries. In 2012 its GDP per capita was \$20 000 after the country had propelled itself to the 12th largest economy in the world, a 'most industrialised' member of the OECD and a high-income developed country. While the GDP of many African countries stagnated, Korea prospered. It did so without the benefit of large natural resources or commodities, but by investing in its people and in infrastructure, as well as through social mobilisation.

⁵² See <http://www.info.gov.za/speech/DynamicAction?pageid=461&sid=34312&tid=98923> (accessed 3 June 2013).

⁵³ NDP 2030, Executive Summary, 14.

⁵⁴ The UNDP estimates that South Africa's number of expected years of schooling for a child entering elementary school is 13.1, suggesting that the target may already be achieved. However, this number is based on cross-country regression rather than gathered data and is not necessarily reliable.

⁵⁵ See <http://www.southafrica.info/about/education/budget13e.htm#.UZFjULXql8E> (accessed 13 June 2013).

⁵⁶ Though educational quality is obviously an important component of assessing a country's education level, such measures are difficult to arrive at. IFs does not include quality-related variables.

⁵⁷ NDP 2030, 194.

⁵⁸ *Ibid.*, 194.

⁵⁹ Muddle through will no longer do, *The Economist*, 1 June 2013, <http://www.economist.com/news/middle-east-and-africa/21578692-slow-growth-and-sliding-currency-are-alarming-symptoms-deeper?zid=304&ah=e5690753dc78ce91909083042ad1e30> (accessed 3 June 2013).

⁶⁰ Implementation of the National Development Plan, media briefing by Ministers Trevor Manuel and Collins Chabane, 19 February 2013, <http://www.info.gov.za/speech/DynamicAction?pageid=461&sid=34312&tid=98923> (accessed 28 February 2013).

⁶¹ Ben Cousins and Ruth Hall, Farming problems are clear but the solutions are not, *Mail & Guardian*, 14 to 20 June 2013.

⁶² NDP 2030, 219.

⁶³ The informal economy: the South African LED network, <http://led.co.za/topic/informal-economy> (accessed 17 June 2013).

⁶⁴ NDP 2030, Executive Summary, 24, 36.

⁶⁵ IFR, *Business Futures* 2012, 6–27.

⁶⁶ NDP 2030, 172.

⁶⁷ Household debt-to-disposable income ratio stands at 76 per cent, according to a statement by John Loos of First National Bank (FNB) on 17 January 2013. Household debt will likely be a major theme in 2013, *Moneyweb*, 17 January 2013, <http://www.moneyweb.co.za/moneyweb-property/household-debt-will-likely-be-a-major-theme-in-2013> (accessed 26 May 2013). The savings shortfall is being financed by portfolio foreign financial inflows while foreign direct investment has been ad hoc and is concentrated in the financial services sector. The reference to an 'incapable' civil service is from the NDP 2030, Executive Summary, 44.

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