

Investec GIBS
SAVINGS INDEX



Investec GIBS Savings Index

THE REAL FACTS ABOUT SAVING

Out of the Ordinary®

**Gordon Institute
of Business Science**
University of Pretoria

 **Investec**
Specialist Bank



G I B S

Foreword

The capacity of a nation to save – through its citizens, companies and the public sector – is strongly related to its ability to achieve elevated, sustained and inclusive economic growth and social development. South Africa's poor track record when it comes to recent years is of growing concern, and remedies to address our lacklustre performance need to be at the fore of our collective agendas.

Significantly improving responsible performance on the part of both individuals and organisations is core to our GIBS mission. Without the production of applied scholarship dedicated to investigating the levers of performance that will drive South Africa forward and enable its people and country to reach their inherent potential, selecting appropriate paths of action is difficult. The generation of thought leadership is integral to any business school. At GIBS we seek to focus on applied research that not only contributes to scholarship, but is relevant to practitioners alike.

The Investec GIBS Savings Index, prepared by Associate Professor Adrian Saville, provides a much needed tool to deconstruct, critically evaluate, and track the key drivers of South Africa's performance when it comes to saving. The resulting study goes beyond providing a comprehensive analysis that shows South Africa's poor performance when it comes to saving behaviour. It highlights the importance of moving from growth that relies on consumer consumption and government spending to growth that stems from increased levels of investments and exports. It shows that current trends in investment are way below what is required to fuel sustained and inclusive economic growth. Saville provides compelling evidence to show why the decline in gross domestic savings as a % of GDP must be reversed.

Our role at GIBS is to elevate management performance through high quality education. We thank Investec, one of our corporate partners who play a critical role in funding scholarly research. This report provides compelling evidence to show what's needed. Our collective challenge is to convert knowledge into action if we are to progress.

Professor Nicola Kleyn
Dean of GIBS



I N V E S T E C

Foreword

South Africa's (SA) poor savings rate over the last two decades has been no secret, however, the importance of savings to fuel investment for sustained economic growth is less understood.

At Investec, one of our core philosophies is to make a contribution to society, macro-economic stability and the environment. Our approach includes a strong focus on education and entrepreneurship. As such, we believe it is important that we not only raise awareness of the poor savings rate but also drive a discussion from a corporate, economic, academic and social perspective on how we can challenge the convention and approach this task.

We have therefore partnered with the Gordon Institute of Business Science (GIBS) to provide the research to form the foundation for further debate and through the Investec GIBS Savings Index we hope to increase awareness in all sectors of the importance of taking action to improve South Africa's savings.

The index aims to provide the following:

- (1) **Research** the real facts behind the structural decline of SA's national savings rate
- (2) **Create** an aspirational national savings benchmark to support SA's economic growth objectives
- (3) **Measure** the performance of the SA economy in terms of its critical savings components
- (4) **Call to action** for all sectors of SA's society to make a positive contribution to SA's savings culture

On a personal note, I have been involved in the savings and investment industry for close to a decade and have seen numerous initiatives from industry to improve the awareness of the importance of savings at an individual level. However, in my view, we have not focused enough on the environmental factors or savings influences that impact the general population's ability to save. My hope is that the Investec GIBS Savings Index and the research behind it will assist in a call to action to all stakeholders in addressing the savings trap that we are caught in as a nation.

René Grobler
Head of Investec Cash Investments



“An investment in
knowledge pays the
best interest.”

Benjamin Franklin




Authors: Prof. Adrian Saville, Kelly
Firth and Thulani Madinginye



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“Annual income twenty pounds,
annual expenditure nineteen six,
result happiness.

Annual income twenty pounds,
annual expenditure twenty
pound ought and six,
result misery.”

Charles Dickens, 1812-1870
David Copperfield (1850)



O N E

Introduction

“Opportunity is missed by most people because it is dressed in overalls and looks like work.”

Thomas A Edison,
1847-1931

The South African economy has undergone important structural changes since the democratic transition that was ushered in just over 20 years ago in 1994. Among other things, the economic growth rate of the past two decades is double the rate of the last two decades of the Apartheid regime. Moreover, South Africa’s economic growth has gone from “boom-bust” to “co-ordinated” with the performance of the world economy. In turn, this has helped *per capita* incomes reach the highest level on record in recent years matched by corresponding increases in other socio-economic indicators, such as human development indices. However, while this transformation has been impressive, it has been insufficient to solve South Africa’s deep-rooted deep structural problems of entrenched unemployment, grossly skewed income distributions and socially exclusive economic growth.

Although there has been no shortage of ambition in macroeconomic policy to redress and reverse these developmental weaknesses and failings, many of the outcomes envisaged by policy makers have not materialised. Various explanations have been offered for this gap between policy proposals and realised outcomes, ranging from a weak education system and skills shortages to insufficient physical infrastructure. Yet the experiences of countries that have achieved elevated, sustained and inclusive economic growth and social development take us out of the business of guesswork and speculation by showing that, for policy ambitions to succeed, it is necessary that a country has in place a set of ingredients that are common across every one of these success stories. These ingredients include a high rate of investment, outward economic orientation, macroeconomic stability, a system that favours market allocation of resources and competent government. Of these five attributes, however, the greatest explanatory power resides with high investment rates and consequent capital accumulation which, in turn,

are funded by high savings rates. Even more specific is the evidence that it is high levels of domestic savings, especially among households but also companies and the public sector, which underpins the successful conversion of savings into functional investment spending, that is the lifeblood of economic growth and development.

Given this backdrop, and the arguments and evidence led below, this paper is dedicated to the construction of an index that measures the performance of the South African economy in terms of this critical savings component. The Investec GIBS Savings Index that is the result of this work is built on three pillars which assess the country’s capacity to fund the investment rate required. These pillars include measurement of:

- (i) the propensity of the South African environment to encourage and promote savings;**
- (ii) the consequent flow of savings that fund required investment; and**
- (iii) the accumulated stock of savings that is the result of historical flows.**

The results of the *Investec GIBS Savings Index* point to the South African economy being caught in a low savings trap which chokes the prospects for economic growth and development.

This result of the *Investec GIBS Savings Index* makes it clear that if the South African economy is to achieve elevated and sustained growth that translates into social inclusion and development, it is a necessary condition that the country closes the savings gap that is identified by the index. Drawing on experiences of other countries, the last part of this paper looks at some examples of successful mobilisation of savings in savings-poor countries as a way to point to a path forward in helping South Africa escape its savings trap.



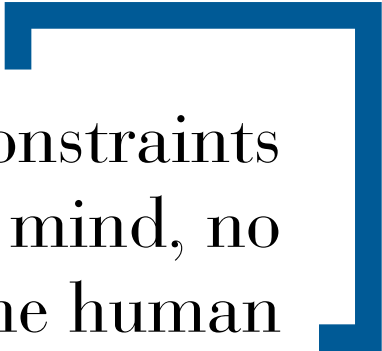
T W O

South Africa's economic transition:

From “boom bust” to “in from the cold”

The South African economy has gone from “boom bust” in nature to become synchronised with world economic growth.





“There are no constraints
on the human mind, no
walls around the human
spirit, no barriers to our
progress except those we
ourselves erect.”

Ronald Reagan,
1911-2004

Between November 1975, when the Afrikaans writer Breyten Breytenbach was sentenced to nine years' imprisonment under the Terrorism Act, to April 1994, when 22 million South Africans cast ballots in the country's first multiracial parliamentary elections, South Africa's gross domestic product (GDP) grew by just 1.8% a year. This figure was well below the average global economic growth rate of 3.0% a year over the same period, meaning South Africa was falling behind the world. In addition, the growth rate of 1.8% a year was well below South Africa's population growth rate of 2.3% a year over that period. This meant that not only were South African *per capita* incomes falling behind others in relative terms, but incomes were also steadily falling in absolute terms behind their peak income levels. To make matters worse, South Africa's mediocre economic performance over the last 20 years of the Apartheid state was the result of so-called "boom-bust" growth, with annual economic growth ranging from 6.6% (1980) to -2.1% (1992). This meant that not only was the country's growth rate low relative to world growth; it was also twice as volatile as the world average over the two decades. These challenging features of the landscape reflected a country that, at the end of the 1980s, was stuck politically, economically and socially.



The South African economy could be described as having “come in from the cold”, since 1994 with the faster economic growth and improved structural behaviour.

By contrast, in the 21 years since the political miracle of 1994, the South African economy has achieved an average growth rate of 3.0% a year (**Figure 1**). There are at least three notable features of this improvement in the country's growth record. First, South Africa's average growth rate over this period is ahead of the world economy's average growth rate of 2.8% a year. Second, the economy has grown steadily ahead of population growth of 1.7% a year. Third, economic growth has gone from being “boom-bust” in nature to become synchronised with world economic growth. The correlation between growth in the world economy and growth in the South African economy is 0.86 from 1994-2014, versus 0.31 from 1974-1993. As a result, volatility in South Africa's economic growth has fallen to resemble global conditions, while *per capita* incomes have risen steadily over the past 20 years.

Given these improvements, the South African economy could be described as having “come in from the cold” with the faster economic growth and improved

structural behaviour translating into incomes, adjusted for purchasing power parity (PPP), rising from \$9,600 *per capita* in 1994 to \$12,446 *per capita* in 2014, with the latter figure only marginally lower than the high watermark of \$12,454 that was established in 2013 (**Figure 2**).

This improved economic setting, coupled with the country's political transformation, has translated into improvements beyond just *per capita* incomes. For instance, the most recent *Human Development Report* (UNDP, 2014) shows South Africa's Human Development Index (HDI) has risen from 0.619 in 1990 to an all-time high of 0.658 in 2013. It is also worth noting that the rate of improvement in South Africa's HDI from 2000 to 2013 is three times greater than the gains recorded between 1990 and 2000. In turn, this improvement has been underpinned by a range of socio-economic improvements, including life expectancy at birth increasing from 52 years in 2004 to 57 years in 2013, and mean years of schooling rising from 6.5 years in 1990 to 9.9 years in 2013 (UNDP, 2014).



Figure 1

Source: Adrian Saville, Citadel and GIBS (2015); International Monetary Fund data (1980-2014)

Real GDP Growth (%) 1980 – 2014

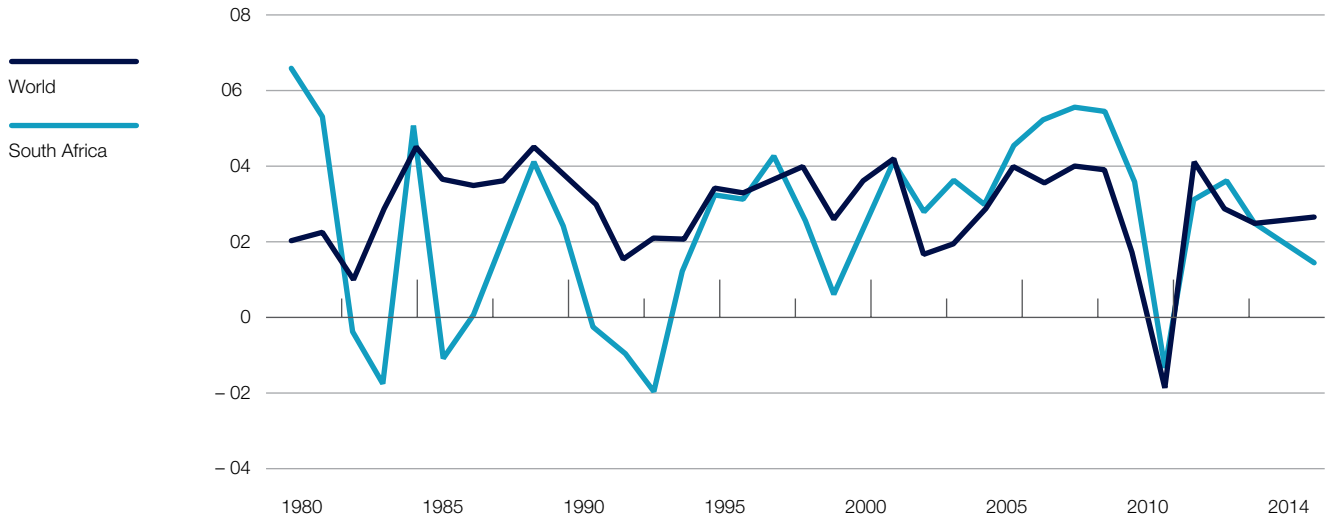
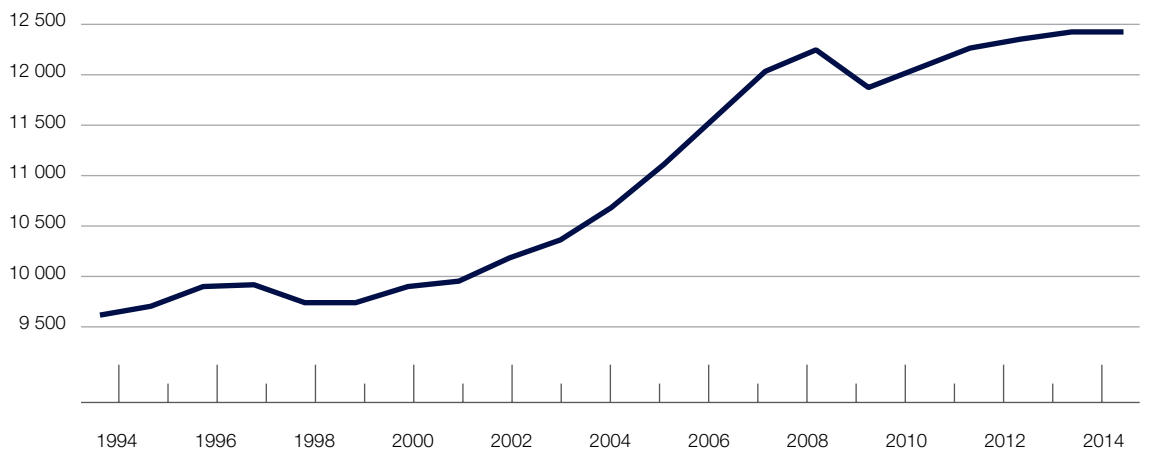


Figure 2

Source: Adrian Saville, Citadel and GIBS (2015); World Bank data (1994-2014)

South Africa per capita GDP 1994 – 2014 (2011 \$, PPP)





T H R E E

Policy goals and socio-economic gaps:

1994 – 2014

“Never give an order that
can’t be obeyed.”

General Douglas MacArthur,
1880-1964

While the socio-economic gains described above are encouraging and are to be welcomed, it remains the case that South Africa still has much to do if the country is to match its political miracle with an economic miracle. To this end, Faulkner, Loewald and Makrelov (2013, 2), for example, note that “unemployment, poverty and inequality remain the fundamental socio-economic challenges facing South Africa”. In the first half of 2015, South Africa’s unemployment rate was reported to be 25.0% (Statistics South Africa, 2015). Moreover, unemployment in South Africa exhibits certain demographic characteristics; in particular, it is concentrated among black Africans, the less educated, the youth, women and those without prior work experience (Statistics South Africa, 2015). In turn, this keeps a lid on economic mobility. Further, income inequality, as measured by the Gini co-efficient, remains extremely high. South Africa’s Gini co-efficient was 0.63 in 2011, which represents the greatest income inequality of the 120 countries for which revised Gini co-efficients were reported over the five years from 2009 to 2013 (**Figure 3**). In addition, Faulkner *et al* (2013, 2) report that in 2012, about half the population, or 25 million people, were living on less than R524 a month (or about US\$2 a day).



01

unemployment,

02

poverty

03

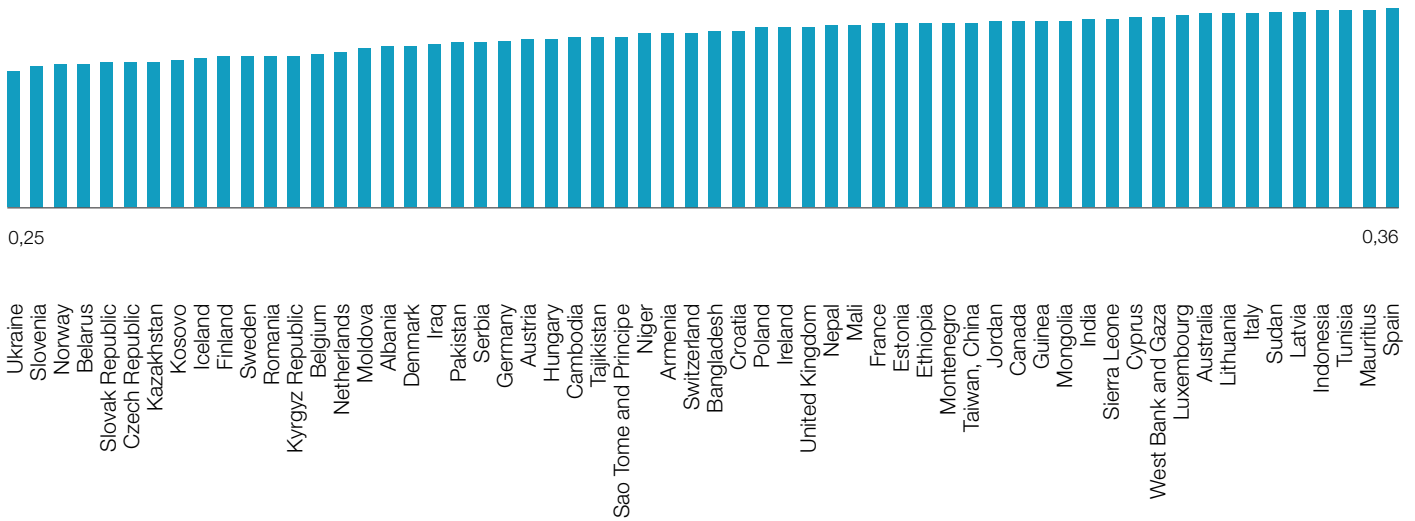
and inequality remain the
fundamental socio-economic
challenges facing South Africa



Figure 3.

Source: Seleho Tsatsi (2015); World Bank data (2015)

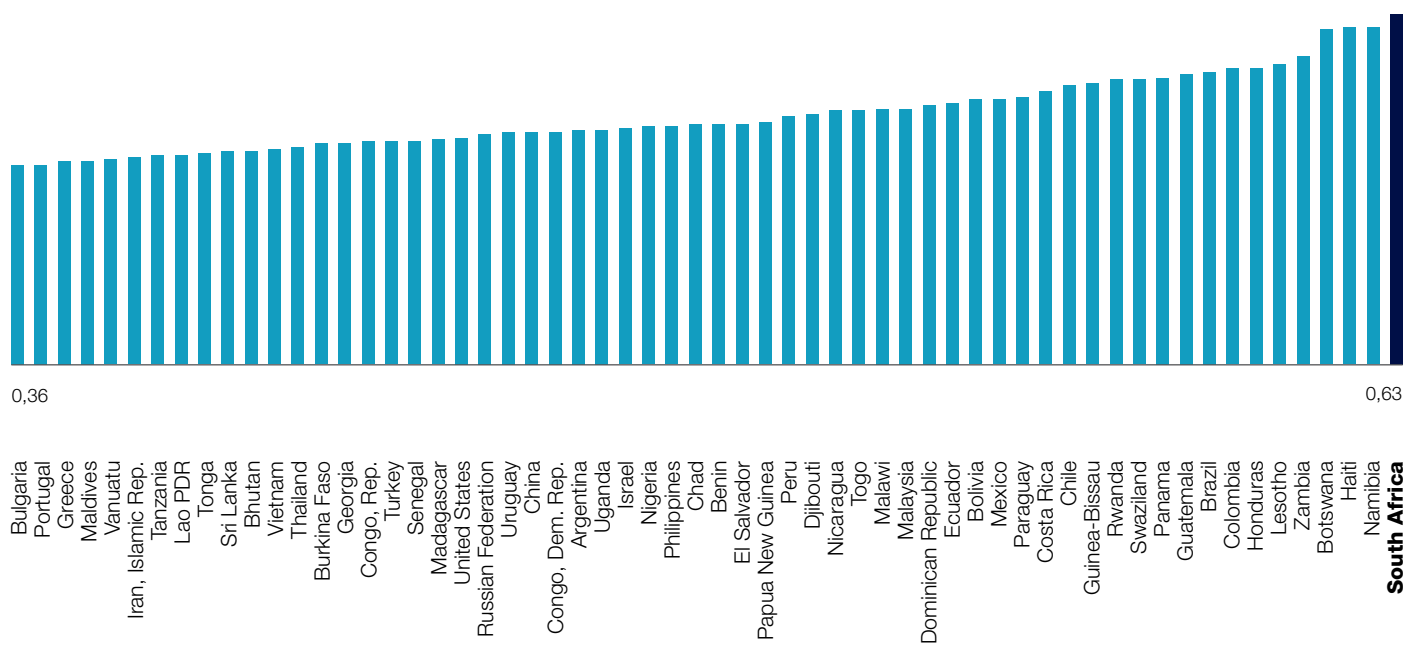
Reported Gini co-efficients (2009 - 2013)



Income inequality as measured by the Gini co-efficient remains extremely high for SA.



SA scores last out of 120 countries, as the country with the greatest income inequality.





SA's economic growth needs to not only be quicker than the average but also socially inclusive.

To confront the challenge of achieving socio-economic transformation, it is widely accepted that South Africa needs to achieve and sustain meaningfully higher rates of economic growth than were achieved between 1994 and 2014, with this growth translating into employment creation, the alleviation of poverty and serving to ameliorate income inequality. In other words, economic growth needs to be not only quicker than average, but also socially inclusive.

There is nothing new in this argument. Elevated economic growth has stood as the centrepiece of each of South Africa's national policy proposals in the last 20 years, including the Growth, Employment and Redistribution (GEAR) strategy introduced in 1996 by the then Minister of Finance, Trevor Manuel; the Accelerated and Shared Growth Initiative for South Africa (ASGISA) adopted in 2005 under Thabo Mbeki's administration; the New Growth Path (NGP) announced by Jacob Zuma in 2010; and the National Development Plan (NDP) presented in 2013 as South Africa's long-term socio-economic development roadmap to 2030.

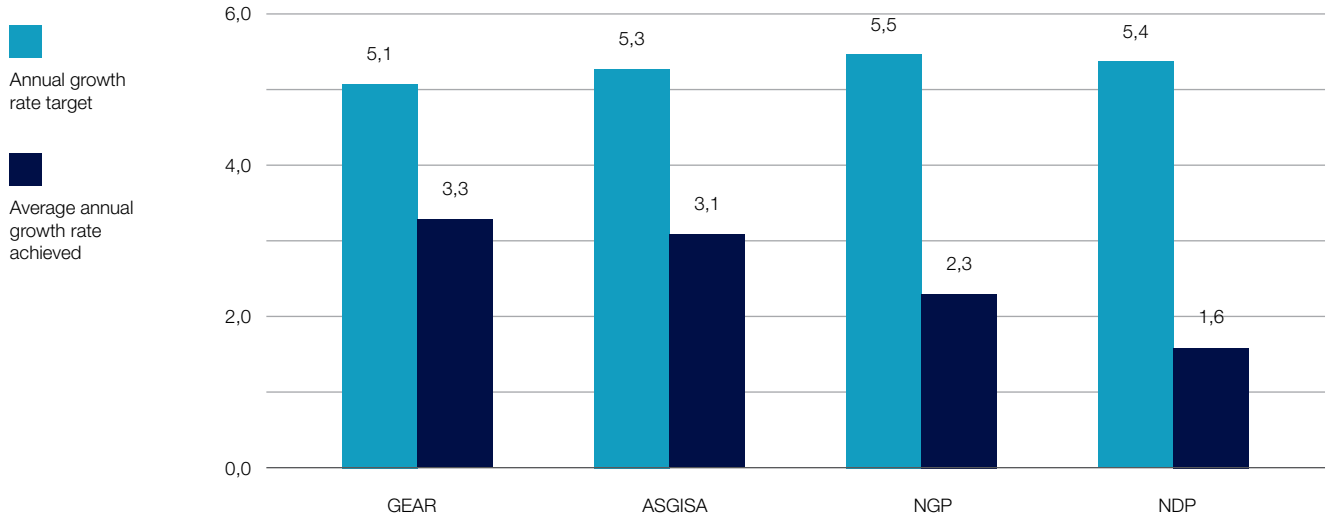
Although each of the national policy revisions since 1994 has targeted elevated economic growth as the foundation of socio-economic transformation, it is notable that, without exception, these growth targets have been missed (**Figure 4**). The ambition of GEAR was to achieve growth of 4.2% a year during 1996-2000 and then sustain a growth rate of 6.0% a year during 2001-2005 (Weeks, 1999, 795-797). This implies an average growth rate of 5.1% for the ten years. By contrast, growth of 3.3% a year was recorded for that decade. Under ASGISA, in the first phase, between 2005 and 2009 growth was expected to average 4.5% or higher. In the second phase, between 2010 and 2014, the policy sought an average growth rate of at least 6.0% (Jafta and Boshoff, 2008). This implied an average growth rate of 5.3%, versus the 3.1% that was achieved. The NGP, put in place in 2010, envisaged economic growth of between 4.0% and 7.0% a year, or an annual average of 5.5% (Zarenda, 2013), a long way above the average of 2.3% recorded since 2010. In a similar vein, the NDP, adopted in 2013, targeted an average economic growth rate of 5.4% a year, while the economy has delivered just 1.6% a year since 2013 (Van Nieuwerk, 2014).



Figure 4

Source: Adrian Saville, Citadel and GIBS (2015)

Targeted economic growth versus policy results (% a year)



South Africa has fallen consistently short of elevated growth targets in national proposals since 1994.





The competitiveness of South Africa's economy has been in structural decline for over 40 years.

This large and growing gap between South Africa's policy targets and the rate of economic growth experienced is a manifestation of sagging economic competitiveness. This decline in competitiveness has been well documented by, among others, Schwab and Sala-i-Martin (2014). However, changes in competitiveness perhaps can be captured most easily by two metrics. The first of these is *per capita* income growth adjusted for purchasing power, with the argument being that rising incomes correspond with rising standards of living which can only be sustained if underpinned by gains in productivity (Porter, 2008). On this score, **Figure 5** shows that although South African incomes have grown over the past two decades, the rate of growth lags comparable emerging nations, such as the BRICs and MINTs.¹

A second metric that is particularly effective in capturing a country's competitive performance is a country's share of world export markets. On this score, the arguments and evidence suggest that rising economic competitiveness is shown by growth in a country's share of world export

markets; the opposite holds in the case of falling export market share (Porter, 2008). **Figure 6** shows the result for the South African economy from 1970 to 2014. From this, it is evident that the competitiveness of the South African economy has been trapped in structural decline for more than 40 years.

In drawing together the above arguments, it is evident that although the rate and nature of South Africa's economic growth and *per capita* incomes have improved notably in the last 20 years, this is not explained by gains in economic competitiveness. Moreover, stubbornly high income inequality, structurally elevated unemployment and high levels of entrenched absolute poverty make it clear that, notwithstanding deliberate and extensive efforts to achieve economic empowerment alongside political enfranchisement, South Africa's economic transformation since 1994 has not been inclusive. Instead, economic growth has been "jobless" and socio-economically exclusive.

¹ The term "BRIC" was coined by economist Jim O'Neill in 2001, and referred to four rapidly developing countries at that time, namely, Brazil, Russia, India and China, that came to symbolise a shift in global economic power away from the so-called developed G7 economies of Canada, France, Germany, Italy, Japan, the United Kingdom and the United States. "MINT" is an acronym referring to the economies of Mexico, Indonesia, Nigeria and Turkey. The term was originally coined by Boston-based Fidelity Investments and later popularised by Jim O'Neill in 2013, with the collective recognition that these four economies deserved no less attention than the BRIC countries.



Figure 5

Source: Adrian Saville, Citadel and GIBS (2015); World Bank data (1994-2014)

Average annual growth (%) in income per capita 1994 – 2014 (2011 \$, PPP)

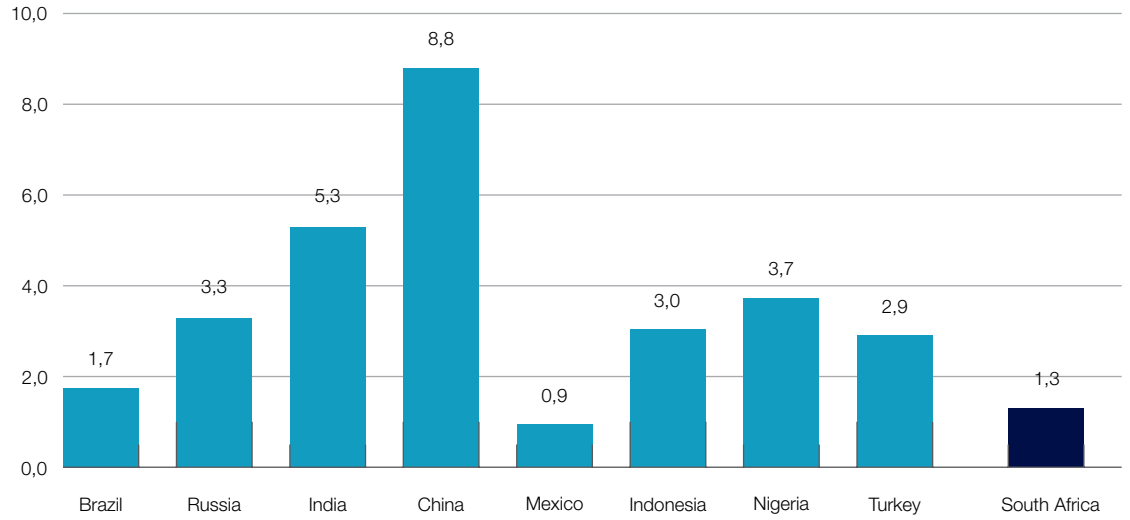
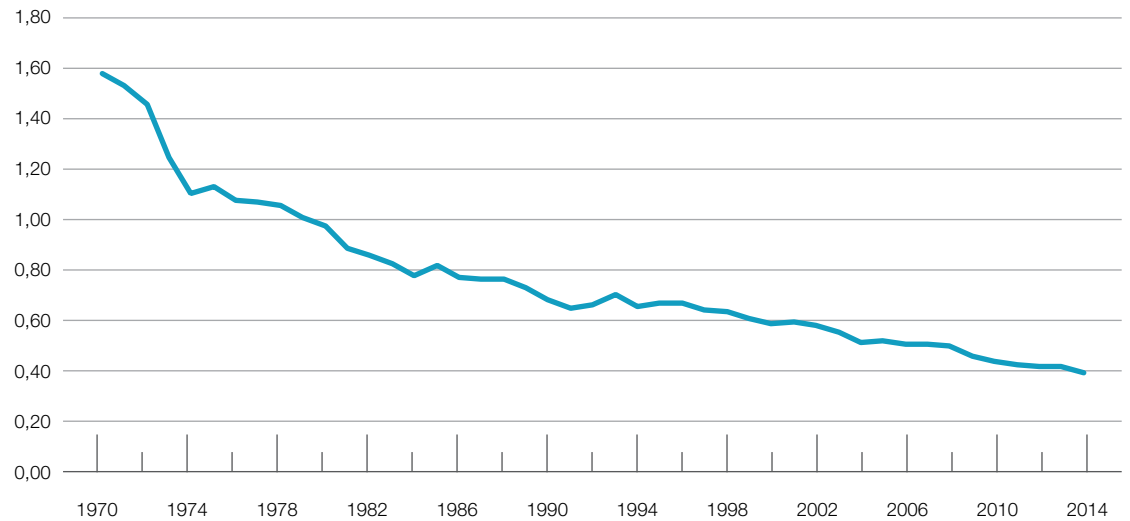


Figure 6

Source: Adrian Saville, Citadel and GIBS (2015); World Bank data (1970-2014)

South Africa's share (%) of world export markets 1970 – 2014





F O U R

Missing in action:

consumption-led and government-fed growth
versus investment-fed and export-led growth

“Spending is not caring. Spending is what politicians do instead of caring. Spending more does not guarantee success. Politicians like to measure spending because it is easier than measuring actual metrics of accomplishment.”

Grover Norquist, 1956-

“If you live for having it all, what you have is never enough.”

Vicki Robin,
1945-

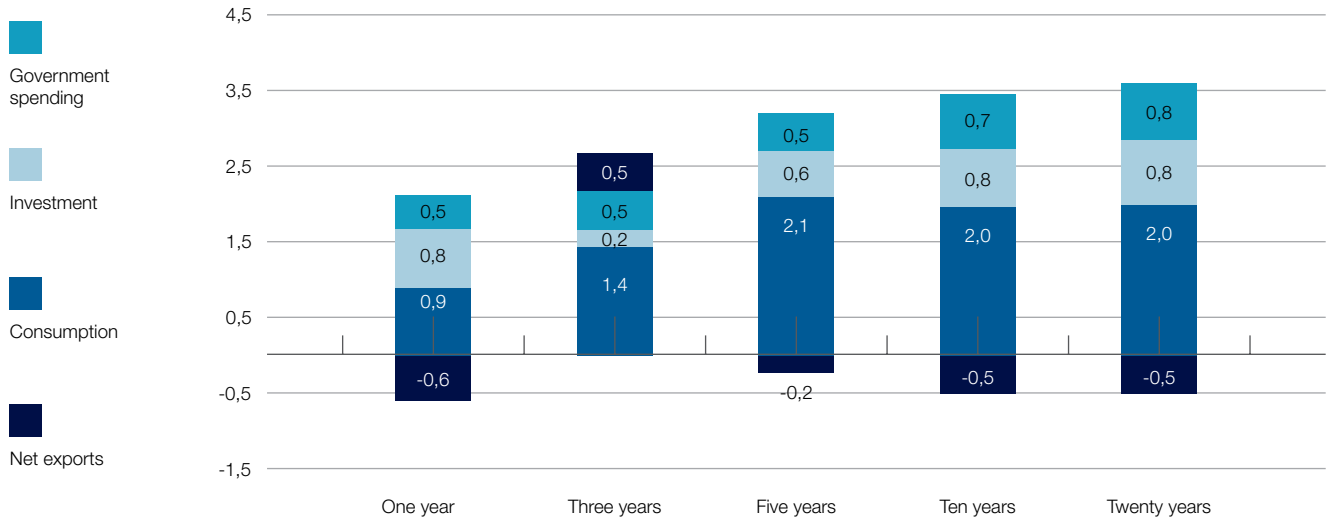
On closer inspection, this disconnect between economic growth and socio-economic transformation is readily explained by disaggregating South Africa’s economic growth into its principal components. To this end, **Figure 7** shows that although the last 20 years has seen the South African economy achieve fairly robust economic growth, almost all of this growth is explained by growth in consumption spending and growth in government spending. Moreover, that the last decade, in particular, has seen current government expenditure steadily crowd out non-current (or investment) spending in the public sector, it follows that South Africa’s economic performance of the last two decades can be described as consumption led and government fed. As shown in **Figure 7**, 2.8% – or nine tenths – of the 3.1% yearly growth recorded over the last 20 years has been funded by growth in government spending and consumer spending. With economic history as a guide, not only is this form of growth generally socio-economically exclusive, it is also unsustainable (Commission on Growth and Development, 2008; Sueyoshi, 2010; Studwell, 2013).



Figure 7

Source: Seleho Tsatsi (2015); South African Reserve Bank data (1995-2014)

Contribution to economic growth by spending component 1995 – 2014 (%)



of the yearly growth recorded over the last 20 years has been funded by government spending and consumer spending



Elevated, inclusive and sustained economic growth hinges on investment-fed and export-led growth.

By the same convention, the data in **Figure 7** also translate into investment spending and export demand explaining a paltry 0.3 percentage points of the 3.0% and 3.1% economic growth recorded over the last ten and 20 years, respectively. Again, drawing on economic history as a guide, in country after country, elevated, inclusive and sustained economic growth hinges on investment-fed and export-led growth (Commission on Growth and Development, 2008; Sueyoshi, 2010; Studwell, 2013), with investment spending being a necessary condition for export-led growth.

The pivotal role that investment spending plays in funding elevated and sustained economic growth dates back in the theoretical literature to the work of Roy Harrod (1939) and Evsey Domar (1946), which later received strong endorsement from the empirical work of Nobel laureate, Robert Solow (1956) and TW Swan (1956), among others. From the time these foundations to growth theory were set, more than 50 years ago, there has been growing recognition among academics, policy makers and practitioners that the principal component explaining high and sustained economic growth is investment

spending (Sueyoshi, 2010). Arguably, empirical work and evidence in this arena came to a head with the Commission on Growth and Development (2008), which brought together experienced leaders from government, business and academia across the developing and industrialised worlds over four years starting in 2006, to deepen the understanding of sustained, shared economic growth and development.

In support of the above claim, a key finding of the Commission on Growth and Development (2008) is that economies that achieve sustained, inclusive growth and economic development share five common attributes, namely, a high rate of investment, outward economic orientation, macroeconomic stability, market allocated resources and competent governments. Of these factors, however, the greatest explanatory power resides with the investment rate and consequent capital accumulation. As Miles, Scott and Breedon (2012, 84) note: "... increases in capital stock are a major factor in explaining growth in industrialised countries over the last 100 years and in accounting for differences in the standard of living among countries".



Support for this argument is provided by **Figure 8**, which shows the relationship between investment spending and real economic growth over the period 2001-2010 among the 34 countries that make up the Organisation for Economic Co-Operation and Development (OECD), the four large BRIC economies and South Africa. Eyeballing the data, the United States' low investment rate and low economic growth rate stand in sharp contrast to the high investment rates and correspondingly high rates of economic growth of China and India. In the same vein, relatively high rates of investment in countries like South Korea, Slovakia and Estonia have translated into elevated economic growth. Among these 39 countries, whose economic activity accounts for more than 95% of world output over this time period, the average investment rate

has a 73% correlation with the average real economic growth rate (McBride, 2013). The data for the 39-country sample also show that every 1 percentage point gain in investment spending translates into a gain in economic growth of 0.3 percentage points. Notably, the evidence suggests that South Africa's comparatively modest economic growth rate of 2.2% a year over the period 2001-2010 is explained by the country's relatively low average investment rate of 18.7% of GDP. In short, the available evidence identifies a strong, positive relationship between investment spending and economic growth, which shows that the long-run economic growth rates of advanced and emerging economies are largely determined by investment spending.

Figure 8

Source: World Bank data (2001-2010); based on McBride (2013)

Investment share of GDP and real GDP growth (2001 – 2010)

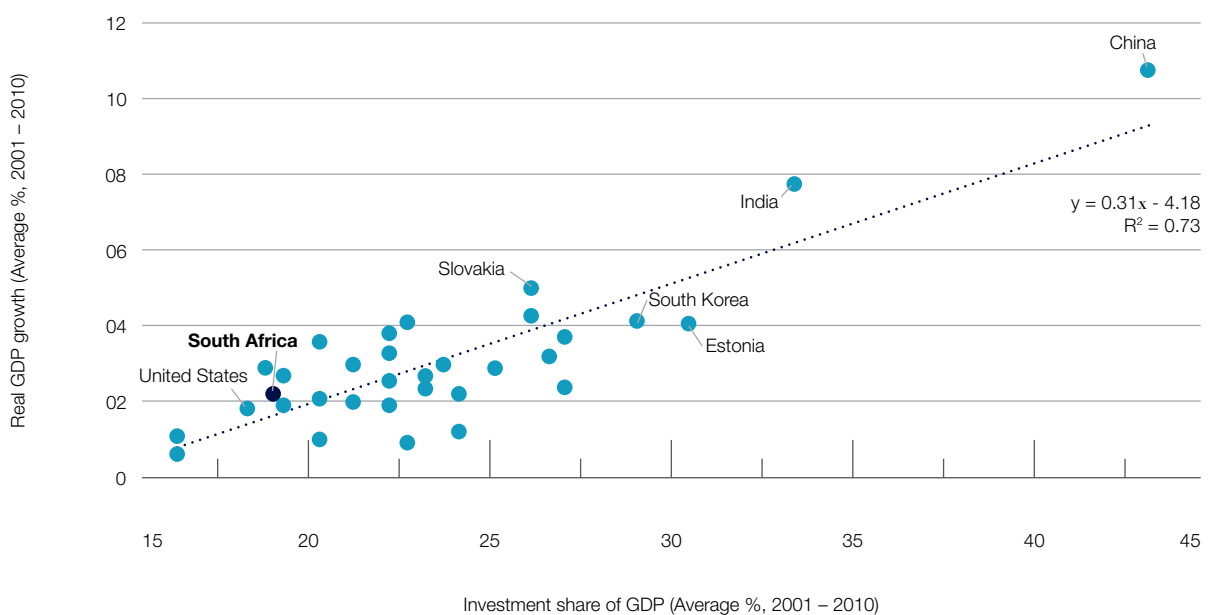
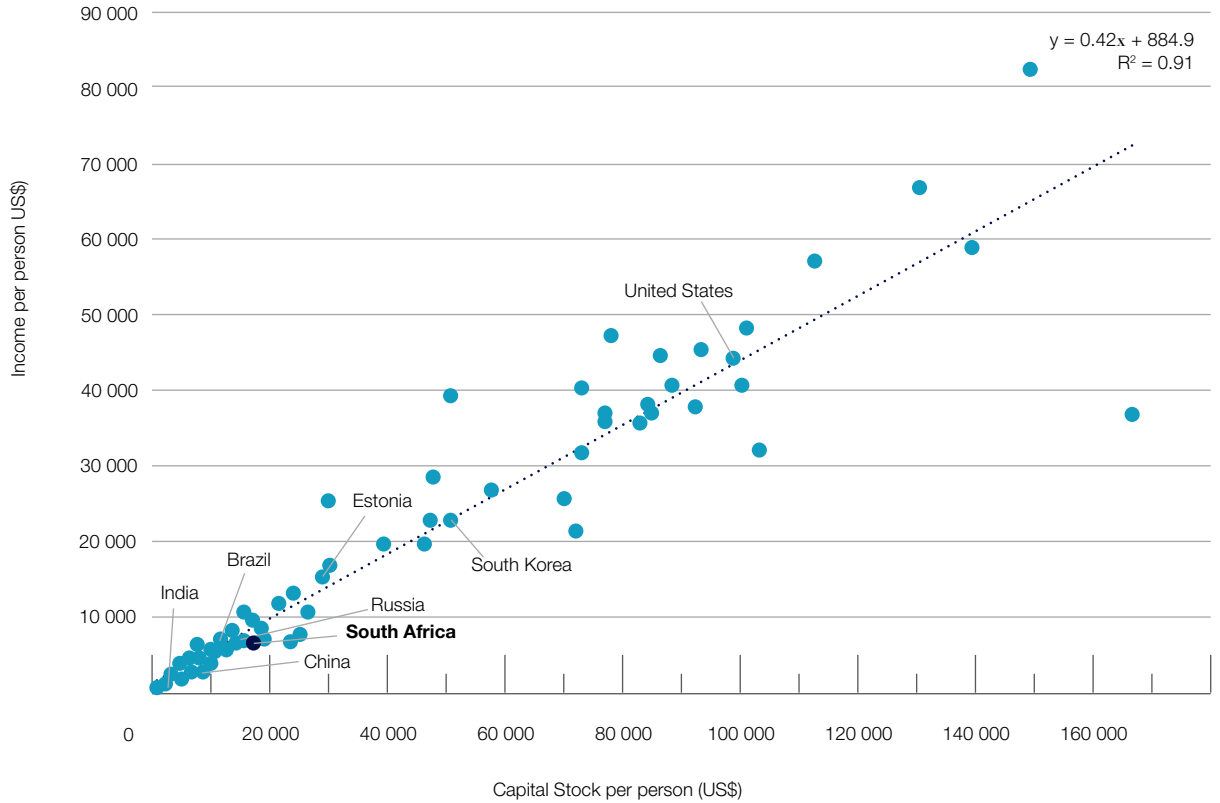




Figure 9

Source: Data derived from Berlemann and Wesselhöft (2012) and World Bank (2015)

Capital stock per person versus income per person (2010, US\$)



While the investment level in any economy explains a large part of economic growth, the accumulated capital stock of individual countries is a critical factor in explaining differences in standards of living among countries. **Figure 9** employs data from Berlemann and Wesselhöft (2012) to show the relationship between accumulated capital stock per worker and GDP per person. The transformed data represents the relationship for 155 countries, including South Africa, as at 2010. The evidence suggests that the explanatory power between accumulated capital stock per worker and income per person is in the order of 91%. The relationship also reveals that each \$1 improvement in *per capita* income requires additional capital stock of around \$2.40 a person, or about \$4.00 a worker.²

² \$2.40 is calculated as \$1.00 divided by the slope coefficient of 0.42. Adjusting for aggregate labour force participation rates transforms \$2.40 per person to \$4.00 per worker.



The long-run economic growth rates of advanced and emerging economies are largely determined by investment spending.



F I V E

Investing in South Africa

South Africa's investment rate of 18.7% of GDP falls a long way short of the rate required to fund the NDP's policy target of 5.4% economic growth.

The evidence presented above has at least three major implications for South Africa if the economy is to achieve elevated economic growth and development.

First, from the data mapped in **Figure 8**, South Africa's investment rate of 18.7% of GDP falls a long way short of the rate required to fund the NDP's policy target of 5.4% economic growth. More specifically, drawing on the global data set, and the strength of the relationship across countries, allows us to calculate the required investment share of GDP if the South African economy is to achieve the 5.4% target. The relationship plotted between investment share of GDP and economic growth is captured by the formula for the trendline plotted in **Figure 8**. The trendline formula shows that economic growth is equal to 0.31 times the investment share of GDP less a constant (or intercept) of 4.18. Thus:

$$\begin{aligned} \text{Targeted GDP growth} &= (0.31 \times \text{Investment share of GDP}) - 4.18; \\ 5.4\% &= (0.31 \times \text{Investment share of GDP}) - 4.18; \text{ so} \\ \text{Investment share of GDP} &= 9.58\% / 0.31; \text{ or} \\ &= 30.9\%. \end{aligned}$$

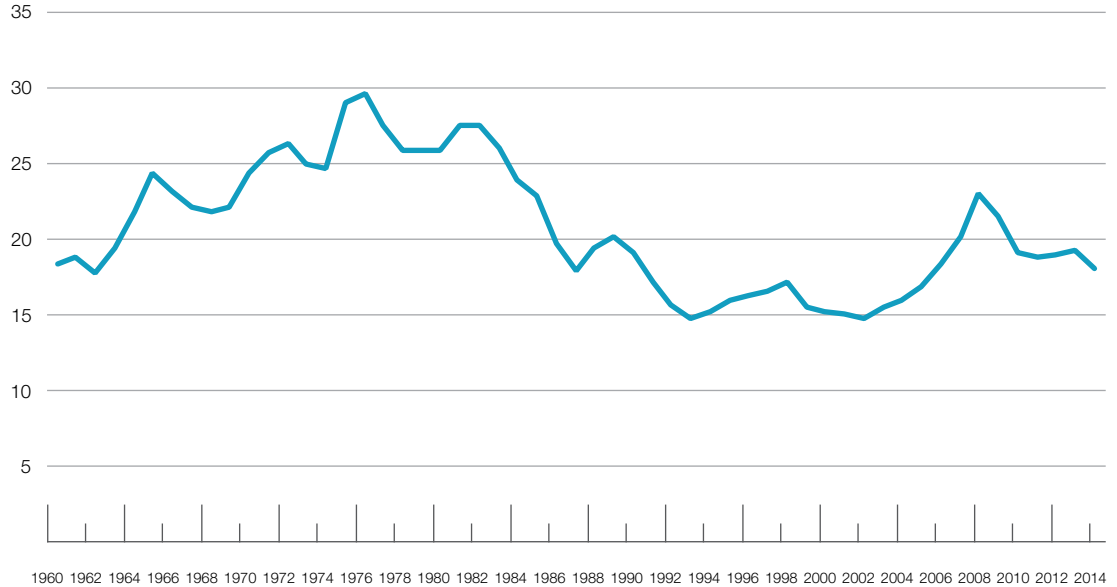
The required investment share of GDP of 30.9% is considerably greater than the investment share of GDP of 18.7% observed between 2001 and 2010. Notably, and as can be gleaned from **Figure 10**, the investment share of GDP since 2010 remains modest, averaging only 19.0% from 2010 to 2014. Perhaps more significantly, figures from 1960 to 2014 show that the South African economy has not achieved the investment share of 30.9% required by the above analysis in any year since 1960, and only came close to this rate once in the mid-1970s. In short, in the absence of structural change that shifts South Africa's investment share of GDP markedly higher, 5.4% economic growth is well beyond the reach of the South African economy.



Figure 10

Source: Thulani Madinginye (2015); data derived from South African Reserve Bank (2015)

Investment share of GDP (%) 1960 – 2014



A second implication from the data presented in **Figure 9** is that if South Africa achieves and sustains an economic growth rate of 5.4% a year between 2015 and 2030, as set out in the NDP, then, on the assumption of 1.5% a year population growth, *per capita* income will rise from the current US\$6,086 to US\$11,225. In turn, from the relationship mapped in Figure 9, it follows that:

$$\text{Per capita income} = \text{US\$885} + (0.42 \times \text{Capital stock per capita});$$

$$\begin{aligned} \text{thus} \\ \text{US\$11,225} &= \text{US\$885} + (0.42 \times \text{Capital stock per capita}); \end{aligned}$$

$$\begin{aligned} \text{so} \\ \text{Capital stock per capita} &= \text{US\$885} + (\text{US\$11,225} \div 0.42); \text{ or} \\ &= \text{\$27,611} \end{aligned}$$

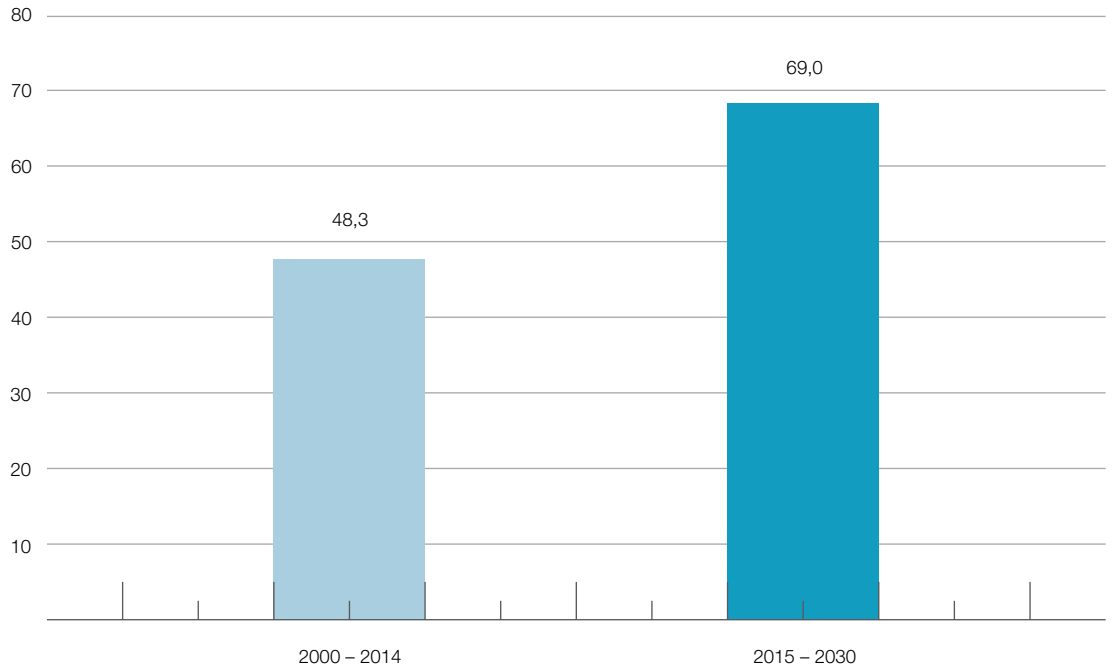
Thus, to sustain *per capita* income of US\$11,225 by 2030, South Africa's capital stock will need to grow from the US\$750bn recorded in 2010 to US\$2,100bn by 2030. To get a sense of the extent of the investment required, in 2010, South Korea's capital stock stood at US\$2.5tn with a population of 49m. To accumulate the necessary capital stock, South Africa will need to invest an average US\$69.0bn a year from 2015 to 2030 compared to the annual average US\$48.3bn recorded between 2000 and 2014 (**Figure 11**). This translates into an average investment rate of 25.6% of GDP over the 15 years from 2015 to 2030, versus the 18.0% a year recorded over the past 15 years from 2000 to 2014.



Figure 11

Source: Thulani Madinginye (2015); data derived from South African Reserve Bank (2015)

Gross fixed capital formation (US\$'bn)



In sum, the flow approach and the stock approach identify investment flows and capital accumulation as the most important explanations of differences in economic growth and *per capita* income over the long term among countries. Further, the evidence drawn from our large country data sets over long stretches of time suggests that the South African economy's historical investment rate stands a long way below the rate required to achieve elevated and inclusive economic growth and development. **Figure 12** provides a summary of the historical performance and the estimated required rates of investment share of GDP, with the naïve assumption being that the required investment rate stands at 28.3% of GDP, which is the simple average of the estimated required investment rates derived from the flow approach and the stock approach. These estimated required investment rates are in line with the so-called "Golden Rule", which suggests that the optimal investment rate for an economy with South Africa's structure is in the region of 30% of GDP (Miles *et al*, 2012, 102-104).

The estimated required investment rate of 28.3% stands a long way above South Africa's long-term average investment share of GDP of 20.7% and the 17.5%

recorded since 1994. As such it would appear that of the different principal components that can fuel economic growth, South Africa is missing the most important, namely, a sufficiently high level of investment spending. This observation is neither novel nor new. Each of the national policies put in place since 1994, including GEAR, ASGISA, the NGP and the NDP, has identified low investment spending and an absence of growth in investment spending as a primary constraint to elevated, sustained and inclusive economic growth.

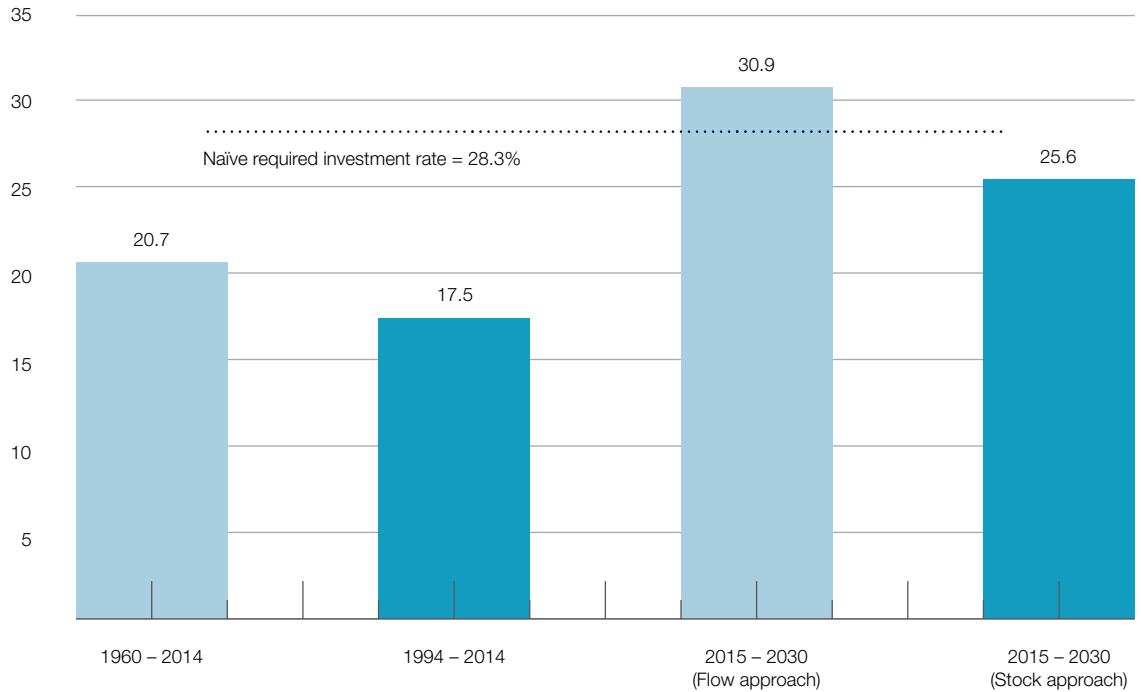
By way of example, the GEAR strategy, which was tabled 20 years ago, noted: "... investment ... will play an important role in increasing the productivity of labour and business and thus the achievement of higher growth rates" (Department of Finance, 1995, 16). Notwithstanding the recognition of the importance of investment spending, the NDP (National Planning Commission, 2013, 34-40), which was tabled almost two decades later, made the same point, in noting that the South African economy needed a "higher investment ... [that] will enable the economy to grow faster and become more productive [with] ... a higher rate of [public sector] investment ... crowding in private investment."



Figure 12

Source: Adrian Saville, Citadel and GIBS (2015)

South Africa's investment share of GDP (%)



Support for the importance of raising South Africa's investment rate comes in other forms, including Faulkner *et al* (2013) in their recent study which identified five obstacles to achieving higher economic growth and employment creation. These include a low investment rate; low skills levels and skills mismatches; the poor quality of South African education; high levels of industrial concentration and associated low levels of product market competition; and inefficient and costly transport, logistics and communications networks. Notably, of these five constraints, the economy's low investment rate is identified as the greatest constraint to high, inclusive economic growth in South Africa (Faulkner *et al*, 2013, 16-17).

South Africa requires
a 28.3% investment
rate to achieve
economic targets.



S I X

Saving South Africa



“The thing I should wish to obtain from money would be leisure with security.”

Bertrand Russell, 1872-1970

Given the pivotal role that growth in investment spending plays in unlocking South Africa’s economic growth potential and achieving development, it is a short step to recognise that the low investment rate, in turn, is a consequence of the economy’s low savings rate. This point can be demonstrated theoretically as well as empirically.

From a theoretical perspective, there is only one way in which investment can be funded, namely, saving. The so-called expenditure model demonstrates this clearly. To explain this, in an open economy such as South Africa:

$$GDP = C + I + G + NX,$$

where GDP = Gross Domestic Product;
C = Consumption spending;
I = Investment spending;
G = Government purchases; and
NX = Net exports, which equals exports (X) less imports (N).

To simplify the argument, and illustrate the role that savings play in funding investment, we can treat NX as equal to zero, and then rearrange the equation to solve for investment (I), which produces:

$$\begin{aligned} GDP &= C + I + G ; \text{ thus} \\ I &= GDP - C - G \end{aligned}$$

This equation tells us that investment in the economy will be equal to the total amount produced (GDP), minus consumption spending (C) and government purchases (G).

From here, we can create a private sector savings ($S_{private}$) equation for the economy. The total amount of savings by firms and households will be equal to the amount produced (GDP) plus transfer payments (TR) from the government, which includes items such as unemployment benefits, social security and welfare payments, minus the amount spent on consumption (C) and taxes (T). Thus:

$$S_{private} = GDP + TR - C - T$$



An unmovable economic reality is that investment spending can be funded only out of savings.

In the same vein, we can create a public sector savings (S_{public}) equation for the economy, which measures how much the government saves. To this end, public saving depends on the amount of taxes (T) government receives, the amount they spend on purchases (G) and the amount they spend on transfer payments such as social welfare benefits (TR). From this, the public savings function will be:

$$S_{\text{public}} = T - G - TR$$

This means that the total amount of savings (S) occurring in the economy equals:

$$\begin{aligned} S &= S_{\text{private}} + S_{\text{public}} \\ &= (GDP + TR - C - T) + (T - G - TR) \\ &= GDP - G - C \end{aligned}$$

If we substitute $C + I + G$ for GDP, we get:

$$\begin{aligned} S &= (C + I + G) - G - C \\ &= I \end{aligned}$$

Note that this result is an “identity”, which means it holds true by definition that investment and saving are equal. Put differently, it is an unmovable economic reality that investment spending can be funded only out of savings.



We can learn from international “savings stars” – 13 countries that have sustained an average economic growth rate of 7.0% a year for 25 years or more.

From an empirical perspective, the importance of saving, and the role that a high savings rate plays in funding a high investment rate, is recognised widely by practitioners and policy makers. The seminal work in this regard takes the form of the Commission for Growth and Development's (2008) study entitled *The Growth Report: Strategies for Sustained Growth and Inclusive Development*, which examined the experiences of 13 “economic miracles”. Each of the countries examined in the report had sustained an average economic growth rate of 7.0% a year for 25 years or more. These countries include Botswana, Brazil, China, Hong Kong, Indonesia, Japan, Malaysia, Malta, Oman, Singapore, South Korea, Taiwan and Thailand. As noted earlier, these countries shared five common attributes, namely, a high rate of investment, outward economic orientation, macroeconomic stability, market allocated resources and competent governments. Of these factors, however, the greatest explanatory power resides with the high investment rates funded by high savings rates (Figure 13).

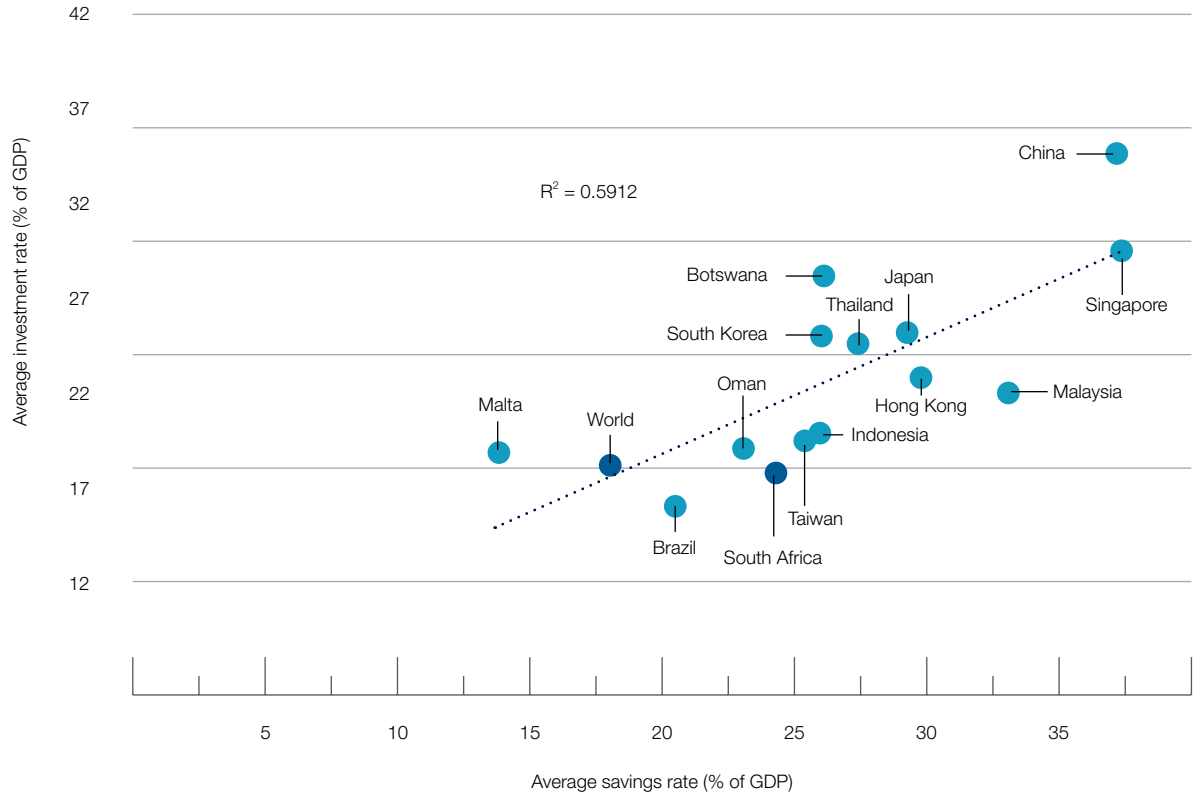
To elaborate, the Commission for Growth and Development (2008) found that an overall investment rate equal to 25% of GDP or higher is needed to achieve and sustain high and inclusive economic growth (Figure 13). However, and following from the above, such high rates of investment require financing, either through domestic or foreign savings. As noted by Faulkner *et al* (2013, 9), low domestic savings inhibits investment and makes the economy's growth dependent on foreign savings. Thus, although foreign saving can fund investment, foreign saving can be more expensive than domestic borrowing and, when foreign saving comes in the form of portfolio capital, it is less effective in boosting economic growth than when it comes as foreign direct investment. Indeed, the latter has been shown to be a critical and major source of growth and job creation for many emerging markets, in part because it embodies the transfer of skills and knowledge into recipient countries. From this, it is not surprising that “there is no case of a sustained high investment path not backed up by high domestic savings” (Commission for Growth and Development, 2008, 54).



Figure 13

Source: Adrian Saville, Citadel and GIBS (2015)

Average rate of savings and investment among the savings stars (1960 – 2014)



“Savings stars” – these countries share

5 common attributes:

1. a high rate of investment
2. outward economic orientation
3. macroeconomic stability
4. market allocated resources
5. competent government



The decline of South Africa's rate of saving is broad based and structural.

Returning our attention to South Africa, it is notable that the domestic savings rate has declined steadily over the last 50 years from an average of just more than 24.0% between 1960 and 1990, to 16.5% from 1991 to 2014 and just 16.0% over the last decade (see **Figure 14**). With an average investment rate over the period 2005-2014 of 19.4%, South Africa has endured a savings-investment gap of 3.4% a year, which has been reflected in an ongoing current account deficit, which peaked at 7.2% of GDP in 2008 (Faulkner *et al*, 2013, 7). This deficit has been funded almost entirely by inflows of foreign portfolio capital, which is by far the less desirable of the two forms of capital inflow. This low domestic savings rate and large reliance on foreign portfolio capital flows leave South Africa stranded in a low economic growth trap and vulnerable to foreign portfolio capital flows which tend to be fickle and flighty.

Notably, the decline in the gross domestic savings rate shown in **Figure 14** is a result of the components of saving either being “structurally stuck” or in “structural decline”. More specifically, $S_{private}$ is made up of two parts, namely, household saving and corporate saving. Household saving has been in a state of steady decline since 1995 (the first year for which data are available). Corporate saving, which makes up the balance of $S_{private}$, has been trapped in a narrow band for the last 20 years. Public sector saving, S_{public} , has one principal component, namely, government saving. Although government saving displayed an impressive improvement from 1995 to 2007, it fell to zero in 2009 and has remained around that level since (**Figure 15**). In other words, the decline in South Africa's rate of saving is broad based and structural.



Figure 14

Source: Thulani Madinginye (2015); data derived from South African Reserve Bank (2015)

Gross domestic saving (% of GDP) 1960 – 2014

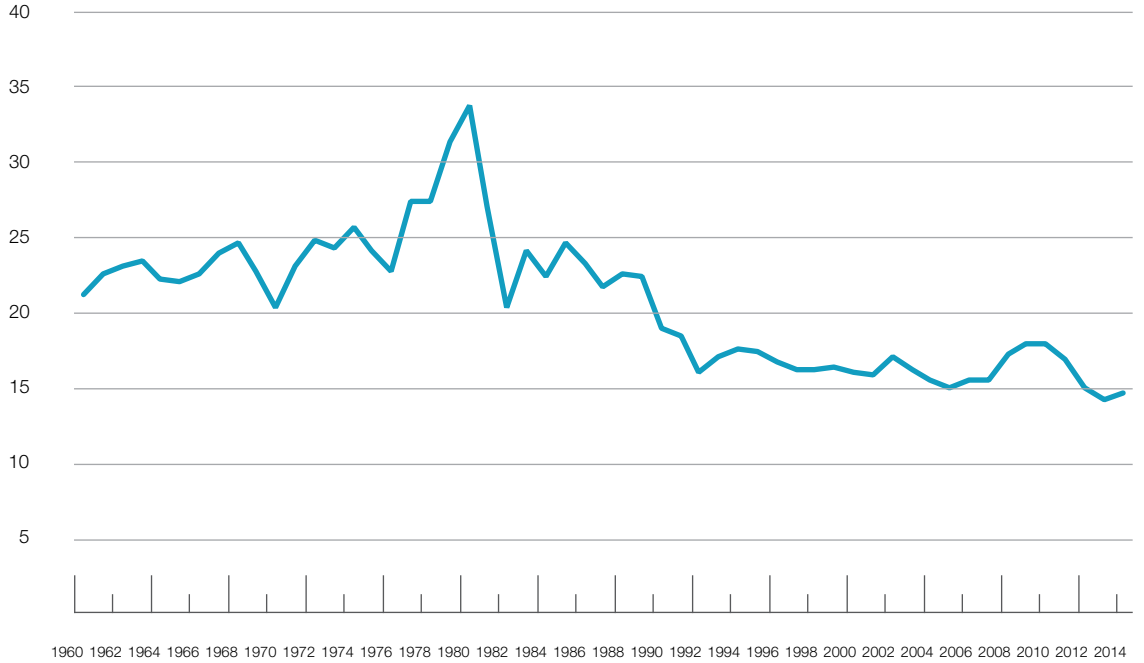
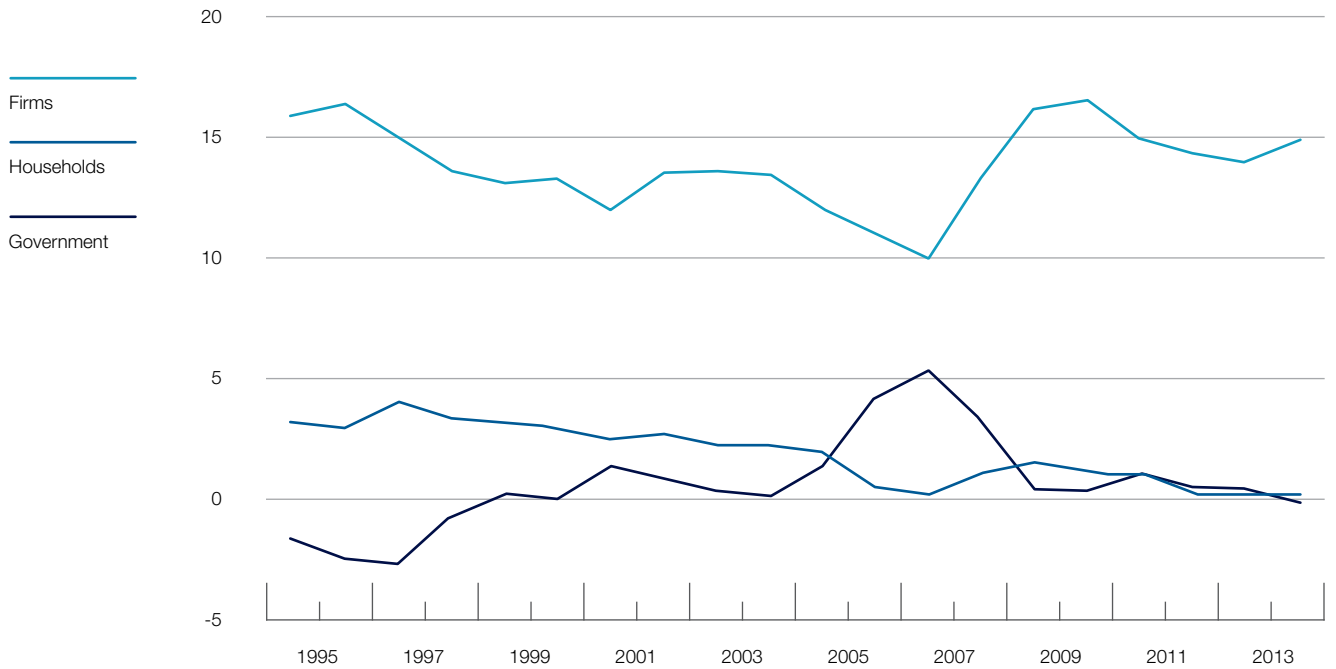


Figure 15

Source: Adrian Saville, Citadel and GIBS (2015); data derived from South African Reserve Bank (2015)

Gross domestic savings by households, firms and government (% of GDP) 1995 – 2014





The relationship between investment, as the building block of economic growth and development, and saving as the fuel of investment, is illustrated in **Figure 16**. From this, however, it is clear that, from a state of reasonably elevated saving and investment rates in the 1960s, 1970s and 1980s, the South African economy has experienced a slow but steady decline into a state of low savings and investment rates in the last two decades.

For South Africa to achieve sustained, elevated and inclusive economic growth, it is critical that the structural decline in the investment rate that was observed from the middle of the 1970s to the early 1990s, and the subsequently low average investment rate from 1994 to present, are reversed. A necessary condition for this to happen is that the low domestic savings rate needs to be raised from the average of 16.3% observed over the

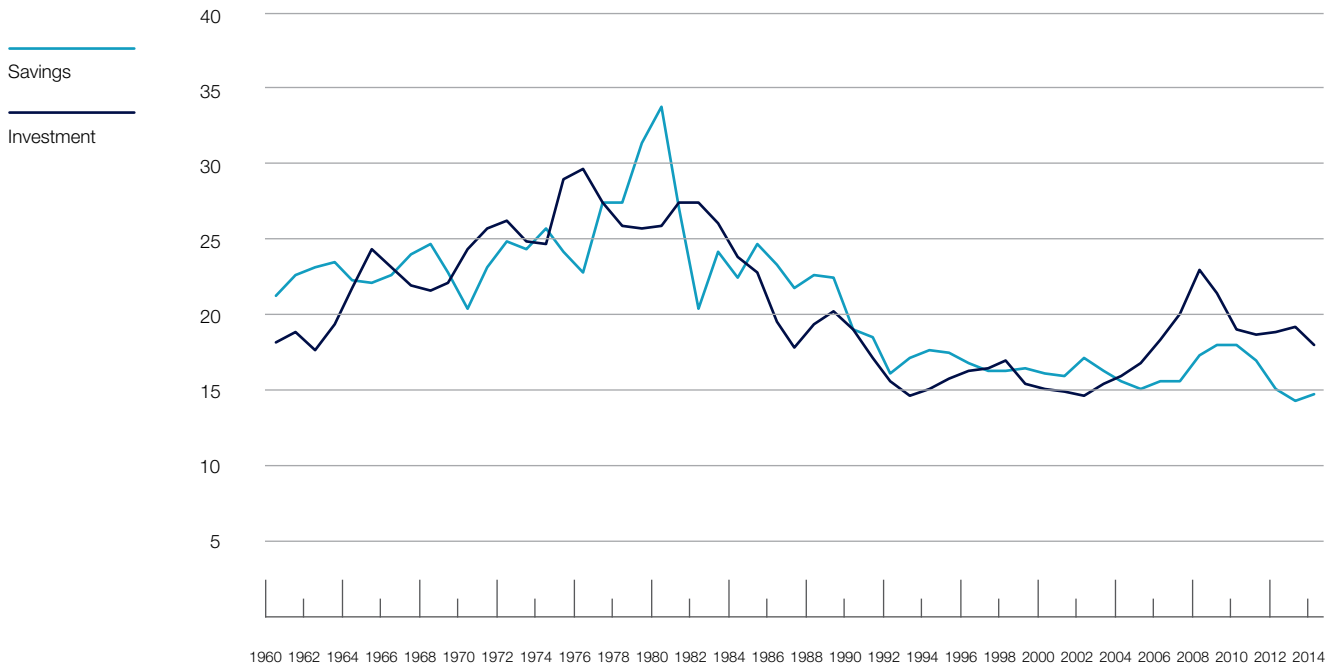
last two decades to a much higher 28.3%, which is equal to the investment rate required to fund South Africa's ambition of elevated and inclusive economic growth.

Given the pivotal role that saving and investment play in funding economic growth and fostering development, it is notable that the issue has received modest attention in policy action and that commentary on South Africa's socio-economic challenges tend to emphasize aspects such as education and healthcare, while skirting around or skipping over the central issue of saving – and consequent investment – that has proved to be central to every economic success story on record. It is these low levels of attention and awareness to the role that saving plays in promoting economic growth and development, and the extent of the savings constraint in South Africa, that led us to develop the *Investec GIBS Savings Index*.

Figure 16

Source: Thulani Madinginye (2015); data derived from South African Reserve Bank (2015)

Gross domestic saving versus gross domestic investment (% of GDP) 1960 – 2014





28.3%

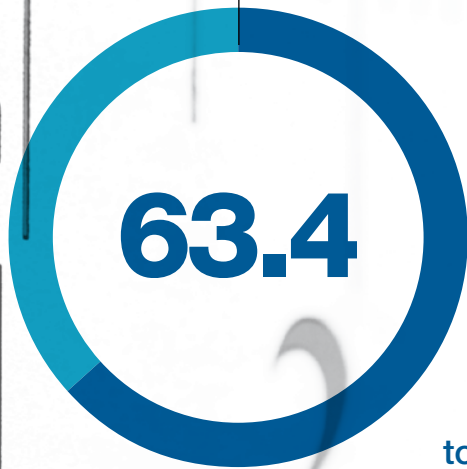
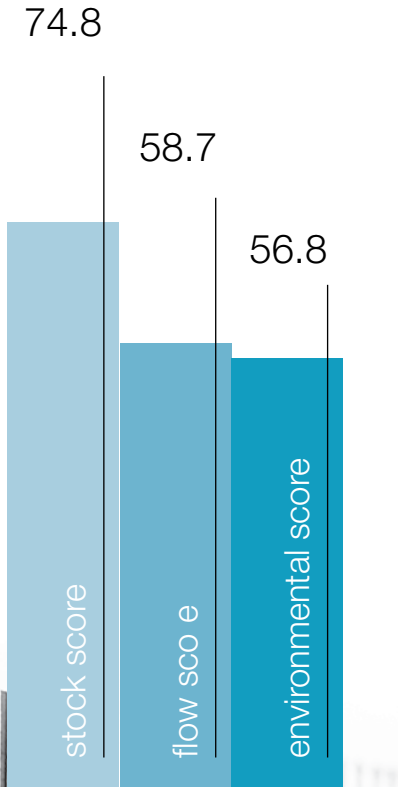
16.3%

South Africa's low domestic savings rate needs to be raised from 16.3% to 28.3% – to fund South Africa's ambition of elevated and inclusive economic growth



S E V E N

Investec GIBS Savings Index



total score



The savings index is built on three pillars:

- the extent of SA's stock of savings or savings pool – to fund the economy's installed investment base;
- the savings rate, represented by the flow of savings into the savings pool and
- the changes to environmental factors that influence savings

Recognising the pivotal role of saving in funding growth, and the low level of saving that retards the South African economy, the *Investec GIBS Savings Index* assesses South Africa's savings performance based on three pillars, namely:

- (1) The extent of South Africa's stock of saving which funds the economy's installed investment base;
- (2) The savings rate, which measures the extent and nature of the flow of savings into the savings pool that funds investment flows; and
- (3) Changes in environmental factors that influence the propensity of South Africa's economic actors to save.

The following section describes the construction of the *Investec GIBS Savings Index* by considering the three pillars that constitute the index, the components that make up each of the pillars, how they are measured and how they are put together to produce the index. The implications of the index outputs are also discussed.



1. Stock: Savings stock pillar and its components

As noted, the economic development literature identifies the capital stock of a country as being the primary determinant of differences in *per capita* income levels (Commission for Growth and Development, 2008; Berlemann and Wesselhöft, 2012). The data presented in Figure 9 identify the *per capita* capital stock of a country as explaining 91% ($R^2=0.91$) of the variance in *per capita* income among countries.

Guided by the empirical literature (Schmidt-Hebbel and Servén, 1997; Easterly and Levine, 1999; Attanasio, Picci and Scorcu, 2000; Loayza and Servén, 2000; Miles *et al*, 2012), the stock of savings to fund investment is measured using three components, namely:

- South Africa's cumulative savings stock relative to GDP;
- the stock of financial savings represented, in particular, by pension fund and provident fund assets relative to GDP; and
- capital stock per worker.

The first two components capture the extent of the stock of savings relative to total population and relative to the size of the economy, with larger figures corresponding with improved economic outcomes, all else equal. The third component of capital stock per worker captures the extent to which productive capital complements employment, with higher capital stocks per worker corresponding with higher productivity and, as a result, gains in *per capita* incomes.

Each component is then scored out of 100 by comparing South Africa's measure either to South Africa's high watermark, which represents the structural capability of the South African economy, or to the average figures of the so-called "savings stars" identified by the

Commission on Growth and Development (2008). The first metric, which captures the structural capability of the South African economy, is based on the peak performance of the domestic economy which represents what the economy is capable of, even if under extreme conditions. The second metric is based on the set of "savings stars" which, as noted before, includes 13 economies that have produced economic miracles by sustaining an average economic growth rate of 7 percent a year for 25 years or more. These countries include Botswana, Brazil, China, Hong Kong, Indonesia, Japan, Malaysia, Malta, Oman, Singapore, South Korea, Taiwan and Thailand.

Table 1 shows information for each of the stock components and reports their benchmarks and the score for each component. Winsorisation is used to limit extreme values in the statistical data and, in so doing, reduce the effect of possibly spurious outliers. Following common practice, Winsorisation sets all observations below the fifth percentile as equal to the fifth percentile and all observations above the 95th percentile as equal to the 95th percentile. As such, Winsorising makes estimators more robust to outliers (Dixon, 1960). The resultant component scores are then combined by weighting each component to produce an aggregate score for the stock pillar. Weights are attributed by inversely weighting each component by volatility, meaning more volatile components are given lower weights and *vice versa*. Data limitations put the starting point of measurement for the components at 1988.

The results presented in **Table 1** produce a score of 74.8 for South Africa's stock of savings. This can be interpreted to suggest that the economy has some way to go to achieve the frontier score of 100 that is represented by the performance of the so-called "savings stars".



A score of 100 represents South Africa's pass mark for national savings, measured against the country's structural high watermark or the average scores of the "saving stars".





South Africa's stock of savings pillar produces a score of 74.8

As an aside, it is important to note that in the case of the “savings stars”, the frontier of 100 represents the average performance, and that individual country performances are scattered around this average. For instance, as shown in Figure 13, while the average investment rate in these countries over the period 1960-2014 is 26.6%, this average includes a minimum of 20.4% (Brazil) through to a maximum of 36.0% (China). Thus, and as is the case with all metrics of this nature, the figures should be interpreted in context and not as unwavering absolutes.

That noted, and drilling into the **overall score of 74.8 for the stock pillar**, South Africa has shown rapid catch up in the size of financial assets relative to the size of the economy since the early 1990s. This result is unsurprising given the country's financial sophistication and the size of South Africa's capital markets. However, while the **stock of financial assets score has improved materially since 1990, this performance did come off a low base. The net result is a score of just 58.4** for this component. The two other components, namely, **stock of savings versus GDP and capital stock per worker score 71.4 and 83.3**, respectively. These two scores are below the frontier produced by the savings stars. Moreover, not only are the scores below the critical threshold of 100. They have also both held around current levels since 1990, which points to the South African economy being structurally stuck, as argued earlier.



Table 1: Stock Components, Stock Component Scores and Stock Pillar Score

Year	Component Inputs						Component Scores			Pillar Score
	Cumulative Gross Saving (% GDP)	High Water Mark of Cumulative Gross Saving (% GDP, 1960-2014)	Pension and Provident Fund Assets (% GDP)	Pension and Provident Fund Assets of Savings Stars (% GDP)	Capital Stock per Worker (Constant 2005 US\$'000)	Capital Stock per Worker of Savings Stars (Constant 2005 US\$'000)	Stock of Cumulative Gross Saving Distance to High Water Mark (/100)	Pension and Provident Fund Assets Relative to Savings Stars (/100)	Capital Stock per Worker versus Savings Stars (/100)	Index Score (/100) (Inverse Weighted)
1988	178,6	238,2	14,0	84,2	24,1	27,1	75,0	24,0	88,9	75,8
1989	173,1	238,2	14,0	84,2	23,8	27,5	72,7	24,0	86,5	73,4
1990	171,1	238,2	14,0	84,2	24,4	27,9	71,8	16,6	87,3	71,4
1991	169,6	238,2	17,9	84,2	25,4	28,3	71,2	21,2	89,8	70,3
1992	169,5	238,2	19,7	84,2	24,9	28,8	71,2	23,4	86,6	71,4
1993	165,4	238,2	20,2	84,2	24,3	29,2	69,5	24,0	83,3	70,5
1994	164,1	238,2	21,9	84,2	24,0	29,6	68,9	26,0	80,8	68,6
1995	161,9	238,2	21,7	84,2	23,8	30,1	68,0	25,8	79,0	67,7
1996	160,8	238,2	21,8	84,2	23,6	30,6	67,5	25,9	77,3	66,5
1997	161,4	238,2	22,8	84,2	23,7	31,0	67,8	27,1	76,3	65,7
1998	165,3	238,2	24,4	84,2	23,6	31,5	69,4	29,0	75,0	65,7
1999	167,3	238,2	25,3	84,2	23,5	32,0	70,3	30,1	73,4	66,3
2000	163,8	238,2	26,6	84,2	23,3	32,5	68,8	31,6	71,8	66,4
2001	164,2	238,2	27,5	84,2	23,2	33,0	69,0	32,7	70,5	65,3
2002	158,3	238,2	28,8	84,2	23,2	33,5	66,5	34,2	69,4	65,0
2003	161,6	238,2	28,7	84,2	23,7	34,0	67,9	34,1	69,6	63,5
2004	160,8	238,2	32,4	84,2	24,9	34,5	67,5	38,4	72,3	64,3
2005	160,1	238,2	36,7	84,2	26,7	35,0	67,2	43,6	76,2	65,6
2006	158,4	238,2	37,6	84,2	27,0	35,5	66,5	44,6	75,9	67,4
2007	153,7	238,2	38,8	84,2	27,7	36,1	64,5	46,1	76,8	67,0
2008	154,3	238,2	33,8	84,2	29,4	36,6	64,8	40,2	80,2	66,4
2009	163,8	238,2	35,9	84,2	29,8	37,2	68,8	42,6	80,1	67,0
2010	167,5	238,2	38,8	84,2	31,5	37,8	70,3	46,1	83,5	69,4
2011	169,1	238,2	37,4	84,2	33,2	38,3	71,0	44,4	86,5	71,8
2012	171,9	238,2	42,6	84,2	33,6	38,9	72,2	50,5	86,3	73,0
2013	173,1	238,2	43,9	84,2	33,6	39,5	72,7	52,1	85,1	74,3
2014	175,0	238,2	46,6	84,2	33,7	40,1	73,5	55,3	83,9	74,4
2015	170,1	238,2	49,1	84,2	33,9	40,7	71,4	58,4	83,3	74,8



Our research suggests that the South African economy's flow of savings needs to almost double to achieve growth objectives

2. Flow: Savings flow pillar and its components

Large savings pools need to be fed by large flows of saving. The importance and contribution of savings flows in funding investment spending are recognised extensively in the available literature as well as in practice. To this end, the economic development literature identifies investment flows, which are funded by savings flows, as being the primary determinant of economic growth (Commission for Growth and Development, 2008; Miles *et al*, 2012; McBride, 2013). The data presented in Figure 8 identify the investment share of GDP of a country as explaining 73.0% ($R^2=0.73$) of the variance in real economic growth among countries.

Guided by the empirical literature (Easterly and Levine, 1999; Attanasio *et al*, 2000; Loayza and Servén, 2000; Ahiakpor, 1995; Adebisi, 2005; Thanoon and Baharumshah, 2007; Sueyoshi, 2010; Miles *et al*, 2012; Studwell, 2013), **the flow of savings to fund investment is measured using four components.**

- The first of these considers South Africa's rolling five year average savings rate compared to the savings stars, which measures the distance the South African economy is from the savings pattern exhibited by countries on the savings frontier.
- The second component considers the economy's current savings rate versus the country's long-term average, which assesses the extent to which the economy is able to elevate savings above the country's structural average.
- The third component compares the current savings rate versus the five-year average; this captures momentum in the savings rate.
- The fourth component considers the extent to which saving in South Africa is funded by inflows of foreign portfolio capital. Evidence from the Commission for Growth and Development (2008), Miles *et al*

(2012) and Studwell (2013), among others, shows that modest inflows of foreign portfolio capital can support elevated economic growth. However, flows of foreign portfolio capital of more than 1.0% of GDP correspond with stalled economic growth. Thus, the fourth component captures the extent to which South Africa's savings rate is funded by "functional" inflows of foreign portfolio capital which is established by a ceiling of 1.0% of GDP.

As with the stock pillar, each component of the flow pillar is scored out of 100 by comparing South Africa's measure either to South Africa's high watermark, which represents that structural capability of the South African economy, or to the average figures of the "savings stars" identified by the Commission on Growth and Development (2008).

Table 2 shows information for each of the flow components and reports their benchmarks and the score for each component. Winsorisation is used to remove spurious outliers. The resultant component scores are then combined by inversely weighting each component by volatility to produce an aggregate score for the flow pillar. As with the stock component, data limitations put the starting point of measurement for the flow components at 1988.

The results presented in Table 2 show a score of 58.7 for South Africa's flow of savings pillar. This suggests that the South African economy's flow of savings needs to almost double to achieve the frontier score of 100. The low score is explained chiefly by South Africa's poor performance in terms of annual savings relative to the "savings stars", captured by the average savings rate of 16.4% since 1994 versus the long-term average savings rate of 31.2% recorded by the "savings stars". Since the global financial crisis, the South African economy has also become overly reliant on foreign portfolio capital



Table 2: Flow Components, Flow Component Scores and Flow Pillar Score

Year	Component Inputs						Component Scores				Pillar Score
	South Africa Savings (% of GDP)	South Africa Long-Term Average Savings Rate (% of GDP)	South Africa Savings (% of GDP Five-Year Moving Average)	Savings Stars Long-Term Average Savings Rate (% of GDP)	South Africa Net Foreign Portfolio Flows (% of GDP)	South Africa Net Foreign Portfolio Flows (% of GDP Five-Year Moving Average)	South Africa Savings Rate (Five-Year Moving Average) versus Savings Stars (/100)	South Africa Savings Rate versus Long-Term Average Rate (/100)	South Africa Current Savings Rate versus South Africa Five-Year Moving Average (/100)	Funding of South African Savings via Portfolio Capital Flows (/100) (Peer-Adjusted)	Index Score (/100) (Inverse Weighted)
1988	23,9	20,6	24,3	31,2	-0,3	-0,2	76,6	116,3	98,3	150,0	92,7
1989	24,3	20,6	24,6	31,2	0,1	-0,5	77,9	118,2	98,9	150,0	93,9
1990	20,8	20,6	23,5	31,2	0,0	-0,5	66,7	101,2	88,4	150,0	83,5
1991	20,2	20,6	22,5	31,2	0,2	-0,2	64,7	98,3	89,6	150,0	81,8
1992	18,2	20,6	21,5	31,2	1,3	0,2	58,3	88,6	84,7	132,7	73,6
1993	17,2	20,6	20,1	31,2	0,6	0,4	55,1	83,7	85,4	124,9	69,8
1994	17,7	20,6	18,8	31,2	2,0	0,8	56,7	86,1	94,0	108,2	69,4
1995	17,6	20,6	18,2	31,2	1,6	1,1	56,4	85,6	96,8	94,3	67,3
1996	16,9	20,6	17,5	31,2	1,5	1,4	54,2	82,2	96,5	82,9	63,8
1997	16,3	20,6	17,1	31,2	4,3	2,0	52,2	79,3	95,1	56,3	58,4
1998	16,3	20,6	17,0	31,2	2,7	2,4	52,2	79,3	96,1	37,8	56,0
1999	16,5	20,6	16,7	31,2	6,3	3,3	52,9	80,3	98,7	0,8	51,7
2000	16,2	20,6	16,4	31,2	-1,5	2,7	51,9	78,8	98,5	27,5	54,4
2001	16,0	20,6	16,3	31,2	-6,5	1,1	51,3	77,9	98,4	96,8	63,2
2002	17,2	20,6	16,4	31,2	-0,4	0,1	55,1	83,7	104,6	137,7	72,4
2003	16,3	20,6	16,4	31,2	0,5	-0,3	52,2	79,3	99,1	150,0	71,3
2004	15,7	20,6	16,3	31,2	2,7	-1,0	50,3	76,4	96,4	150,0	69,5
2005	15,2	20,6	16,1	31,2	1,8	-0,4	48,7	74,0	94,5	150,0	68,0
2006	15,7	20,6	16,0	31,2	7,0	2,3	50,3	76,4	98,0	41,3	54,9
2007	15,6	20,6	15,7	31,2	3,5	3,1	50,0	75,9	99,4	8,0	50,2
2008	17,5	20,6	15,9	31,2	-5,7	1,9	56,1	85,2	109,8	61,8	63,3
2009	18,0	20,6	16,4	31,2	3,7	2,1	57,7	87,6	109,8	53,0	63,5
2010	18,0	20,6	17,0	31,2	2,7	2,3	57,7	87,6	106,1	45,4	62,3
2011	17,0	20,6	17,2	31,2	1,1	1,1	54,5	82,7	98,7	97,2	66,1
2012	15,1	20,6	17,1	31,2	2,6	0,9	48,4	73,5	88,2	105,1	61,3
2013	14,4	20,6	16,5	31,2	1,6	2,3	46,2	70,1	87,3	41,3	50,7
2014	14,9	20,6	15,9	31,2	1,3	1,9	47,8	72,5	93,8	62,5	55,3
2015	16,2	20,6	15,5	31,2	3,4	2,0	51,9	78,8	104,4	56,9	58,7

flows to plug the savings-investment gap, which has caused this component of the pillar to collapse to an average of 53.6 in the last three years. The remaining two components, which measure South Africa's most recent savings rate versus the long-term average and five-year average, give some cause for relief as the components score 78.8 and 104.4, respectively. Altogether, though, the score of 58.7 recorded for the flow pillar shows that South Africa's flow of savings is structurally trapped at a low level compared to the level required to fund an investment rate that corresponds with the elevated, sustained and inclusive economic growth that is targeted by South African policy.

South Africa's
flow of savings
pillar produces a
score of 58.7



The influences that make up the environmental factors are social, cultural, demographic, behavioural and situational factors.

3. Environment: savings environment pillar and its components

There is extensive literature that deals with factors that explain savings behaviour. This literature dates back more than half a century to the early 1950s to the work of Franco Modigliani and his student, Richard Brumberg, who developed a theory based on the observation that people make consumption decisions based on the resources available to them over their lifetime and on their current stage of life. Modigliani and Brumberg's life-cycle theory of savings (1954), as it became known, was based on the observation that individuals build up assets at the initial stages of their working lives. Later on during retirement, they make use of their stock of assets. By the same convention, working people save up for their post-retirement lives and alter their consumption patterns according to their needs at different stages of their lives.

Around the same time, Milton Friedman (1956) put forward the permanent income hypothesis which attempted to describe how people spread consumption over their lifetimes. Specifically, the permanent income hypothesis supposes that a person's consumption at

a point in time is determined by their current income and their expected income in future years, or their "permanent income". In its simplest form, the hypothesis states that changes in permanent income, rather than changes in temporary income, are what drive changes in a consumer's consumption patterns and, by implication, their savings pattern. Later, Ando and Modigliani (1963), Leland (1968) and Bewley (1977) made further contributions to this seminal work on consumption and savings by bringing into focus factors such as utility maximisation, risk and uncertainty.

As noted, from these origins, an extensive theoretical and empirical literature has evolved that has identified social, cultural, demographic, behavioural and situational factors that explain savings behaviour. For ease of reference, we refer to these various influences as environmental factors. The literature and the empirical results that deal with these environmental factors are reviewed extensively in other places, including Schmidt-Hebbel and Servén (1997), Kotlikoff (2001) and Frączek (2011). The net result is the identification of ten environmental components that have a primary influence on savings behaviour and savings outcomes.



These components include:

- (1) **Change in per capita income**, with an interesting aspect being the observation that growth in individual incomes is a more powerful explanation of savings rates than income levels (Chamon and Prasad, 2010);
- (2) **Growth in productivity**, which corresponds with rising country competitiveness and explains a large part of the first components, namely sustained gains in *per capita* incomes (Loayza *et al*, 2000);
- (3) **Rate of unemployment**, where elevated unemployment translates into low savings rates or, as noted by Khan (2011), unemployment is the major cause of poverty and by, definition, a zero level of income has to correspond with aggregate dis-saving;
- (4) **Real interest rate structures**, where a high real interest rate encourages a high rate of saving (Frączek, 2011);
- (5) **Domestic credit extension**, with the evidence revealing a strong negative relationship with financial liberalisation that brings with it ease of access to credit (Studwell, 2013);
- (6) **Age dependence structures that show a high level of young-age dependency** is associated with low savings rates (Furceri and Mourougane, 2010);
- (7) **Age dependence structures that show a high level of old-age dependency** is associated with low savings rates (Furceri and Mourougane, 2010);
- (8) **Urbanisation rates**, with high urbanisation rates translating into low savings rates as a consequence of Arthur Lewis' (Ranis, 2004) long-established "bright lights big city" syndrome (Traut-Mattausch and Jonas, 2011) and large rural populations having a preference for savings because of the high levels of uncertainty associated with agriculture (Chamon and Prasad, 2010);
- (9) **Numeracy rates**, with numerical proficiency corresponding with financial literacy that reduces demand for credit, especially credit granted at high interest rates, and increases individuals' appetites for saving (Lusardi, 2008); and
- (10) **Uncertainty among firms and households**, where high levels of uncertainty promote precautionary savings (Leland, 1968; Liu and Hu, 2013).

The net result is the identification of ten environmental components that have a primary influence on savings behaviour and savings outcomes.



SA's environmental pillar produces a score of 56.8

The performance of each of these environmental components is shown in **Table 3.1 and 3.2**. The change in South Africa's *per capita* income and productivity growth are compared to the rates of change observed in the "savings stars". The rate of unemployment, extent of credit extension and real interest rate structure are all benchmarked to South Africa's long-term averages because, in each instance, it is the rate of change against own averages that has the greater influence on savings; young-age dependency, old-age dependency, the urbanisation rate and numeracy are measured against "savings stars" as the behavioural patterns are consistent across countries; and uncertainty is measured by the volatility in consumer price inflation against its long-term average, which is a widely used measure of uncertainty (Loayza *et al*, 2000).

As with the stock and flow pillars, each component of the environment pillar is scored out of 100, with a score of 100 representing South Africa's measure either capturing the country's structural high watermark or achieving the average figures of the "savings stars" (Commission on Growth and Development, 2008). Table 3.1 and 3.2 shows information for each of the environmental components and reports their benchmarks and the score for each component. As with the other components, Winsorisation is used to remove spurious outliers. The resultant component scores are then combined by inversely weighting each component by volatility to produce an aggregate score for the environment pillar. Consistent with the stock pillar and the flow pillar, the starting point of measurement for the environment components is 1988.

The results presented in **Table 3.2** give South Africa **a score of 56.8 for the environment pillar**. This suggests that South Africa's social, cultural, demographic, behavioural and situational factors represent a material obstacle to the functional and progressive savings behaviour that is required among the population to achieve and sustain an elevated savings rate.

Of the environmental factors, the greatest headwinds or hurdles come in the form of three obstacles. In the order presented in Table 3.2, **the first major corroder of savings capability is sluggish growth in per capita incomes**. In the most recent observation, South Africa scores 32.5, which means the country's *per capita* income growth is just one third the rate of growth achieved by the "savings stars" over their 25-year transformations.

The second drag, and a component that is closely related to the low rate of growth in per capita incomes, is slow growth in productivity. In this component, the South African economy records a score of 12.2, which can also be broadly interpreted that productivity growth, which is the platform for advancing competitiveness and rising incomes, is just one eighth the level of productivity growth achieved by the "savings stars" over the long run.

The third major drag on South Africa's environmental pillar is high and entrenched unemployment. If unemployment is the primary cause of poverty, South Africa falls down heavily on this component, with the country's elevated unemployment rate translating into a score of just 39.7.

Less damaging, but still harmful to the overall score for the environmental pillar, is poor numeracy, as reflected in a score of 67.2, which points to low levels of financial literacy that undermines constructive savings behaviour. The real interest rate, young age dependency, credit extension, urbanisation and uncertainty components all score above 70 points but do not reach or exceed the frontier score of 100.

In essence, in considering environmental factors that influence a country's savings rate, the challenges to South Africa achieving an elevated savings rate to fund fast growing levels of investment are broad based and ingrained, including low levels of productivity growth, elevated and entrenched unemployment, and modest growth in *per capita* incomes.



SA faces three major environmental obstacles to savings:

01

| per capita income growth is one third of what is required

02

| slow growth in productivity

03

| high and entrenched unemployment



The challenge to South Africa achieving an elevated savings rate to fund fast growing levels of investment are broad based and ingrained.



Table 3.1: Environment Components, Environment Component Scores and Environment Pillar Score

Year	Component Inputs													
	Change in Per capita Disposable Income (%)	Change in Per capita Disposable Income (Five-Year Moving Average)	Long-Term Growth in Per capita Disposable Income Saving Stars (%)	Domestic Credit Extension Relative to GDP (%)	Young Age Dependency Ratio (25 = 100)	Old Age Dependency Ratio (15 = 100)	Unemployment Rate (%)	Trend in Unemployment Rate (%)	Real Interest Rate (%)	Consumer Price Inflation Rate (%)	Productivity Growth (%)	Urbanisation Rate (%)	South Africa TIMSS Score (Maths & Science Average)	Saving Stars Mean TIMSS Score (Maths & Science Average)
1988	2,4	0,5	1,3	57,6	69,5	5,5	11,3	5,1	0,1	12,8	0,4	51,0	263,5	491,8
1989	0,2	-0,2	2,3	56,3	68,5	5,5	11,6	2,4	2,2	14,7	0,1	51,5	263,5	491,8
1990	-2,0	-0,1	3,3	58,4	67,3	5,5	11,8	2,4	4,7	14,3	-1,2	52,0	263,5	491,8
1991	-2,6	0,4	4,3	57,3	65,9	5,5	12,9	9,2	4,0	15,3	-0,6	52,6	263,5	491,8
1992	0,1	-0,4	5,3	56,5	64,3	5,6	13,5	4,2	3,8	13,9	-0,5	53,0	263,5	491,8
1993	-1,8	-1,2	6,3	54,1	62,7	5,6	15,1	12,2	2,7	9,7	0,8	53,5	263,5	491,8
1994	0,2	-1,2	7,3	57,3	61,1	5,6	16,2	7,2	5,5	8,9	2,1	54,0	263,5	491,8
1995	2,6	-0,3	8,3	56,9	59,4	5,6	16,9	4,3	6,9	8,7	2,9	54,5	263,5	491,8
1996	2,6	0,8	9,3	61,2	57,8	5,5	19,3	14,2	10,6	7,4	2,2	55,0	263,5	491,8
1997	1,2	1,0	10,3	64,5	56,2	5,4	21,0	8,8	11,0	8,6	3,0	55,4	263,5	491,8
1998	-0,9	1,1	11,3	69,9	54,6	5,3	25,2	20,0	13,1	6,9	3,4	55,9	263,5	491,8
1999	-0,6	1,0	12,3	68,9	53,1	5,3	23,3	-7,5	10,2	5,2	3,5	56,4	259,0	478,5
2000	1,8	0,8	13,3	66,8	51,9	5,4	25,0	7,3	5,2	5,3	6,1	56,9	259,0	478,5
2001	0,9	0,5	14,3	67,5	50,7	5,6	25,4	1,6	5,7	5,7	4,0	57,4	259,0	478,5
2002	1,6	0,5	15,3	62,6	49,8	5,8	27,2	7,1	4,5	9,2	3,1	57,9	259,0	478,5
2003	0,8	0,9	16,3	66,7	48,9	6,1	27,1	-0,4	8,9	5,9	4,7	58,4	272,5	502,5
2004	4,2	1,8	17,3	67,5	48,2	6,4	24,7	-8,9	4,6	1,4	2,1	59,0	272,5	502,5
2005	4,1	2,3	18,3	69,6	47,6	6,7	23,8	-3,6	4,9	3,4	2,1	59,5	272,5	502,5
2006	5,8	3,3	19,3	76,4	47,0	7,0	22,6	-5,0	4,4	4,6	3,4	60,1	272,5	502,5
2007	3,8	3,7	20,3	81,1	46,6	7,3	22,3	-1,3	4,7	7,1	2,7	60,6	272,5	502,5
2008	0,5	3,7	21,3	85,5	46,2	7,6	22,5	0,9	6,6	11,5	1,1	61,2	272,5	502,5
2009	-2,3	2,4	22,3	82,4	45,9	7,8	23,7	5,3	3,1	7,1	1,6	61,7	272,5	502,5
2010	3,0	2,2	23,3	78,3	45,7	8,0	24,9	5,1	2,0	4,3	3,8	62,2	272,5	502,5
2011	3,4	1,7	24,3	75,3	45,5	8,2	24,8	-0,4	3,0	5,0	0,9	62,7	341,5	508,2
2012	1,2	1,2	25,3	77,1	45,4	8,4	24,9	0,4	4,1	5,7	1,1	63,3	341,5	508,2
2013	1,2	1,3	26,3	74,8	45,4	8,5	24,7	-0,8	2,5	5,4	1,9	63,8	341,5	508,2
2014	0,0	1,8	27,3	75,6	45,2	8,6	25,4	2,8	3,1	6,4	0,0	64,0	341,5	508,2
2015	-0,5	1,1	28,3	76,7	45,1	8,7	25,0	-1,6	4,5	5,0	0,4	64,2	341,5	508,2



Table 3.2: Environment Components, Environment Component Scores and Environment Pillar Score cont.

Year	Component Scores											Pillar Score
	Change in Per capita Disposable Income versus Savings Stars (/100)	Unemployment Rate Structure (15.6=100) (/100)	Real Interest Rate Structure (6.4=100) (/100)	Productivity Growth Rate Structure Five-Year MA (/100)	Domestic Credit Extension versus Long-term Average (/100)	Young Age Dependency Ratio (25 = 100) (/100)	Old Age Dependency Ratio (15 = 100) (/100)	Consumer Price Inflation Rate Structure Five-Year MA (/100)	Urbanisation Rate (%) versus Savings Stars (75=100) (/100)	Numeracy Score versus Savings Stars Mean (/100)	Index Score (/100) (Inverse Weighted)	
1988	15.2	127.7	2.0	12.1	109.3	55.5	163.3	99.4	68.0	53.6	55.4	
1989	-6.2	125.9	34.3	2.1	111.3	56.5	163.3	95.9	68.7	53.6	49.8	
1990	-1.9	124.2	74.1	0.0	108.0	57.7	163.2	102.6	69.4	53.6	51.8	
1991	11.0	117.2	61.9	0.0	109.7	59.1	163.0	104.5	70.1	53.6	54.2	
1992	-11.0	113.7	59.1	0.0	111.1	60.7	162.8	103.2	70.7	53.6	49.7	
1993	-36.3	103.2	42.4	22.9	114.9	62.3	162.6	104.5	71.4	53.6	48.8	
1994	-36.3	96.2	85.4	58.6	109.7	63.9	162.5	109.3	72.0	53.6	56.9	
1995	-8.5	91.7	108.4	82.9	110.4	65.6	162.7	110.0	72.6	53.6	68.0	
1996	23.1	76.3	165.2	62.1	103.6	67.2	163.2	116.4	73.3	53.6	71.7	
1997	29.5	65.4	171.9	85.0	98.4	68.8	163.8	112.2	73.9	53.6	76.9	
1998	34.8	38.5	204.3	95.7	90.0	70.4	164.3	107.0	74.6	53.6	79.3	
1999	29.9	50.6	159.5	100.7	91.5	71.9	164.5	110.2	75.2	54.1	79.1	
2000	25.0	39.7	81.7	173.6	94.8	73.1	164.0	110.0	75.9	54.1	90.2	
2001	14.2	37.2	88.6	115.0	93.8	74.3	162.9	105.2	76.5	54.1	76.2	
2002	16.6	25.6	70.5	87.1	101.4	75.2	161.2	98.2	77.2	54.1	70.1	
2003	26.8	26.3	139.3	134.3	95.0	76.1	159.2	103.3	77.9	54.2	83.1	
2004	56.1	41.7	72.3	60.7	93.7	76.8	157.1	113.8	78.7	54.2	74.1	
2005	70.2	47.4	76.8	58.6	90.4	77.4	155.1	107.6	79.4	54.2	75.9	
2006	100.0	55.1	68.0	95.7	79.7	78.0	153.1	104.3	80.1	54.2	88.0	
2007	113.5	57.1	73.6	77.9	72.2	78.4	151.3	109.2	80.8	54.2	87.3	
2008	112.1	55.8	103.0	31.4	65.3	78.8	149.5	79.8	81.5	54.2	75.5	
2009	72.4	48.1	48.1	46.4	70.3	79.1	147.9	83.0	82.2	54.2	69.2	
2010	65.4	40.4	31.6	108.6	76.7	79.3	146.5	97.5	83.0	54.2	80.8	
2011	51.0	41.0	46.1	25.0	81.5	79.5	145.2	99.0	83.7	67.2	63.0	
2012	35.6	40.4	64.2	31.4	78.5	79.6	144.2	104.3	84.4	67.2	61.8	
2013	39.6	41.7	39.1	53.6	82.2	79.6	143.2	122.2	85.1	67.2	68.0	
2014	53.6	37.2	48.9	0.7	81.0	79.8	142.7	102.8	85.3	67.2	58.8	
2015	32.5	39.7	70.3	12.2	79.3	79.9	142.0	97.3	85.6	67.2	56.8	



Savings behaviour and performance of the South African economy have regressed modestly but steadily over the 26 years for which the index is constructed.

4. The Investec GIBS Savings Index

Sustained and elevated savings requires structural change. Thus, in compiling the *Investec GIBS Savings Index*, we establish a weighted three-year moving average for each of the pillars, with a weight of 0.5 given to the most recent observation (t), 0.3 to the previous observation ($t-1$) and 0.2 to the most distant of the three years ($t-2$). This weighted moving average diminishes the ability of a pillar in a single year to whipsaw the final index score. It also reduces the influence of outliers and, in so doing, is more effective in capturing structural performance than a single year's observations which will be influenced more heavily by cyclical factors. **Table 4** shows the scores for the three pillars as presented in Tables 1-3 and also shows the transformation of each of the pillar's raw scores into structural scores using the three-year weighted, moving-average method.

The final step in the construction of the *Investec GIBS Savings Index* is to aggregate the three structural pillars using equal weights. An equal-weighted approach is adopted for the simple reason that the three pillars are inextricably intertwined and mutually reinforcing.³

Table 4 shows the full calculation of the *Investec GIBS Savings Index* and the inputs provided by each of the underlying pillars.

Figure 17 graphically presents the final result of the *Investec GIBS Savings Index*, as shown in Table 4. This final result, as well as evidence and arguments presented elsewhere in this paper, have a number of important implications for South African policy and practice if the economy is to escape the trap of low structural growth, high income inequality and entrenched unemployment. Three primary implications are explored below.

A first observation that follows from the *Investec GIBS Savings Index* is that the low savings rate evident in South Africa is deep-rooted in nature.

This is readily shown by the fact that the highest level achieved by the index from inception in 1990 to present is 71.1. This high watermark was observed in the first year of construction, namely, 1990. Since then, while the index has fluctuated in a narrow range of 63.4 to 71.1, the trend in the index has been downward. This can be captured anecdotally, by noting that the low point in the 26-year series is 2015, with an index score of 63.4. The argument also can be made more rigorously by plotting a trendline through the index. This trendline plot is shown in **Figure 18**, which reveals a slope of -0.043. The negative slope confirms the anecdotal observation that savings behaviour and performance of the South African economy have regressed modestly but steadily over the 26 years for which the index is constructed.

³Although not shown here, weighting the pillars using the same method as elsewhere in this report, namely, inverse volatility, has insignificant effects on the index scores and behaviour. In many ways, this is an encouraging result as it points to the robustness of the index construction.



Table 4: Investec GIBS Savings Index Pillars & Index Score

Year	Pillar Scores			Structural Pillar Scores			Pillar Score
	Stock Pillar (/100)	Flow Pillar (/100)	Environment Pillar (/100)	Stock Pillar (/100)	Flow Pillar (/100)	Environment Pillar (/100)	Index Score (/100) (Equal Weighted)
1988	75,8	92,7	55,4				
1989	73,4	93,9	49,8				
1990	71,4	83,5	51,8	72,9	88,5	51,9	71,1
1991	70,3	81,8	54,2	71,3	84,7	52,6	69,5
1992	71,4	73,6	49,7	71,1	78,1	51,5	66,9
1993	70,5	69,8	48,8	70,7	73,3	50,1	64,7
1994	68,6	69,4	56,9	69,7	70,3	53,0	64,4
1995	67,7	67,3	68,0	68,5	68,4	60,8	65,9
1996	66,5	63,8	71,7	67,3	66,0	67,7	67,0
1997	65,7	58,4	76,9	66,4	61,8	73,6	67,3
1998	65,7	56,0	79,3	65,9	58,3	77,1	67,1
1999	66,3	51,7	79,1	66,0	54,3	78,7	66,4
2000	66,4	54,4	90,2	66,2	53,9	84,7	68,3
2001	65,3	63,2	76,2	65,8	58,3	81,0	68,4
2002	65,0	72,4	70,1	65,4	66,1	76,0	69,1
2003	63,5	71,3	83,1	64,3	70,0	77,8	70,7
2004	64,3	69,5	74,1	64,2	70,6	76,0	70,3
2005	65,6	68,0	75,9	64,8	69,1	76,8	70,2
2006	67,4	54,9	88,0	66,2	61,7	81,6	69,8
2007	67,0	50,2	87,3	66,8	55,1	85,2	69,1
2008	66,4	63,3	75,5	66,8	57,7	81,6	68,7
2009	67,0	63,5	69,2	66,8	60,8	74,7	67,5
2010	69,4	62,3	80,8	68,1	62,9	76,3	69,1
2011	71,8	66,1	63,0	70,1	64,5	69,6	68,1
2012	73,0	61,3	61,8	71,9	63,0	65,9	66,9
2013	74,3	50,7	68,0	73,4	56,9	65,2	65,2
2014	74,4	55,3	58,8	74,1	55,1	62,2	63,8
2015	74,8	58,7	56,8	74,6	56,1	59,6	63,4

The *Investec GIBS Savings Index* for 2015 produces a score of 63.4

Figure 17

Investec GIBS Savings Index 1990 – 2015

Year	Index Value
1990	71.1
1991	69.5
1992	66.9
1993	64.7
1994	64.4
1995	65.9
1996	67.0
1997	67.3
1998	67.1
1999	66.4
2000	68.3
2001	68.4
2002	69.1
2003	70.7
2004	70.3
2005	70.2
2006	69.8
2007	69.1
2008	68.7
2009	67.5
2010	69.1
2011	68.1
2012	66.9
2013	65.2
2014	63.8
2015	63.4

Figure 18

Investec GIBS Savings Index trendline 1990 – 2015

$y = -0.043x + 68.2$

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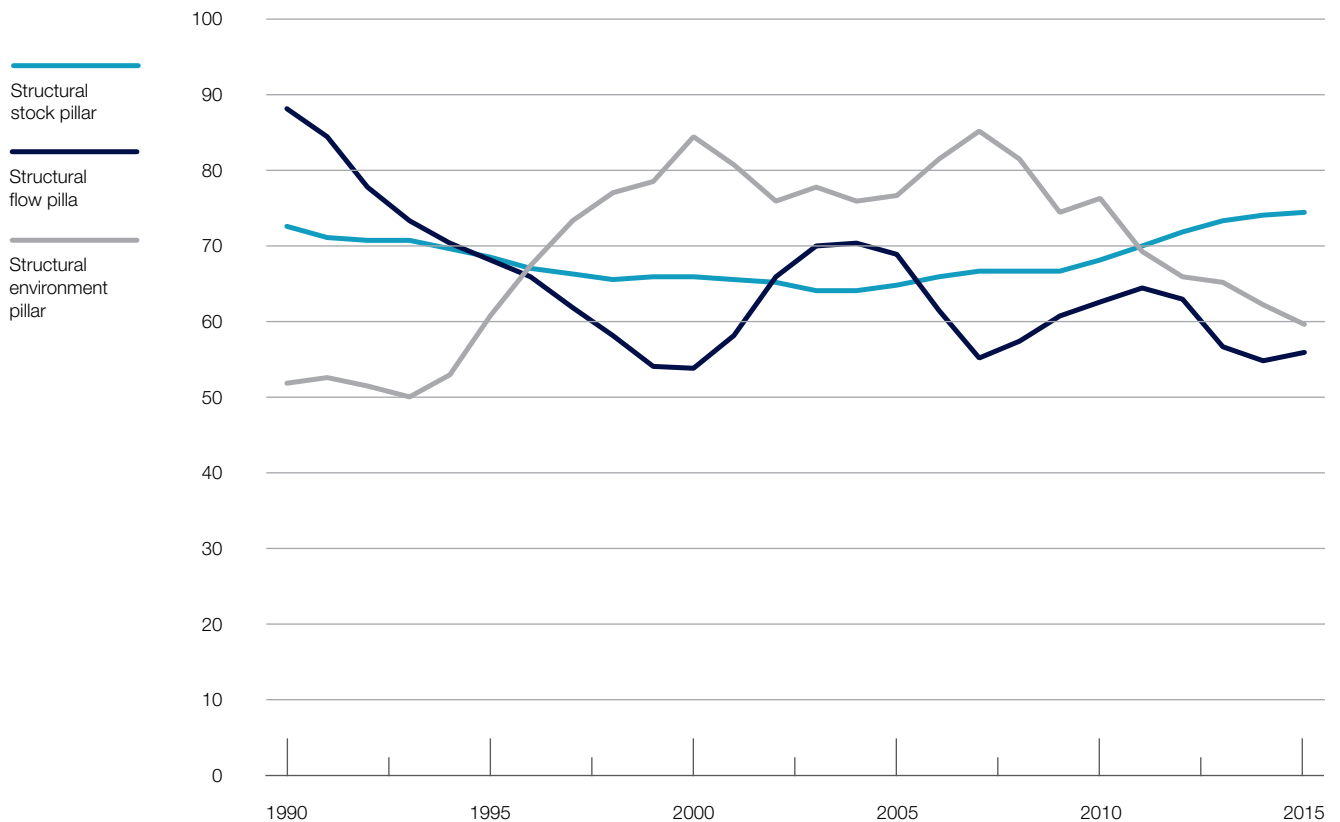


Second, the retarded savings behaviour and performance displayed by the South African economy from 1990 to present are broad based and entrenched. This can be explained by noting that the stock pillar has moved in a very narrow range over the 26 years, and the maximum score for this pillar is 74.6, as shown in **Figure 19**. A naïve mathematical extrapolation suggests that if South Africa wishes to achieve the rates of growth associated with the “savings stars” and “economic miracles”, the country’s stock of savings needs to expand permanently by about one third.⁴ Similarly, although South Africa’s flow pillar shows higher volatility than the stock pillar, the pillar has been in a state of steady decline since 1990. Moreover, the

most recent flow pillar score of 56.1 suggests that South Africa’s savings rate needs to almost double from current levels.⁵ In the same vein, the environment pillar points to South Africa’s savings influences as being volatile but inadequate to produce the required savings behaviour. To this end, the environment pillar score has fluctuated between 50.1 and 85.2, making it the most erratic of the three scores. Notably, however, the score for the environment pillar seems to have been in a state of steady decline since the peak score of 85.2 was observed in 2007, which coincides with the heightened optimism associated with the high average economic growth rate of 5.5% a year produced by the South African economy from 2005 to 2007.

Figure 19

Investec GIBS Savings Index pillars 1990 – 2015



⁴This is calculated by taking the distance from the current pillar score of 74.6 to the stock pillar frontier of 100, and then dividing this result of 25.4 by the current stock score of 74.6 to produce a required expansion of 34.0% from the current base.
⁵This is calculated by taking the distance from the most recent flow pillar score of 56.1 to the flow pillar frontier of 100, and then dividing this result of 43.9 by the current flow score of 56.1 to produce a required improvement in flows of 78.3%.



If we are in search of remedies to the SA's economy's poor savings performance, we should search in the environment pillar for factors and forces that explain the inadequate savings result.

Third, the stock pillar and the flow pillar are outputs, or consequences, of South Africa's savings behaviour and patterns, whereas the environmental pillar captures inputs. For this reason, if we are in search of remedies to the economy's poor savings performance, we should search in the environment pillar for factors and forces that explain the inadequate savings result. Moreover, by identifying the most depressed components inside this pillar, we are able to prioritise areas of focus if we are in search of solutions that are likely to have the greatest impact. On the back of this reasoning, it is argued that the areas in which South African policy is likely to have the greatest impact relate to the components in which the distance to the frontier is greatest, that policy has a prospect of shifting and in which the score evidently is moveable. On close inspection of the components, **four aspects suggest themselves for policy attention.**

These aspects include:

- (1) Promotion of financial literacy, suggested via the numeracy component;
- (2) Substitution of access to credit with vehicles that promote savings, suggested by the credit extension score;
- (3) Creation of greater incentives to save, suggested via the real interest rate structure score; and
- (4) Growth in productivity and incomes and reduction in unemployment which is self-evident, even if circular (Loayza *et al*, 2000).

These proposed policy target areas are carried into the final section of this paper, which summarises the arguments and evidence presented in this paper and draws on some country case studies to suggest practical ways in which South Africa's low savings rate trap can be released.



Four aspects suggest themselves for policy attention

01

promotion of financial literacy

02

substitution of access to credit with vehicles that promote savings

03

creation of greater incentives to save

04

growth in productivity and incomes and reduction in unemployment

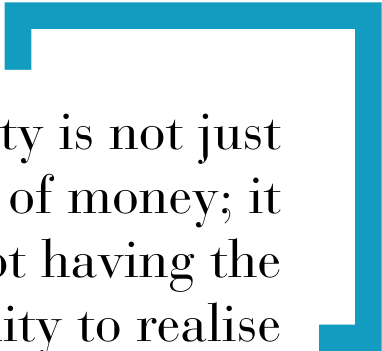


E I G H T

Saving for change

Savings and investment are the building blocks of economic growth over the long term. For a country to achieve elevated, sustained and inclusive economic growth, it is critical that the economy produces a high savings rate. The arguments and evidence led in this paper point to the inevitability of a country with a low savings rate being trapped in a state of low economic growth with elevated rates of unemployment and poverty that are the consequence of sagging competitiveness. The *Investec GIBS Savings Index* shows the extent to which the South African economy is snared in such a trap. However, drawing on Faulkner *et al* (2013), the South Africa economy arguably can escape its low-savings trap in at least three ways.

The first is by reducing consumption to bolster savings. In this regard, it is particularly interesting from a policy perspective that tax rates – which are widely perceived to be a tool for incentivising saving – are far less effective than changes in consumer behaviour in promoting saving (McBride, 2013). **Second, by attracting non-resident savings to promote portfolio investments, South Africa could boast a higher savings rate** (Faulkner *et al*, 2013). However, there is little evidence to suggest that portfolio flows are associated with inclusive and elevated economic growth. If anything, the opposite holds, with high levels of foreign portfolio flows being most commonly associated with rent-seeking behaviour and extractive outcomes (see, for example, Studwell, 2013). **Third, Faulkner et al (2013) argue that attracting foreign direct investment, either through the sale of existing assets or the investment of foreign currency into new domestic ventures, could bolster the necessary flow of savings to fund required investment.** The results of the *Investec GIBS Savings Index* suggest that this is an avenue worth exploring.

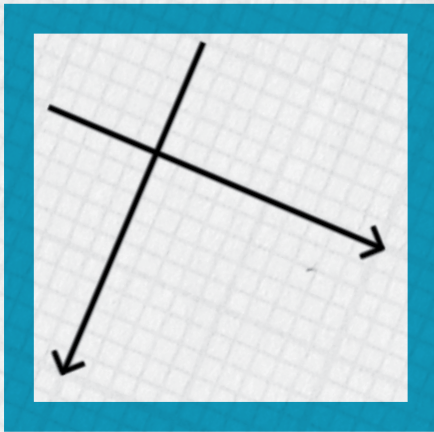


“Poverty is not just a lack of money; it is not having the capability to realise one’s full potential as a human being.”

Amartya Sen,
1933-



The promotion of domestic savings - and especially among households - holds the greatest prospect for the promotion of elevated economic growth.



Notably, of these three possible avenues, it is the promotion of domestic savings – especially among households – that holds the greatest prospect for the promotion of elevated economic growth, the distribution of that income among the population and inclusive development in South Africa.

It is beyond the scope of this paper to propose policy solutions. However, it would be incomplete to overlook the availability and immediacy of ways in which savings can be promoted. For this reason, the final part of this paper considers a handful of microeconomic solutions to the macroeconomic ailment of poverty traps. The solutions presented below are chosen subjectively but not randomly, as they all carry the common attributes of:

- (1) Promoting financial literacy;
- (2) Substituting access to credit with vehicles that promote savings;
- (3) Creating incentives to save; and
- (4) Encouraging growth in productivity and incomes and reduction in unemployment by promoting investment in productive assets.



Positive saving behaviours can be established in low income environments.

Five examples of microeconomic solutions are presented below.

1. Doorways to Dreams

The first of the microeconomic examples is the United States-based Doorways to Dreams, which **works to strengthen the security of financially vulnerable consumers and promote their capabilities by identifying consumer finance trends; building financial solutions that work in small, illiquid markets; and creating awareness of financial products** (Cohen, 2014). Doorways to Dreams was formed at the turn of the century by Peter Tufano, then a newly tenured professor at Harvard Business School, to work in low income communities. Tufano's solutions emphasised behavioural tools and drew on the asset building field as the basis for wealth creation – rather than current income – to foster economic security, support financial self-discipline and launch social mobility.

Examples of innovations that have enabled Doorways to Dreams to promote savings include prize-linked savings accounts, where each \$25 deposit earns a ticket into a lottery that has 26 monthly prizes ranging from \$25 to \$100, a few quarterly prizes of \$500 to \$1,500 and one \$30,000 annual jackpot. One of the impacts that the save-to-win initiative has had is to teach people how to save and to forecast, which causes important psychological shifts, especially among financially vulnerable communities. Other innovations include financial education through entertainment games, or gamification; campaigns that encourage taxpayers to save their tax refund; the design of mobile applications that influence financial behaviour; and the creation of children's savings accounts. In the 15 years since its launch, Doorways to Dreams has helped 300,000 people accumulate nearly \$200m in savings.

2. Conditioning savings

Another microeconomic intervention that has enjoyed wide success in promoting savings behaviour is savings-linked conditional cash transfers (CCTs) (Winkler, 2014). A CCT is a targeted government-to-person transfer where an individual (often, but not exclusively, a low-income person) receives money from the government as long as they meet certain conditions set by the programme. The Peruvian pilot scheme, JUNTOS⁶, offers insights into the potential success of CCT programmes (Winkler, 2014, 98-101). The JUNTOS scheme was designed to improve financial access and increase the use of formal deposit services by providing matching grants and subsidies to low-income women who opened time-bound personal accounts, made deposits and participated in financial education workshops. It also integrated mechanisms to support investment in personal or productive assets and to build social capital through savings support groups.

The success of the scheme is shown by the fact that 95% of the women participating in JUNTOS were still saving after the termination of financial incentives and 74% were saving portions of their CCTs. The success of the savings-linked CCT programme demonstrates what is possible in an environment in which, despite the benefits of formal savings, over 60% of the population do not hold accounts with formal financial institutions and only 10% of adults in the region report saving at a bank (Winkler, 2014, 93-94). Moreover, and perhaps most critical, is the point that the JUNTOS scheme shows that positive savings behaviour can be established in low-income environments. This underscores the point that, in constructive environments and supporting institutions, people can save their way out of poverty.


⁶Juntos translates from Spanish into English as "together".



3. Make it easy and make it fun: An education in saving

Another example of microeconomic solutions in a low-savings setting is Propel Schools, which operates charter schools from pre-school to Grade 12 in Pittsburgh, Pennsylvania in the United States. Drawing on the Doorways to Dreams model, the schools open savings accounts for all their students and raffle off gift cards worth \$25 to \$40 in places like T.J. Maxx, Red Lobster, Walmart and Giant Eagle supermarkets (Cohen, 2014). Under the programme, known as Fund My Future, every \$10 deposit earns an entry in the monthly lottery, with up to four entries a month. **The programme mantras are “make it easy” and “make it fun”.** These bank accounts carry no fees and do not pay interest. They require no paperwork from parents and do not count against any income-tested benefits. The Propel Foundation serves as custodian of the accounts. No one has to go to a bank to make a deposit. Students can make deposits every day with cashiers in the school cafeteria.

It is notable that the programme has converted a large part of the student body into regular savers, which at first glance is at odds with the fact that most of the students come from low-income backgrounds and qualify for free or reduced-price school meals. However, on closer inspection, the success of the programme reinforces the point that saving is a learned behaviour and that savings patterns are reinforced by financial literacy. To promote savings behaviour further, 2015 has seen the four monthly prizes from each school become a single prize across all schools each month. Also, at the end of the school year, there is a \$5,000 grand prize. The bigger prizes and the grand annual prize, awarded by Fund My Future, are expected to create “chatter”, which is considered to be a way in which savings behaviour is encouraged inside the community (Cohen, 2014).



The success of the programme reinforces the point that saving is a learned behaviour and that savings patterns are reinforced by financial literacy.



4. A gateway to saving: matched savings

Another way in which savings behaviour has been established and successfully developed is through matched savings schemes in Australia, Canada, the United States and the United Kingdom, among other places (Kempson, McKay and Collard, 2005). Under a matched savings scheme, it is typical for savers to receive some \$2 or \$3 for each \$1 that they save, sometimes more. However, this matching money must be spent on one of a range of prescribed uses such as education, training, business assets or residential assets.

The objectives of these schemes are typically concerned with developing a habit of saving or advancing the acquisition of assets (Kempson *et al*, 2005).

The Saving Gateway in the United Kingdom offers interesting insights into the effects of matched savings schemes on savings behaviour and asset accumulation. Under the Saving Gateway scheme, accounts have to be opened with at least £1 and people are allowed to contribute up to £25 each calendar month to their account. There also is a total account limit of £375 which can be reached within 15 months for someone saving the maximum £25 each month. Only one account is allowed per person and government adds a matching contribution at a rate of £1 for £1, when the account matures at 18 months. The government match equals the highest balance attained during the lifetime of the account. Although no interest is paid on the accounts, a matching rate of £1 for £1 for an 18-month account equates to an annual interest rate of close to 60%. While the Saving Gateway scheme has enjoyed great success in promoting savings behaviour and asset accumulation, it is noteworthy that take-up of the scheme has been greatest among women and people in their 20s and 30s. Also, about half of account holders have dependent children and live on low incomes. With time, account holders show an aversion to use credit and generally access credit reluctantly and from necessity rather than choice (Kempson *et al*, 2005).

5. Saving in context

As a final note on the perspective of microeconomic solutions to the macroeconomic problem of savings traps, **it is important to recognise that the success of the types of savings products outlined above is dependent on, among other things, an understanding of markets, segmentation of markets, social behaviour, demographics, education levels and cultural patterns.** This point is made by Ismail (2015) where she notes that “some of the most successful financial ... products have been designed by users who adapt open platforms ... to meet their own needs”. By way of example, official savings and remittance products were only launched by telecommunication companies after these businesses discovered that their users had adapted products and platforms to meet their unique savings needs determined by their income flows and specific circumstances (Ismail, 2015).

The power of this point is driven home by the creation of the virtual bank M-Shwari, which was built on the back of Kenya's M-Pesa platform by Commercial Bank of Africa. Within three months of its launch, M-Shwari reported 1.6 million registered customers and that savings activity exceeded the demand for credit. This success happened because the platform was designed after M-Shwari had watched how people were saving through their system and used that behaviour to build a solution relevant and sensitive to context (Ismail, 2015).

On the back of these arguments and broad-based country experiences and evidence, it would appear that solutions to South Africa's savings deficit lie not so much in top-down policy interventions as they do in bottom-up interventions and innovations.



Solutions to South Africa's savings deficit lie not so much in top-down policy interventions as they do in bottom-up interventions and innovations.





N I N E

Conclusion

“Miracles are a retelling in small letters of the very same story which is written across the whole world in letters too large for some of us to see.”

C.S. Lewis,
1898-1963

Evidence from economic history is unambiguous. Countries that achieve high rates of sustained and inclusive economic growth share common attributes. These include a high rate of investment, outward economic orientation, macroeconomic stability, market allocated resources and competent governments. Of these factors, however, the greatest explanatory power resides with the investment rate and consequent capital accumulation. Given that investment spending, by definition, can only be funded out of savings, it follows that elevated, inclusive and sustained economic growth hinges on high savings rates. Notably, while savings can be funded domestically or from foreign capital flows, **the evidence shows that the most functional form of saving takes the shape of domestic saving, in particular, household saving.**

To this end, notwithstanding South Africa's fundamentally important political transformation and evident economic progress since 1994, the arguments and evidence presented in this paper show that the country's growth rate is stunted and economic advances have tended to be exclusive rather than inclusive. Given the pivotal role of savings, and drawing on the work of others, we develop the *Investec GIBS Savings Index* in this paper to

consider the country's savings performance. Using pillars that measure South Africa's stock of savings, savings flow and factors that influence savings, the results of the index are unambiguous: **South Africa's economic performance and ability to generate inclusive growth and achieve development are severely savings constrained.**

For South Africa to achieve high, inclusive economic growth and sustained development, it is a necessary condition that the country escapes its low savings trap. Although this paper is not intended to propose policy solutions, it would be a shortcoming to ignore some ways in which this trap can be released. To this end, the microeconomic solutions that are presented to the binding macroeconomic constraint of low savings show that **solutions are readily available and that savings are not just critical to funding economic growth, but are also an important factor in reducing poverty.** Savings can stimulate financial inclusion of the poor, protect against unforeseen shocks and fund long-term investments in human and economic development. In this way, elevated savings are much more than a private good; they are a public good and, in South Africa's context, an economic and social imperative.



Elevated savings are much more than a private good; they are a public good and, in South Africa's context, an economic and social imperative.



T E N

Bibliography

- Adebiyi, M A (2005) Saving-Growth Relationship in Nigeria: An Empirical Evidence, *African Review of Money Finance and Banking*, 2005: 159-178.
- Ahiakpor, J C W (1995) A Paradox of Thrift or Keynes's Misrepresentation of Saving in the Classical Theory of Growth?, *Southern Economic Journal*, 62(1): 16-33.
- Alvarez-Cuadrado, F and Vilalta, M E (2012) Income Inequality and Saving, *IZA Discussion Paper*, No. 7083.
- Ando, A and Modigliani, F (1963) The Life Cycle Hypothesis of Saving: Aggregate Implications and Tests, *American Economic Review*, 53(1): 55-84.
- Attanasio, O P, Picci, L and Scorcu, A E (2000) Saving, Growth, and Investment: A Macroeconomic Analysis Using a Panel of Countries, *The Review of Economics and Statistics*, 82(2): 182-211.
- Berlemann, M and Wesselhöft, J-E (2012) *Estimating Aggregate Capital Stocks Using the Perpetual Inventory Method: New Empirical Evidence for 103 Countries*. Working Paper No. 125, Department of Economics, Fächergruppe Volkswirtschaftslehre.
- Bewley, T (1977) The Permanent Income Hypothesis: A Theoretical Formulation, *Journal of Economic Theory*, 16(2): 252-292.
- Bresciani-Turroni, C (1936a) The Theory of Saving: The Forms of the Saving Process, *Economica*, 3(9): 1-23. (1936b) The Theory of Saving: Disequilibrium between Saving and Investment During the Trade Cycle, *Economica*, 3(10): 162-181.
- Chamon, M D and Prasad, E S (2010) Why Are Saving Rates of Urban Households in China Rising?, *American Economic Journal: Macroeconomics*, 2(1): 93-130.
- Cohen, P (2014) Using Gambling to Entice Low-Income Families to Save, *New York Times*, August 30, 2014. Accessed 30 August 2014 via www.nytimes.com/2014/08/31/business/using-gambling-to-entice-low-income-families-to-save.html?_r=0.
- Commission on Growth and Development (2008) *The Growth Report: Strategies for Sustained Growth and Inclusive Development*. World Bank, Washington DC.
- Deaton, A (2005) *Franco Modigliani and the Life Cycle Theory of Consumption*. Paper presented at the Convegno Internazionale Franco Modigliani, Accademia Nazionale dei Lincei, Rome, 17th-18th February 2005.
- Department of Finance (1995) *Growth Employment and Redistribution: A Macroeconomic Strategy*. Department of Finance: Pretoria, South Africa.
- Domar, E (1946) Capital Expansion, Rate of Growth, and Employment, *Econometrica*, 14(2): 137-147.
- Easterly, W and Levine, R (1999) *It's Not Factor Accumulation: Stylized Facts and Growth Models*. Mimeo, World Bank and University of Minnesota, September 1999.
- Elbadawi, I A and Mwega, F M (2000) Can Africa's Saving Collapse Be Reversed?, *The World Bank Economic Review*, 14(3), 415-443.
- Faulkner, D, Loewald, C and Makrelov, K (2013) Achieving Higher Growth and Employment: Policy Options for South Africa, *Economic Research Southern Africa (ERSA)*. ERSA Working Paper No. 334.
- Frączek, B (2011) *The Factors Affecting the Level of Household Savings and their Influence on Economy Development*, Eighth International Scientific Conference Financial Management of Firms and Financial Institutions. Ostrava, Faculty of Economics, Finance Department 6-7 September 2011.
- Friedman, M (1956) *A Theory of the Consumption Function*. Princeton, New Jersey: Princeton University Press.
- (1957) The Permanent Income Hypothesis, *National Bureau of Economic Research*, 20-37.
- Furceri, D and Mourougane, A (2010) *Influence of Age Structure on Savings and Social Spending*. ADBI Working Paper.
- Harjes, T and Ricci, L T (2005) What Drives Saving in South Africa?, In M Nowak and L A Ricci (eds), *Post-Apartheid South Africa. The First Ten Years*, pp 48-63. International Monetary Fund, Washington, DC.
- Harrod, R F (1939). An Essay in Dynamic Theory, *Economic Journal*, 49(193): 14-33.
- Hyung, J (2013) *An Analysis on the Effect of Old Age Dependency Ratio on Domestic Saving Rate*. Thesis, Department of Economics, University of California, Berkeley.
- Ismail, T (2015) Moving from Producer-Led to User-Led Innovations in Subsistence Markets. *Strategic Marketing*, October-November 2015.
- Jafta, R and Boshoff, W (2008) *Achieving Asgisa's Aspirations: The Role of the National System of Innovation*. TIPS Forum Paper, October 2008.
- Karlan, D, Ratan, A L and Zinman, J, 2014, Savings by and for the Poor: A Research Review and Agenda, *Review of Income and Wealth*, 60(1): 36-78.
- Kempson, E, McKay, S and Collard, S (2005) *Incentives to Save: Encouraging Saving Among Low-Income Households*. Final Report on the Saving Gateway Pilot Project. Personal Finance Research Centre, University of Bristol.
- Khan, A (2011) Causes of Low *per Capita* Income of Pakistan and Developing Countries, *Economics and Education*. Accessed 28 November 2015 via ahsankhaneco.blogspot.co.za/2011/12/causes-of-low-per-capita-income-of.html.
- Kotlikoff, L J (2001) *Essays on Saving, Bequests, Altruism, and Life-Cycle Planning*. Cambridge: MIT Press.



- Leland, H (1968) Saving and Uncertainty: The Precautionary Demand for Saving, *Quarterly Journal of Economics*, 2: 465-473.
- Liu, S and Hu, A (2013) Household Savings in China: The Keynesian Hypothesis, Life-Cycle Hypothesis, and Precautionary Saving Theory, *The Developing Economies*, 51(4): 360–87.
- Loayza, N, Schmidt-Hebbel, K and Servén, L (2000) Saving in Developing Countries: An Overview, *The World Bank Economic Review*, 14(3): 393-414.
- Louw, L (2006) Habits of Highly Effective Countries: Lessons for South Africa, *The Law Review Project*, October 2006.
- Lusardi, A (2008) *Household Saving Behavior: The Role of Financial Literacy, Information, and Financial Education Programs*. NBER Working Paper No. 13824. Issued in February 2008.
- Mabunda, J (1999) *Capital Flows, Emerging Markets and South Africa*, Masters Thesis, Department of Economics, Rand Afrikaans University.
- McBride, W (2013) *How Tax Reform Can Address America's Diminishing Investment and Economic Growth*. Tax Foundation Fact Sheet No. 395.
- Miles, D, Scott, A and Breedon, F (2012) *Macroeconomics: Understanding the Global Economy*, Third Edition. John Wiley and Sons: Hoboken, New Jersey.
- Modigliani, F and Brumberg, RH (1954) Utility Analysis and the Consumption Function: An Interpretation of Cross-Section Data, in Kurihara, K K (ed.) *Post-Keynesian Economics*. New Brunswick, NJ Rutgers University Press.
- Modigliani, F and Cao, S L (2004) The Chinese Saving Puzzle and the Life-Cycle Hypothesis, *Journal of Economic Literature*: 42(1): 145-170.
- Mohamed, S (2014) *The Impact of International Capital Flows on the South African Economy Since the End of Apartheid*. Accessed 2 December 2014 via www.policyinnovations.org/ideas/policy-library/data/01386/.
- National Planning Commission (2013) *National Development Plan 2030: Our Future Make It Work*. National Planning Commission: Pretoria, South Africa.
- Odhiambo, N M (2007) The Determinants of Savings in South Africa: An Empirical Investigation, *African Finance Journal*, 9(2): 37-52.
- Porter, M (2008) *On Competition*. Harvard Business Review Books: Boston, Massachusetts.
- Prinsloo, J W (2000) *The Saving Behaviour of the South African Economy*, South African Reserve Bank Occasional Paper, No. 14.
- Ranis, G (2004) *Arthur Lewis' Contribution to Development Thinking and Policy*. Economic Growth Center, Yale University: Discussion Paper No. 891.
- Schmidt-Hebbel, K and Servén, L (1997) *Saving Across the World: Puzzles and Policies*, World Bank Discussion Paper, No. 354.
- Schwab, K and Sala-i-Martin, X (2014) *The Global Competitiveness Report: 2014-2015*. World Economic Forum, Geneva.
- Solow, R M (1956) A Contribution to the Theory of Economic Growth, *Quarterly Journal of Economics*, 70(1): 65-94.
- Statistics South Africa (2015) *Labour Market Dynamics in South Africa 2014*. Statistics South Africa: Pretoria.
- Studwell, J (2013) *How Asia Works: Success and Failure in the World's Most Dynamic Region*. Profile Books: London.
- Sueyoshi, A (2010) An Empirical and Theoretical Literature Review of Endogenous Growth in Latin American Economies, *Journal of the Faculty of International Studies Utsunomiya University*, 29: 35-48.
- Sunstein, C R and Thaler, R H (2003) Libertarian Paternalism Is Not an Oxymoron, *University of Chicago Law Review*, 70(4): 1159-1202.
- Swan, T W (1956) Economic Growth and Capital Accumulation, *Economic Record*, 32(2): 334–361.
- Thanoon, M A and Baharumshah, A Z (2007) Private Savings, Growth, Dependency Ratio and Foreign Capital: Some Issues and Lessons from Malaysia, *Savings and Development*, 31(4): 399-417.
- Traut-Mattausch, E and Jonas, E (2011) Why Do People Save?: The Influence of Financial Satisfaction and Income on Saving, *Journal of Psychology*, 219(4), 246-252.
- United Nations Development Programme (UNDP) (2014) *Human Development Report: Sustaining Human Progress*. United Nations Development Programme. New York.
- Van Nieuwerk, A (2014) *South Africa's National Development Plan and its Foreign Policy: Exploring the Interface*. Background Paper: Wits School of Governance, November 2014.
- Weeks, J (1999) Stuck in Low GEAR? Macroeconomic Policy in South Africa, 1996-1998, *Cambridge Journal of Economics*, 6: 795-811.
- Winkler, G (2014) Encouraging Savings Behavior through Conditional Cash Transfers: Lessons from Latin America. *Policy Perspectives*, 21: 92-104.
- World Bank (1999) *Saving: What Do We Know and Why Do We Care?* Economic Policy, World Bank, No. 28: August 1999.
- Zarenda, H (2013) *South Africa's National Development Plan and Its Implications for Regional Development*. TRALAC Working Paper No. D13WP01/2013, June 2013.



E L E V E N

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