The impact of general economic policies on road funding

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Paper Submitted for the SARS/IRF/PIARC Conference: Durban ICC 7 to 9 October 2018

Suggested Focus Group **FA1 – Roads Needs and financing mechanisms**

<u>Introduction and background</u>:

Over the last 37 years South Africa has gone through three distinct economic phases. These may be generally described as internal conflict and sanctions prior to 1994; consolidation and market led performance from 1994 to 2007; and populism from 2007 to the present.

Figure 1 shows these phases and the performance of the overall economy.

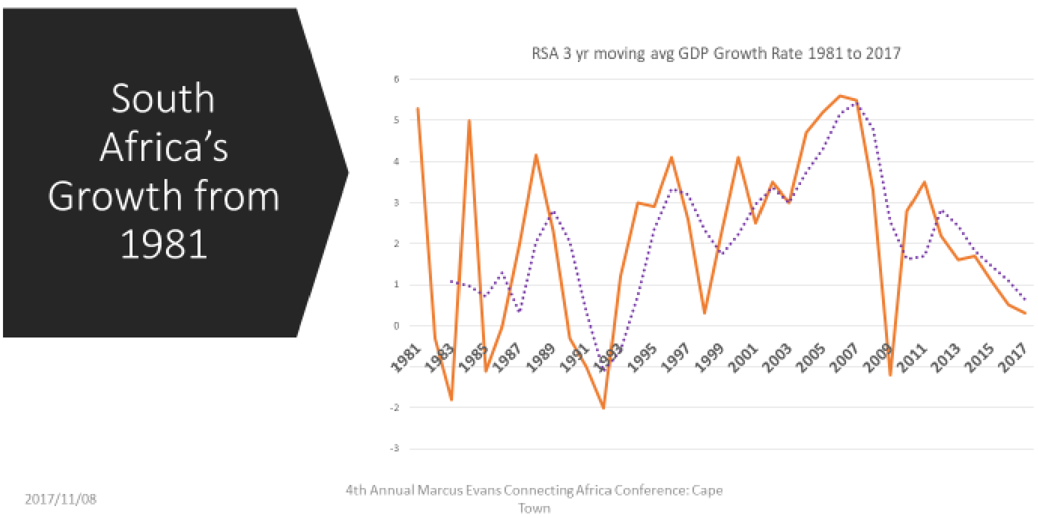


Figure 1: Annual GDP growth rates in the South African Economy 1981 to 2017: Source Statistics SA

During the period 1981 to 1994, there were wide fluctuations in economic performance, an indication of a system largely out of control and reliant on windfalls, particularly in the prices of gold and other commodities.

After 1994 steady growth was evidenced under the stewardship of Presidents Mandela and Mbeki and Minister of Finance Trevor Manuel with the annual increase in GDP growth averaging 0,5% per annum from -1% to 5%.

How much of this came from heeding the advice of the IMF, World Bank and other international institutions and how much came from own internal think tanks is not known but during these positive days SANRAL was embarking on its PPP road building programme with the Maputo Toll Road occurring in 1997, the N3 in 1999 and Bakwena in 2001 as Public Private Partnerships, or PPP's.

Together these three projects amounted to approximately R10bn being injected into the economy from private sector investment into roads, 90% of this funding generated from within South Africa's economy.

Allied to other PPP investment in water treatment, energy (wind and solar) and ports (Maputo), economic development was positive with strong participation from the private sector. Political developments in 1997 essentially stopped investment in PPP's and moved towards a policy of populism, with the State being regarded as the primary provider of infrastructure through both agencies and SOE's.

Figure 2 shows how this economic cake was split over that time as well as currently, specifically in 1994 and in 2014.

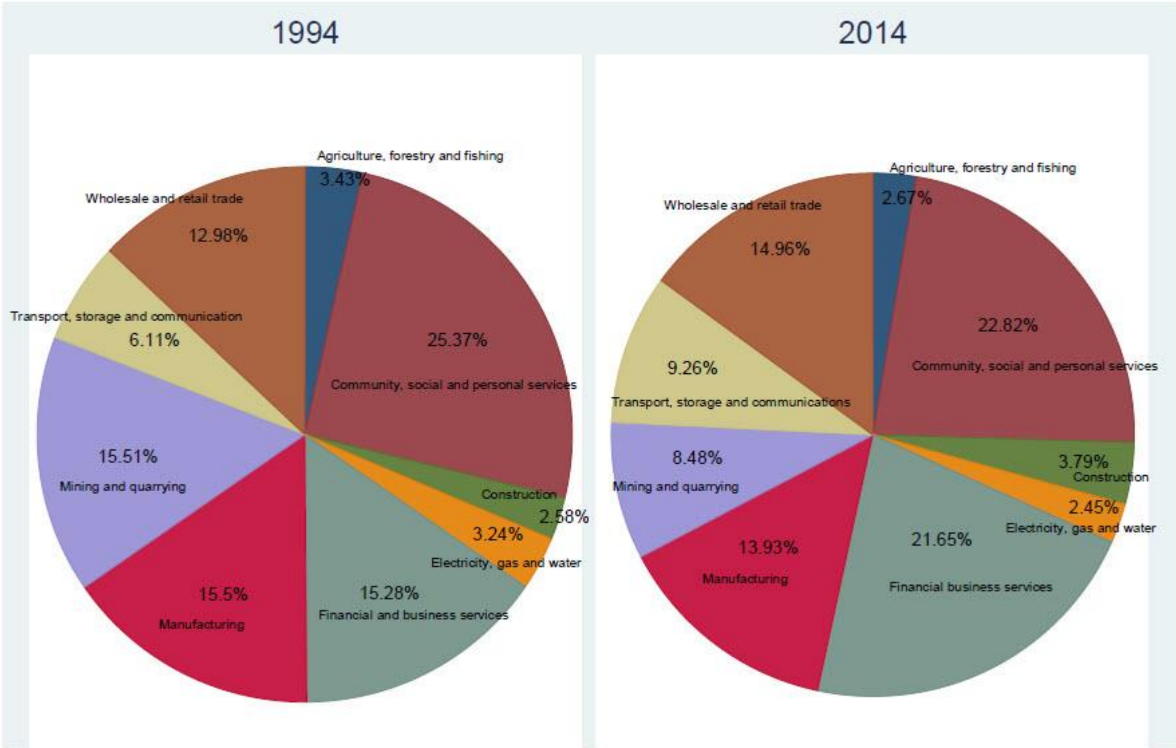


Figure 2: The split of the South African Economic contributors 1994 and 2014: Source Statistics SA

On the face of it the cakes appear similar. However, Figure 3 reveals a different story, with the South African economy having shrunk by one quarter between 2011 and 2016.

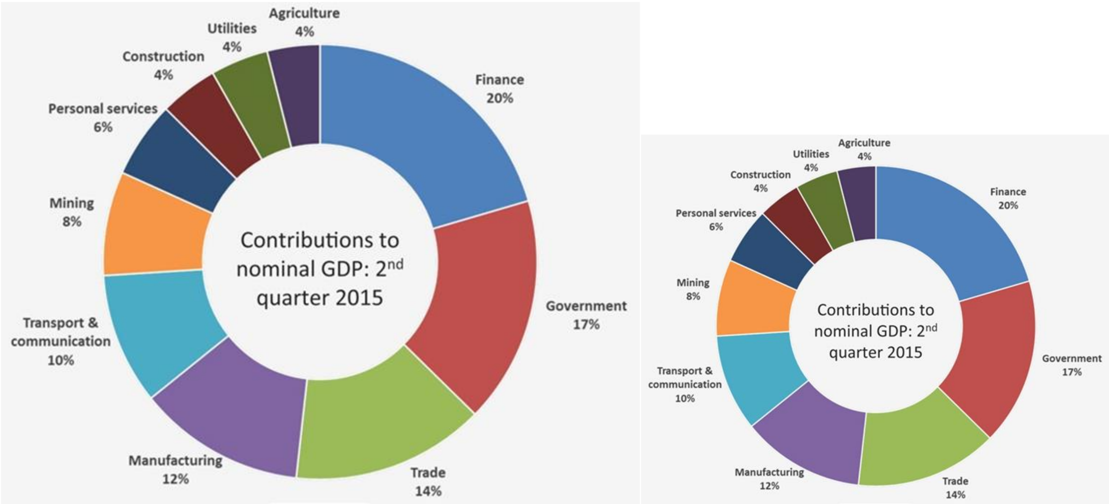


Figure 3: The split (and relative size) of economic contributors in South Africa in 2015: Source Statistics SA

Figure 4 reveals an even grimmer story.

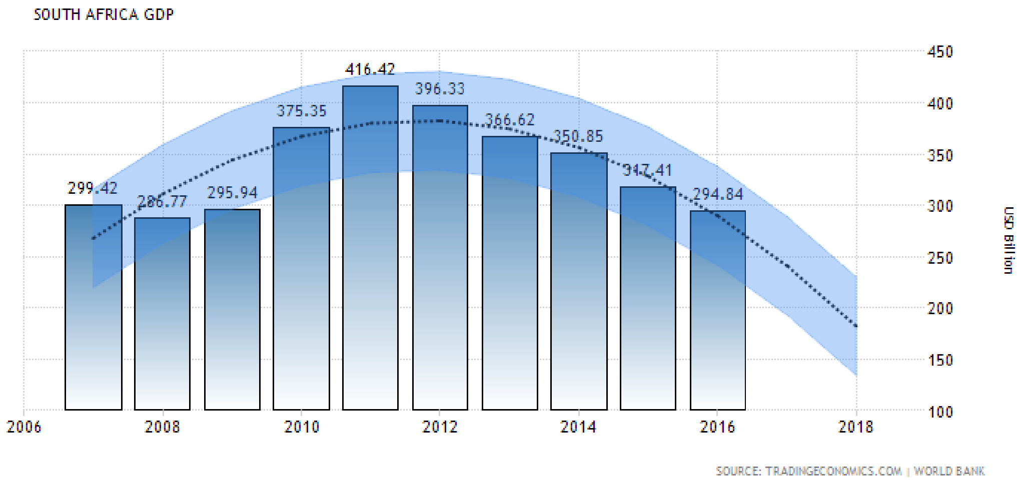


Figure 4: The growth and decline of the South African economy from 2006 to 2018: Source Statistics SA

The cake has shrunk from a peak of $416,42 billion USD in 2011, through $358,74 billion USD in 2013/14, to $294,84 billion USD in 2016.

While the distribution of the cake has not changed much in percentage terms, the size of the cake is indisputably diminishing.

Expressing these pictures in actual monetary terms the following indications become evident.

Table 1: Rand Values and relative declines in the Sectors of the South African Economy 1994 to 2016

GDP Sector, or slice	% in 1994	Approximate % in 2011	% in 2014	Rand value in 2011 in USD (bns)	Rand Value in 2013/14 in USD (bns)	Rand value in 2016 (In USD bns extrapolated from 2014)	Percentage decrease 2011 to 2016 cf. overall shrinkage of 29,20%
Financial and Business Services	15,28	20,65	21,65	85,99	77,67	63,83	25,77
Community, social and personal services	25,37	23,50	22,82	97,86	81,87	67,28	31,25
Wholesale and retail trade	12,98	14,30	14,96	59,55	53,67	44,11	25,93
Manufacturing	15,50	14,25	13,93	59,34	49,97	41,07	30,79
Transport, storage and Communication	6,11	8,90	9,26	37,06	33,22	27,03	27,06
Mining and quarrying	15,51	9,00	8,48	37,48	30,42	25,00	33,30
Construction	2,58	3,33	3,79	12,80	13,60	11,17	12,73
Electricity, gas and water	3,24	2,60	2,45	10,83	8,79	7,22	33,33
Agriculture, forestry and fishing	3,43	2,80	2,67	11,66	9,58	7,87	32,50
TOTAL	100,00	99,33	100,00	416,42	358,74	294,84	29,20

The order of shrinkage, from worst to least worse lies in:

- Electricity, gas and water -33,3%
- Mining and Quarrying -33,3%
- Agriculture, forestry and fishing -32,5%
- Community, social and personal services -31,3%
- Manufacturing -30,8%
- Transport, storage and communication -27,1%
- Wholesale and retail trade -25,9%
- Financial and business services -25,8%
- Construction -12,7%
- TOTAL -29,2%

Fully five of the sectors fell more steeply in 3 years in percentage terms from 2013 to 2016 than the average fall. These, together with construction, are the sectors that are the traditional employment creating sectors in South Africa.

The safety net afforded by government through Community, social and personal services was among the worst performers.

This gives rise to considerable concern in that unemployment increases (without a rising social safety net); the Gini coefficient increases; and 'the rich get relatively richer while the poor get relativity poorer'…. this recognising, naturally, that everyone gets poorer.

In short, populist policies cause more damage to the people they are supposed to support than do market driven policies.

What might be done about this?

This paper is not aimed at naming people, nor is it trying to accord 'blame'. It is trying to look impartially at the figures and see what can be deduced from them.

Fundamental is the very old adage of 'a rising tide raises all ships'….and its corollary….'all ships go down in a falling tide' (excepting those that can float above it…the author's addition).

'Transport, storage and communication' comes out of the above analysis reasonably well but how much better was it when the toll road programme was proceeding apace so relieving government of the need to provide economic supportive primary road infrastructure, and giving it space to shore up particularly 'Community social and personal services' until South Africa's traditional economic driver of 'Mining and Quarrying' can regain the ground lost through China using up its own stockpiles of commodities subsequent to the 1998 World economic downturn and a (misplaced?) Mining Charter.

It is worth recording that African Rainbow Minerals rose to success WITHOUT a mining charter to assist it, assisted by market led economic policy.

'Transport, storage and communication', despite its relatively satisfactory performance, nevertheless fell by 27% over the three years under consideration. This is 9% each year.

Roads last for 17 years and less if not adequately maintained. Experience suggests that 'a fog spray costs R50 000 per lane km; if not done a resurface costs R500 000 per lane km; and if that is not done a new road costs R5 000 000 per lane km'.

Governments' temptation is ALWAYS to hope that roads can carry on serving an economy while government supports 'Community, social and personal services' until the economy improves.

Reality is that road funding needs increase over time due both to the preservation requirements expressed above and to the social demands of increasing mobility, particularly of private cars and of trucks. South African evidence suggests that truck traffic increases at the same rate as GDP growth, while light vehicle growth increases at 1,5 times GDP growth.

This growing demand for more road space, as well as essential preservation requirements suggests that road funding has to increase at a rate higher than GDP growth irrespective of economic policies and economic performance…..but recognising the noteworthy difference in overall economic performance in the periods 1994 to 2007 and subsequent to 2007 i**s it not time to move back to the economic policies of 1994 to 2007?**

<u>A look into the future</u>:

We have all seen the picture below…. or variations of it.

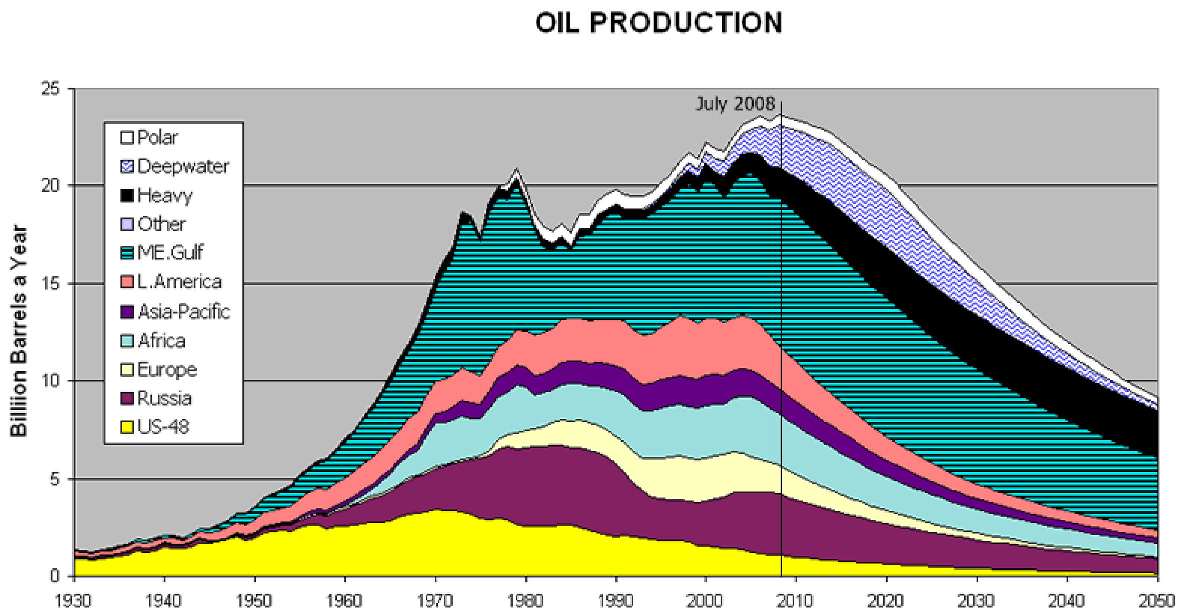


Figure 5: Peak Oil Source: Energy Watch 2013

A response in the United States of America has been to exploit shale oil.

This might be likened to 'scraping the barrel' but it has perhaps lulled us into believing that Peak Oil doesn't exist and with the United States being out of the crude oil market demand, the price did in fact fall dramatically from around USD120 per barrel to USD50 per barrel, causing much consternation (and relief) for at least a year. We are currently seeing a steady recovery in oil prices to a USD 60 to 70 level.

The respite afforded by oil shale in particularly the US has certainly been there but for how long?

For reasons better known to itself (no disrespect) SASOL's two CEO's at Davos last week were on record that Sasol is slowing down on the production of diesel.

The World (Elon Musk and Tesla, Scania, Siemens, Nissan, Toyota, Volvo, Mercedes Benz, Porsche, Ferrari….) are all looking towards alternatives to liquid fuel for the propulsion of vehicles.

Altruistically this fundamental shift is ascribed to concern about the environment….and that is welcomed. However, a great deal of it also lies in the fact that liquid fuel is drying up.

Broadly speaking, one third of the liquid fuel pump price in South Africa is collected in tax. This represents about R5 per litre.

This represents a significant source of revenue to Government through the Department of Finance to the National Treasury….and hence partially back to roads, public transport, third party insurance and vehicle manufacture subsidy.

Drs Mitchell and Croeser began to see the drying up of fuel levy in the 1970's, together with financial efficiency, and began to move the Country in the direction of road tolling.

Without road tolling South Africa could not have embarked on its PPP road programme of 1997 to 2001…. nor Chapman's Peak.

Mr Nazir Alli followed this through with the Gauteng Freeway Improvement Project, with more efficient means of toll collection…….and unfortunately ran into flak. A great pity. Users said they were prepared to pay tolls but when push came to shove, after the project was completed, society resisted…partly due to resistance to paying ever increasing taxes…. a tax revolt.

You can take a horse to water, but you can't make it drink. Equally this was the last straw which broke the camel's back.

Where to from here?

Crude oil is running out. Tolls have reached their current level of societal acceptability. Fuel consumption will inevitably decrease as the World moves towards electric traction on roads, for whatever reason.

We know from work done by SABITA and SARF that enormous amounts of money are necessary to provide adequate road infrastructure.

Historically the fuel levy would have been increased towards meeting this need.

This is no longer an option. Eskom has shown only too well what happens when the increase the price of electricity is increased without a commensurate increase in efficiency.

People move towards alternatives and revenue decreases. South Africa is currently using 20% less electricity at 4 times the cost.

If the fuel levy were to be increased to meet the identified and ongoing road needs and backlogs it would entail at least doubling the current levy to R10 per litre[1], increasing the price of liquid fuel to R25 per litre. We know how society would react to that.

[1] At the DBSA, the author once calculated that to meet the full backlog articulated by SABITA through a fuel levy alone would require a fuel price of R32 per litre.

However, we also know that Eskom now has a surplus of electricity generation and we know that efficiency in moving both cars and trucks is substantially improved using electricity.

Mr Saki Macozoma asked a few months ago if South Africa is ready to move into the 4th Industrial Revolution?

Perhaps electrically powered transport is a way to assist in making that step….and for road space cost recovery to be made through electricity consumption, augmenting road tolling and the current fuel levy…with a move back towards the success of the previous generation of PPP's?

The current Green Paper on Transport, incorporating findings from the Department of the Environment Green Paper on the control of carbon emissions, assisted by Germany's GIZ, suggests three scenarios for the rail: road split to achieve acceptable targets of carbon emission for South Africa by 2043.

The optimistic scenario aims for a 70:30 rail: road split; the middle scenario aims for a 50:50 split; and the low scenario aims for a 30:70 spilt.

With South Africa dominated by a narrow-gauge rail system it is unlikely that any of these can be achieved unless a new standard gauge line is built from Durban to Richards Bay, to Ermelo, to Middelburg to North Gauteng…. with branches to Polokwane, Gaborone and Mangaung.

'Electric roads' would also naturally assist in meeting those targets.

This paper concludes with a slide from the '2008 Infrastructure Barometer' report produced by the Development Bank of Southern Africa (DBSA).

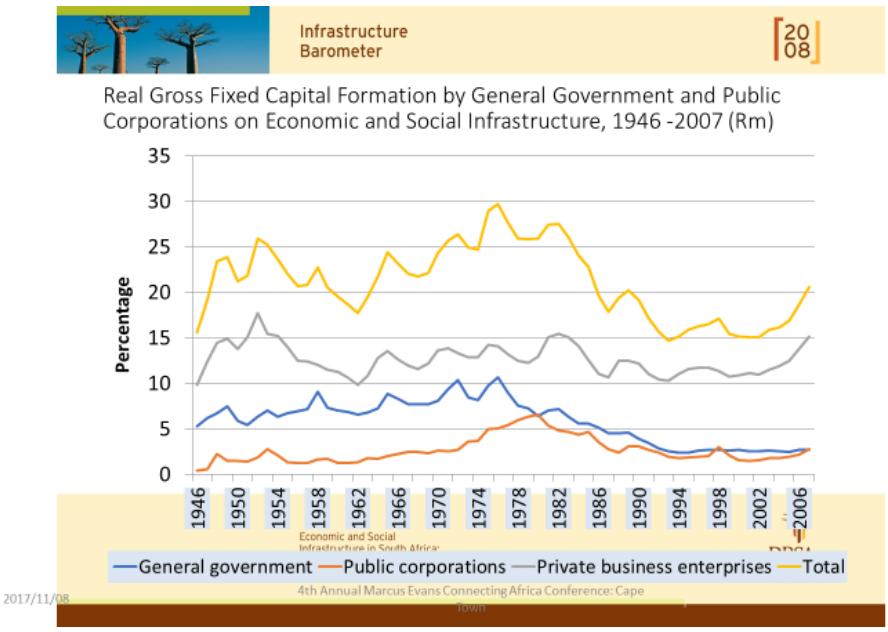


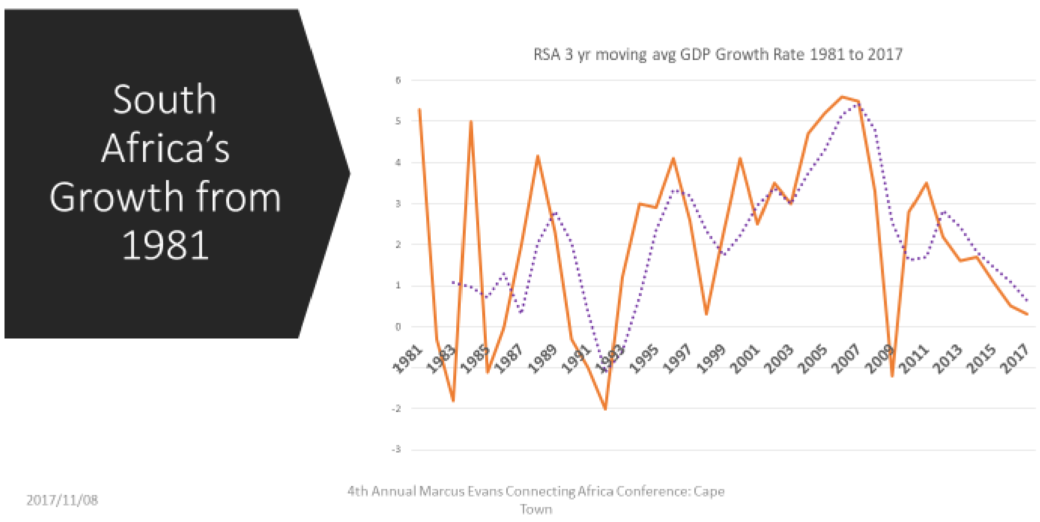
Figure 6: Real Gross Fixed Capital Formation in South Africa 1946 to 2006 Source DBSA Development Report 2008

For effectively serving the infrastructure needs of a growing economy there is a role for each of Government, SOE's and the Private Sector.

Look particularly to the surge after the second World War for all three players. Recognising that over 100 years the South African Stock Exchange has consistently delivered amongst the best returns should we not look both to history and to what is staring us in the face?[2][3]

12,5% private sector, 7,5% general government and 2,5% SOE's…. investing a total of 22,5% into fixed infrastructure each year, some of that now being for 'electric roads'.

Is this not the way to go? Reverting to the successful economic policies of the period 1994 to 2007 when populism replaced market efficiency as overarching economic policy.



Annual GDP growth rates in the South African Economy 1981 to 2017: Source: Statistics SA

I hope so.

[2] The World's 10 Best Economies from 'Business 24/7 Wall St' 1 Switzerland, 2 Singapore, 3 United States of America, 4 Germany, 5 Netherlands, 6 Japan, 7 Hong Kong SAR, 8 Finland, 9 Sweden, 10 United Kingdom

[3] From Time 'The Mixed Fortunes of the BRICS Countries in 5 Facts': 'They delivered on some of that promise—between 1990 to 2014, these countries went from accounting for 11 percent of the world's GDP to almost 30 percent. Yet, the global financial crisis inflicted lasting damage, and Goldman Sachs shut down its BRIC investment fund in late 2015 after its assets plunged in value by 88 percent from their 2010 highpoint. But the group continues to meet and to talk up an ambitious common agenda'.

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