

FREE HIGHER EDUCATION

ANOTHER SELF-DESTRUCTIVE SOUTH AFRICAN POLICY¹

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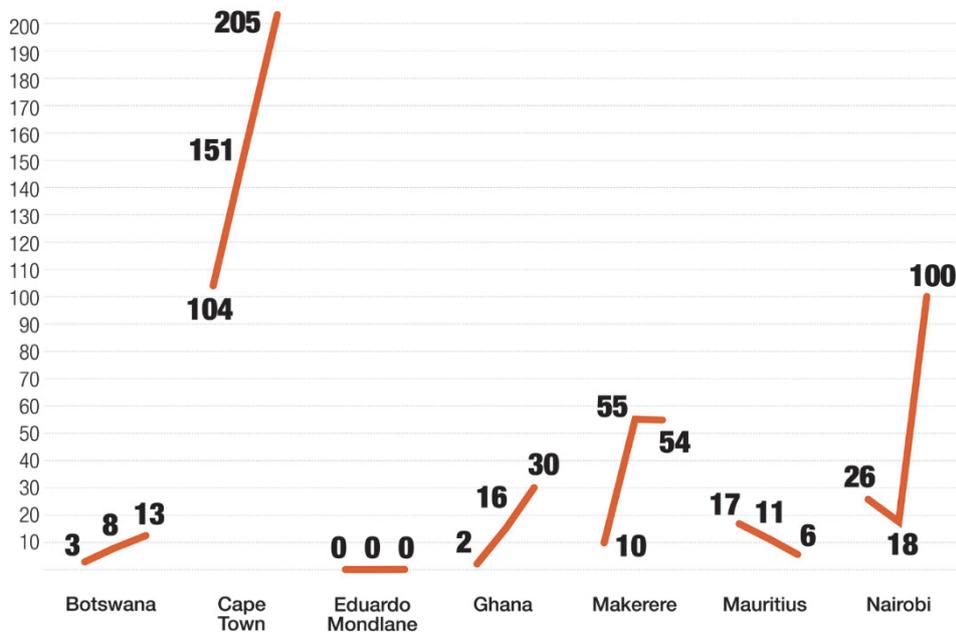
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South Africa is the country in Africa with the most a diverse and differentiated higher education system – despite some persistent attempts at academic drift and mimetic normative isomorphism. Globally, in the last (2008) country system ranking by the Shanghai JiaoTong Academic Ranking of World Universities, the South African higher education system was placed in the range between 27 and 33 along with the Czech Republic, Hong Kong, New Zealand and Ireland. Furthermore, it is well known that South Africa consistently has four of the five African universities in the Shanghai top 500.

Even more impressive is that The Times Higher Education 2016 ranking of BRICS and emerging economies¹ places three South African universities in the top 12 (the University of Cape Town [UCT] 4th, the University of the Witwatersrand 6th and Stellenbosch University 11th). Brazil and Russia each have only *one* in the top 12, and India, with a billion people, has none. China, with their differentiation policy aimed at producing 30 world-class universities, has six in the top 12.

In the Higher Education Research and Advocacy Network in Africa research programme, which consists of seven African flagship universities, UCT published 2 390 articles in the Web of Science in 2014; the other six universities combined published only 1 476. Similarly, in terms of doctoral production, UCT produced 205 graduates in 2013/2014, while the other six universities combined produced only 207 graduates.

Figure 1 Doctoral graduates in seven African universities (2001, 2009, 2014)



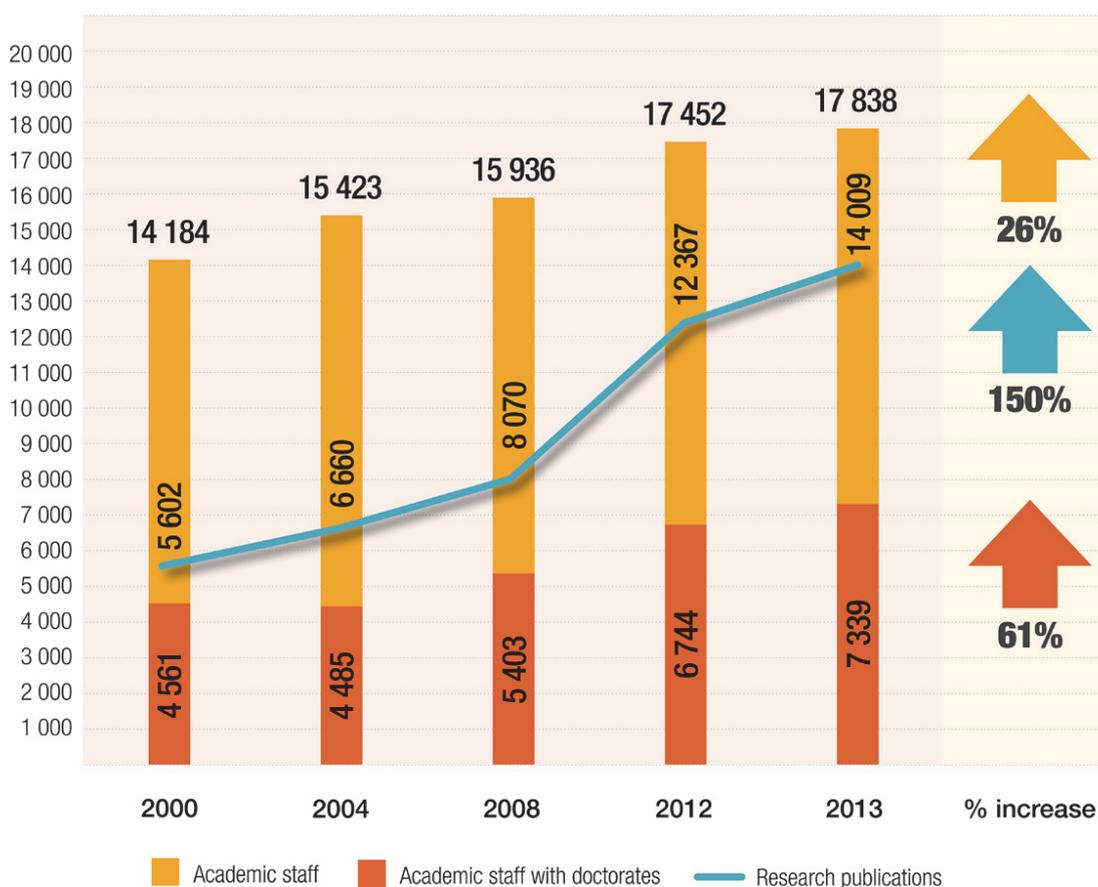
Source: Centre for Higher Education Trust/Higher Education Research and Advocacy Network in Africa data (2015)

¹ Parts of the article to be published in forthcoming editions of the *South African Journal of Science* and *University World News*.

But it is not only in terms of growth that South African universities excel in relation to those in the rest of Africa. There have also been considerable efficiency increases. Figure 2 shows that while the number of academic staff increased by 26%, publication output increased by 150%. The doctoral supervision load increased from 4 600 academics supervising 5 100 students in 1996 to 6 700 academics supervising 13 900 students in 2012. In addition, in terms of years to graduate, South Africa does not perform as well as countries such as Norway, the US and the United Kingdom, which have large proportions of full-time doctoral students. However, in terms of part-time students, South Africa is comparable to the United Kingdom.²

In a book on the doctorate in South Africa, Cloete, Mouton and Sheppard (2015) argue that the model of doctoral education requires a radical change that would include moving from 40 percent fulltime to over 60 percent fulltime, different types of doctoral programmes and that fulltime students be employed as ‘pre-docs’ similar to post docs.³

Figure 2 Academic staff and research output in South Africa universities (2000-2013)



Source: Department of Higher Education and Training’s Higher Education Management Information System data for 2013. Compiled by Charles Sheppard.

Some of the most vocal criticisms against the South African higher education system at the postgraduate (doctoral) level have been the charge of a lack of transformation.⁴ The term ‘transformation’ has become so ideologised that it has little research or policy value. Perhaps one of the most inappropriate ways to use transformation is as a static concept; for example, to demand that universities must reflect, 20 years after apartheid, the demographics of the current population.⁵

What we should learn from this is that bad policies have long-lasting consequences and cannot be redressed or wished away in a decade or two.

However, if transformation is understood as an indicator of change, then South African higher education has undergone seismic changes. Regarding the composition of the entire student body – a largely undergraduate population – Cooper and Subotzky⁶ declared that South Africa had experienced a ‘revolution’, and by 2013 74% of all higher education students were black.⁷

Some of the most substantial changes happened at the doctoral level. African doctoral graduates increased from 58 in 1996 to 821 in 2012, an increase of 706% in the post-1996 period. By contrast, between 1996 and 2012, white graduate numbers only grew by 71% (from 587 to 816). Over the same period, the proportion of African doctoral graduates increased from 8% to 44%, and in 2012 the number of African graduates exceeded those of whites. African female graduates, starting from a very low basis of 10 in 1996, increased by 960% to 106 in 2012, while African male graduates increased by 356%. By contrast, the number of white male graduates remained more or less constant – around 367 between 1996 and 2012. White female graduates increased from 219 in 1996 to 449 in 2012 (105%). If transformation is counted as improvement in percentage change, then Africans (and especially African females) have attained spectacular gains, particularly if contrasted to white males. We have not found another international example with such demographic changes in a national higher education system over such a short period (16 years).⁸

And, it should not be forgotten that from 2016, one of the world’s largest science projects, the Square Kilometre Array – an international effort to build the world’s largest radio telescope, with a square kilometre (one million square metres) of collecting area – will be led by scientists affiliated to South African universities. One of the factors that sets University of Cape Town apart from the other flagship universities mentioned above is that these flagship universities do not charge fees – they are all part of country systems where public universities are free while those in private (non-research led) institutions pay fees.

What is wrong with the best higher education system in Africa?

The ‘best’ system described above is based mainly on the postgraduate system, which overall in South Africa is at about 16%,⁹ while at certain universities such as UCT it is over 30%. But in the rest of Africa the postgraduate systems comprise less than 5% of the total higher education system.¹⁰ From assessments of the South African system by the Harvard panel on Accelerated and Shared Growth Initiative – South Africa,¹¹ the World Bank,¹² and the Centre for Higher Education Trust’s work on differentiation,¹³ the South African higher education system could be characterised as *low participation with high attrition rates, with insufficient capacity for adequate skills production*.

Higher education participation rate (gross enrolment ratio) is defined by UNESCO as the total enrolment (of all ages) expressed as a percentage of the 20-24-year-old age group in the population.¹⁴ It provides a measure of access to higher education and is critical for understanding and assessing the performance of the higher education system, as the international evidence suggests that there is a correlation between higher education participation levels and economic development.¹⁵ In Africa, Cloete and Gillwald¹⁶ showed that economies with a participation rate lower than 10% are what the World Economic Forum calls ‘stage 1 factor-driven’ economies (based on agriculture and mining). South Africa (16% participation rate), Botswana (20%) and Mauritius (26%) are in transition from stage 1 to stage 2, which the World Economic Forum refers to as ‘efficiency-driven’ economies. Innovation economies such as Finland, South Korea and the US have tertiary education participation rates above 80%.

According to a Council on Higher Education report published in 2013,¹⁷ the participation rate in higher education in South Africa has increased from 15% in 2000 to 18% in 2010, and the 20% target is likely to be met by 2015/2016. However, although significantly higher than the average gross enrolment ratio for sub-Saharan Africa, which is under 10%, the South African higher education participation rate is well below the average for Latin America (34%) and Central Asia (31%).¹⁸ The Council on Higher Education report concludes:¹⁹

Despite the growth, it is clear that the low participation rate continues to act as a brake on social and economic development and is a key factor in explaining the shortage of high-level skills. This is compounded by poor completion rates.

Inefficiencies in the undergraduate system

A detailed analysis of the 2000 and 2006 cohorts shows that the proportion of the intake into contact institutions of students who are sufficiently prepared to complete undergraduate curricula within the intended time, is small: only 27%, or roughly only one in every four. Performance is very poor for all groups across the three qualification types (diplomas, three-year and four-year degrees): only 48% in contact universities graduate within five years and it is estimated that 45% will never graduate. For distance education, the figures for the University of South Africa are simply horrendous: only 6% graduate within five years and it is estimated that 78% will never graduate. By the end of the regulation time for all three qualification types, more students have been lost to failure and dropout than have graduated – more than twice as many in the case of African and diploma students.²⁰

The Council on Higher Education report concluded that the higher education system is not producing sufficient graduates to meet national needs in respect of economic and social development, largely because much of the country's intellectual talent is not being developed. In the best-performing cohort, only 35% graduated within five years, and it is estimated that 55% of the intake will never graduate. This translates into a loss of some 70 000 students from the cohort. Failure to realise the potential of over half of the small proportion of the population that enter higher education makes it most unlikely that the shortages of high-level skills will be reversed.²¹

Another method of assessing inefficiency is analysing the totals of undergraduate students entering and exiting the public university system on an annual basis. The Higher Education Management Information System data show that total undergraduate enrolments in South Africa's public universities grew by 194 000 in 2013 compared to 2006, with less than 10% of the growth among first-time-entering undergraduates. The average annual growth rate for first-time-entering undergraduates between 2006 and 2013 was only 1.7%, compared to an average annual growth rate of 4.7% for the categories of undergraduate students who had previously been in the university system. The average annual growth in total undergraduate enrolments between 2006 and 2013 was 4%. Analyses show that these differences in growth rates were functions of high retention levels of undergraduate students. Data show that undergraduate students in South Africa have high dropout and low graduation rates, which result in them remaining registered for long periods, well beyond the normal times required for the completion of their qualifications.

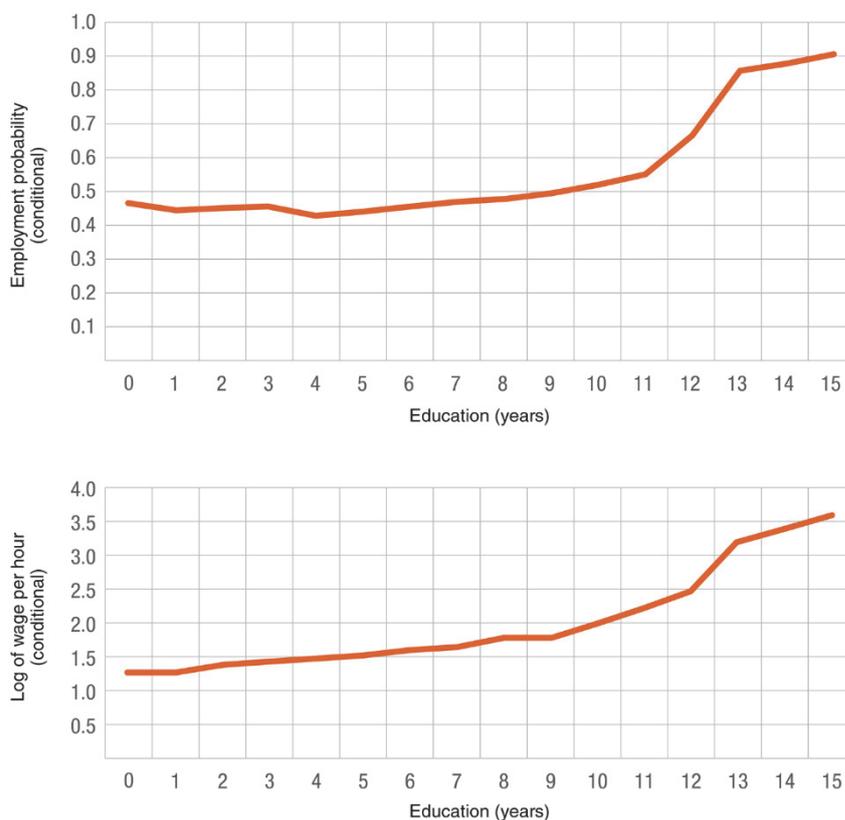
The issue of inefficiency arises because high retention rates, particularly when coupled to low graduation rates, result in heavy but unproductive demands being placed on government subsidies, financial aid and university resources. These resources could have been used in ways more directly related to the implementation of policies, such as increasing the enrolments of first-time-entering undergraduates, or improving per-student government subsidy and financial aid transfers to universities.

South Africa has the highest private returns to tertiary education in the world

The effect of the kind of university system described above is reflected in a severely distorted labour market and skewed private returns to tertiary education. Servaas van den Berg²² found that after controlling for a range of variables such as gender, experience, location etc., education does bring some rewards. However, the returns below matric are very low: it is only after matric, and particularly at the level of degrees, that returns are extremely high, both in wages per hour but especially in employment probability (Figure 3). Van den Berg's interpretation is that it is only certificates such as a matric (validated by a national exam) and tertiary certificates that signal to employers reliable cognitive gains. Statistically, there are still racial differences 20 years after apartheid, but for Van den Berg this is mainly a result of differences in quality of education. He concludes that:²³

The large differentials in earnings and access to jobs between the highly educated and the less educated lies at the heart of income inequality. The high wage premium to educated workers derives from a combination of a skills shortage at the top end of the educational spectrum, driving up wages of the educated, and a surfeit of poorly-educated workers competing for scarce unskilled jobs, thus dampening unskilled wages.

Figure 3 Conditional probability of employment and conditional log of wages by years of education



Source: Van den Berg 2015

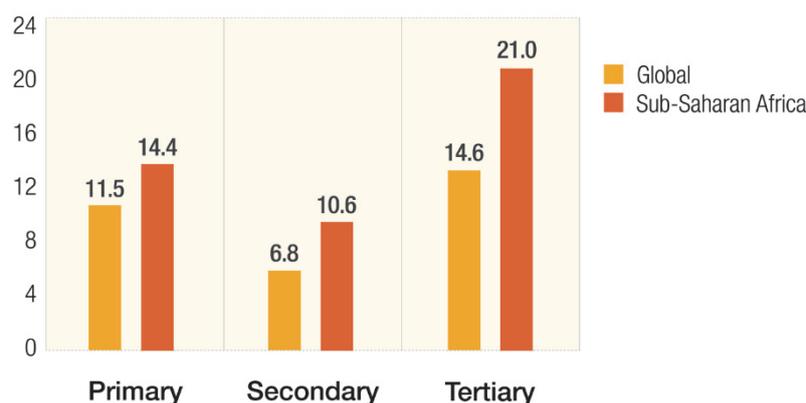
The high returns to a university degree in South Africa are consistent with a global comparison by the World Bank. In a study of 140 countries calculated for 819 economy year points using UNDP

Human Development Reports, Montenegro and Patrinos²⁴ found that over the last two decades, there has been a significant shift in the rate of private (individual) returns to education. In particular, the returns to schooling have declined from the early 1980s to post-2011 (from 13% to around 10%). They ascribe this mainly to the unprecedented increase in schooling (three more years globally).

Internationally, there has also been a tremendous increase in the number of university students and graduates, which should have led to a decrease in the rate of return to investment (when supply outpaces demand). But, while there has been a slight decrease in overall rates of return, the increased demand for high skills in the information economy makes investment in education in general, and higher education in particular, highly profitable. And, it benefits women more than men, across all school and income categories, and has more substantial gender effects in poor countries, particularly sub-Saharan Africa.

But what has changed quite dramatically is that contrary to the Pscacharapoulus²⁵ (1985, 1995) findings that the rate of return for primary education is much greater than for higher education, the pattern has been reversed and now the returns on tertiary education are almost double that of primary and triple that of secondary schooling (see Figure 4). More interesting is that globally the highest returns are in sub-Saharan Africa (21% vs. 14.6%).

Figure 4 Global and sub-Saharan Africa rate of return to investment in education (latest year)



Source: Montenegro and Patrinos 2014

The Montenegro and Patrinos (2014) study produced two surprises: firstly, that higher education has higher returns than primary education and, secondly, that the country in the world with the highest private returns to tertiary education is South Africa. The rate of return increased from 28.7 in 2000 to 39.5 in 2011, which is the same period that the Gini coefficient deteriorated from around 0.60 to 0.70.²⁶ Responding to an email (14 December 2015) that sought to check whether the World Bank finding was correct, Patrinos confirmed the result and stated: 'I believe that high returns to tertiary and high levels of inequality are consistent.'

The returns in South Africa are not just the highest by a small margin; the only other country with a figure over 30 was Rwanda in 2005, but they have subsequently improved to 28 in 2010. Ghana and Côte d'Ivoire at 28 are the next highest returns in the world. To illustrate how big the disparity is, these are the figures for a selection of other countries: Argentina 12, Brazil 17, Mauritius 21, Mexico 20, Norway 10, Portugal 14, Turkey 14, Spain 11 and the US 14.

Higher education and inequality

According to both Van den Berg²⁷ and Piketty²⁸ (2014), technological innovation and globalisation have pushed up demand for highly-skilled knowledge workers, even in service industries. If the supply of skills does not increase at the same pace as the growth in technology, then groups whose training is not sufficiently advanced will earn less. Furthermore, with more competition they are relegated to devalued lines of work, which increases inequality. In such economies, the 'haves' are the educated – and the more education, the better – while the 'have-nots' are those who did not finish school or did not graduate from tertiary education. The 'college premium' is known to all, and for many families justifies going deeply into debt to get that degree.²⁹

This lies at the heart of the South African dilemma. Access to higher education is regarded by the haves as a means to maintaining privilege and by the have-nots as a means of getting out of poverty. But Piketty points out that in the US, the level of wage inequality results directly from a failure to invest sufficiently in higher education.³⁰ High tuition at both public and private universities keeps many individuals from receiving the training needed to shrink wage inequality and to make the country more equal and competitive globally. Given such trends, Piketty anticipates that social mobility will decline even further in the future as income increasingly determines access to American higher education. This problem is both amplified and racialised in South Africa: returns to higher education in South Africa are triple that of the US, and like in the US are also racially biased.

However, unlike the US, the South African problem is exacerbated by a low participation rate, low undergraduate completion rates, and the absence of a college sector that can serve as an absorber for poor students, who are also academically and socially underprepared for graduate study. South Africa attempts to maintain a high level of quality, with very high rates of return for a completed undergraduate degree, but then also expects higher education to be a mechanism for reducing inequality. As far as I am aware, there is no such system in the world that can achieve such an outcome.

The South African undergraduate system is too expensive, mainly due to government underfunding and inefficiencies at the undergraduate level. Thus, it cannot produce large numbers of high-skill graduates (to drive down the exorbitant rates of return); neither can it absorb large numbers of successful (academically and materially) poor students. As the statistics from Van den Berg³¹ and the Council on Higher Education³² show, what the South African undergraduate system is actually doing is taking in large numbers of students who they know have about a 30% chance of completing in five years. The universities have been able to maintain this unsustainable system due to fee increases and a perverse incentive subsidy system.

Over the last decade, the government subsidy has decreased as a component of total university income from 49% to 40%, while the contribution from student fees has risen from 24% to 31%. It is difficult to gather information on university fees given the variation in costs across degree programs. However, Statistics South Africa does collect information on higher education course costs from across the country and publishes this in a 'tertiary education inflation index' annually.³³ This index shows that between 2010 and 2011, the Consumer Price Index was around 5% while the tertiary inflation index was close to 10%. From 2012 to 2014, the Consumer Price Index hovered around 6% while tertiary inflation was between 9% and 10%. Given the fact that the block grant increases were declining at 1.35% per full-time equivalent per annum and that higher education inflation is higher than Consumer Price Index, student fees increased at much higher levels than inflation.

There is certainly a need for a study into high tertiary inflation. Two contributors that immediately come to mind are the weakening of the Rand (import of books and equipment), and inflated salary packages of the ever-increasing cadre of university leadership above professorial levels.

With regard to incentives, the undergraduate subsidy system pays universities 70% of the block grant subsidy for enrolments, as well as for institutional factors such as enrolments of disadvantaged students and size of institution, and 16% for graduation completion (the rest is for research and post graduate outputs).³⁴ In many countries there is now a debate about shifting the balance between input and output, with some countries discussing a 50-50 split. The low reward for graduation means that universities can take high-risk students, collect 70% of the subsidy and, by inflating fees, cover the cost of the inefficiency of low completion rates. What appears to be a survival strategy (a trade-off between demand for transformation and quality) is not only morally questionable, but also a lose-lose situation for the poor students and the economy.

In 2015, both rich and poor students revolted and there is considerable anecdotal evidence that the ones who tried to burn down university administration buildings containing fee records were the ones with bad debt and bad academic records. The students had finally realised that this pretence by government and the higher education system to redress inequality through higher education was not working, and will not work. After all, even Piketty³⁵ says that higher education does not solve inequalities; it can only keep them from becoming unsettling.

The system must change

For Piketty,³⁶ the best way to reduce inequality and increase the overall growth of the economy is to invest in higher education. He argues that not even minimum wage schedules can multiply wages by, say, factors of five or ten. To achieve that level of progress, education and technology are the decisive factors.

Partrinos,³⁷ from his study of 130 countries, makes three important policy points. Firstly, higher education returns are high and it needs to be funded better. Secondly, globally, and presumably even more so in South Africa, the high returns will fuel a demand for tertiary education and governments will need to seriously consider appropriate policies for financing this demand. Thirdly, in an environment of high returns to university education, any lowering of private costs means that the general taxpayer (who earns an average income) effectively pays for the education of the rich (who earn an above average income). This confirms the findings from a prominent South African economist that free higher education-for-all is a nonsensical policy idea that actually harms, rather than assists, the poor.³⁸

So what about free higher education for the poor? The South African government's own report makes a strong case for free higher education³⁹ and it is difficult to make an argument against it. But the really tough questions are: how will this be done and for how many? In most countries in the world, developed or developing, a very small proportion of the poor go to university, and ultimately complete successfully, for reasons of academic, social and material capital. In South Africa, more than 70% of the students on the National Student Financial Aid Scheme (NSFAS) did not complete their studies according to an analysis of the 2000-2006 cohorts.⁴⁰ Currently we do not know what the graduation rate is; NSFAS disperse billions of rands without monitoring outcomes.

To provide greater access and chances of success to poor students will force South Africa to confront the long-avoided differentiation choices. The first is that in order to maintain the best postgraduate system in Africa and to allow for successful access, universities must be differentiated into institutional types, somewhat like the most successful higher education system in the world, California. Here, there is a range of institutions – from community colleges (remedial schools with some vocational offerings) and undergraduate universities (e.g. California State University) to some world-class research universities (e.g. Berkeley and Stanford). This system is also under threat from low taxes and poor financial management.⁴¹

The key is strong articulation – something South Africa has talked about for 20 years but has done very little about. Barack Obama started at Occidental College in Los Angeles, transferred to Columbia and then to Harvard. Obama’s latest legacy programme is free community colleges. According to a brief issued by The White House, Obama’s rationale is:⁴²

In the coming years, jobs requiring at least an associate degree are projected to grow twice as fast as jobs requiring no college experience. We will not fill those jobs – or keep those jobs on our shores – without the training offered by community colleges.

In the South African context, this would require a rethink of our current notion of a community college, never mind a technical and vocational education and training college.

Another alternative is that the current colonial legacy of a three-year degree with an honours degree be changed to a four-year system, with the possibility of a diploma or associate degree exit after two years. The key issue is that the students have to leave university with a qualification. Currently, South Africa has a ‘have or have not’ structure, meaning high returns degrees or unemployment. The honours degree is a major stumbling block – particularly for black students because there is limited postgraduate funding for it.⁴³ If such a model is applied to all universities, the South African higher education system could become a kind of hybrid college/university system. Admittedly, this could have unanticipated consequences, but for a start it would serve the development-equity imperative better than the current system is doing. Perhaps even more important than decolonising the curriculum is restructuring the undergraduate tertiary landscape.

Should a restructured undergraduate system be free?

How to pay for a structurally changed South African undergraduate system? A good start would be to change government priorities. Republicans in the US congress are saying that the country cannot afford free community colleges – although the funding required for a free community college system for 10 years would cost less than one year of the Iraq war.⁴⁴ Secondly, loans for the poor do not work in developing countries, as Nicholas Barr⁴⁵ from London School of Economics told the British government more than a decade ago. If the poor immediately start paying back their loans then they are once again at a disadvantage. In South Africa, few poor students pay back their loans – not because of bad attitudes, but because, according to the Ministerial Review Committee of 2009, of the almost 70% of NSFAS students who are no longer studying 72% had either dropped out or had not completed their studies.⁴⁶ The exact percentage of students who do graduate, and who get absorbed into the labour market, is not known in 2015 – another failure of NSFAS, who is spending billions on student support, but not tracking the outcomes.

For the poor students who don’t graduate and don’t pay back, NSFAS is an extension of the social grant system, but could also be the “revolving door” outcome against which the White Paper warned in 1997⁴⁷: poor students being enabled to enter the higher education system, but being unable to complete their studies, so being “revolved” back into poverty – in this case with the additional burden of a student loan debt they are unable to repay because they lack the qualifications to secure formal employment. So, rather than higher education being an empowering mechanism, it instead disempowers poor students and puts them deeper into debt. Are we surprised that these students went beyond a protest march?

Thirdly, the current NSFAS system does need fixing; but South Africa needs to rethink student funding. A radical rethink proposal by Bilal Bakarat⁴⁸ for the European Union starts by saying that higher education is never free; the question is: who pays for it? His proposed model is based on the following principles: student choice must be unconstrained by socio-economic status; the risk of

inability to pay must be pooled; cost-sharing must be separated from marketisation; and there needs to be progressive redistribution. His proposal, entitled *Deferred Graduate Retirement*, argues for raising the retirement age of graduates (graduates have a higher life expectancy than non-graduates), and for the public savings from longer contribution to the system and later withdrawal of benefits to be used to increase public funding for universities. This is just one example of a proposal for shifting fees from students to graduates. In other words, there could be free higher education for students, if graduates repay over a long period.

However, in a personal communication with Bakarat (20 November 2015), he stated that such a system assumes high completion rates and high graduate employment. South Africa has the latter, but not the former. This underscores the general point made above; namely that South Africa cannot address the fees issue without a radical change in the higher education system itself.

The South African undergraduate system is unsustainable; in 2014, universities had an accumulated debt of around R 5 billion (which many institutions record as assets on their financial statements), while NSFAS has a debt of around R 15 billion.⁴⁹ The recovery rate has dropped from R 600 million in 2011 to R 200 million in 2014,⁵⁰ and NSFAS is hardly recovering the interest.

The South African undergraduate system is a morally indefensible system and it contributes to inequality by having the highest private returns to higher education in the world. If allowed to continue, it will also undermine the best postgraduate system in Africa. The students are right, it has to change, but wrong that the solution is free higher education, because that will only lead to greater inefficiencies and greater inequality.

The chair of the Fukushima Nuclear Accident Independent Investigation Commission, Professor Kurokawa, said in a television interview that the most stupid thing Japan had ever done was to bomb the United States (US) at Pearl Harbour in 1941.⁵¹ The second was to build a nuclear reactor 30 kilometres from a known seismic fault line. Following the logic of self-destructive national stupidity, it could be argued that, particularly in terms of inequality, apartheid was South Africa's all-time most stupid policy. We need to be careful that the version of free higher education that we adopt does not turn out to be another stupid policy idea.

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