

Large-scale Structural Change, University Funding and Academia in South Africa

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Abstract

South Africa recently marked more than two decades of transition to democracy. The country needs more graduates with the ability to adapt to and function in a knowledge-driven and knowledge-dependent economy. Recent policy documents call for massive growth in headcount enrolment in the public higher education system. This has significant policy implications. State grants, which account for the most income, the system's infrastructure, and the number of instruction staff, have not kept pace with the rapid growth in student enrolments amid projected further growth, exerting pressure to increase fees and third stream income. This study traces university funding since 2007 in light of projected enrolment growth and its impact on universities. The state's capacity to steer the higher education system through the funding mechanisms is also discussed. The study found that enrolment growth and large-scale structural change increase costs, while budget constraints increase shortfalls in state funding. South African universities are taking strain and will continue to do so in the face of insufficient government subsidies in the decade ahead, impacting both academic work and performance indicators. Furthermore, the funding squeeze threatens universities' ability to meet transformation goals and targets.

Keywords: Headcount enrolment growth, higher education, social justice, state funding, sustainable development.

1. Introduction

South Africa's primary macroeconomic objectives are sustaining economic

growth to raise standards of living in the face of a growing population, full employment or a reduction in periods of high unemployment, price stability, reduced inflation, a balance between imports and exports, and socially acceptable distribution of income by fostering mass poverty alleviation and confronting rising income disparities. The end of apartheid and the advent of democracy in 1994 marked the onset of a deliberate process of undoing the effects of the many years of unfair discrimination, institutionalised racism, marginalisation and deprivation. In the year 2000, South Africa made a commitment to realise the Millennium Development Goals (MDGs) by 2015 or earlier through socially inclusive macroeconomic policies (Kearny & Odusola 2011: 5). The World Bank has indicated that higher education is a key instrument to promote sustainable development (World Bank 1999: 30; Obamba 2013: 96). Since the promotion of sustainable development is critical in supporting economic growth and employment creation, these macroeconomic objectives are intertwined and should be seen as a whole. Raising the level of higher education achievement is therefore critical for achieving South Africa's macroeconomic objectives and promoting sustainable development (OECD 1996: 7; Obamba 2013: 95).

September 25, 2015 marked the end point for the achievement of the MDGs. South Africa is battling to revive economic growth and employment creation following a recession whose ripple effects continue to be felt across the full breadth of the economy. Since the advent of democracy in 1994, the country has adopted several development strategies. These include *inter alia* the Reconstruction and Development Programme (RDP) in 1994; the Growth, Employment and Redistribution (GEAR) strategy that covered the period 1996 to 2000; the Accelerated and Shared Growth Initiative for South Africa (AsgiSA) to cover the period from 2006 to 2014; and the New Growth Path (NGP) announced by the Presidency in 2010.

The government also channelled substantial resources into social programmes and services such as access to free basic health care, accelerated housing development, improved water and sanitation, and land reform (Treasury 1996).

The implementation of these major development strategies required substantial resources, complementary policy initiatives and strategies, the provision of social services, and a suitable environment, many of which were not yet in place (Kearny & Odusola 2011:7).

Hoogeveen and Özler (2004) observed that growth targets were not

met to make inroads into the high rates of unemployment and poverty. Gelb (2003) concurred that these strategies failed to bring about increased formal employment and more evenly distributed wealth. After two decades of transition to democracy and with a Gini coefficient estimated as high as 0.685, South Africa has one of the most unequal distributions of income in the world. This Gini coefficient figure shows higher levels of poverty than in Brazil, the Bahamas, Jamaica and 33 other developing countries (Kearny & Odusola 2011: 28). AsgiSA identified six constraints that hinder the achievement of set objectives. These include: (1) the volatility and level of the currency; (2) the cost, efficiency and capacity of the national logistics system; (3) shortages of suitably skilled labour, amplified by the impact of apartheid spatial patterns on the cost of labour; (4) barriers to entry, limits to competition and limited new investment opportunities; (5) the regulatory environment and the burdens carried by small and medium-sized businesses; and (6) deficiencies in state organisation, capacity and leadership (Kearny & Odusola 2011: 8).

The redistributive measures linked to GEAR focused on education as a strategy to promote economic growth, sustainable development and improved income distribution (Kearny & Odusola 2011: 7). Higher education in South Africa is being steered towards raising graduation and throughput rates, thus enhancing the country's human resources capacity. Higher education produces the skills that propel individual labour productivity and a host of social and non-market benefits (Montenegro & Patrinos 2013). Improved education and training is an essential foundation for a more productive and inclusive, sustainable development path (Gordhan 2013). The government is prioritising investment in education and skills development to boost youth employment (Zuma 2013). As more and more students enter universities in the hopes of increasing their skills and income potential (Ashenfelter & Rouse 1999), it is believed that this will positively impact overall income distribution.

The vision for higher education is defined by the 2012 National Planning Commission's 'National Development Plan: Vision for 2030'. The central premise that underpinned the policy framework for the transformation of higher education in the 1997 White Paper 3: A Programme for the Transformation of Higher Education, was that the higher education system must be planned, governed and funded as a single, national, co-ordinated system (DoE 2005: 3). The 2001 National Plan for Higher Education states

that higher education has immense potential to contribute to the realisation of a socially just society, while the 2014 White Paper for the post-school sector lists the restructuring of an unequal society as the first of its five policy objectives. Therefore, through its production of highly skilled individuals, knowledge production and contribution to research and innovation, the higher education system is a key player in the achievement of the goals and targets of the 2014 Education White Paper for Post-School Education and Training and the 2012 National Planning Commission's 'National Development Plan: Vision for 2030' (NPC 2012). From this perspective, promoting sustainable development is intertwined with the equity agenda as it is expected that a more educated workforce will enable the realisation of both objectives.

Globally, universities operate as businesses, securing long term financial sustainability to survive. In South Africa, the government is driving a higher education and training reform agenda with its regulatory requirements concomitant to a funding framework. The whole purpose of public university funding is to ensure the development of an affordable and sustainable higher education system that is responsive, and contributes to, the national sustainable development agenda (DoE 2005: 13). The main feature of this funding framework is that it is a goal-oriented mechanism for the distribution of government grants to individual higher education institutions in accordance with (1) national planning and policy priorities, (2) the quantum of funds made available in the national higher education budget, and (3) individual higher education institutions' approved enrolment plans (DHET 2014a: 2).

The South African government's funding framework is therefore an important steering mechanism to achieve policy priorities, the most important of which is the overall transformation of the higher education system. More specifically, government subsidies are expected to contribute to the realisation of (1) equitable access, (2) better quality research and teaching, (3) improved student progression and graduation rates, and (4) better responsiveness of the higher education system to economic and social needs (DHET 2014a).

The emphasis on planning is informed by the fact that if the higher education system is to respond to the national sustainable development agenda, the size and shape of the system cannot be left to the vagaries of the market, in particular, uncoordinated institutional decisions on student enrolments and programme offerings (DoE 2005: 3).

Two sets of universities are grouped in three clusters on the basis of research, teaching, staffing and financial performance indicators. The first cluster comprises historically advantaged universities. These institutions aspire to compete globally in research, innovation and rankings and are attracting institutional leaders, high-performing teaching staff and research stars from other universities or from different professions. Clusters 2 and 3 are made up of historically disadvantaged universities that aspire to catch up with those in the first cluster in terms of providing basic teaching and research, and infrastructure. Those universities are reconsidering the balance between full-time permanent, temporary and fixed-term contract/part-time staff in their efforts to improve student: staff ratios. However, the financial needs of individual universities far exceed the subsidies available (DHET 2014a: 47-51).

Universities have experienced tight financial constraints over the years owing to the difference between the actual demand for funding and the allocated state subsidies. Higher education stakeholders have articulated the tension between increased access to higher education and the need to ensure that the sector maintains the capacity to produce the type of high-level knowledge and skills required to take the country forward and compete globally. While the most relevant, updated documents on South African higher education acknowledge that policy formulation that could address this tension has been sought, it remains a key issue in higher education (DHET 2014a; Wolpe *et al.* 1993).

This paper is complemented by a fresh perspective from the author based on his experience and expertise as a faculty member, an executive member of the National Tertiary Union (NTEU) and a member of the Council on Higher Education's Teaching and Learning Task Team that conducted a 20-year review of the state of South African higher education, highlighting the challenges, developments and future prospects. Hence, this paper is a compendium of higher education stakeholders' critical evaluations and conceptions of higher education pre- and post-1994.

The paper is organised into four sections. Section one describes the economic context in which South African universities currently function and the budgetary constraints they face. Section two discusses the methodology employed, while the findings are presented in Section three. Conclusions and policy implications for stakeholders follow in Section four.

2. Methodology

Four core methodological elements informed this study: (1) a review of the literature on higher education; (2) policy analysis; (3) stakeholder consultation; and (4) perceptions from focus group discussions.

To begin with, in order to understand the complexities and multifaceted factors related to large-scale structural change and the contraction in university funding, a review of international and local literature was conducted to uncover similar experiences. This study traces developments affecting university funding since 2007, including both block and earmarked grants. The most recent audited data compiled from the 2015 South African higher education management information system (HEMIS) data run by the Department of Higher Education and Training (DHET) was also sourced. These data provide the statistics required for researchers and other interested stakeholders to monitor and evaluate the higher education system (CHE 2013b: i).

Key policy documents, policy transformation, and initiatives that provided the blueprint for South Africa's higher education sector (OECD 2008) that were reviewed include, *inter alia*:

- The Green and White Papers on Higher Education (1996, 1997, 2004) - the 1997 White Paper on Higher Education and the 1997 Higher Education Act set out 'a framework for transformation of higher education';
- The 2001 National Plan for Higher Education (NPHE);
- The 2005 student enrolment planning in public higher education (DoE 2005);
- The 2012 National Planning Commission's 'National Development Plan: vision for 2030';
- The 2012 Green Paper for Post-school Education and Training (DHET 2012);
- The 2013 draft policy statement on the Management and Utilisation of the Teaching Development Grant in the 2014/15 to 2016/17 Funding Cycle (DHET 2013);
- The 2014 White Paper for Post-school Education and Training (DHET 2014); and

- The 2014 Report of the Ministerial Committee for the Review of the Funding of Universities.

Furthermore, stakeholder consultations were held, mainly with members of the Council on Higher Education's eight Task Teams (academic staffing, community engagement, context, funding, management and governance, regulation, research, and teaching and learning) that conducted a 20-year review of the state of South African higher education, highlighting challenges, developments and future prospects.

Finally, focus groups have become an established component of the range of methodological tools available to social researchers. The European Commission is using focus groups (around 10 individuals per session) to shape the direction of funding under the Horizon 2020; such groups are designed to ensure diversity and an amalgamation of perceptions, and to represent society at large (Greenhalgh 2013).

Two hundred and eighty seven randomly selected higher education stakeholders from the Cape Peninsula University of Technology; Durban University of Technology; Tshwane University of Technology; Nelson Mandela Metropolitan University; Rhodes University; and the Universities of Fort Hare; Johannesburg; KwaZulu-Natal, South Africa, the Witwatersrand and Zululand, community members and representatives of non-governmental organisations (NGOs) participated in different face-to-face focus group sessions. All the participants were informed of the remit and scope of the overall study, the kinds of issues it was interested in discussing, mainly student attrition, high failure rates and the slow progression of students on the graduation path in South African higher education, data transcription and analysis procedures and the dissemination of the findings. They were assured of confidentiality and anonymity and that they were free to use a pseudonym. In terms of methodological issues and the manner in which participants were approached for sampling, recruitment, organisation, facilitation of focus groups and analysis of their perceptions, this study followed Parker and Triller (2006). The salient perceptions from focus groups were reported (Bokana 2010) in three categories: (1) Faculty members: academic and non-academic staff, (2) students, and (3) higher education policymakers and community members.

These four core methodological elements enhanced the analysis and interpretation of this study's findings and its ability to provide practical and

theoretical information, an insightful approach, perspectives, and themes that possess a sufficient degree of generalisation to other comparable contexts.

3. Findings

Projected Growth in Volume of Enrolments

In general, there was strong demand for places in higher education during the transition to democracy in the early 1990s that was supported by the 1997 Higher Education White Paper's commitment to equity of access (DoE 1997). The capacity of the higher education system therefore needed to be expanded since there is a relationship between higher education participation and economic development (DHET 2014a). Audited headcount enrolment increased from 556,667 in 2000 to 744,444 in 2005, and 983,698 in 2013 (DHET 2015). The 2014 White Paper for Post-School Education and Training and the 2012 National Planning Commission's 'National Development Plan: Vision for 2030' both call for massive growth in headcount enrolment in the public higher education system. The participation rate is defined as the total headcount enrolment of all ages divided by the total population in the 20 to 24 age cohort. The government aims to increase the participation rate at universities from the current 19.2% to 25%, from just over 983, 698 students in 2013 to about 1.6 million by 2030, and for at least 5,000 students to graduate with doctoral degrees each year. Increasing the participation rate and graduation rates is the key to reinforcing social mobility for individuals, particularly those from previously economically and socially disadvantaged groups. The shift to a higher volume of enrolments in higher education has significant policy implications, including for funding.

Of major concern is whether such straightforward enrolment growth is possible, given that the South African higher education system is currently losing half its student body before graduation (CHE 2013b; DHET 2014a). Increased enrolments are possible because of high student attrition (assuming that the system is operating at full capacity with creaking infrastructure and that, for example, laboratory spaces are limited, there will simply not be enough or big enough laboratories and lecture theaters to accommodate these students) (Vithal 2013: 3). Apart from the growth in numbers, mass higher education brings with it a large-scale restructuring of the system itself. This includes changes in the types and mixes of institutions as well as changes in assumptions about how the offering of higher education programmes should

be structured and organised (Ensor 2004: 342).

Shifts in the teaching and learning demands of the student body as a result of including a broader spectrum of socio-economic groups have serious financial implications. In the past 20 years, the growth of the student population has not been matched by growth in the academic staffing base (instructional and research). Audited student headcount enrolment in the higher education system increased by 33% from 2005 to 2013, whilst the headcount of the permanent academic staffing base increased by only 18%, increasing the student: staff full-time equivalent (FTE) ratio from 25 in 2005 to 27 in 2013. Only about 41% of academics in the public higher education sector held doctorates in 2013 (DHET 2015). In the private sector, only about 9% of academics have doctorates and approximately 33% have a diploma or less as their highest qualification (CHE 2013b: 44).

Countrywide, a fifth of academics will retire within a decade; 32% of these are professors (Zuma 2013). The system will need more and better-trained academics to meet current needs. A prerequisite for the acceleration of knowledge and research outputs is improving academic staff's qualifications. The target is that 75% of permanent academic staff should have a doctoral degree by 2030 (DHET 2014a).

Comprehensive financial health projections indicate that it would be much more expensive to achieve an increased number of graduates through increased intake. If student numbers are simply increased, millions of Rands of subsidy funding for students who fail, are excluded from the system, or drop out will be wasted (Sheppard 2013). The increase in the number of students and academic staff is expected to raise total costs by 25% to 39.5% (Sheppard 2013: 30). Questions therefore arise as to how well the plan for massive future growth has been conceived and how comprehensively it speaks to the present. Dhunpath (2013: 4) asks whether South African universities are able to produce, develop and retain the required demographically representative generation of academics and raises concerns regarding the luring of talent to the private sector and state opportunities which are thwarting this goal.

University Funding

Government is steering the higher education system to meet national goals and priorities using a combination of instruments, namely, planning, funding

and quality assurance. The allocation of resources in the higher education sector is underpinned by the 2003 funding framework, which is built on the principle of shared costs between (mainly) government and students (DHET 2014b: 22). The Minister of Higher Education and Training is responsible for determining the division of different categories and sub-categories for funding. Universities have three sources of funding. The first is direct public funding which takes the form of a block grant based on a funding formula, together with targeted funding or earmarked grants for specific activities such as the National Student Financial Aid Scheme (NSFAS) to support poor students by providing their upfront fee payments. There is also earmarked funding for infrastructure and output efficiencies, foundation programme provision, and research and teaching development grants (RDGs and TDGs). As Table 1 shows, block grants are a University Council’s discretionary funds and earmarked grants are government controlled.

Table 1: Components of the Funding Framework in South Africa

Block Grants
1. Teaching Input 2. Teaching Output 3. Research Output 4. Institutional Factor and/or New Disadvantaged Factor
Earmarked Grants
1. NSFAS 2. Teaching & Research Development (moved from block grants) 3. Infrastructure and Efficiency Funding 4. Establishment and/or Capital Funds for the two New Universities (new capital funds) 5. Foundation Provision 6. Veterinary Sciences 7. Clinical Training Grants for Health Professionals 8. National Institutes in two Provinces 9. Multi-campus Grant (top-sliced from block grants) 10. Interest and Redemption on Loans 11. Institute for Human and Social Sciences 11. African Institute of Mathematical Studies (AIMS)

Source: DHET 2014

The other two sources of funding are tuition fees and third stream income. The current direct public funding framework and its categories were introduced in 2003 and came into effect in the 2004/05 financial year. The new funding framework was phased in over a period of three years during which only a certain percentage of the change in the subsidy allocation of a university was implemented to avoid the impact of sudden drops or increases in a specific financial year. Thus, the current state funding framework was only fully functional from the 2007/08 financial year to the 2011/12 financial year (DHET 2014a).

On average, universities in South Africa received about 43% of their budget for general operations from direct public funding which remains the most important source of income. On average, they received approximately 29% of their budget for general operations from student tuition fees. Third stream income is defined as accessing, securing and generating income from sources other than government subsidies and student tuition fees and represents about 28% of universities' budgets for general operations (Craig & Abrahams 2009). When government subsidies as a percentage of total income drop, the expected responses are raising student tuition fees, or increasing third stream income. In addition, since government subsidies are increasing below the inflation rate, the growth in real Rands of block grant allocations has been declining. While overall funding for universities increased in nominal terms from R24,280.762 billion in the 2012/13 financial year to R30,338.205 billion in 2015/16, government reported that its funding per full-time equivalent (FTE) enrolled student fell by 1.1% per annum in real terms between 2000 and 2010 (DHET 2014a: 8).

About 65% of the block grant budget, which is a 'rolling' three-year budget framework, is allocated to institutions for teaching inputs based on FTE student enrolments, which have been weighted by subject category and by course level (DoE 2005: 6). This is set out in Tables 2a, 2b, and 2c below.

The teaching input units essentially function as a distributive mechanism, which disproportionately increases or decreases the flow of government funding of universities. Some universities experienced a fall in the nominal value of the teaching input unit over this period. Hence, growth in enrolments did not guarantee increases in the Rand values of the grants generated by these teaching inputs. Sharp changes in universities' shares of system-wide funding unit totals are having detrimental impacts on the

finances of those that grow at below average rates or exceed their caps for registered ‘non-funded’ students.

Table 2a: Ministerially approved teaching input units (or weighted FTE student enrolment) for individual South African traditional universities and the percentage change from the previous financial year

Traditional Universities	Financial year 2011/12	Financial year 2012/13	Financial year 2013/14	Financial year 2014/15	Financial year 2015/16
	Academic year funded* 2009	Academic year funded 2010	Academic year funded 2011	Academic year funded 2012	Academic year funded 2013
NWU	57,139	60,774 (6.36%)	64,641 (6.36%)	68,753 (6.36%)	73,126 (6.36%)
RU	12,623	13,278 (5.19%)	13,967 (5.19%)	14,691 (5.19%)	15,454 (5.19%)
SU	52,011	55,161 (6.06%)	58,501 (6.06%)	62,043 (6.06%)	65,800 (6.06%)
UCT	54,003	55,002 (1.85%)	56,019 (1.85%)	57,056 (1.85%)	58,111 (1.85%)
UFH	12,619	13,692 (8.50%)	14,856 (8.50%)	16,119 (8.50%)	17,490 (8.50%)
UFS	45,841	48,941 (6.76%)	52,250 (6.76%)	55,784 (6.76%)	59,556 (6.76%)
UKZN	82,695	81,977 (-0.87%)	81,266 (-0.87%)	80,561 (-0.87%)	79,862 (-0.87%)
UL	36,508	39,872 (9.21%)	43,546 (9.21%)	47,558 (9.21%)	51,940 (9.21%)
UP	94,639	95,943 (1.38%)	97,265 (1.38%)	98,606 (1.38%)	99,965 (1.38%)
UWC	31,565	33,420 (5.88%)	35,385 (5.88%)	37,465 (5.88%)	39,668 (5.88%)
Wits	61,745	62,647 (1.46%)	63,562 (1.46%)	64,491 (1.46%)	65,433 (1.46%)

*The academic year of a university for which funding is allocated lags two years behind the financial year of the State’s budget.

Source: DHET 2014

Table 2b: Ministerially approved teaching input units (or weighted FTE student enrolment) for individual South African comprehensive universities and the percentage change from the previous financial year

	Financial year 2011/12	Financial year 2012/13	Financial year 2013/14	Financial year 2014/15	Financial year 2015/16
Comprehensive Universities	Academic year funded* 2009	Academic year funded 2010	Academic year funded 2011	Academic year funded 2012	Academic year funded 2013
NMMU	37,543	38,944 (3.73%)	40,398 (3.73%)	41,905 (3.73%)	43,470 (3.73%)
UJ	68,903	71,412 (3.64%)	74,012 (3.64%)	76,707 (3.64%)	79,500 (3.64%)
UNISA	97,081	104,131 (7.26%)	111,693 (7.26%)	119,803 (7.26%)	128,503 (7.26%)
Univen	15,218	16,814 (10.49%)	18,578 (10.49%)	20,527 (10.49%)	22,680 (10.49%)
UZ	17,241	18,490 (7.24%)	19,829 (7.24%)	21,264 (7.24%)	22,804 (7.24%)
WSU	34,415	36,383 (5.72%)	38,465 (5.72%)	40,665 (5.72%)	42,992 (5.72%)

*The academic year of a university for which funding is allocated lags two years behind the financial year of the State’s budget.

Source: DHET 2014

Block grants for a given funding year (n) are generated by a university’s performance in year n-2; hence, the affordability and sustainability of its strategic planning are ongoing issues. The issue of how universities’ shares of funding unit totals can be stabilised over reasonable periods of time (DoE 2005: 2) is an ongoing concern that needs to be addressed.

Table 2c: Ministerially approved teaching input units (or weighted FTE student enrolment) for individual South African universities of technology and the percentage change from the previous financial year

Universities of Technology	Financial year 2011/12	Financial year 2012/13	Financial year 2013/14	Financial year 2014/15	Financial year 2015/16
	Academic year funded* 2009	Academic year funded 2010	Academic year funded 2011	Academic year funded 2012	Academic year funded 2013
CPUT	49,268	51,118 (3.75%)	53,037 (3.75%)	55,028 (3.75%)	57,094 (3.75%)
CUT	16,449	16,882 (2.63%)	17,327 (2.63%)	17,783 (2.63%)	18,251 (2.63%)
DUT	35,558	36,692 (3.19%)	37,861 (3.19%)	39,068 (3.19%)	40,314 (3.19%)
MUT	14,046	14,227 (1.29%)	14,410 (1.29%)	14,595 (1.29%)	14,782 (1.29%)
TUT	74,663	78,768 (5.50%)	83,098 (5.50%)	87,666 (5.50%)	92,485 (5.50%)
VUT	25,555	27,256 (6.66%)	29,070 (6.66%)	31,005 (6.66%)	33,068 (6.66%)
Total	1,027,326	1,071,822 (4.33%)	1,119,033 (4.40%)	1,169,143 (4.48%)	1,222,348 (4.55%)

*The academic year of a university for which funding is allocated lags two years behind the financial year of the State's budget.

Source: DHET 2014

The state grants, which have the heaviest weight in universities' income, the higher education system's infrastructure, and the provision of instruction staff, have not kept pace with the rapid growth in student enrolments amid projected further growth. There are also perceptions that earmarked grants such as the funds solicited by university foundations, research and teaching development grants, infrastructure and output efficiencies are impermanent and hence unpredictable. While there is no guarantee that they will be

available beyond the funding cycle, it is highly unlikely that these funds will be discontinued.

Shrinking government subsidies have resulted in pressure to increase both student tuition fees and third stream income. To maintain long term financial sustainability, tuition fees per FTE student increased by 2.5% per annum in real terms between 2000 and 2010 (DHET 2014a: 9). However, owing to the public outcry over rising costs, the government has warned universities to limit student tuition fees increases. Unable to raise fees in line with inflation and confronted by rising costs, universities would need to generate more third stream income to maintain their current, already insufficient, income levels.

These budgetary and financial crises are impacting on universities in South Africa in various ways. They are exacerbating pre-existing strains on finances while the prospect of cuts in public spending on universities as a result of an economic downturn is of great concern (Macgregor 2008). Such crises have profound implications for the way universities are planned, delivered, funded and quality assured - quality, standards and regulation. Economists worry that the coming years will witness more examples of financially squeezed states which will curtail state spending, including on universities; all these factors will significantly thwart universities' efficacy.

The Capacity of the State to Steer the Higher Education System through the Funding Mechanisms

Looking back on the path travelled since 1994, changes to higher education policy have not had the desired effect, once again highlighting the theme of increased state steering and tension between institutional autonomy and system governance. Twenty years into democracy, higher education stakeholders are asking questions about the extent to which the system has been responsive to the social justice agenda. This study questions the state's capacity to steer the higher education system to achieve the set goals through funding mechanisms.

The NPHE, which makes the case for increasing the participation rate, emphasises that if the quality and sustainability of the system are not to be compromised, the size and shape of the higher education system must be determined in the context of available resources. Despite these cautionary

remarks, the higher education system has grown more rapidly than the available resources. The resultant funding shortfall has put severe pressure on institutional infrastructure and personnel, compromising institutions' ability to discharge their teaching and research mandate. The DoE (2005) has observed that this cannot continue if the higher education system is to contribute to the national sustainable development agenda by generating, transmitting and applying knowledge to promote overall development, and human resource development in particular. The main concern in the future will be the relationship between enrolment growth and government funding in the new policy framework, more specifically, what effects changes in enrolment growth will have on the distribution of government funds to universities.

Nzimande (2014) acknowledges that South Africa is confronted by financial constraints and backlogs in the expanded higher education sector owing to broader participation in recent years. Local stakeholders acknowledge that, the level at which South African universities are funded is low by international standards and they are consequently experiencing budgetary strain (NPC 2012). It is therefore not surprising that, without exception, all of the country's universities cite inadequate funding as the main cause of the higher education system's failure to measure up to its potential, fully realise the country's transformation agenda, and compete at the global level (DHE 2013a). Universities are undertaking strategic planning to identify possible sources of cost savings, restructuring, and other factors that can be altered in their institutions and in the system to adapt to changing circumstances and bring funding in line with available state resources. Many universities are in a weak financial position that calls for immediate action. Given the massification and large-scale restructuring of the higher education system, the coming decade will be one of austerity for universities in South Africa, impacting on academic work and performance indicators. Locke (2013: 12) reports that, worldwide, when austerity has hit hard, universities have decreased outlay on operations, reduced infrastructure and capital investment, increased market discipline, and restructured the academic workforce, not to mention the other impacts on individual academics set out in Table 3 below.

Table 3: Effects of the state funding squeeze on *academia* and South African universities

Increased	Reduced
<ul style="list-style-type: none"> • Class sizes; student: staff FTE ratios. • Differentiation between and within institutions and among staff. • Fragmentation; segmentation; disintegration of academic roles. • HR function; rationalisation of academic offerings; shared services and outsourcing. • Managerialism; market discipline; new business model. • Performance management and metrics. • Promotion criteria. • Redundancies; severances. • Reorganisation; restructuring. • Whittling down conditions of service. • Workload allocation of remaining staff; para-academics. 	<ul style="list-style-type: none"> • Benefits; reward packages; default retirement age. • Capital investment; infrastructure; facilities; labs; LANs. • Contribution and merit-based pay systems. • Funding for operations; funding per student. • Income. • Number of professional and support functions. • Overtime arrangements. • Salaries; salary schemes; senior staff pay arrangements. • Staff expectations (especially younger entrants to <i>academia</i>). • Staffing; academic recruitment; turnover of staff. • Student services; student monitoring and support functions. • Technological changes.

Source: Author.

The table shows a composite picture of the grievances reported to trade unions. At many South African universities, a reduced academic staffing base is subjected to a whittling down of conditions of service. Academics that resigned claimed that the rules that currently govern university recruitment lack any appreciation of reality. Senior and competent academics are replaced by junior academics or contract staff that is unlikely to be offered full time employment. Key positions are filled by people that are not best suited for them. Ironically, faculty and support staff members are constantly reminded that they are under-performing. Some have received letters regarding their

‘non-performance’ or ‘poor work performance’, warning them of a formal counselling and investigative process. Some faculty members have claimed that universities apply the stick rather than the carrot and that faculty and support staff morale is very low. Sadly, despite their passion for *academia*, they are leaving universities. Amongst other factors, inadequate staffing, the ignorance displayed by some university management and decision makers, and an inflexible approach have removed any doubt that *academia* is not the place for them - unless things were to drastically change. This supports the claim that the consequences of the financial squeeze on *academia* are already visible. The higher education system is hobbling along inefficiently at great cost to *academia* (Vithal 2013).

Since the full implementation of the current higher education funding framework in 2007 and its review in 2013, various stakeholders have identified a number of weaknesses and limitations that call for a further review of this framework. Critics of government’s ambitious drive to increase student numbers argue that the quality of offerings and degrees, and the financial sustainability of universities will not be maintained if government does not allocate universities a bigger slice of the education budget (Vithal 2013). The reality is that more funding will not be forthcoming from government and, in the current economic climate, money will also not be available from third stream income; this is of major concern. The funding squeeze therefore threatens *academia*’s ability to meet the transformation goals and targets set by the 2014 White Paper for Post-School Education and Training and the 2012 National Planning Commission’s ‘National Development Plan: Vision for 2030’.

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Universities are dependent on three enabling factors, viz., top academics, commensurate financial resources and accountable governance systems. While it is acknowledged that the funding framework, among various other factors, contributed to improvements with regard to transformational goals, the system remained very incoherent, inefficient and dysfunctional, performing way below most of the transformational goals for higher education envisaged in the Education White Paper 3 and the NPHE (DHET

2014b). Both the 2014 White Paper for Post-school Education and Training and the 2012 ‘National Development Plan: Vision for 2030’, portray the current higher education and training landscape as incoherent and dysfunctional.

South Africa aims to build an expanded, effective, and integrated post-school system. Existing paradigms have failed to achieve national goals and new paradigms continue to be sought; this underlies the ongoing quest for answers to many questions. Key issues flow from the above analysis that impact on *academia* and should be considered in assessing the affordability and sustainability of the higher education system in South Africa (DoE 2005: 3). Universities continue to admit predominantly poor and cognitively weak students. However, the academic staff required to teach these students grew at a lower rate than the increase in student enrolments. The inefficiencies in the system with regard to low levels of student output need to be addressed, in order to deliver the skills required for the promotion of sustainable development (DHET 2014b). It is imperative to match enrolment plans with available resources in order to enable the higher education system to deliver on its mandates (DoE 2005).

4. Conclusion and Policy Implications

The current higher education and training landscape is described as incoherent, inefficient and dysfunctional. While massive growth in headcount enrolment in the public system is important, it is accompanied by opportunities for government and universities as well as a complex conundrum of persistent challenges and seemingly intractable crises. State funding lags behind the increase in enrolments and the chief consequences have been creaking infrastructure, slow growth in the academic staffing base, high student attrition, and low throughput rates. The reduced academic staffing base is subjected to a whittling down of conditions of service. Inadequate state funding has been identified as a factor hindering the development of the next generation of academics. The current levels of funding of higher education in South Africa are of real concern, especially in view of the 2030 National Development Plan targets for participation rates and graduate outputs. A compendium of implications from a survey of international studies carried out in the UK that offers insight into what might happen in South Africa if the financial squeeze continues is presented. It is imperative to guard against rapid enrolment growth in the absence of

additional resources. Furthermore, there is a disjuncture between the academic year at universities (January – December of the same calendar year), over which teaching development activities can be implemented, and the state's financial year (1 April – 31 March of the next calendar year), over which funds become available and the period over which funds need to be managed and monitored.

Government has pointed out that, while adequate funding of higher education is important in itself, this is not sufficient to ensure a well-functioning and quality higher education system. Another major obstacle to improved efficiency and quality of higher education is governance, leadership or managerial capacity to strengthen both accountability and incentives. There is a case to be made for improving the efficacy of the system for the extant intake of students, half of whom leave without a qualification. This is a waste of much needed potential graduates and skills for the South African economy. Moreover, if the attrition affects students from previously disadvantaged population groups, this may contribute to further racial and socioeconomic disparities in future generations.

Hence, a significant review of national educational policy reforms in higher education approaches and concomitant changes in the levels of university funding is required if South Africa is to meet the demand for enrolment growth, particularly if such growth includes all those who are willing and able to attend university. Large-scale restructuring without commensurate investment will be detrimental to the long-term stability and financial sustainability of the higher education system, as well as the quality of offerings and degrees. It was confirmed by the higher education stakeholders that universities and academia are already hobbled by the financial squeeze. The DoE's (2005) view was that the scope for growth in enrolments must be restricted while the DHET (2014) wants to increase participation rates in higher education. Questions therefore arise as to how well the plans for massive future growth and large-scale restructuring have been conceived and how comprehensively they speak to the present.

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