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EXPLORING CHALLENGES, OPPORTUNITIES AND PROSPECTS ASSOCIATED WITH HIGHER EDUCATION STUDENT FUNDING IN THE CONTEXT OF SOUTH AFRICA

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ABSTRACT

This study was conducted in order to determine the challenges, opportunities and prospects for student funding in higher education in South Africa. The paper focuses on the Scholarship of Teaching and Learning (Mumanyi & Musundire, 2016). The number of higher education institutions, both government and private, and student enrolments have increased exponentially over the past few years, especially in South Africa. While this is welcome in terms of human capital development, it has brought new challenges such as limited state funding of higher education. A convenient purposive sample of 40 students and 20 lecturers from four South African institutions of higher learning were involved in this study. Questionnaires, focus group interviews and a review of the literature articles were used to collect data. The rate of return on investment and human capital theories underpin the study. The results indicate that in order to mitigate some of the challenges the government should adopt a cocktail of measures to fund higher education and keep costs down. These include but are not limited to government taking responsibility for funding higher education for all students, government funding only students from low-income families, cutting down costs by introducing massive open online courses (MOOCs),

reducing bursaries or scholarships that are tenable at foreign higher education institutions, and these institutions engaging in entrepreneurial activities to revolutionise them as centres of economic activity.

Key Words: student funding, higher education, human capital, rate of return on investment, value addition, blended learning

1. INTRODUCTION

This study was conducted to identify the challenges, opportunities and possibilities regarding funding in higher education institutions (HEIs) in South Africa. HEIs in this case include the traditional universities, tecknikons or universities of technology and technical and vocational education training colleges. The paper builds on a conference paper presented at a conference at the University of KwaZulu-Natal that focused on the scholarship of teaching and learning and the advancement of teaching innovations and research (Mumanyi & Musundire, 2016). The number of HEIs, both government and private, and student enrolments has grown significantly over the past few years (Bunoti, 2010; Essays UK, 2015; World Bank, 2010). The National Development Plan (2012) requires enrolment levels in the Higher Education (HE) sector to increase from 950000 in 2010 to 1,6 million by 2030 (PricewaterhouseCoopers, 2015). While this is welcome in terms of human capital development, it has brought new challenges such as limited state funding of HE, overcrowded lecture halls and student residences, difficulties in retaining senior staff and a decline in the quality of education (Bunoti, 2010). This is true not only for South Africa, but for most developing countries. The global financial crisis and the competing demands for state funds have led to a decline in government funding, thus increasing the need to explore alternative avenues for HE student funding (Maslen, 2010).

The aim of this paper was to address the following questions:

- What are the challenges, opportunities and prospects for funding students in HE in South Africa?
- Are there viable alternatives that disrupt the exponential increase in the costs of HE provisioning?
- Are there innovative, non-traditional funding models involving synergies between non-traditional partners?
- How can we reconceptualise fee structuring and student support?

In order to find answers to these questions, the pragmatic research paradigm was used. Questionnaires, focus group interviews and document analyses were used to gather data. Respondents were drawn from staff and students at four HEIs: one technical and vocational education and training (TVET) college, a private university, a traditional university and a university of technology.

2. LITERATURE REVIEW

2.1 Background to the study

HEIs in South Africa can be broadly classified as universities and TVET colleges. In 2011 there were 23 public universities and 50 FET colleges. Eleven of these 'are universities in the traditional sense, six universities of technology (former technikons) and six comprehensive universities which combine the functions of traditional universities and universities of technology' (Department of Higher Education and Training, 2014: 77). There are also some private universities operating in SA. As part of redressing the imbalances of the apartheid legacy, transformation in South Africa led to an increase in the number of HEIs and increased enrolments after the dawn of democracy in 1994.

The rationale for this expansion was premised on the need to increase HE access by previously disadvantaged groups, and also the realisation that HE is a major driver of economic competitiveness in a knowledge-driven global economy (Pillay, 2010), (Cited in Department of Higher Education and Training, 2014). Funding HE has become a major concern in South Africa, as highlighted by the setting up of the Fees Commission (2016), arising from 'grave concern with regard to fee increases and funding of higher learning' (Government Gazette, 2016: 5). The Fees Commission, also known as the Heher Commission, was established by the then president Jacob Zuma in January 2016 'in pursuit of a sustainable solution to the on-going higher education funding matter' (Fees Commission Report, 2017). Also, the #FeesMustFall campaigns of 2015/2016 added urgency to the need to find solutions to HE funding. Financial aid to these HEIs is provided largely through the National Student Financial Aid Scheme (NSFAS). As a result of HE expansion, funding through NSFAS 'increased from R441 million in 1999 to R6.2 billion in 2011' (Department of Higher Education and Training, 2012: 24). This student funding is in the form of income-contingent loans that become payable when a student has

stopped studying – either by graduating or by dropping out. Bursaries, scholarships and self-sponsorship are other methods of financing HE students. Also of concern has been the high dropout and low graduate completion rates by students in HEIs. This is evidenced by the Ministerial Review of NSFAS (2010) finding that 'some 72% of NSFAS-funded students drop out, indicating that access is not being translated into academic success' (Department of Higher Education and Training 2012: vii). This high dropout rate is also an indication of the inadequacy of funding for HE, hence the need for this study, which sought to investigate the challenges facing funding and to determine possible alternative sources of finance for the HE sector in South Africa.

2.2 Theoretical perspectives

The rate of return on investment and the human capital theories were used to ground the study. The concept of human capital seeks to address the question of whether educational expenditure is a form of investment or consumption, or both. Another consideration in this study was whether HE is of public or private benefit, or both. Literature reviewed tended to weigh in favour of the view that HE is both of public and private benefit (NDP, 2012; CHE, 2016; DHET, 2016). The shared view is that investing in HE is important for a country's economic development, but knowledge and skills acquired result in significant lifetime benefits for successful students. HEIs, the government and society invest in people when affording them the opportunity to learn and develop, and this should be regarded as a form of investment in human capital. Although there is no conclusive empirical evidence as yet on the actual rate of return on investing in HE, it is now widely accepted that developing countries will pay a high cost simply by under-investing in HE and that in the medium to long-term, neglecting investment in science, technology, engineering and mathematics (STEM) could pose a threat to national security (Muchemwa, 2015). However the non-STEM subjects - the social sciences - are also deemed worthwhile. Human capital theorists such as Psacharopoulos and Patrinos (2002) argue that there are private returns or benefits as well as societal benefits to be gained from HEIs, such as job creation, entrepreneurship and economic growth. More educated and skilled workers, managed by more skilled entrepreneurs, increase productivity rates and are rewarded with higher salaries, which also has a positive effect on national tax revenues (Montanini, 2013: 12).

The World Bank (2010: xiii) argues that good quality and relevant HEIs are key to stimulating innovations in new varieties of crops, new materials, sources of energy that could facilitate progress towards reducing poverty, achieving food security and improving health. Montanini (2013:10) provides many examples of empirical evidence and points out that HE is key to economic development. Bloom, Canning and Chan (2005) assert that there is a strong correlation between HE and gross domestic product (GDP) growth, through human capital development and technology diffusion. In this connection, Kofi Annan (2006, cited in Montanini, 2013:10) argues that universities should become the primary tools for Africa's development in the new century. This is an acknowledgement of HEIs as major drivers in social change, in strengthening knowledge production and innovation processes. Universities tend to feature a concentration of expertise and the time to facilitate change and human capital development that can be applied directly to pressing socio-economic issues such as poverty, disease and governance. Montanini (2013) further argues that quality HE develops entrepreneurship and leadership, and that educated leaderships seem to be more transparent and more equipped with ethics principles, diminishing the risk of corruption. In addition, Bloom et al. (2005) proved that HEIs can reduce ethnic tensions and support an improved management of diversity. It should be noted, however, that HE simply creates the potential; government and the private sector must seize the opportunities (Montanini, 2013: 14).

In support of the returns on investment theory, the Report of the Ministerial Committee (2014: 81) cites Bloom et al. (2005), who conclude that "recent evidence suggests HE is both a result and a determinant of income, and can produce public and private benefits, may create greater tax revenue, increase savings and investment, and lead to a more entrepreneurial and civic society... improve a nation's health, contribute to reduced population growth, improve technology and strengthen governance". These benefits result in a country's economic growth and development. Strangely, many African countries have expanded and funded their HEIs, yet the returns have not matched the investment. Some literature supports the view that HE is both of public and private benefit (NDP, 2012; CHE, 2016; DHET, 2016). The shared view is that investing in HE is important for a country's economic development, but the knowledge and skills acquired result in significant private lifetime private benefits.

Until recently, the view was that the contribution of HE to economic development in Africa is negligible in comparison to that of primary and

secondary education. However this stance has been proved wrong and there is now a realisation that a country's social and economic development also requires large numbers of students who can access higher education. To this end, the South Africa National Development Plan 2030 acknowl-edges that universities and colleges are key to developing a nation in the following ways: by training people with high-level skills; by creating producers of new knowledge; and by providing opportunities for social mobility, equity, social justice and democracy (National Planning Committee, 2012).

2.3 Current trends in funding HE and challenges encountered

Funding HE is a global concern but constitutes a particular challenge in developing countries, especially those in sub-Saharan Africa (Bunoti, 2010; World Bank, 2010). HE is more expensive than other levels of education, especially in developing countries. The sources of finance include central government budget allocations, student fees and state loans. In some instances, presidential scholarships are awarded to students from disadvantaged or impoverished rural backgrounds to undertake graduate studies locally or abroad - as was the case with the Zimbabwean presidential scholarships that saw many beneficiaries enrolling to study at South African institutions of higher learning. Sadly, this project was hijacked by the elite and as corruption set in only those 'connected' to senior government officials (and those who could afford to pay anyway) qualified for these scholarships (Ndlovu, 2012), signifying a lack of transparency. It has been argued that placing a cap on the number of these scholarships would unlock more resources that could be used to build and offer quality local education, thereby benefitting more local students than is presently the case (Montanini, 2013; World Bank, 2010). Private sector funding and international aid, especially from multi-national corporations, usually take the form of scholarships and bursaries. The literature (Montanini, 2013; World Bank, 2010; Ndlovu, 2012) tends to favour the reduction of bursaries or scholarships tenable at foreign institutions, and argues that it is cheaper to study at local HEIs. The financial resources spent on one scholarship abroad could cater for several students locally. The beneficiaries of foreign scholarships are also unlikely to return and work in their home countries on completion of their studies. For example, between 2002 and 2006, less than 30% of the US\$600 million private sector funds directly benefitted African universities (World Bank, 2010: 94).

Government funding is characterised by inadequate budget allocations, often the result of low tax revenues, inflation, an ever-increasing demands for HE, and competing demands for funding from other sectors of the economy such as health and drought alleviation (Cullinan, 2013; Gordhan, 2016; Johnson, 2012; McIntyre, 2012). Student fees are a common source of finance for both public and private HEIs, and this presents the challenge of affordability, especially for those from disadvantaged backgrounds. Various fee payment schemes exist: in some cases, there is an upfront tuition fee policy, while in others there are parallel programme students who pay more fees than those on a conventional programme, and there are also loan payment schemes (HESA, 2008; Pillay, 2008). However, governments should be wary of potential controversies and dissatisfaction arising from some of the funding reforms or solutions.

In most cases, regular fee increases have resulted in social discontent and strikes - some of them resulting in the destruction of the infrastructure of institutions. A case in point is the student demonstrations and the destruction that accompanied the #FeesMustFall campaign in South Africa in 2015 and 2016 (Malingo, 2016). Student loans present a number of challenges: firstly, there is difficulty in accessing the loans. Often, beneficiaries are those who do not have a real need for financial assistance. Secondly, it is difficult for most governments to keep up-to-date records and to keep track of loan beneficiaries. Thirdly, loan beneficiaries may go unemployed for long periods of time after graduation, may be selfemployed or may work outside the country. In addition, the low interest rate on these loans coupled with long repayment periods and inefficient instalment collection methods make it hard to create a revolving fund from the initial loan investment. In addition, in some countries (for example, South Africa) loans are converted into grants if students' academic performance is good (World Bank, 2010). Finally, loan administration costs are high.

The difficulty with trying to do more with less is not uncommon. An increase in student enrolments invariably involves a spreading of financial and other resources more thinly than previously. Low or declining HE funding by governments often results in poor quality education. The World Bank (2010: 49-50) highlights the point that the challenges associated with the inefficient use of funds by HEIs are caused by several factors, such as poor planning, poor monitoring of expenditure, excessive public expenditure on students studying abroad, inefficient use of available funds through

high student dropout and repetition rates, and high proportions of overheads and salary expenses for non-academic staff. The results of poor public funding of HEIs include:

- Overcrowding of lecture halls and student residences
- Buildings falling into disrepair
- Equipment not replenished
- Insufficient investment in research and in training of new lecturers; and
- Difficulty in retaining senior faculty staff who are essential in the conducting of research and supervision of Doctoral and Masters students (Bunoti, 2010; Maslen, 2010; World Bank, 2010).

In cases where HE is provided by private sector institutions the criticism has been that they serve private interests rather than the public good (McIntyre, 2012). Such institutions tend to be more expensive and more selective than public institutions, resulting in limited access by low- and middle-income students. This perpetuates social inequality. In South Africa, HE funding has experienced the same challenges as those outlined above. In addition, NSFAS operations have been hampered by poor corporate governance and inefficient fund management and loan recovery practices (Department of Higher Education and Training, 2010: xiv-xx).

2.4 Income generating projects

In order to curtail government funding of HEIs, income generating projects could be established, depending on the location and mandate of each HEI. A case in point from the literature is that of the University of Zimbabwe: it has a university farm that serves as an income generating project as well as facilitating the teaching, learning and research of students in the Faculty of Agriculture. The 1735-hectare farm grows maize, seed maize, soya beans, sugar beans and cabbages on a commercial scale. In the 2015–2016 season the farm had 360 hectares under maize, 150 hectares under soya beans, 30 hectares under seed maize, and two hectares under cabbages, partly for trials, research and demonstrations to faculty students but also to generate income for the university (Gumbo, 2016). Some of the produce from the

farm goes to feed the university's students, thereby subsidising food costs. The sales of this produce could constitute a considerable income which, if well accounted for, would go a long way to financing university programmes and minimising student fees. The farm has embarked on a programme of value-addition by processing its maize into maize meal and packaging this for sale to clients who own shops throughout the country. This venture brings in US\$600 (approximately R8400) per tonne, compared to US\$390 per tonne when maize is sold without value-addition. Given that 360 hectares is put to maize, and that the average yield per hectare is 10 tonnes, working on the assumption that all harvested maize is sold, the following figures can be arrived at:

360 x 10 x \$390 (raw/unprocessed maize) = \$1 404 000

and 360 x 10 x \$600 (processed) = \$2 160 000.

Furthermore, earnings from other crops grown on the farm, such as cabbages, and the possibility of diversifying into livestock production (for example poultry) are also taken into consideration when considering potential income. This farm is a significant source of income for the university. At the same time the university is fulfilling its mandate of equipping students with relevant agricultural skills and meeting community needs by developing hybrid seed maize, providing packaged maize meal and thereby ensuring food security.

2.5 Philanthropic and private sector support

The literature in this area (Bunoti, 2010; Cullinan, 2013; Essays UK, 2013; Habib & Bawa, 2016) favours diversification of sources of funding for HE. These sources could include student fees, constructive engagement with the private sector and the donor community. Philanthropic funding from both local and international donors should be encouraged. Local trusts/ foundations, big corporations, religious organisations and even individuals could donate to HE. Involvement by the private sector would not only help to widen access to HE but would also benefit this sector by way of providing a better-quality workforce.

2.6 Blended learning and massive open online courses (MOOCs)

Literature suggests the blending of the best attributes of successful MOOCs into traditional teaching as a cheaper option when offering HE. This would help to alleviate the pressure on state funding exerted by HE. MOOCs are

able to reach a wider range of learners at a reasonable cost. Research has shown that blended learning is more effective than face-to-face or pure online learning. For example, Jarrett (2013, p.2) argues that "courses developed by faculty, learning scientists, and technologists at Carnegie Mellon University's Open Learning Initiative were shown to produce results equal to traditional face-to-face instruction – in 25% less time". It is necessary, however, to determine which students, disciplines and courses will benefit most from MOOCs. It is also important to invest more in these options as the initial costs are bound to be fairly high. This type of tuition is more akin to online distance learning, and thus requires infrastructure such as enhanced and affordable internet connectivity and accessibility throughout the country.

2.7 Higher Education student funding by country

Country	GDP %	% of government funding	Position on tuition fees
Germany	1.2	84% of student funding at public universities	Abolished tuition fees for undergraduate students in 2014.
UK	1.2	30% contributed by State	Removed capping on tuition fees. Universities now charge up to £9000.
USA	1.4	34% from State	There is greater reliance on tuition fees as source of revenue; high student debt.
South Africa	0.75	Approximately 40% State contribution	34% from tuition fees
Cuba	4.47	Fully government funded (100%)	No tuition fees

Table 1:]	HE student	funding:	Some o	country	comparisons
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(Source: PricewaterhouseCoopers, 2015)

Table 1 indicates that of the five countries, South Africa spends the lowest percentage of GDP on HE. In this regard, the Report of the Ministerial

Committee (2014) recommended an increase in government spending on HE from 0.75% to 2% of GDP in order to relieve the burden on students funding their own education. South Africa subscribes to a funding model in which costs are shared among the beneficiaries of university education, mainly the government and students. Table 1 also confirms that even developed countries continue to struggle to provide free HE for all; it is even more difficult for developing countries like South Africa to do so. PricewaterhouseCoopers (2015:1) observed that "in light of the dependence of SA universities on tuition fees as a source of revenue, a scrapping or capping of tuition fees would leave universities with a major revenue shortfall". This remark came after the #FeesMustFall calls from tertiary education students across the country. To some extent, how much a country spends on HE is a function of its priorities. Lehohla (2016) observes pertinently that education has not been high on the list of issues important to politicians in South Africa: they consider water and electricity more important. Furthermore, education fell to 18 among 20 areas of priority when community members were interviewed. One lesson to be learnt from this is that when there are significant problems and little time and money to solve them, something has to be done first and done properly (Cele & Stone, 2016).

3. METHODOLOGY

The study used pragmatism as the research paradigm. Pragmatism gives researchers freedom to use different methods to collect data, as long as those methods appear best suited to the research problem. A mixed-methods research design consisting of structured questionnaires, focus group interviews and analysis of journal and newspaper articles was employed to describe the challenges, opportunities and prospects of financing students in HE. Mixed-methods research has strengths that offset the weaknesses of both quantitative and qualitative research (Creswell, 2008). For instance, quantitative research makes use of a larger number of respondents yet the voices of participants are not directly heard (Creswell, 2008). Qualitative methods often make use of small numbers of participants in a study, thereby making it difficult to generalise from the findings to a larger group. In this study there were 60 questionnaire respondents and 20 interviewees.

3.2 Sampling

Convenient purposive sampling was used to select four HEIs, as well as to secure an equal number of questionnaire and interview respondents from each of these institutions. A purposive sample of 40 students and 20 lecturers from the four South African HEIs was used. The four HEIs in the sample included a TVET college and three universities. A traditional public university, university of technology and a private university were included in order to obtain a cross-section of views on funding issues from different stakeholders. All four HEIs in the sample are situated in Gauteng Province. This was purposeful and convenient to the researchers in that they provided the full range of HEIs required and were easily accessible. Thus, several visits to the institutions could be made at a relatively low cost. There were equal numbers of students and lecturers sampled from each of the four HEIs. The students represented a cross-section in terms of first year, second year and third year students from various programmes. The lecturers varied in terms of seniority from junior lecturer, senior lecturer and to associate professor.

3.3 Research instruments

Questionnaires and focus group interviews were used to collect data from teaching staff and students. The questionnaires were personally delivered to the four institutions. Respondents were allowed seven days to complete and return the questionnaires. This method was preferred because it ensured a high rate of return of the questionnaires, and the one-week interval enabled the respondents to complete the questionnaires freely and in their own time. In order to ensure anonymity and confidentiality of respondents, the completed questionnaires were placed in sealed envelopes and deposited in a box marked 'QUESTIONNAIRES'. The box was placed at the institution's faculty/department reception.

The focus group interviews were conducted at each of the HEIs at times and campus venues agreed on by the interviewees. The four focus group interviews lasted approximately an hour each. The views of these four groups were considered critical, because they were major stakeholders or interested parties in as far as student funding was concerned (Bunoti, 2010). The focus group interviews solicited the shared experiences of these interviewees. The interview proceedings were audio-recorded with the consent of the students and staff in a bid to save time and to report accurately on what respondents had said. Examples of questions in the questionnaire were:

- What are your institution's sources of funding and how adequate are they?
- What are your views on fee-free tuition at HE?

Examples of the interview questions follow below:

- What are your experiences as far as funding of HE is concerned?
- What alternative funding models/sources could you suggest for financing tertiary education?

Data were also collected through the analysis of World Bank publications, documents, conference papers and reports on funding HEIs in South Africa and other developing countries. Newspaper and journal articles such as those covering the #FeesMustFall movement, the report of the Parliamentary Portfolio Committee on Higher and Tertiary Education, Science and Technology (Zimbabwe) were also included.

3.4 Validity, reliability and trustworthiness of instruments

The validity of the questionnaires was enhanced by piloting to clarify the questions and instructions to respondents, and by obtaining expert opinions from experienced tertiary institution staff. The trustworthiness of the interviews was maintained by taking into account the procedures for credibility, dependability and confirmability as suggested by Stringer (2008). Member-checking and triangulation were used to ensure credibility. The reporting largely comprised transcriptions of the words and expressions of participants (dependability), and the raw data were stored in a safe place should an audit trail be necessary (confirmability).

3.5 Ethical considerations

All ethical considerations were observed at the various stages of data collection. These included obtaining informed consent, ensuring the confidentiality and anonymity of respondents, as well as the honest reporting of findings (BERA, 2004). Capitalised letters of the alphabet were assigned to respondents and no names were used when reporting.

3.6 Data analysis

In concurrent mixed-methods studies, the data should be reported in an integrated manner (Creswell & Plano Clark, 2011). Integration was achieved in this study by reporting the results from the questionnaires, qualified by explanations based on the focus group interviews and data gathered from the various publications and articles. Content analysis was applied to the focus group interviews and questionnaire data.

4. FINDINGS AND DISCUSSION

In this section the results of the questionnaire, interview and document analysis are presented and discussed. Quantitative analysis is then discussed, followed by a discussion of the focus group interview responses, which are arranged according to themes.

Table 2:	Questionnaire responses:	Should government	pay student fees
in full?			

Question	Strongly agree	Agree	Disagree	Strongly disagree
Should government pay the full fees of all HEI students?	31	14	8	7
52%	23%	13%	12%	

Table 2 shows that the majority of questionnaire respondents – both students and staff – either agreed (23%) or strongly agreed (52%) that government should pay students' tuition fees in full, thus supporting the #FeesMustFall movement. However, 13% of respondents disagreed with this position, and a further 12% strongly disagreed. This latter group perhaps took cognisance of the vast inequalities in South African incomes, and/or believed that there really is no such thing as free education. In order for this to happen certain compromises would have to be made (Cele & Stone, 2016). In other words, some hard choices and difficult trade-offs would have to be made (Lehohla, 2016).

A follow-up question required respondents to indicate what, in their opinion, would be an ideal household income cut-off point, below which

students could qualify for an exemption from fees. The results are displayed in Table 3.

If some students are to be exempted	<r30000 0pa</r30000 	<r40000 0pa</r40000 	<r500000 pa</r500000 	<r600000p a</r600000p
what would be the	15	7	10	28
household income below which students would qualify?	25%	12%	17%	47%

Table 3: Proposed household income cut-off point for exemption fromtuition fees

Most of the respondents (47%) favoured a household annual income cut-off point of less than R600 000, a figure that would be likely to make university tuition free for the majority of students. This is because there are relatively few families with annual incomes of this magnitude.

The responses from public and private HEI students were largely similar, except that those at private institutions highlighted the point that student fees were very high as they were the sole source of funding. The majority of students in public HEIs also insisted on an end to the outsourcing of services, that #FeesMustFall, and that there should be a freeze on any further fee increases together with the cancellation of all outstanding debts. Student fees per year at private HEIs ranged from R30000 to R100000, depending on the course. At public institutions, these figures ranged from R15000 to R70000. Students at private HEIs who did not pay their fees in full were locked out and had no access to the premises. Those who were no longer able to pay fees dropped out, representing a drop in the revenue already budgeted for by the institution. This practice perpetuates social inequalities, because access to private higher education institutions becomes the preserve of the very rich only.

Speaker B, a student at a private HEI said:

Yes, the fees that we pay are very high in order to cover for everything; we have all the necessary resources for staff and students.

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This is in contrast to views aired by students at public HEIs, who complained of shortages of resources such as computers and up-to-date libraries. Some interviewees expressed their reservations about the quality of university leadership. One questionnaire respondent (a senior lecturer at a TVET college) put it this way:

Institution leaders should be people of integrity, not corruptible and not appointed on the basis of their political associations.

Some student interviewees insisted on free HE, arguing that funds could be freed from other government departments where there was wasteful expenditure, and from the private sector, since these were the beneficiaries of HEI graduates.

Speaker E (a university of technology student) asserted:

It is really essential that the government departments start supporting the universities. Many of our students that are trained at tertiary institutions enter the government departments and these departments reap the benefit of the trained staff.

However, when asked to identify the government departments from which funds could be 'freed', none of the interviewees were able to name any. Perhaps some 'discriminatory compromise' could be made in which the rich are made to pay fees and the poor are given fee exemption? In reality there is no such thing as free education (Cele & Stone, 2016). Free tuition at HE in South Africa is often motivated by political sentiment rather than economic and fiscal realities, and tends to be characterised by severe shortages of basic resources such as library books, classroom/lecture room furniture and dilapidated infrastructure (Bunoti, 2010; World Bank, 2010). This was confirmed by a senior university of technology lecturer as reported below.

Speaker G, a university of technology senior lecturer, said:

Students really battle with basic amenities at tertiary institutions. Not only students are battling with the availability of basic needs such as books, but staff also battle with poor infrastructure, electronic equipment that is not in a working condition and these challenges have further ramifications and impact both students and staff members. If basic needs are not met such as accommodation, food and transport money, students find it hard to be productive and motivated. When curbed in their effort to study they rebel and only one striker needs to urge them to start and they willingly follow.

Speaker K, a traditional university student, said:

We see staff members exchanging cars but our basic need for food is not attended to. We do not always have access to internet and computers are still a problem. Please do not assume that all students have smart phones. They do not.

Responses from the questionnaires, interviews and information from the reviewed literature seem to suggest that government resources alone cannot sustain HE provision, especially as there are other competing demands for the same resources. The #FeesMustFall demand is not a viable long-term option. Government must increase its budget allocation to public HEIs but this should be coupled with other strategies, such as some form of student fee payment and institution-based income generating schemes. The question that arises would then be whether the policy advocated tuition fee payment for some categories of students, or state loans payable upon students completing their studies and finding subsequent employment. The financial implications attendant on each of these fee payment arrangements would therefore have to be weighed and addressed.

5. RECOMMENDATIONS

The following recommendations are made, based on findings from the literature and from the study respondents.

5.1 All HE students should receive tuition fully funded by government

This was the feeling of the majority of the respondents, and would also satisfy the '#FeesMustFall' movement demands. To a large extent this recommendation takes into account the vast inequalities that exist in South Africa and also considers the intricacies of how to distinguish between those who are disadvantaged or poor and those who are not. It also takes into account the fact that HE is of public benefit (NDP, 2012; DHET, 2016). The argument from respondents was that since government departments are the chief employers of HEIs graduates, government should fully fund the education of these students.

5.2 Cut-off points according to family annual income as a way of cost sharing between the state and students

Alternatively, there should be a cost sharing arrangement between the state and students. This arises from the concern that a total scrapping of student fees may lead to huge shortfalls in HEIs' funding (Pricewaterhouse-Coopers, 2015). Students from families whose total annual income is below an agreed cut-off point could be exempted from paying fees or be given access to 'soft' state loans. Most of the respondents who agreed with this recommendation felt that R600 000 was a reasonable cut-off income level. This would leave students from wealthy backgrounds to fund their own HE studies. If we take the view that HE is both a public and private benefit (CHE, 2016; Bloom et al., 2005), then this recommendation would meet the expectation of cost-sharing in its funding.

5.3 Government and the HEIs should adopt a combination of costcutting measures as suggested in some literature. These include:

- Income generating projects at HEIs. If managed successfully and sustainably such projects have the capacity to lower government expenditure on HEIs, thus working as a subsidy to government funding. Thus, institutions of higher learning should become production units serving the needs of the students and of the communities where they are located. These practices would also promote research that attracts corporate funding and technology diffusion. In addition, students could be gainfully employed as part-time workers on the farm, in the kitchens and so on. While this idea is relevant to rural universities, urban institutions should be challenged to devise their own income generating projects.
- Massive open online courses (MOOCs) should be introduced. Jarrett (2016) argues that when well implemented, MOOCs could be accessible by large numbers of students and at low cost, as long as the requisite infrastructure is installed and is reachable by all students.

- Government should reduce the number of bursaries or scholarships tenable at foreign HEIs. This is a view shared by various authorities (Montanini, 2013; Ndlovu, 2012; World Bank, 2010) in the literature reviewed. The savings thus achieved could then be used at local HEIs to fund more students who would also be more likely to work in this country on completion of their studies.
- Private sector funding of HEIs should be encouraged. This could take the form of twinning arrangements between corporate and universities/colleges or of joint/collaborative research generating income for the institution (Cullinan, 2013). Respondents also felt that since private sector companies eventually employ HE graduates, they should be more involved in the funding of these students' studies.

It is not just student funding that requires urgent government funding, however. There is also an urgent need to attend to HEI infrastructure and equipment needs, as mentioned by respondents (e.g. Speaker G) and in the literature (Lehohla, 2016; Maslen, 2010).

6. CONCLUSION

It can be concluded that there are no easy or 'quick fix' solutions to the challenges of financing faced by HE in South Africa. What is clear, however, is that there seems to be some consensus from the discourses that there is no such thing as free education or no fees for HE. An integrated system or combination of the options discussed in this paper could help fund every deserving student. At the same time, however, caution must be taken not to elevate the matter of HE funding above all other national challenges.

Further debates should be held, especially once the recommendations of the Fees Commission (2016) have been implemented for a few years, to discuss the way forward in terms of the emerging challenges in funding HEIs in South Africa.

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