GRADUATE UNEMPLOYMENT IN THE FACE OF SKILLS SHORTAGES: A LABOUR MARKET PARADOX[1]

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Abstract
Analysts agree that South Africa's unemployment is structural in the sense that the unemployed generally possess lower skills than what is required by the economy. In the context of increasing demand for skilled workers due to technological changes and the need to become globally more competitive, graduates would be expected to find employment without difficulty. However, against expectations unemployment has been increasing among young people with tertiary qualifications since 1995. This paper investigates the nature of this phenomenon. Evidence suggests that learners are inadequately prepared for both tertiary studies and entry into the labour market. Lack of, or inadequate career guidance means that they do not choose fields of study and types of qualifications with good employment prospects. In addition, lack of soft skills and workplace experience mean that employers are reluctant to employ graduates, preferring more experienced people instead.
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1. INTRODUCTION

The nature and severity of the unemployment problem in South Africa is well documented (see Oosthuizen, 2006 for a review). There is a general consensus that unemployment is structural in the sense that there is a mismatch between the types of workers supplied and those demanded in the labour market. This is evidenced by the fact that the majority of unemployed individuals are poorly educated and possess limited skills. Firms, on the other hand, increasingly demand high-skilled workers at the expense of unskilled workers due to structural shifts in the economy: production is shifting towards more skills- and capital-intensive industries, while the adoption of technologically more advanced production processes has also had an adverse effect on demand for low-skilled workers.

While unemployment among low-skilled labour market participants remains stubbornly high, a severe shortage of skilled workers exists. The Accelerated and Shared Growth Initiative for South Africa has identified skills shortages as one of the key obstacles to growth in South Africa (ASGISA, 2006). Within this context one would expect graduates, very broadly defined in this study as individuals with any form of

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post-matric or tertiary qualification (diplomas, technical qualifications or degrees) to be in high demand. While, as we show in this paper, the employment prospects of these graduates certainly exceed those of lower qualified people, a worrying trend seems to be emerging, namely that the graduate unemployment rate, although low in comparison to overall the unemployment rate, has been growing the fastest of all the education cohorts since 1995.

Understandably, the so-called 'graduate unemployment problem' has grabbed the attention of policymakers, since increasing unemployment among presumably skilled labour market participants in a skills-constrained growing economy is paradoxical. Thus, while graduate unemployment is perhaps a less important problem given the broader socio-economic challenges we face in South Africa, it does point at a serious market failure that needs to be addressed. If the problem persists it may lead to disillusionment among the educated youth, many of who obtain qualifications at considerable personal cost and enter the labour market with high expectations of finding employment. In this paper we further review the graduate unemployment issue, drawing on various labour and household surveys conducted by Statistics South Africa, recent literature on the subject, and results from an in-depth study conducted by the Development Policy Research Unit (see DPRU, 2006).

2. LABOUR MARKET TRENDS AND GRADUATES

The South African labour market has been characterised by a poor employment creation performance in the past decade. This is especially true for the period 1995 to 2000 during which employment growth certainly did not meet the expectations of the government's Growth, Employment and Redistribution programme (GEAR). GEAR envisaged that an average of 270,000 jobs would be created annually between 1996 and 2000. This translates into an average annual increase of 2.7% in formal non-agricultural employment (Department of Finance, 1996). While, as argued by Oosthuizen (2006), the economy did not experience jobless growth in the strict sense as some analysts have claimed, the economy has been unable to absorb the rapidly growing labour force into employment at a rate high enough to reduce the unemployment rate. The broad unemployment rate, in fact, increased from around 31% in 1995 to a high of almost 42% in 2002. In subsequent years it declined marginally, reaching 39% in 2005 (DPRU, 2006).

The South African employment trajectory has been affected by a variety of factors. Most apparent has been the shift in output away from low-skills intensive primary and secondary sectors towards high-skills intensive services sectors (Bhorat and Oosthuizen, 2005). The resulting substitution of low-skilled workers for high-skilled workers has been identified as 'skills-biased' technical change (see Bhorat and Hodge, 1999; Burger and Woolard, 2005; Pauw and Edwards, 2006). Technical change has resulted in an increase in the optimal capital-labour ratio in production processes, which has had a dampening effect on employment (Bhorat and Oosthuizen, 2005). Some have argued that the declining demand for low-skilled workers has further been exacerbated by rapid increases in wage and non-wage costs of especially low-skilled labour. In this regard, Burger and Woolard (2005) suggest that wages of low-skilled workers are now above their market clearing levels, thus making them relatively less attractive than skilled workers, given the combination of wages and productivity levels associated with the latter.

Table 1. Education levels of the broad South African labour force, 1995 and 2005

	1995		2005		Change	
	'000s	Share (%)	'000s	Share (%)	'000s	Share in change (%)
All labour force participants						
No education through Grade 11	9,213	67.0	12,327	61.3	3,114	49.1
Grade 12 / Matric	2,873	20.9	5,385	26.8	2,512	39.6
Tertiary	1,430	10.4	2,066	10.3	636	10.0
– Diplomas/Certificates	966	7.0	1,247	6.2	280	4.4
– Degrees	464	3.4	820	4.1	356	5.6
Other/Unknown	237	1.7	321	1.6	84	1.3
Total	13,754	100.0	20,100	100.0	6,347	100.0
Employed						
No education through Grade 11	5,900	62.0	6,825	55.4	925	33.2
Grade 12 / Matric	2,097	22.0	3,351	27.2	1,254	45.0
Tertiary	1,336	14.0	1,865	15.2	529	19.0
– Diplomas/Certificates	890	9.4	1,081	8.8	191	6.9
– Degrees	446	4.7	784	6.4	338	12.1
Other/Unknown	182	1.9	259	2.1	78	2.8
Total	9,515	100.0	12,301	100.0	2,786	100.0
Unemployed						
No education through Grade 11	3,313	78.1	5,502	70.6	2,190	61.5
Grade 12 / Matric	777	18.3	2,034	26.1	1,258	35.3
Tertiary	94	2.2	201	2.6	107	3.0
– Diplomas/Certificates	76	1.8	165	2.1	89	2.5
– Degrees	18	0.4	36	0.5	18	0.5
Other/Unknown	55	1.3	62	0.8	7	0.2
Total	4,239	100.0	7800	100.0	3,561	100.0

As far as labour supply trends are concerned, evidence from the October Household Survey (OHS) of 1995 and the Labour Force Survey (LFS) of 2005 show that about 61% of the growth in the labour force between these years could be attributed to youth entering the labour force (age 15 to 34). However, only 41% of new jobs accrued to this age cohort, which explains the rise in the youth's share of the unemployed from 70% in 1995 to 73% in 2005.

Evidence suggests that the labour force has become better educated over time. Table 1 shows that in 1995 about 67% of participants had a Grade 11 qualification or lower. The share of this education cohort declined to 61% of the labour force in 2005. In contrast the share of matriculants increased from 21% in 1995 to 27% in 2005. The share of participants with a tertiary qualification remained unchanged at just over 10% of the labour force. Within this cohort, we notice a relative shift towards participants with degrees (their share increased from 3 to 4%) as opposed to certificates or diplomas (declined from 7 to 6%). What is important to notice is that while 10% of the growth in the labour force can be attributed to tertiary educated participants, 19% of new jobs accrued to this education cohort. The majority of these (64%) went to people with degrees.

Multivariate analyses of employment confirm the superior employment prospects of highly educated labour force members. For example, Oosthuizen (2006) finds that in both 1995 and 2004 a relatively higher level of education increased a labour market participant's probability of finding employment. In 1995, a Grade 12 qualification raised a participant's probability of finding employment well above that of someone without a matric. However, by 2004 this probability had dropped significantly. In fact, by 2004, a post-matric qualification, such as a diploma or degree, had become much more important in determining an individual's employment status than a matric alone.

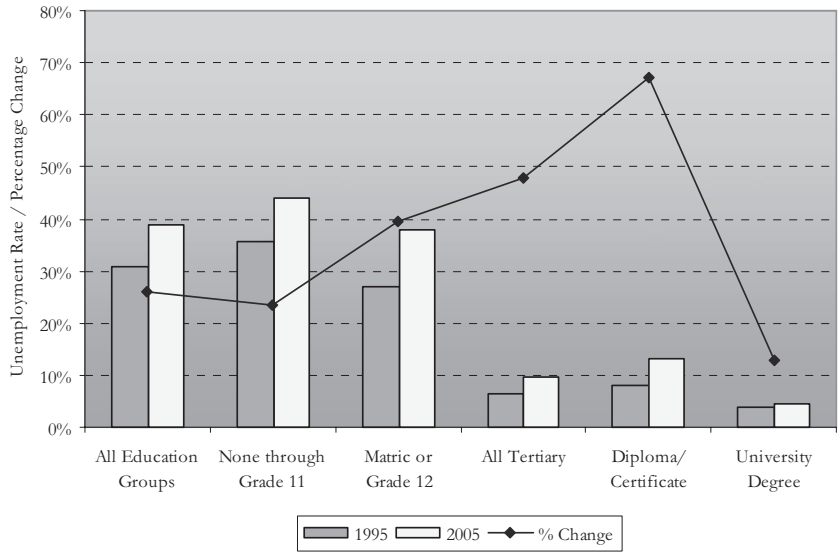

Figure 1. Broad unemployment rates by level of education, 1995 and 2005
Notes: Diplomas/Certificates excludes individuals who have not completed Grade 12.
Source: Own calculations, OHS 1995, LFS 2005(2) (Statistics South Africa).

Oosthuizen's (2006) results are inconclusive as to whether having a degree is better than having a diploma in terms of employment prospects, most likely due to the small sample of university graduates in the LFS 2004. However, when looking at broad unemployment rates shown in Fig. 1 in conjunction with the evidence presented previously in Table 1, we notice some important differences between 1995 and 2005 in both the unemployment rates and the changes in unemployment rates for different education cohorts. First, the unemployment rate among all participants with a tertiary qualification increased from 7 to 10% (48% increase). Although this unemployment rate is still significantly lower than the rate among matriculants (38%), the worrying aspect is that it has grown at a faster rate. Second, a further breakdown of tertiary qualifications reveals that much of the growth in graduate unemployment can be attributed to a sharp rise in unemployment among people with diplomas or post-matric certificates. Unemployment in this cohort increased from 8 to 13%, which constitutes a 67% rise. For university graduates the unemployment rate increased by 13%, which is low in comparison to other graduates and the labour force as a whole.

3. EXPLAINING GRADUATE UNEMPLOYMENT

The previous discussion has shown that the labour force has been growing fairly rapidly over the last decade and has become younger and better educated. While the increased demand for labour was not enough to absorb all the new labour force entrants, shortages at the upper end of the skills distribution have been well documented in the media and elsewhere (see DPRU, 2006). Against expectations, the unemployment rate among highly skilled graduates has increased over the period, driven particular by the inability of

Table 2. Tertiary unemployment rates by race and type of qualification, 1995 and 2005

		Per cent of total				
		African	**Coloured**	**Asian**	**White**	**Total**
Diploma/Certificate with Matric	1995	11.3	7.7	9.6	2.6	7.9
	2005	20.0	3.9	5.2	3.2	13.2
Degree	1995	6.6	11.4	1.0	2.4	4.0
	2005	7.0	0.0	4.2	2.3	4.4
Total	1995	10.1	8.3	5.6	2.5	6.6
	2005	15.9	2.9	4.7	2.7	9.7

Notes: In the OHS 1995 there is only a category for "degree", while the September 2005 LFS distinguishes between various levels of degrees. These categories from the September 2005 LFS were combined to allow comparison with 1995 figures.
Source: Own calculations, OHS 1995, LFS 2005(2) (Statistics South Africa).

individuals with a diploma or certificate to find employment. A tertiary qualification therefore no longer guarantees employment. In this section, we explore possible reasons behind the rise in graduate unemployment.

(a) Types of Qualification Obtained and Field of Study

Previously we showed that the *type* of tertiary qualification plays an important role in finding employment. Here we explore this issue, as well as students' choices about fields of study and how these affect their employment prospects, further. Fig. 1 previously and Table 2 below reveal that, in terms of qualification type, the rapid increase in broad unemployment among all graduates has its origins in the sharp increase in the unemployment rate of those with diplomas or certificates, which rose from 7.9% to 13.2% over the decade. The increase was driven mainly by the rise in the unemployment rate among Africans with diplomas or certificates, which almost doubled from 11.3% to 20.0%. In contrast, the rate of unemployment among degreed labour force members was largely unchanged, with only 4.4% unemployed in 2005. The small sample size makes it impossible to comment on trends according to race in this category.

The rise in the African graduate unemployment share is partly explained by a sharp increase in the enrolment of African students at tertiary institutions. In the case of technikons, for example, Africans accounted for 4% of all technikon students in 1985. This proportion increased to 73% in 2000 (see Koen, 2003). By 2003, African students accounted for 76% of all technikon students and 60% of students in all state subsidised universities and technikons (Department of Education, 2006). Also contributing to the increase in the share of Africans in total graduate unemployment is the fact that historically Black universities have "*disproportionate numbers of students graduating in fields with lower employment prospects*" (Moleke, 2005:5).

The skills mismatch is an integral part of the graduate unemployment issue and can only be solved through improvements in the responsiveness of labour supply to the characteristics of labour demand. Specifically, individual study choices should be aligned with fields with superior employment prospects in order to reduce the likelihood of unemployment upon graduation. Historically, this has, unfortunately, not been the case as Fig. 2 demonstrates. The figure maps various fields of study according to the rate of labour force expansion (or contraction) between 2001 and 2005 on the horizontal axis, and the 2001 expanded unemployment rate on the vertical axis. The pattern in a situation where graduates are responding well to labour demand would be downward-sloping from

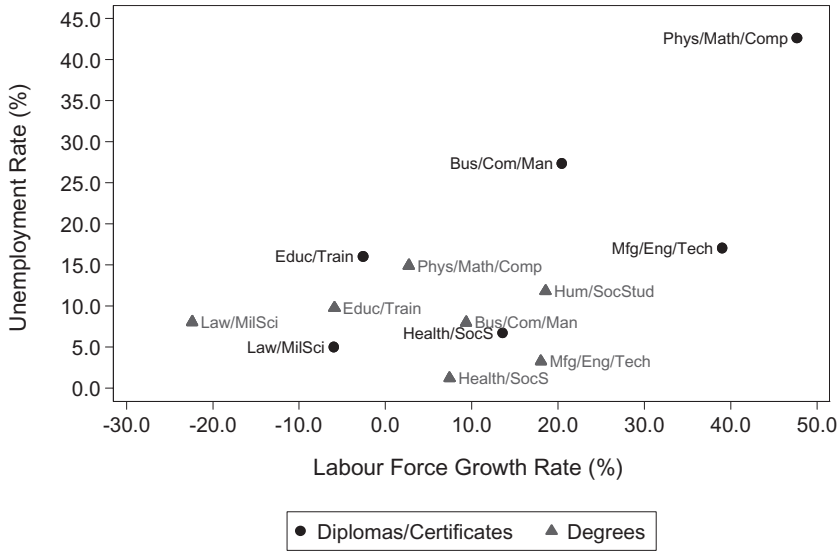

Figure 2. Tertiary labour force growth and unemployment, 2001–2005
Source: Own calculations, LFS 2001 (2), LFS 2005(2) (Statistics South Africa).

left to right, with fields characterised by high unemployment seeing contractions in the labour force, while those characterised by low unemployment experiencing labour force expansion. Naturally, this is not a perfectly accurate reflection of reality as individuals are not necessarily employed in areas related to their fields of study, but it does at the very least provide information on the 'value' attached by employers to qualifications in certain fields of study.

Fig. 2 differentiates between individuals with diplomas or certificates and those with degrees, but only presents those fields of study with at least 40,000 labour force members in 2001. Particularly for diplomas and certificates, labour force expansion is positively related to the unemployment rate. The growth in the number of labour force participants with diplomas or certificates in physical, mathematical, computer and life sciences was 47.7%, despite unemployment amongst this group of graduates being 40.2% in 2001. Similarly, despite unemployment rates in excess of 15% in 2001, the number of labour force members with diplomas or certificates in business, commerce and management studies and manufacturing, engineering and technology grew by 15.8% and 38.3%, respectively, over the period. It was only in education, training and development that labour force contraction coincided with relatively high unemployment in 2001. In law, military science and security, the number of labour force participants with diplomas or certificates declined, despite this being a field with relatively low levels of unemployment.

In terms of degrees, the picture is more mixed. On the one hand, growth in the labour force among those with degrees in physical, mathematical, computer and life sciences was minimal, as one would have hoped given the field's high unemployment rate in 2001, while the labour force expanded relatively rapidly in the low unemployment rate fields of health sciences and social services and manufacturing, engineering and technology. In

Table 3. Tertiary employment and unemployment by qualification type and field of study, 2005

Field of study	Diploma/Certificate			Degree		
	Employ. share	Unemp. share	Unemp. rate	Employ. share	Unemp. share	Unemp. rate
Business, commerce and management studies	19.6	30.4	19.1	24.1	17.3	3.2
Education, training and development	28.7	12.1	6.0	23.4	23.0	4.3
Physical, mathematical, computer and life sciences	8.4	15.7	22.2	5.6	20.0	14.1
Manufacturing, engineering and technology	14.5	13.2	12.2	9.6	4.4	2.1
Health sciences and social services	10.2	10.7	13.8	12.9	5.2	1.8
Law, military science and security	3.6	2.9	11.1	6.4	10.5	7.0
Human and social studies	3.2	5.4	20.6	7.0	2.7	1.8
Agriculture and nature conservation	1.5	1.5	12.8	3.1	12.2	15.2
Communication studies and language	3.2	4.2	16.7	2.8	2.1	3.4
Other/Unknown/Unspecified	7.1	3.9	7.8	5.1	2.4	2.2
Total	100.0	100.0	13.2	100.0	100.0	4.4

Source: Own calculations, LFS 2005(2) (Statistics South Africa).

law, military science and security, there has been rapid contraction in the degreed labour force, but in education, training and development and human and social studies, similar initial unemployment rates have been followed by relatively slow contraction and rapid expansion in the degreed labour force, respectively. Overall, therefore, it does not appear that the labour market conditions in a given field of study are important factors in determining what young people study.

Without downplaying the problem of unemployment among labour market participants with degrees, it is clear from Table 2 that most of the increase in tertiary unemployment is explained by unemployment among people with diplomas or certificates. This may be related to problems in the Further Education and Training (FET) system, with some service providers offering inappropriate courses that are not valued by potential employers. In this regard, Mlatsheni (2005) notes that many of the FET colleges are under-resourced, not located geographically where they are most needed and they have a poor image with employers given the employment records of graduates from these colleges. The issues surrounding the quality of education offered at FET colleges are explored further in the following section.

Table 3 provides a breakdown of tertiary employment and unemployment in 2005 by field of study and type of qualification. Among those with diplomas or certificates, individuals with qualifications in business, commerce and management studies were the largest contributing category to unemployment, accounting for 30.4% of unemployment compared to only 19.6% of employment. They were followed by individuals qualified in physical, mathematical, computer and life sciences, with a 15.7% share of unemployment, compared to a share of 8.4% of employment. Individuals qualified in manufacturing, engineering and technology and education, training and development accounted for 13.2% and 12.1%, respectively, of total unemployment of those with diplomas or certificates. The highest unemployment rate of 22.2% was among those with physical, mathematical, computer and life sciences qualifications, followed by human and social studies (20.6%) and business, commerce and management studies (19.1%).

Among the employed with degrees, business, commerce and management studies, education, training and development, and health sciences and social services are the most prominent fields of study, accounting for more than 60% of total employment.

While labour demand for students with qualifications in social sciences and humanities is relatively lower (Koen, 2003:17), enrolments in these fields of study remain high. Moleke (2005) found that university graduates with qualifications in fields with a more professional focus, such as medical sciences, engineering, as well as economic and management sciences, found employment faster than graduates with a more general degree in fields such as humanities and arts, which do not "*directly prepare graduates for a profession*". In 2000, the government's *National Plan for Higher Education* set the target of a 30:30:40 breakdown of enrolment between science/engineering, technology/business/ commerce and humanities/social sciences to be reached within a five to ten year period in order to meet the labour market needs more effectively. This ratio was 26:24:50 for technikons and universities combined in 2000, with technikons at 35:31:34 and universities at 21:20:58 in 2000 (Kraak, 2005).

The evidence presented above raises questions about how students choose their field of study and whether they receive any guidance in making such decisions. Moleke (2005:41) suggests that students find general fields of study with their less stringent entry requirements more accessible, while at times their decisions are "*purely arbitrary*". Cosser *et al*. (2003:34) find that over 60% of the respondents in the technical colleges survey gave as the reason for their choice of field of study that they were "*interested in it*" and only 23% chose their field of study because they thought it would secure employment. These finding suggest that there may be deficiencies in career guidance both in schools and technical colleges. However, roughly half of the respondents indicated that they did receive guidance before enrolling, while 60% received guidance during the enrolment process, suggesting that both the scope and quality of career guidance are problematic (Cosser *et al*., 2003).

As far as job search is concerned, Cosser *et al*. (2003) found that 71% of graduates did not receive any assistance from their colleges to find employment. The general lack of adequate preparation for entry into the labour market may be a contributing factor to the high unemployment rate among technical college graduates. Where graduates did receive assistance, it was generally in the form of the college arranging for employers to interview students on campus (Cosser *et al*., 2003:46).

(b) Quality of Education

The quality of education in South Africa is a concern at all levels. Poor student performance at tertiary level can often be traced back to quality issues in primary and secondary schooling in South Africa. Mlatsheni (2005) cites poor performance of primary school pupils in tests of language ability and the declining numbers of matric candidates who pass with exemption, which enables university entrance, as particularly worrying. Mlatsheni also cites a survey (South Africa Survey 2003/2004) in which it is suggested that 82% of students who are accepted into tertiary institutions in South Africa are functionally illiterate in the sense that they struggle to cope with the literacy requirements of their courses. According to language experts, language ability of an average 7-year-old pupil from disadvantaged backgrounds in South Africa is equivalent to that of a 3- to 4-year-old (Mlatsheni, 2005:2). Furthermore, 60% of students fail to cope with the level of mathematics and science offered at university. Kraak suggests that poor throughput statistics at universities and technikons in South Africa

"are yet another indication of the weaknesses of school education which should provide a more adequate preparation for entry and success in further higher learning", while the "perceived poor quality of South

African schooling (particularly in the former African school system) serves as a major disincentive on the demand-side for employing large numbers of first-time entrants to the labour market" (2005:22, 31).

A further language-related issue is the fact that, while almost 95% of students are taught in English, only 10% speak English at home (Cosser *et al.*, 2003). Since many students probably prefer to receive tertiary tuition in English, it is crucial to improve their competencies in English already at secondary school level. From an employer's perspective competence in English is always a requirement, especially in the formal sector, with virtually all the firms in the DPRU survey identifying improvements in school mathematics, science and English as a spoken and written language as critical (DPRU, 2006).

Evidence of the disproportionately large share of African graduates in tertiary unemployment was presented previously. One possibility is that the high unemployment rates among African graduates may be linked directly to actual or perceived differences in the quality of the institution attended. Moleke's findings regarding the employment prospects of graduates from historically white universities (HWUs) and historically black universities (HBUs) are interesting (2005:4–5). This author notes that students from HWUs are found to have much better employment prospects than those who graduated from HBUs. This may relate to the fact that HBUs enrol disproportionate numbers of students in fields of study with poor employment prospects. However, it can also be explained by employers' perception about the differences in the quality of education offered at different institutions.

Evidence from the DPRU firm survey suggests that employers are biased against employing graduates from HBUs (DPRU, 2006). Some firms admitted that they did not approach historically black institutions during campus recruitment drives due to concerns about the quality of education at these institutions. Others avoided HBUs due to the low number of suitable candidates that they typically source from these institutions. Also, "*enough employment equity candidates* [are recruited] *by only visiting the historically white institutions*" (DPRU, 2006:28). As expected firms said they would not discriminate against job applicants from HBUs. However, when asked what proportion of their recent recruits were from these institutions, the numbers reported were either very low or zero. Of course, given the perceived superior quality of HWUs, these institutions have many more applicants and are thus able to have more stringent entry requirements. Thus, by default they end up producing better quality graduates.

Another concern raised by firms (DPRU, 2006) is the strong focus on enrolling large numbers of students rather than on the quality of education at tertiary institutions. Firms felt that educational subsidies at tertiary institutions should be based on a combination of student numbers and quality rating of the institution rather than the throughput rate as is presently the case.

There is evidence that South African tertiary institutions are enrolling more students than in the past, especially students from formerly disadvantaged backgrounds. Many students struggle to cope with the academic workload at these institutions given poor preparation at secondary schools, leading to high failure rates. According to the HSRC (2005), a total of 120,000 students enrolled in the country's public higher education institutions in 2000. At the end of that year 36,000 (or 30%) had dropped out. Another 24,000 (20%) dropped out between their second and third years. Of the remaining 50% about half of the students failed to graduate within the prescribed course period.

This is estimated to amount to a loss of about R4.5 billion in subsidies allocated to the higher education institutions (HSRC, 2005). Educational institutions may even find themselves under pressure, whether knowingly or not, to lower standards and maintain throughput rates in order to ensure that student attrition does not result in skyrocketing class sizes.

One of the important debates in educational circles is about the future of the FET college system. A major concern is the issue of quality of education offered at these institutions. The FET recapitalisation process aims to improve the image of these institutions through large investments in infrastructure (a figure of R1.5 billion has been mentioned), while the curriculum at these institutions is currently being reviewed as part of the programme. The original intention was that firms would utilise FET colleges to provide training as part of learnership agreements. However, increasingly firms are applying for accreditation as training providers themselves. This may be either due to a lack of faith in the FET system, or simply because they felt that they could provide better quality and more appropriate training themselves (DPRU, 2006; Smith *et al.*, 2005).

There are also some concerns about the revision of the curriculum at FET colleges that is underway. The system currently accommodates three types of FET colleges, namely the general academic FET, the vocational FET and the industry-based FET. The general academic FET's offer "*a so-called 'whole' qualification consisting of exit level outcomes which schools will offer and which will no doubt form the basis for university entrance criteria*" (Papier, 2006:6), while the vocational and industry-based FETs are more practically oriented. The new curriculum at the FET institutions appears to introduce an even broader type of education that, on the one hand, ensures inclusion into a modern knowledge society, but on the other hand perhaps comes at the cost of widening the technical skills deficit. Papier concludes that in this attempt to strike a balance "*. . . it may well be that FET qualifications will again neither satisfy the demands of the workplace, nor the requirements of Higher Education*" (2006: 6).

(c) Continued Discrimination

Inter-racial variation in unemployment rates may be a result of continued discrimination favouring Whites in particular and to a lesser extent, Asians and Coloureds. Moleke (2005) suggests that there are signs that African graduates are still disadvantaged in the labour market. Although it has been found that Africans are more likely to choose study areas with lower employment prospects, evidence suggests that there are also differences between races within particular study areas. Table 4 shows the percentages of university graduates that find immediate employment across various fields of study. On average, a much greater proportion of Whites than all other racial groups find employment immediately. Only in engineering are Africans more likely to find employment immediately. Very low proportions of Africans with humanities and arts, education and law degrees find employment immediately, which perhaps suggests an oversupply and over-enrolment of African students in these fields of study. The fact that too many students graduate with inappropriate qualifications was frequently raised as one of the major problems faced by firms in the DPRU (2006) survey.

(d) Lack of Soft Skills, Work Experience and Workplace Readiness

Soft skills or general social skills, which include communication skills, presentations skills, financial management skills, time management skills and creative thinking skills,

Table 4. Percentage of university graduates employed immediately, by race

Field of study	Asian	African	Coloured	White
Natural sciences	30.0	45.9	52.2	59.9
Engineering	50.0	88.9	50.0	78.3
Agriculture		53.3	83.3	64.3
Medical sciences	46.0	65.7	32.5	91.2
Humanities and arts	53.6	38.7	33.3	56.4
Education	71.4	48.3	28.6	75.0
Law	36.4	26.8	51.6	69.6
Economic and management studies	53.5	37.5	42.2	74.8
Total	47.6	43.0	42.2	70.4

Note: These results are based on a survey of 2,672 respondents who obtained their qualifications from South African universities between 1990 and 1998. The sample was drawn from a database, the Register of Graduates, held by the Human Sciences Research Council (HSRC), which contains the details of all graduates of South African universities.
Source: Moleke (2005).

play a very important role in the ability of young people to adapt to a professional working environment. It seems many graduates lack these soft skills when they start their careers, with the majority of respondents in the DPRU (2006) firm survey highlighting this as one of the main reasons why so many graduates are already unsuccessful in the recruitment phase. This was specifically a concern for students from historically Black institutions. For many, the transition from poor quality secondary schooling to tertiary education is a difficult one, while that from tertiary institutions to the workplace is even more challenging.

Depending on nature of vacancies, firms often require people with some work experience and the ability to, at least to some extent, work independently. As Mlatsheni (2005:1) highlights, work experience is an "*important factor that influences employability at all levels*". Employers are also perhaps risk averse and prefer to employ older, more experienced workers who do not require as large an investment in training given the threat of headhunting in a scarce skills economy. In this regard, Kraak (2005) notes that South African youth face poor chances of receiving pre-employment training, which makes young people less attractive to employers. Vocational training is typically not part of university qualifications and, given the high level of unemployment and competition for entry-level positions, current university students often struggle to find part-time employment positions within their fields of interest. Technikon students often *have* to complete an internship before they are able to graduate. However, it seems even these internships are hard to come by. Deputy President Mlambo Ngcuka recently remarked that "*four out of ten* [technikon] *students could not graduate because they had been unable to find opportunities for practical experience*" (Hamlyn, 2006). This trend is worrying as it either points at a general lack of entry-level opportunities or an unwillingness of South African firms to invest in the education and training of students.

(e) Graduate Expectations

Many of the firms interviewed as part of the DPRU study indicated that the expectations of graduates, particularly university graduates, are too high. Graduates expect their qualifications to open doors at middle management level and are often unwilling to start

at entry-level. Employers feel that the return to employing a graduate is low, given that graduates require substantial on-the-job training before they provide any returns to the firm. It is necessary for graduates to have a more realistic view of what they can offer and what they can expect from their first jobs, given their limited experiential training.

4. CONCLUDING REMARKS AND POLICY PROPOSALS

While the graduate unemployment problem in itself is not substantial in absolute terms, it remains a concern as it is an unexpected outcome given skills shortages. It points at serious problems in the South African training and education system. While enrolment at tertiary institutions has increased during the last decade, especially among African students, graduate unemployment has also increased. This implies that the increased demand for skilled labour has either been insufficient to absorb new graduate labour market entrants, or that these graduates are not suitably qualified for the jobs that are available. Given the prevailing skills shortage in the economy, the latter is more likely to be the case – graduates either do not posses the right qualifications or their qualifications are not of a standard that is required by employers. This affects the employment prospects of graduates even if employers' perceptions of quality are not objectively grounded.

A number of solutions present themselves, most importantly perhaps the almost clichéd suggestion that the quality of education has to be improved. At primary and secondary school level, learners should be encouraged to take maths and sciences and the quality of these subjects should be improved to enable a larger proportion of students to gain access to technical and scientific fields of study. Also critical is the improvement of learners' proficiency in English at school level to enable them to handle English as medium of instruction at tertiary institutions. In addition, a high level of competence in English will generally increase a graduate's employability. The quality and scope of career guidance at secondary schools should also be improved in order to guide and encourage learners to choose fields of study with high employment probabilities. While it is more difficult to influence graduates' expectations, career guidance at school level can play a role in preparing potential graduates for what they can expect in terms of remuneration when they eventually enter the labour market.

At tertiary level, areas of enrolment should also be governed as too many students are currently graduating in areas with low employment probabilities. One possibility is that tertiary education subsidisation should perhaps be more closely aligned to skills needs identified as part of the Joint Initiative of Priority Skills Acquisition initiative, which falls under ASGISA, thereby encouraging greater enrolment in these fields.

Graduates' lack of soft skills and workplace experience has also been identified as one of the key contributors to graduate unemployment. Policymakers will have to consider where to locate the responsibility for the provision of soft skills training. Firms may be encouraged to offer soft skills and more general workplace skills as part of the learnerships system, which will enable firms to benefit from the tax incentives that form part of the scheme.

In the final analysis, it is unacceptable that highly skilled individuals suffer unemployment at a time when the economy so desperately needs their skills. While graduate unemployment may represent a small problem numerically speaking, its impact is far reaching and can severely constrain efforts to achieve higher levels of economic growth in South Africa.

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