Pathways from university to work

A Graduate Destination Survey of the 2010 Cohort of Graduates from the Western Cape Universities

A CAPE HIGHER EDUCATION CONSORTIUM (CHEC) STUDY

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JUNE 2013

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CHEC
Cape Higher Education Consortium

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UNIVERSITY of the WESTERN CAPE

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Nasima Badsha
CEO: CHEC

1

INTRODUCTION

BACKGROUND TO THE CHEC STUDY

This research report forms part of the Cape Higher Education Consortium (CHEC)'s ongoing work on graduate attributes. The decision to commission the research was an outcome of two CHEC engagements in 2011 – the two-day Graduate Attributes Symposium held in March 2011 and the one-day Graduate Attributes Research Workshop in October 2011. Following these workshops, a decision was made to advertise a tender to undertake a tracer survey of the 2010 cohort of graduates from the four universities in the Western Cape, that is, the Cape Peninsula University of Technology (CPUT), University of Cape Town (UCT), Stellenbosch University (US), and the University of the Western Cape (UWC).

A CHEC reference group comprising representatives from each of the universities as well as from the Western Cape Government (WCG) was established to oversee the planning and execution of the study.

While each of the universities has administered its own exit surveys of graduates in previous years, the intention here was to draw on a single cohort of graduates across all four universities – across all qualification levels and academic fields. Key questions included:

- Where are graduates finding employment – in firms, non-governmental organisations (NGOs), government, self-employment?
- In which provinces are graduates finding employment – in the Western Cape or elsewhere?
- What is the nature of this employment take-up – in which sectors, formal or informal, etc?
- How long does it take graduates to find employment?
- Which graduates are finding employment more quickly – by discipline/ qualification, undergraduate/postgraduate, etc?
- Which graduates take longer to find employment?
- What are the conditions of employment (permanent/ contract; full-time, part-time)?
- How did the graduates find employment – when did they start looking and what job search instruments did they employ?

The reference group determined that the 2010 cohort of graduates from all four universities should be the focus of the study. This cohort should include graduates who received certificates and diplomas, undergraduates (3 and 4 year bachelors) and postgraduates (postgraduate diplomas, honours, masters and doctorates). Members of the reference group were to be responsible for providing the names, email addresses and contact numbers of the graduates in each cohort. It was agreed that a response rate of 33% be targeted, i.e., 8 190 respondents from a total population of 24 710 graduates. Each university was to be responsible for securing ethical clearance for the project. The reference group also indicated that opportunities should be made available for its members to make contributions to the questionnaire design, data analysis and report-writing processes.

Dr André Kraak, an independent education researcher, and Dr Jacques du Toit, Senior Lecturer in the Department of Town and Regional Planning at the University of Pretoria (both formerly from the HSRC Education Group), were appointed as short-term CHEC consultants to undertake the study in May 2012. The actual survey was conducted in the period September to November 2012.

Core focus

The primary task of the survey was to determine levels of 'graduate employment and unemployment' and to understand the differing pathways from higher education into work. Subsidiary questions examined included the value of work placement and internships and the regional migration of skilled graduates in and out of the Western Cape. The difficult issue of determining 'graduate attributes' was excluded from this quantitative study as it was felt qualitative methods were more appropriate in such an inquiry regarding graduate attributes. Ideally, such qualitative work on the topic of 'graduate attributes' will

constitute the second phase of this CHEC survey.

The conceptual framework underpinning this study recognizes that preparation for the world of work is not the only function of the higher education system. Other purposes such as knowledge production in fields not directly relevant to the economy are equally important. The university system should also seek to equip young graduates to be able to actively participate as informed citizens in democratic life. Nonetheless, the role of higher education in preparing young graduates for first-time employment in the labour market is a critical function of the university which requires our greater understanding.

Graduate tracer studies, such as this one, highlight the extent of graduate unemployment in society. They need to be undertaken at regular intervals as part of the state's routine data collection on the labour market so as to monitor the scale and persistence of the problem. Unfortunately, routine data collection does not occur with the required regularity in South Africa. It is for this reason that the four institutions in the Western Cape decided to undertake such a study.

SEVEN PATHWAYS FROM UNIVERSITY TO WORK

This report has chosen to adopt the concept of 'pathways' from higher education to work. The concept has received significant attention in the international literature in recent times as a means to capture the current 'fracturing' of traditional transitions from education to work. The predictability of these past transitions has given way to heightened flux. Pathways, particularly for first-time entrants into the labour market, are today characterised as discontinuous 'stepping stones' or 'zigzags' – transitions very different from the smooth and linear movement of young people from education to work in the past (Guthrie, Stanwick and Karmel, 2008: 8).

This instability arises from the dramatic changes in labour markets which has accompanied globalisation and the shift towards a 'knowledge economy'. Most importantly, there has been a significant increase in the number of informal and part-time jobs over the past two to three decades, leading to greater casualisation of employment and 'precarious work'. Workers move from one short-term contract to the next – creating significant 'churn' in the labour market.

In addition, self-employment has increased alongside a rise in outsourcing of secondary functions in many industries – leading to a rise in the number of professional and para-professional personnel working from home. And finally, for highly skilled youngsters qualified in key professions such as law, engineering, medicine and IT, working elsewhere in the globe (away from one's home country) has become standard practice in many countries and a key driver in the formation of a single borderless pool of highly skilled talent able to work anywhere in the world.

Another feature of the current labour market facing university graduates which creates uncertainty and flux is the seemingly contradictory demand from the economy for highly skilled labour on the one hand, whilst in reality, many graduates face increasing problems in finding suitable employment. Teichler argues that these dual pressures need to be accepted as co-existing rather than contradictory features of modern labour markets (Teichler, 2006: 6).

Taken together, all of these dynamics of contemporary employment has created a more diverse and unpredictable set of career pathways from education into work. It is for all of these reasons that tracer studies have become critical tools of strategic information generation in higher education.

In this study, at least seven different pathways will be investigated. The seven pathways out of university into work are:

1. Employed graduates who have entered the labour market for the first time in 2010 and have acquired full-time employment ('young' graduates);
2. Employed graduates who were employed prior to studying for the qualification achieved in 2010 ('mature' graduates) and who have (in most cases) continued with such employment during their study years;
3. Self-employed graduates;
4. Unemployed graduates;
5. Continuing higher education students who have enrolled for additional programmes since graduation in 2010;
6. Graduates employed in the informal sector (e.g., street vendors, spaza shops etc.); and
7. Unemployed graduates not looking for work (e.g., caregivers, homemakers and religious persons).

A number of Sections in this Report expand on these seven pathways as experienced by the 2010 Western Cape cohort. At the outset of this study, we knew very little about each of these pathways – for example, their relative size. We also do not know which graduates populate these pathways – their age, race, gender, home province, field of study and qualification level. A major aim of this study will be to answer these questions in some detail.

Literature Review and Methodology

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GRADUATE DESTINATION SURVEYS: INTERNATIONAL PERSPECTIVES AND NATIONAL TRENDS

INTERNATIONAL PERSPECTIVES

South Africa, over the past decade, has witnessed a significant expansion in the numbers of unemployed youth, including matriculants and tertiary-level graduates. The problem of unemployed graduates is not unique to this country and is growing world-wide. There is a large literature on the issue, including several studies based on tracer and longitudinal surveys of young people as they pass through higher education into employment.

Perhaps the most consistent work in the area of tracer studies has been done by Ulrich Teichler and his colleague Harald Schomberg at the International Centre for Higher Education Research in Kassel, Germany. In 2006, they published a twelve country study on graduate employment, focussing on countries located largely in Europe but also including Japan. The survey was undertaken four years after graduation with the graduates of 1995 in those twelve countries. Altogether 117 000 graduates were sent questionnaires in the post and 40 000 eventually responded – an overall response rate of 39%. Response rates varied from 50% in Norway to 15% in Spain (Schomburg and Teichler, 2006: 22-23). The key results are highlighted in Table 2.1 below:

Table 2.1: Percentage distribution of 'predominant activities' since graduation in 1995

Further studies	21
Regular employment	61
Various temporary jobs	11
Had more than 1 job at a time	5
Homecare	3
Unemployed	4
Other activities	8
TOTAL	113

Source: Schomburg and Teichler, 2006: 77
Note: Survey done in 1999 on 1995 graduate cohort; report published in 2006

Although the unemployment rate after four years was only 4%, there were higher rates of unemployment in the southern regions. For example, in Spain it reached 13%. Another negative feature of the European labour market identified in the Schomburg and Teichler survey is the high levels of job 'churn' – 29% of graduates changed employers once, 22% were mobile twice in the four years surveyed, and 6% changed jobs three times or more. In addition, 22% of employed graduates were on temporary contracts with the highest measures recorded in Spain at 50%. Self-employment was relatively low, at 6%, although high levels were recorded in Italy (19%), Spain (9%) and the Czech republic (9%) (Schomburg and Teichler, 2006: 77, 81, 84, 89).

In Africa, Mugabushaka, Teichler and Schomburg (2003) report graduate unemployment rates and difficult transitions from higher education into work in six African countries in the period 1996–97. The study comprised 10 tracer surveys comprising several graduate cohorts. Unemployment rates varied from 5% for older cohorts (who graduated in the 1980s) to 10% for younger cohorts (who graduated in the mid-1990s) – indicating a growth in the trend towards graduate unemployment. Those respondents who indicated they were employed in the Africa surveys were largely taken up by public sector employment – 73% of those surveyed (Mugabushaka et al., 2003: 67) – making the African problem of graduate employment and unemployment distinct and highly dependent on the employment activities of the state.

In Brazil, graduate unemployment has reached a high of 16.4%, reflecting a severe mismatch between the demand and supply of skilled person power (Rodriguez et al., 2008: 208). The system of higher education in Brazil is strongly shaped by class with the bulk of poor students going to private higher, comprising 71% of all enrolments in 2004. The majority of enrolments are in 'soft' subjects such as the social sciences. Few of the more costly academic programmes such as engineering are offered by private providers. Quality is generally very low. However, it is the only accessible form of higher education for low-income families in Brazil even though they are obliged to pay fees. In contrast, public higher education in Brazil is free, but

academic entrance requirements are more stringent. It is unsurprising therefore that 41% of students in public higher education come from the wealthiest 10%, and only 5% from the poorest 20% (Rodriguez et al., 2008: 208).

Outside of Teichler and Schomberg's work in Germany and Africa, the next most significant work on tracer studies is done in Australia. Annual surveys are commissioned by government and done by two science councils, the Australian Council for Education Research (ACER) and the National Centre for Vocational Education Research (NCVER). The NCVER is responsible for the Longitudinal Surveys of Australian Youth (LSAY) which traces cohorts of students annually from the age of 15 years over time. It therefore also provides useful commentary on progression rates and success indicators once these young people reach the higher education level.

ACER has been commissioned since 2008 to investigate graduates' education and employment outcomes five years after completion of a bachelors degree at all Australian universities. The 2008 Graduate Pathways Survey (GPS) captured information on respondents' education and employment activities in their first (2003), third (2005) and fifth (2008) years after graduation. The survey achieved a 12% response rate in 2008, with 9 238 respondents. In measuring employment trends over a five-year period, the survey showed that participation rates in full-time employment rose from 84% to 91% during those five years. Part-time employment decreased from 24% to 16% (Coates and Edwards, 2009: viii).

In 2009, Graduate Careers, a private Australian research and information agency launched the Beyond Graduation Survey, which examines the outcomes and experiences of Australian graduates annually over a period of four years after completing their studies at Australian higher education institutions. A total of 6 797 graduates participated and the key results are summarised in Table 2.2.

What is significant in the Beyond Graduation report is its longitudinal approach, showing how full-time employment increased from about 60% in the first year after graduation to the approximate 72% employment in their fourth year as shown in Table 2.2. This improvement in full-time employment resulted in part-time employment decreasing from about 14 to 9% and unemployment decreasing from 4 to about 2% over the four-year period (Graduate Careers, 2009: 9).

Causal factors behind graduate unemployment in all of the studies cited above included: inappropriate institutional and subject choices; imperfect information flow, including poor career advice; poor academic grades; and in the case of continental African students, a shrinking civil service. Overall, the percentage of those affected by graduate unemployment in all of these studies has not been large.

Table 2.2: Percentage distribution of 'predominant activities' of Australian graduates in their fourth year after graduating

Further studies	12.4
Full-time employment	71.6
Part-time employment	9.1
Unemployed	1.8
Other activities	5.1
Total	100.0

Source: Graduate Careers, 2009: 9

It is clear that graduate unemployment prior to the global recession of 2008 was a small problem in the countries of Central and Northern Europe, Japan and Australia. However, unemployment levels for many European countries have risen dramatically as the recession worsens and drags on through 2012 into the present period. For example, Maastricht University in the Netherlands did a three-cohort GDS in 2012. The first cohort graduated in the academic year 2009–2010 (surveyed in 2012), the second cohort graduated in the academic year 2005–2006 (six years prior to the 2012 survey), and the third cohort graduated in the academic year 2000–2001 (eleven years prior to the 2012 survey). Table 3 shows the results – it highlights the impact of the global recession clearly, particularly for the youngest cohort who are experiencing a 8% unemployment rate as compared with the two older cohorts who have rates of unemployment at 3% (six years after graduation) and 2% (eleven years after graduation). The authors of the Maastricht GDS note that a substantial part of this unemployment rate is frictional (temporary difficulties in the match between supply of new graduates and the immediate availability of jobs in their fields). However, one possible exception to this rule may be 'Arts and Social Science' graduates. Among the 2009/2010 cohort, 'Arts and Social Science' graduates experienced a 24% unemployment rate and for the 2005–2006 cohort a 10% unemployment rate. These are very high rates suggesting more permanent difficulties in entering the labour market with qualifications in this specific field (ROA, 2012: 2).

Table 2.3: Unemployment levels of three graduate cohorts at Maastricht University, 2012

	% unemployed		
Academic field	2009–2010 cohort	2005–2006 cohort	2000–2001 cohort
Business and Economics	5	2	1
Health, Medicine and Life Sciences	3	2	1
Arts and Social Sciences	24	10	1
Psychology and Neuroscience	11	4	4
Law	9	0	6
Average: Maastricht University	8	3	2

Source: ROA Fact Sheet, 2012: 2

It is important to note here that there is a significant voice in Australian higher education literature that is strongly

opposed to tracer studies, seeing these surveys as symptoms of a neo-liberal 'managerialism' pervading Australian universities. For example, Harris and James interpret the purpose of graduate destination surveys as the gathering of performance indicators which serve a rather narrow measure of the 'top universities' and 'excellence in teaching' (2006: 9–10). They argue further that:

> *The Australian experience shows, once again, that once quantitative indicator information is available there is a tendency for it to be used for purposes for which it was not designed. Performance indicators at institutional level provide commercially sensitive information, especially in an increasingly market-oriented higher education system. From the government perspective, there is an understandable desire to be assured of the quality of Australian universities and a belief that external pressure is needed to stimulate enhancement efforts. These objectives are awkwardly juxtaposed with the imperative to communicate to domestic and international stakeholders the high quality of the system as a whole and are possibly incommensurable within the current policy model with its inevitable rankings and the implications of poor performance for the lower ranked institutions.* (Harris and James, 2006; 12)

These warnings from the international literature need to be taken seriously in the uptake of the results of this study at the four universities in the Western Cape.

INSTITUTIONAL SURVEYS

Graduate destination research is highly underdeveloped in South Africa and there is no systematic attempt to understand graduate pathways outside of a few sporadic institutionally-based surveys. One instrument, 'exit surveys' of learners at their graduation ceremonies, has been used at a number of local institutions. These surveys aim to gather a quick 'snapshot' of job search behaviour, employment status, entry-level salaries as well as satisfaction with the higher education institution, the curriculum they offer and its relevance to the workplace.

UCT has the longest history of doing such surveys, having started in 1997. The exit surveys are done annually at the graduation ceremonies, allowing the survey to 'capture' a large percentage of graduates as they queue to collect their graduation gowns. In 2009, for example, the return rate was 51% of all graduates (3029 people), a relatively high achievement for surveys of this nature. This survey reported a very low incidence of unemployment – the status of only 3% of graduates was unknown, whereas all other graduates had either obtained employment or were entering further studies (UCT, 2009).

Stellenbosch University (SU) conducted exit surveys up until 2003, after which they were terminated. Reasons for terminating the surveys had to do with budget cuts, but also because of the disruptive effects they had on the actual graduation ceremony. The survey of 2003, with 5 249 responses, indicated that 53% of graduates already had jobs by graduation time, a further 40% indicated they would study further, and only 6% were seeking employment (SU, 2003: 1).

Exit surveys were also discontinued at CPUT in 2010 for reasons similar to those at SU. The exit survey was done annually at two graduation ceremonies – March and September. A very high number of responses were received – for example, 74% of graduates responded in 2009 (5 226 people). The core results obtained in the 2009 CPUT survey were as follows:

Table 2.4: Percentage distribution of graduate exit scenarios, CPUT March 2009 graduation

I have accepted a job at the company where I did my experiential training	17.7
I have accepted a job at another company	19.5
I will be continuing in my current employment	20.2
I am already working in my own business	1.2
I will be starting my own business	1.7
I am actively looking for a job	20.0
I am going overseas	1.4
I am continuing with full-time study	16.7
I will be doing something else	1.6
Total	100.0

(CPUT, 2009:6)

What is significant here are the higher levels of graduate unemployment at CPUT at the moment of graduation – 20%. Graduate unemployment is nearly seven times higher than the levels at UCT and three times higher than unemployment levels at SU.

UWC began administering graduate exit surveys in 2002 through their Institutional Planning Office. In 2012 UWC introduced an online questionnaire to replace the paper based survey of the past. The link to the questionnaire and the request for all students to complete it are included in the pre-graduation information sent to them in preparation for their ceremony. Of the graduates who completed the survey between March 2012 and March 2013 graduations, 51% are pursuing further studies, 25% are now employed full-time and 16% indicated that they are unemployed and looking for a job.

As will be seen later in this report, these early signals of unemployment in the institutional exit surveys are validated by the results of the 2012 CHEC study of the 2010 cohort of graduates.

SAGRA

Another form of tracer study is done annually by the South African Graduate Recruiters Association (SAGRA). These online surveys investigate graduate experiences of employer recruitment. In the 2011 survey, 1 562 graduates were surveyed from 81 participating employers. Some of the key findings included:

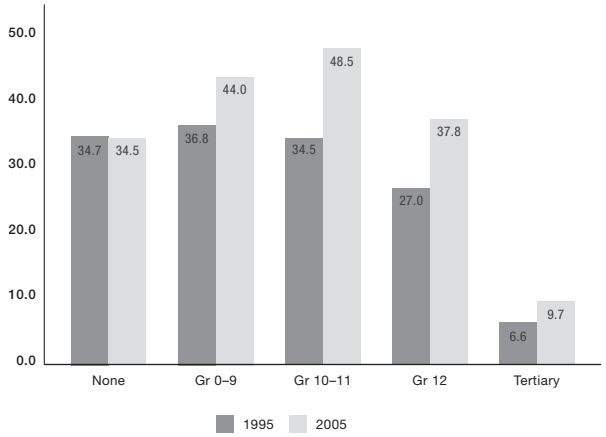
- 27% of graduates had worked with their new employer prior to joining the firm as a graduate;
- Only 36% of graduates surveyed had no work experience, whereas the remaining 64% acquired some form of work experience, ranging from one week (10%), one month (12%) to an entire year (10%);
- Graduates from only seven of South Africa's 23 universities dominate the vacancies filled in these 81 firms in 2011;
- The median number of job applications made by graduate candidates was four; and
- Half of the candidates surveyed expect to work internationally in the next few years (SAGRA, 2011: 5, 9, 19).

In a ranking of the most useful sources of information used during job hunting, graduates in the SAGRA survey indicated the following order of usefulness: employer websites (49%); university career fairs (36%); career services (31%); family and friends (28%); national newspapers (13%) and networking sites (6%) (SAGRA, 2011: 26).

NATIONAL SURVEYS: THE DPRU AND HSRC SURVEYS

Two national-level surveys on graduate destinations in South Africa have been done in the past decade. The first was undertaken by the Development Policy Research Unit (DPRU) at the University of Cape Town, and the second was completed by the Human Sciences Research Council (HSRC) based in Pretoria. The DPRU study – an econometric analysis of Labour Force Survey (LFS) data for 1995 and 2005 – shows a steady increase in tertiary graduate unemployment during that time period. As is illustrated in Figure 2.1, the unemployment rate for this group has increased by half, from 6.6% to 9.7%, which is comparable with the worst indices of graduate unemployment in Europe (Spain, Italy and Greece) and with Mugabushaka et al.'s more recent African graduate cohort case studies. However, it must be noted that the DPRU uses the category 'Tertiary Education' which includes all post-school certificates and diplomas at Further Education Colleges and private post-school institutions (as well as bachelors and postgraduate degrees which are normally referred to as 'higher education'). The category 'Tertiary Education' is therefore significantly broader and includes qualifications which are more likely to face higher levels of unemployment (for example, certificates and diplomas) than would be the case of a bachelors degree from a university.

Figure 2.1: Broad Unemployment Rates by Level of Education, 1995 and 2005



Source: DPRU: 2006: 9

In disaggregating graduate unemployment even further, the DPRU shows that the bulk of these unemployed persons have indeed graduated with a diploma or certificate and are not university graduates with degrees (see Table 2.5). The share of total graduate unemployment amongst those with certificates and diplomas has increased from 80.9% in 1995 to 82.0% in 2005 (DPRU, 2006: 14). Africans with a diploma or certificate accounted for 73% of total tertiary graduate unemployment in 2005, up from 63% in 1995. In total, Africans accounted for 84.9% of the graduate unemployed in 2005 (DPRU, 2006: 14). A primary reason for this acute racial skewing of employment opportunities, especially for students with diplomas and certificates, is certainly the absence for most African learners of structured pathways, including accessing social networks into employment. Historically, this has been an easier route to traverse for white learners who have family connections with the white owners of firms that employ new entrants into the labour market.

The HSRC graduate unemployment study

In 2005 the Human Sciences Research Council (HSRC) undertook a *Student Retention and Graduate Destination* study. The core of the study entailed a tracer survey of the 2003 cohort of tertiary 'leavers' (drop-outs) and graduates at seven selected public higher education institutions, namely, the University of the Witwatersrand (Wits) in Johannesburg, the former Pretoria Technikon (now Tshwane University of Technology), the Stellenbosch University (SU), the former Peninsula Technikon (now part of the Cape

Table 2.5: Distribution of graduate unemployment by race and qualification type, 1995 and 2005, in percentages

		African	Coloured	Indian	White	Total
Diploma/ certificate with Matric	1995	63.0	5.3	3.4	9.2	80.9
	2005	73.2	1.7	1.2	6.0	82.0
Degree	1995	10.1	2.3	0.3	6.4	19.1
	2005	11.7	0.0	0.9	4.6	18.0
Total	1995	73.1	7.6	3.7	15.6	100.0
	2005	84.9	1.7	2.0	10.5	100.0

Source: DPRU, 2006

Peninsula University of Technology), the University of the Western Cape (UWC), the University of Fort Hare (UFH), and the former University of the North (now the University of Limpopo). This institutional selection was intended to capture a broad range of distinguishing features influencing South Africa's differentiated higher education sector, for example, the rural-urban divide and the distinction between historically advantaged (HAIs) and historically disadvantaged institutions (HDIs).

Between June and September 2005 a postal survey of 34 548 questionnaires was administered. The survey yielded 5 491 valid responses. This level of return created the largest database on graduates in South Africa generated independently of the Department of Education and Statistics South Africa (the official government agency responsible for national statistics), containing detail not found in other surveys (Letseka et al., 2010).

One of the most striking sets of data arising from the HSRC study is strong evidence of the contrasting socioeconomic backgrounds of students who attend these seven institutions. Whereas poor students constituted 50% and 54% of students enrolled at Wits and Stellenbosch Universities respectively (both HAIs), poor students constituted 82% of students at the universities of Fort-Hare and North (both HDIs). These socioeconomic contexts play a very powerful role in shaping learner outcomes in higher education.

Another core finding of the HSRC study has been the highlighting of the extent of dropout and failure in higher education (what the HSRC study prefers to refer to as 'leaving'), particularly amongst African students. Table 2.6 highlights the core data for the seven institutions:

Table 2.6: Percentage distribution of students graduating or leaving by race, seven higher education institutions, 2005 HSRC Study

	African	Coloured	Indian	White	Total
Students graduating	39.0	46.2	57.5	66.3	47.2
Students leaving	61.0	53.8	42.5	33.7	52.8
Total	100.0	100.0	100.0	100.0	100.0

Source: adapted from Bhorat et al.*, 2010*

The inequalities in higher education achievement are evident from Table 2.7, as approximately 66% of whites graduate, exceeding by far the 39% graduation rate for African students. African females appear to be the most disadvantaged, with a graduation rate of only about 34% (Bhorat et al., 2010).

An interesting subsidiary finding is the difference in achievement for Africans from HDIs relative to Africans from HAIs. For Africans at HDIs, the share of leavers is double that of graduates (about 32% and 15% respectively), while for Africans at HAIs, this ratio is much lower. As Table 2.7 illustrates, the share of Africans that graduate at HAIs (about 24%) is larger than the share of African graduates at HDIs (about 15%) despite the predominance of Africans enrolled at HDIs (Bhorat et al., 2010).

The main factor influencing such high levels of 'leaving' was the lack of finance. This factor in turn is an outcome of the fact that 70% of the students surveyed in the HSRC study came from low income family backgrounds (Letseka et al., 2010). Other contributing factors included academic failure, and in particular, the failure of the school system to prepare black students for higher learning. Letseka et al. also argued that the majority of students currently entering South African universities are first generation university students who have little access to social networks with reservoirs of experience of university study. And finally, 'institutional culture' was cited as a significant reason for students dropping out. Many students, in their responses to the HSRC survey, indicated that culturally, they did not 'fit in' to the formerly white and elite universities. They

Table 2.7: Percentage distribution of graduates and leavers by race and institutional classification in terms of 'HDIs' and 'HAIs', 2005

	African			Coloured			Indian			White		
Institutional classification	L	G	Total	L	G	Total	L	G	Total	L	G	Total
HDI	31.8	14.6	46.4	45.5	37.8	83.3	2.5	10.1	12.5	0.1	0.3	0.4
HAI	29.2	24.4	53.6	8.3	8.4	16.7	40.0	47.4	87.5	33.6	66.0	99.6
Total	61.0	39.0	100.0	53.8	46.2	100.0	42.5	57.5	100.0	33.7	66.3	100.0

Source: Bhorat et al., 2010;
Note: L – Leavers; G – Graduates

felt insecure on campus and were frustrated by the way university administrations dealt with black student issues.

Unemployment rates as highlighted by the HSRC study

One of the main purposes of the HSRC *Student Retention and Graduate Destination* study was to determine graduate destinations, and in particular, whether they found employment or not. Table 2.8 summarises the core employment data:

Table 2.8: Percentage distribution of graduate unemployment rates by race and institution, 2005

Institution	Rate of unemployment amongst (%)				
	African	Coloured	Indian	White	Total
University of Fort Hare (HDI)	56	–	–	–	67
Stellenbosch University (HAI)	55	15	–	12	13
University of the North (HDI)	42	–	–	–	57
University of the Western Cape (HDI)	42	14	21	–	30
University of the Witwatersrand (HAI)	29	–	16	7	23
Peninsula Technikon (HDI)	51	23	–	–	41
Technikon Pretoria (HAI)	38	–	–	6	27
All 3 HAIs	42	21	11	10	27
All 4 HDIs	40	13	–	6	35
Total	41	18	14	9	32

Source: Bhorat et al., 2010

A number of observations can be made regarding the data in Table 2.8. Firstly, the overall unemployment rate amongst the total sample population is 32% – a figure which is more than three times higher than the approximate 10% as determined by the DPRU study, and certainly far higher than the approximate 5% average for Europe in the same period. The closest international comparison would be the situation in Brazil, with graduate unemployment rates of about 16%.

Secondly, racially differentiated pathways are very evident in the HSRC study. The total unemployment rates of African graduates and leavers (41% and 48% respectively) compared to the total unemployment rates of white graduates and leavers (9% and 5% respectively) highlight these stark differences. A third revealing observation is the institutional variation in unemployment rate – ranging from 67% for Fort Hare graduates, 30% for the University of the Western Cape, 23% for the University of Witwatersrand and 13% for Stellenbosch. And finally, the racial differentiation of employment outcomes *within* institutions is the most alarming. For example, African graduates from Wits University experienced an unemployment rate of 29% compared to white graduates with an unemployment rate of 7% – more than four times lower.

A number of differentiating factors lie behind these outcomes. However, the most important causal determinants are: the demographic constraint affecting graduates from poor and rural regions; the inequality of resources between institutions; and the poor quality of tuition in certain institutions which incur high failure rates.

These two studies – the DPRU and HSRC reports – have added significantly to the understanding of the problems of graduate unemployment. The large divergence in the core results generated by these two studies – 32% versus 9.7% graduate unemployment – needs further explanation. The DPRU study is a statistical overview of Labour Force Survey (LFS) data produced by Stats SA for the two years, 1995 and 2005. The data is collected from households across all higher education cohorts. The categorisation of data acts to collapse all higher education cohorts into one data set irrespective of when the qualification was completed and obtained – 5, 10, 20 or 30 years ago. Older persons who graduated several years ago may have had exposure to unemployment for months if not years after graduating, but this experience would not be recorded in the LFS if at the time of the LFS survey they had jobs. Most higher education graduates do end up in employment, often after a long period of job searching. Many take jobs where they are under-employed in terms of qualifications. This under-employment in low-skill work is also an international consequence of 'leaving' early (See Teichler, 2002: 209; Nunez and Livanos, 2009: 8–9; Davies and Elias, 2003: iii).

The HSRC study, in contrast, comprises a single cohort surveyed two years after graduating. Graduates were asked classic job search questions about whether they succeeded in getting a job after six months of searching, 12 months or 24 months. It is against this methodological backdrop that the higher unemployment rate produced by the HSRC study must be understood.

Paucity of graduate destination surveys

The combined work of the DPRU and HSRC has helped illuminate the complex transition from school, through higher education into work or unemployment. However, much of this work reflects data that is nearly a decade old. For example, the HSRC study uses 2005 graduate data. The DPRU study was based on Labour Force Survey data from 1995–2005. No recent work on graduate employment and throughput has been published since then. CHEC aims to fill this gap by undertaking this study.

3

METHODOLOGY

The CHEC 2010 tracer study was designed as a longitudinal survey of all students who graduated in 2010 from one of the four universities in the Western Cape. The survey was 'longitudinal' in that it was designed to trace graduates after two years of having obtained a qualification in 2010 and to possibly trace the same graduates further into the future. Because of the survey design and its systematic research procedures, the study allows for generalisations or inferences to be made about the entire group of 2010 graduates. Four main procedures are subsequently outlined in terms of the following main steps in conducting a survey of this kind:

- Compilation of a sample frame
- Design of the questionnaire
- Administering the questionnaire
- Data-capturing, cleaning and analysis

Compilation of a sample frame

A 'sample frame' refers to a complete list of all elements to which a study pertains, in this case, it constituted a list of *all graduates who received either a certificate, diploma or degree in 2010 at one of the four universities in the Western Cape*. A sample frame has two main purposes; firstly, it shows the size and basic characteristics of a 'population' (elements) to which a study pertains, and secondly, it ideally provides contact details in order to reach and administer questionnaires to a sample of elements, in this case, graduates.

The sample frame was compiled using Higher Education Management Information System (HEMIS) data from each of the four universities. A 'data committee' was set up that consisted of one or more representatives from the various institutional planning and research offices at each university. The committee liaised with the research team on a regular basis and was responsible for sourcing and providing HEMIS data to the research team, and to respond to any queries the research team may have had. Because the HEMIS data contained personal details of graduates, each member of the research team signed a confidentiality agreement with CHEC that no personal details would be disclosed other than for purposes of surveying graduates as part of this study. The research team standardised and cross-checked the different datasets and integrated them into a single database to comprise a sample frame for the study. Table 3.1 shows the total number of graduates by (1) institution, (2) qualification type (pre-degree qualification [PD], undergraduate qualification [UG] and postgraduate qualification [PG]), (3) race and (4) gender.

Table 3.1 shows a total of 24 710 graduates to which the study pertained. This total is sufficiently close to the Department of Higher Education and Training's (DHET's) total for the Western Cape of 24 569 for the same year, and includes international students, part-time students and students that may have been living outside the Western Cape in 2010. When the totals for undergraduates and postgraduates are added, CPUT had 7 441 graduates (or about 30% of total graduate output – the largest proportion in the Western Cape), UCT had 6 165 graduates (about 25%), SU had 7 380 graduates (about 30%) and UWC had 3 724 graduates (or about 15% of total graduate output – the smallest proportion).

The sample frame also included the following biographic information for each graduate:

- Name and surname;
- Student number;
- ID/passport number;
- Gender;
- Race;
- Nationality; and
- Citizenship status

Contact information fields for each graduate included:

- Email address;
- Cell number;
- Landline number; and
- Postal address

Table 3.1: Total number of graduates by institution, qualification type, race and gender										
Institution: Qualification type:		CPUT		UCT		SU		UWC		Total
		PD and UG	PG	PD and UG	PG	PD and UG	PG	PD and UG	PG	
African	Female	1 985	29	475	318	107	565	559	276	4 314
	Male	1 355	48	361	307	102	480	334	277	3 264
Coloured	Female	1 541	38	380	190	289	566	804	296	4 104
	Male	994	24	247	145	172	228	404	227	2 441
Indian	Female	49	2	106	101	19	39	82	60	458
	Male	54	2	120	97	9	27	72	51	432
White	Female	588	46	730	766	1 399	1 187	63	55	4 834
	Male	663	23	676	739	1 266	925	37	43	4 372
Other/unknown	Female	None	None	97	123	None	None	21	23	264
	Male	None	None	71	116	None	None	17	23	227
Total		7 229	212	3 263	2 902	3 363	4 017	2 393	1 331	24 710

Source: Institutional HEMIS data
Note: PD – Pre-degree qualifications such as certificates and diplomas

Contact details were, however, not complete for every graduate, while the quality of data also varied between institutions. The gap between 2010 and the time of conducting the survey in 2012 also posed some difficulties as some graduates had since acquired new cell phone numbers or work email addresses. None of the Alumni offices were able to provide additional contact details over and above what were already provided from their institution's HEMIS data.

Instead, the National Student Financial Aid Scheme (NSFAS) was approached for any contact details they may have had on record for Western Cape graduates who received NSFAS bursaries. Using student numbers to match records in the sample frame with data received from NSFAS, the research team was able to add email addresses and/or cell numbers for 3 781 graduates across CPUT and UWC – the two institutions with the lowest numbers of contactable graduates. Of these 3 781 graduates, 1 268 had no email address or cell number before, thus possibly increasing the contact range by 1 268 students across CPUT and UWC, apart from possibly having updated or augmented contact details for about 2 500 other graduates. Upon completion of the sample frame, only 622 graduates at CPUT (about 8%) were not contactable by email or phone, and only 44 graduates at UCT (less than 1%) were not contactable by email or phone. Still, most of these graduates had postal addresses to which letters urging them to complete the survey online were sent in due course. All graduates at SU and UWC at least had an email or phone number that could be contacted. This was due to the fact that student email addresses were still active for SU and UWC graduates in 2012. Nevertheless, all of the 24 710 graduates were contactable either by email, phone or post. Consequently the research team aimed to survey all graduates instead of just a sample, although a sample is invariably obtained due to a less than 100% response rate.

The compilation of the sample frame for the CHEC 2010 tracer study proved the value of institutions keeping proper record of student contact details, and the difficulty when such details are not captured or updated properly.

In addition to names and surnames, certain academic information was also obtained for each graduate from institutional HEMIS data. This information was considered important for a study of this kind to possibly examine relationships between academic background and employment or further studies. The purpose was to obtain a complete and accurate set of relevant academic information and to merge this information into the final survey database rather than survey the same information from graduates and risking memory decay, faulty interpretations, inconsistent responses etc. The following academic information was obtained:

- Qualification type;
- Qualification description;
- Specialisation 1 (as per third order CESM);
- Specialisation 2 (as per third order CESM);
- Specialisation 3 (as per third order CESM);
- Undergraduate grade point average (GPA);[1]
- Whether the graduate received a NSFAS bursary;
- Whether the graduate received any other bursary;
- Matriculation/National Senior Certificate mathematics (level and symbol obtained); and
- Matriculation/National Senior Certificate physical science (level and symbol obtained)

Unfortunately HEMIS does not classify qualifications (actual certificates, diplomas and degrees) in terms of CESM, only 'specialisations', which are the majors the graduate took in the final year of study. Yet, these majors are often

1 Each institution provided a GPA weighed by respective module credits, except UWC which provided an un-weighted GPA.

across different fields, which do not signify in which field a graduate mainly qualified (e.g., a student obtains a B Com, but had both commerce and law majors in the third year). Consequently the research team had no standardised information in terms of which main field of study graduates obtained their qualifications, at least in terms of CESM. Yet, knowing in which field graduates qualified was important in terms of examining certain relationships, such as between employment and SET for example, or between emigration and Health Sciences, i.e., the extent to which graduates who studied to be doctors or nurses are emigrating or not. The data committee then undertook to impute a 'field of study' for each graduate in terms of the 20 CESM categories using each graduate's qualification description and different specialisations. Following several iterations between the data committee and the research team, and some tidying up of the data, each of the 24 710 graduates were allocated to a field of study. Section 4 (Table 4.10) shows a breakdown of the 20 fields in which these graduates qualified.

The sample frame was subsequently used to inform (1) the planning, design and implementation of the online and telephonic surveys, (2) further data analysis over and above analysis of the survey data and (3) a contextual and institutional profiling as part of the report.

Design of the questionnaire

Following a number of iterative workshops with the reference group and other education-and-training experts, the research team designed a questionnaire focussing mainly on the notion of different pathways from study to work (see the Appendix). Given the complex and longitudinal nature of the study, two important structuring mechanisms were used in the design of the questionnaire apart from standard questionnaire-design principles. The first mechanism was the use of chronological rather than thematic sections that systematically guided the respondent from past to present to future. These included:

- Section 1: At high school (which included questions about the graduate's schooling background);
- Section 2: At university (which included questions about the graduate's studies leading up to the qualification obtained in 2010);
- Section 3: Background, employment and relevance of qualification (which included questions about family background whilst studying, employment before and just after studying, employment as on 1 September 2012, and various questions in relation to different 'paths' (different forms of employment or occupation), including relevance of qualification in relation to current employment);
- Section 4: Current studies (which included questions about qualification type (if studying further), field, reasons for further study); and
- Section 5: Future plans (which included questions about possible future studies, current place of residence, emigration and reasons for emigration).

The second mechanism was the use of several filters throughout the questionnaire that filtered graduates to applicable questions depending on the graduate's response to different profiling or situational questions (see questionnaire in the Appendix).

Choice of key background factors

In determining the survey questions for each of the chronological sections, a number of background factors were identified as being important determinants in the transition from higher education into work. Background factors that were deemed to influence the ability of graduates to find employment and study further were grouped together into three conceptual categories, namely:

- 'Socio-demographic', which included:
  - Gender;
  - Age (during 2010);
  - Race;
  - Home province; and
  - Type of area in which high school was located.

- 'Schooling and family background', which included:
  - Level of education of the mother/female guardian;
  - Level of education of the father/male guardian;
  - Type of high school attended (public/independent);
  - Matric maths symbol;
  - Matric physical science symbol; and
  - Whether a sibling obtained a higher-education qualification prior to or in 2010.

- 'University background', which included:
  - Participation in extramural activities;
  - Career guidance received;
  - Internships or work placements undertook and
  - Field of study.

Once the final version of the questionnaire was approved by the management committee, South Africa Commercial Direct, the call centre appointed to administer the survey, programmed an online version of the questionnaire. A cover letter was drafted and digitally signed by the Vice Chancellor of each of the four universities. The cover letter, which was to be emailed first to graduates – each graduate to receive a cover letter signed by the vice chancellor of his or her respective *alma mater* – served to

introduce the study, provide instructions for accessing and completing the online survey. Graduates could only access the online survey by logging in with their student numbers, which were provided to them in personalised emails and cellphone messages sent out by the call centre.

Incentives were built into the survey process by offering prizes in the form of several Ipads and gift vouchers at different staged intervals in the roll-out of the survey, including two iPads which were donated by the South African Graduate Recruiters Association. These incentives were a definitive plus in attempts to raise response rates.

Sixteen graduates (two undergraduates and two post-graduates from each institution) were randomly selected and asked to pilot the questionnaire upon which they were each offered a small shopping voucher as reward. A few could not be reached or failed to respond and were replaced by substitutes. The participants in the pilot raised no major concerns or difficulties with the questionnaire and their responses were captured as part of the main survey so that they would not have had to complete it again. Members of the management and data committees and the research team itself also piloted the questionnaire by assuming the role of different types of graduates to ensure that the various filtered pathways in the questionnaire were tested thoroughly. The survey was officially launched online on Monday, 10 September 2012 after final changes were made to the questionnaire.

Administering the questionnaire

The call centre was mainly responsible for administering the questionnaire under guidance of the research team. The role-out of the survey proceeded along two main survey segments (online and telephonic) and a number of prompting activities – each dedicated to increasing response rates based on call centre feedback as the survey proceeded. The telephonic segment was intended as backup pending the response rate obtained from the online survey towards the end of October. Diagram 3.1 shows these segments and prompting activities over time.

The bulk of online responses (2 359) were received within a week of sending the first cover email and SMS messages. Only about 500 extra online responses were received before the end of the survey on 30 November 2012, demonstrating the marginal effect of SMS and email reminders. Moreover, most of the online responses were from UCT and SU graduates, with proportionally lower response rates from CPUT and UWC graduates. This necessitated the need to introduce telephonic interviews during the last month of the survey to increase CPUT and UWC responses to relatively similar proportions than those of UCT and SU.

The survey was completed by end of November 2012, upon which the website for the online survey was closed and no further telephonic interviews were conducted. Tables 3.2 and 3.3 respectively show the total number and percentage of responses by institution, qualification type, race and gender.

Tables 3.1 and 3.2 respectively show a total of 5 560 responses – a response rate of 22.5% of the total of 24 710 graduates. Roughly half these responses were online (2 873 or about 52%) while the other half were from telephonic interviews (2 687 or about 48%). The aggregate response rates for institutions are as follow: CPUT – 21.8%, UCT – 21.9%, SU – 21.6% and UWC – 26.7%. There were at least one or more responses in each of the sub-strata, except for postgraduate coloured females and Indians at CPUT. Postgraduate coloured females and Indians at CPUT would to some extent have been accounted for in the calculation of statistical weights which is explained in the subsequent section. Still, the actual numbers of graduates in these sub-strata were small to begin with (see Table 3.1 earlier on).

Diagram 3.1: Survey segments and prompting activities over time

Survey segments and prompting activities	Months and corresponding week numbers											
	September 2012				October 2012				November 2012			
	1	2	3	4	5	6	7	8	9	10	11	12
Prompting activity 1: First cover email sent to all email addresses in sample frame	•											
SEGMENT 1: ONLINE SURVEY												
Prompting activity 2: First cover SMS sent to cell numbers of all graduates without reliable email addresses or whose email addresses bounced during the first cover email		•										
Prompting activity 3: Landline calls to 2 923 graduates to update email addresses and cell numbers												
Prompting activity 4: Printed cover letters posted to 1 153 graduates without any or reliable email addresses or phone numbers							•					
SEGMENT 2: TELEPHONIC SURVEY												
Completion of both survey segments												•

Table 3.2: Total number of responses by institution, qualification type, race and gender

		CPUT		UCT		SU		UWC		Total
		PD and UG	PG	PD and UG	PG	PD and UG	PG	PD and UG	PG	
African	Female	485	2	95	69	33	145	160	76	1 065
	Male	370	10	70	83	29	130	108	86	886
Coloured	Female	324	0	77	48	61	91	188	77	866
	Male	219	3	46	35	31	61	116	60	571
Indian	Female	11	0	20	25	6	9	22	13	106
	Male	10	0	19	20	1	7	11	7	75
White	Female	75	3	158	173	263	273	16	14	975
	Male	111	2	155	160	250	202	8	14	902
Other/Unknown	Female	N/A	N/A	20	23	N/A	N/A	4	1	48
	Male	N/A	N/A	18	34	N/A	N/A	6	8	66
Total		1 605	20	678	670	674	918	639	356	5 560

Note: PD – Pre-degree qualifications such as certificates and diplomas; UG – Undergraduate qualification

Table 3.3: Response rate (%) by institution, qualification type, race and gender

		CPUT		UCT		SU		UWC		Total
		PD and UG	PG	PD and UG	PG	ND and UG	PG	PD and UG	PG	
African	Female	24.4	6.9	20.0	21.7	30.8	25.7	28.6	27.5	24.7
	Male	27.3	20.8	19.4	27.0	28.4	27.1	32.3	31.0	27.1
Coloured	Female	21.0	0.0	20.3	25.3	21.1	16.1	23.4	26.0	21.1
	Male	22.0	12.5	18.6	24.1	18.0	26.8	28.7	26.4	23.4
Indian	Female	22.4	0.0	18.9	24.8	31.6	23.1	26.8	21.7	23.1
	Male	18.5	0.0	15.8	20.6	11.1	25.9	15.3	13.7	17.4
White	Female	12.8	6.5	21.6	22.6	18.8	23.0	25.4	25.5	20.2
	Male	16.7	8.7	22.9	21.7	19.7	21.8	21.6	32.6	20.6
Other/Unknown	Female	N/A	N/A	20.6	18.7	N/A	N/A	19.0	4.3	18.2
	Male	N/A	N/A	25.4	29.3	N/A	N/A	35.3	34.8	29.1
Total		22.2	9.4	20.8	23.1	20.0	22.9	26.7	26.7	22.5

Note: PD – Pre-degree qualifications such as certificates and diplomas; UG – Undergraduate qualification

Data capturing, cleaning and analysis

As respondents completed the survey online, data were automatically captured electronically. Call centre agents utilised CATI (computer assisted telephonic interview) software to capture telephonic interview data into the same database structure used for online responses. Upon completion of the survey, the call centre provided all 5 560 survey records to the research team in MS Excel format. The research team then exported the records into Statistical Package for the Social Sciences (SPSS).

Data cleaning basically involved checking that each of the filters in the questionnaire was programmed correctly; that each response logically followed on from previous responses. However, as respondents could go back online and change their responses, some filters were bypassed resulting in illogical responses. Responses to each question were therefore systematically cleaned based on responses to higher order questions.

Prior to data analysis, the data first had to be weighted to account for the variation in response rates between sub-strata. Many consumers of survey research are actually not familiar with the use of statistical weights, yet the use of statistical weights is preferable and even necessary if a dataset is not based on a 100% response rate from a random sample, which is indeed the case with the GDS (and just about any survey for that matter!) Although we aimed to solicit a response from each graduate, we obtained a 22.5% response rate from graduates who we were able to reach and who chose to respond. These graduates would not necessarily have been distributed evenly across particular sub-strata (as per Table 3.1), so their responses had to be weighted taking into account the actual number of graduates in each particular stratum.

For example, referring back to Table 3.3 at the top-left corner, because we have a 24.4% response rate from undergraduate Black females at CPUT, as opposed to only 6.9% for postgraduate Black females at CPUT, we had to calculate weights in such a way that would make responses from postgraduate Black females at CPUT count more in relation to responses from their undergraduate counterparts to account for the variation in response rates. The same logic applies to whichever sub-strata are being compared. Thus, a statistical weight was calculated

for each sub-stratum by simply dividing the total number of graduates in a particular sub-stratum by the number of responses in the same sub-stratum, with the result then serving as a factor by which all responses in that particular sub-stratum would be multiplied to reflect the actual number of graduates in that sub-stratum. Table 3.4 shows the statistical weight for each sub-stratum.

These weights were then allocated to all responses in a respective sub-stratum in the SPSS dataset. Thus, responses from undergraduate African females from CPUT were consequently each made to count approximately 4.1 times in subsequent data analyses while responses from their postgraduate counterparts were made to count 14.5 times. In this way the weights accounted for variation in responses between (1) institution, (2) qualification type, (3) race and (4) gender – since these are fields we were able to obtain from HEMIS that would most accurately reflect the socio-demographic profile of graduates.

Even though the weighting in item (2) could have been further disaggregated to separate certificate/diploma graduates from other undergraduates, we did not expect a noticeable variation in the findings on two grounds. Firstly, the difference in response rates between certificate/diploma graduates and other undergraduates was 23.1% and 21.7% respectively (a 1.4% difference in percentage size not warranting differential weighting between these two qualification types). Secondly, the bulk of certificate/diploma graduates comprised African and coloured students at CPUT, and the current weighting procedure did take both 'institution' and 'race' into account.

Because there were no responses from postgraduate coloured females and Indians at CPUT, these two sub-strata were merged with postgraduate coloured males at CPUT. Data responses from postgraduate coloured males at CPUT were calculated at a weight of 22 to account for the number of postgraduate coloured females and Indians at CPUT as well as postgraduate coloured males (see Table 3.1).

To demonstrate the effect of the weighting we include two tables below on a key question from the study, namely employment status disaggregated by institution. Table 3.5 shows results based on *un-weighted* data, while Table 3.6 shows results based on *weighted* data.

Table 3.4: Statistical weights by institution, qualification type, race and gender

		CPUT		UCT		SU		UWC	
		UG	PG	UG	PG	UG	PG	UG	PG
African	Female	4.092784	14.500000	5.000000	4.608696	3.242424	3.896552	3.493750	3.631579
	Male	3.662162	4.800000	5.157143	3.698795	3.517241	3.692308	3.092593	3.220930
Coloured	Female	4.756173	22.000000	4.935065	3.958333	4.737705	6.219780	4.276596	3.844156
	Male	4.538813		5.369565	4.142857	5.548387	3.737705	3.482759	3.783333
Indian	Female	4.454545		5.300000	4.040000	3.166667	4.333333	3.727273	4.615385
	Male	5.400000		6.315789	4.850000	9.000000	3.857143	6.545455	7.285714
White	Female	7.840000	15.333333	4.620253	4.427746	5.319392	4.347985	3.937500	3.928571
	Male	5.972973	11.500000	4.361290	4.618750	5.064000	4.579208	4.625000	3.071429
Other/unknown	Female	N/A	N/A	4.850000	5.347826	N/A	N/A	5.250000	23.000000
	Male	N/A	N/A	3.944444	3.411765	N/A	N/A	2.833333	2.875000

Table 3.5: Employment status of respondents, un-weighted data

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
N/A – I am studying full-time, not working and not looking for work at all	112	7.0	265	19.8	323	20.5	152	15.5	852	15.5
Employed (part- or full-time) in the private sector	653	40.7	618	46.3	564	35.8	312	31.8	2 147	39.0
Self-employed in the private sector	27	1.7	43	3.2	50	3.2	22	2.2	142	2.6
Employed (part- or full-time) in the public sector	522	32.5	297	22.2	540	34.3	361	36.8	1 720	31.3
Employed in the informal sector	14	0.9	18	1.3	7	0.4	4	0.4	43	0.8
Unemployed and looking for work	259	16.1	67	5.0	64	4.1	117	11.9	507	9.2
Unemployed, but not looking for work	19	1.2	28	2.1	27	1.7	14	1.4	88	1.6
Total	1 606	100.0	1 336	100.0	1 575	100.0	982	100.0	5 499	100.0

Table 3.6: Employment status of respondents, weighted data

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Weighted count	%	Weighted count	%	Weighted count	%	Weighted count	%	Weighted count	%
N/A – I am studying full-time, not working and not looking for work at all	521	7.1	1 217	19.9	1 552	21.3	565	15.3	3 855	15.8
Employed (part- or full-time) in the private sector	3 129	42.5	2 819	46.2	2 670	36.6	1 187	32.3	9 806	40.1
Self-employed in the private sector	130	1.8	195	3.2	222	3.0	80	2.2	627	2.6
Employed (part- or full-time) in the public sector	2 351	32.0	1 359	22.2	2 428	33.2	1 356	36.8	7 493	30.7
Employed in the informal sector	63	0.9	79	1.3	32	0.4	17	0.5	191	0.8
Unemployed and looking for work	1 076	14.6	311	5.1	276	3.8	419	11.4	2 082	8.5
Unemployed, but not looking for work	85	1.2	129	2.1	124	1.7	56	1.5	393	1.6
Total	7 355	100.0	6 108	100.0	7 304	100.0	3 680	100.0	24 447	100.0

Table 3.5 shows a total count of 5 499, which closely reflects the sample of 5 560 responses (considering that there were 61 'no responses' to this question). Table 3.6 on the other hand shows the same data weighted to reflect the actual population of 24 710 graduates. However, because of the weighting, there are variations in the percentages, although they are not completely dissimilar between the two tables. Thus, although the sample shows that 15.5% of all graduates are studying full-time, this is more likely to be 15.8% in reality (if we take into consideration the actual profile of all graduates based on institution, qualification type, race and gender).

Shortcomings of the study

Because the telephonic survey comprised a very different modality compared to the online survey, the research team were concerned about the validity of responses from the telephonic interviews. Concerns included language barriers, faulty comprehension, lack of time, fatigue from both the interviewers and respondents, etc. Responses between online and telephonic surveys were compared against a sample of critical questions – one from each section of the questionnaire. Considering that most telephonic surveys were conducted with CPUT and UWC graduates, the research team found no significant variation between online and telephonic responses that could not be explained, although the possibility of minor variations cannot be discounted.

Shortcomings with regard to the quality of graduate contact details across some institutions have already been pointed out. It has also been pointed out that proper information management by institutions of their students' contact details and through determined alumni tracking is invaluable for any kind of follow-up or longitudinal study that would aim to trace such students over time.

Although the timing of the survey was reasonable (for example, it did not coincide with major school holidays or other seasonal events), some intervening factors were inevitable. Shortly prior to the launch of the CHEC survey, a marketing research consultancy launched a periodic employment survey amongst alumni of higher education institutions in South Africa, including the four universities in the Western Cape. The marketing research survey would no doubt have influenced the response rate to the CHEC survey given (1) the short period between the two surveys, (2) the relatively similar focus of the two surveys and (3) increasing survey fatigue in society in general. The response rate of the CHEC survey would otherwise arguably have been higher, possibly as high as 25% to 30%.

4

A PROFILE OF THE FOUR WESTERN CAPE HIGHER EDUCATION INSTITUTIONS IN 2010

This section profiles the 2010 graduate output of the Western Cape's four universities against national census data as well as national higher education (HEMIS) data.

Higher education institutions are national institutions and enrolment patterns are determined by this reality – students are free to study at their institution of choice across the country if they meet the admission criteria. They are not restricted to enrol in an institution in their home province. There is therefore not a neat correlation between home province of graduates (their home before embarking on higher education) and provincial graduate output. However, it is useful to examine provincial graduate output data – with the above rider in mind – because learner places and graduate output are not evenly distributed by institutions across the country. Some provinces and their higher education institutions will lag behind the national average graduate output, others will be ahead. These differences reflect serious spatial inequalities in the distribution of higher education opportunities.

Table 4.1 illustrates precisely these patterns. The graduate output of seven of South Africa's nine provinces is represented in Table 4.1 – Mpumalanga and Northern Cape do not as yet have their own regional higher education institutions and are therefore not included. It should also be kept in mind that graduate output by province does not include graduates from UNISA – a major distance university. UNISA is not a regional higher education service provider, but a national and international provider.

It is clear from Table 4.1 that the Western Cape has the second highest graduate output per provincial population – a figure of 19% which is significantly behind that of Gauteng which produced about 34% of all graduates in 2010. Furthermore, the Western Cape's graduate output as a ratio of the size of the provincial population is high but it should be noted that other provinces have far higher aggregate population sizes. As a consequence, these provinces have far higher pressures of access placed on their institutions of higher learning. For example, KwaZulu-Natal has nearly double the population size of the Western Cape, but it only contributes 13% of the graduate output.

Table 4.1: Proportions of graduates as a percentage of provincial population and total graduate output, 2010

	Total population (Census 2011)	Graduates (National HEMIS 2010)	Graduates as a % of provincial population	Graduates as a % of total graduate output for 2010
EC	6 562 053	13 229	0.20	10.4
FS	2 745 590	7 955	0.29	6.3
GP	12 272 263	43 454	0.35	34.1
KZN	1026 7300	17 023	0.17	13.4
LP	5 404 868	5 936	0.11	4.7
NW	3 509 953	15 083	0.43	11.9
WC	5 822 734	24 569	0.42	19.3
Total	46 584 761	127 249	0.27	100.0

Source: Census 2011, National HEMIS 2010, DHET website, Table 2.13 for all institutions, 2010
Data excludes UNISA

Table 4.2 shows national graduate output in 2010 by province and race. The data for African and white graduates quickly reveal the demographic dynamics in each of South Africa's different provinces. White graduate output is high relative to population size in the Free State, Gauteng, North West and the Western Cape (all equal to or above 28%). African graduate output is high in the Eastern Cape, KwaZulu-Natal and Limpopo (all above 70%) – all regions where Africans are the majority component of the population and where graduation rates more closely approximate actual populations. The population of the Western Cape is more diverse, and graduate outputs reflect this social dynamic.

Table 4.3 reflects national graduate output by qualification type – broken down between non-degree/undergraduate and postgraduate qualifications. On average, 26% of qualifications awarded by higher education institutions in South Africa in 2010 were postgraduate awards, but this figure is significantly higher in the Western Cape, which leads all other regions in the production of postgraduates at 35.8% but followed closely by Free State at 34.9%.

Table 4.2: National graduate output by province and race, 2010

	EC		FS		GP		KZN		LP	
	Count	%	Count	%	Count	%	Count	%	Count	%
African	9 511	71.9	4 487	56.4	28 455	65.5	12 049	70.8	5 864	98.8
Coloured	747	5.6	380	4.8	915	2.1	289	1.7	3	0.1
Indian	253	1.9	97	1.2	1 917	4.4	3 244	19.1	31	0.5
White	2 716	20.5	2 991	37.6	12 167	28.0	1 376	8.1	38	0.6
Other/unknown	2	0.0	0	0.0	0	0.0	65	0.4	0	0.0
Total	13 229	100.0	7 955	100.0	43 454	100.0	17 023	100.0	5 936	100.0

	NW		WC		UNISA		Total	
	Count	%	Count	%	Count	%	Count	%
African	9 062	60.1	7 435	30.3	17 009	65.2	93 872	61.2
Coloured	607	4.0	6 535	26.6	1 096	4.2	10 572	6.9
Indian	109	0.7	884	3.6	2 073	8.0	8 608	5.6
White	4 302	28.5	9 161	37.3	5 889	22.6	38 640	25.2
Other/unknown	1 003	6.6	554	2.3	6	0.0	1 630	1.1
Total	15 083	100.0	24 569	100.0	26 073	100.0	153 322	100.0

Source: National HEMIS data, DHET Website, 2010

Table 4.3: Graduate output by province and qualification type, 2010

	Non-degree and undergraduate		Postgraduate		Total	
	Count	%	Count	%	Count	%
EC	10 296	77.8	2 933	22.2	13 229	100.0
FS	5 178	65.1	2 777	34.9	7 955	100.0
GP	32 346	74.4	11 108	25.6	43 454	100.0
KZN	14 209	83.5	2 814	16.5	17 023	100.0
LP	4 785	80.6	1 151	19.4	5 936	100.0
NW	11 146	73.9	3 937	26.1	15 083	100.0
WC	15 763	64.2	8 809	35.8	24 572	100.0
UNISA	19 460	74.6	6 613	25.4	26 073	100.0
Total	113 183	73.8	40 142	26.2	153 325	100.0

Source: National HEMIS data, DHET website, 2010

THE FOUR HIGHER EDUCATION INSTITUTIONS IN THE WESTERN CAPE

The next set of tables describes the key dimensions of the 2010 graduate cohort who attained qualifications at one of the four universities in the Western Cape. It is this cohort of graduates that will be analysed in this report.

The tables, most of which take the form of contingency tables, show data cross-tabulated by gender and race by institution. Consequently there are two different ways of interpreting the data, with two different sets of percentages, depending on whether one is interpreting a particular gender, for example, disaggregated across different institutions, or a particular institution disaggregated across different genders. However, in cases where we attempt both ways of interpretation, we include two separate tables – each with their relevant set of percentages. The heading of each table signifies the relevant interpretation of the data.

Tables 4.4 and 4.5 serve as an example of these two ways of interpreting the data. Table 4.4 shows the number and percentage distribution of graduates by race and institution. The table suggests that white graduates constitute the largest group at about 37%. African graduates are the second biggest grouping (about 31%) followed by coloured graduates (at 26%). Whilst African graduate output in the province is in proportion to the actual population, white graduates are over-represented (they constitute 37% of graduates but only 16% of the provincial population)

Table 4.4: Number and percentage of 2010 Western Cape graduates from different races by institution

	CPUT		UCT		SU		UWC		Total		Total Western Cape population (Census 2011)	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
African	3 417	45.9	1 461	23.7	1 254	17.0	1 446	38.8	7 578	30.7	1 912 547	32.8
Coloured	2 597	34.9	962	15.6	1 255	17.0	1 731	46.5	6 545	26.5	2 840 404	48.8
Indian	107	1.4	424	6.9	94	1.3	265	7.1	890	3.6	60 761	1.0
White	1 320	17.7	2 911	47.2	4 777	64.7	198	5.3	9 206	37.3	915 053	15.7
Other	0	0.0	407	6.6	0	0.0	84	2.3	491	2.0	93 969	1.6
Total	7 441	100.0	6 165	100.0	7 380	100.0	3 724	100.0	24 710	100.0	5 822 737	100

Source: Institutional data for 2010; Census 2011

Table 4.5: Number and percentage of 2010 Western Cape graduates from different institutions by race

	CPUT		UCT		SU		UWC		2010 graduate cohort in the Western Cape: Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
African	3 417	45.1	1 461	19.3	1 254	16.5	1 446	19.1	7 578	100.0
Coloured	2 597	39.7	962	14.7	1 255	19.2	1 731	26.4	6 545	100.0
Indian	107	12.0	424	47.6	94	10.6	265	29.8	890	100.0
White	1 320	14.3	2 911	31.6	4 777	51.9	198	2.2	9 206	100.0
Other	0	0.0	407	82.9	0	0.0	84	17.1	491	100.0
Total	7 441	30.1	6 165	24.9	7 380	29.9	3 724	15.1	24 710	100.0

Source: Institutional data for 2010; Census 2011

and coloured graduates under-represented (49% of the provincial population but only 26% of provincial graduates).

Table 4.5 shows the number and percentage distribution of graduates from different institutions by race. SU and UCT produce the largest proportion of white graduates – about 52% and 32% respectively. CPUT produces the largest proportion of African (about 45%) and coloured graduates (about 40%).

The second and perhaps most interesting observation about the 2010 cohort is that 57% of these graduates are female.

Table 4.6: Number and percentage of 2010 Western Cape graduates, by institution and gender

	Female		Male		Total	
	Count	%	Count	%	Count	%
CPUT	4 278	57.5	3 163	42.5	7 441	100.0
UCT	3 286	53.3	2 879	46.7	6 165	100.0
SU	4 171	56.5	3 209	43.5	7 380	100.0
UWC	2 239	60.1	1 485	39.9	3 724	100.0
Total	13 974	56.6	10 736	43.4	24 710	100.0

Source: Institutional HEMIS data for 2010

Table 4.7: Number and percentage of 2010 Western Cape graduates from different nationalities by institution

	South African		International		Total	
	Count	%	Count	%	Count	%
CPUT	6 868	92.3	573	7.7	7 441	100.0
UCT	4 971	80.6	1 194	19.4	6 165	100.0
SU	6 731	91.2	649	8.8	7 380	100.0
UWC	3 289	88.3	435	11.7	3 724	100.0
Total	21 859	88.5	2 851	11.5	24 710	100.0

Source: Institutional HEMIS data for 2010
Note: international graduates include: (1) Those from other parts of Africa and (2) those from elsewhere in the world.

A third dimension of significance is the number of international students graduating at higher education institutions in the Western Cape. UCT stands out as an institution with the greatest proportion of international students – about 19%. The total number of international students who graduated in South African universities in 2010 was 11 383 (95% of whom originate from other African countries), and the Western Cape hosted 2 851 of these graduates (or about 25%).

A fourth observation (see Table 4.8) about the 2010 Western Cape cohort is the high proportion of persons graduating with a postgraduate qualification. As already suggested by the national data in Table 4.3, the Western Cape produces 35% of all post graduates nationally, and SU and UCT make the largest contribution in this regard. With regard to SU, 54% of their graduates are postgraduates. Similarly, with respect to UCT, the figure for postgraduates is 47%. UWC, although held back in the period prior to 1990 by apartheid policies (when higher degrees were not prioritised at HDIs), is fast catching up with 35% of its 2010 graduates acquiring postgraduate qualifications.

Table 4.8: Number and percentage of 2010 Western Cape graduates with different qualification types by institution

	Undergraduate and Pre-degree		Postgraduate		Total	
	Count	%	Count	%	Count	%
CPUT	7 229	97.2	212	2.8	7 441	100.0
UCT	3 263	52.9	2 902	47.1	6 165	100.0
SU	3 363	45.6	4 017	54.4	7 380	100.0
UWC	2 393	64.3	1 331	35.7	3 724	100.0
Total	16 248	65.8	8 462	34.2	24 710	100.0

Source: Institutional HEMIS data for 2010

Table 4.9 provides greater specification of the qualification types achieved by the 2010 cohort, and reveals the significant output of CPUT in generating a large number of certificate and diploma graduates – 7 441 graduates in total. CPUT produces the largest graduate output in the Western Cape and the seventh largest nationally (out of 23 institutions). SU and UCT lead in the production of master's and PhDs – a dynamic which is analysed further in Section 10 of this report.

Table 4.10 highlights graduate output in the Western Cape by field of study as per the HEMIS definition. In first place are graduates in 'Business, Economics and

Table 4.9: Number and percentage of 2010 Western Cape graduates with different qualification types (detailed) by institution

	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Certificate/diploma	4 566	61.4	288	4.7	109	1.5	414	11.1	5 377	21.8
Postgraduate certificate/diploma/bachelor's	0	0.0	868	14.1	1 450	19.6	320	8.6	2 638	10.7
Bachelor's	2 663	35.8	2 975	48.3	3 254	44.1	1 979	53.1	10 871	44.0
Honours	106	1.4	865	14.0	1 273	17.2	628	16.9	2 872	11.6
Masters	95	1.3	1 009	16.4	1 120	15.2	325	8.7	2 549	10.3
Doctorate	11	0.1	160	2.6	174	2.4	58	1.6	403	1.6
Total	7 441	100.0	6 165	100.0	7 380	100.0	3 724	100.0	24 710	100.0

Source: Institutional HEMIS data for 2010
**Note: A 'Postgraduate bachelor's degree' is a second bachelor's degree. These have been largely phased out. Examples include the Graduate LLB, BEd and BArch degrees.*

Table 4.10: Number and percentage of 2010 Western Cape graduates from different fields of study (CESM) by institution

CESM (CLASSIFICATION OF EDUCATIONAL SUBJECT MATERIAL)	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
01: Agriculture, Agricultural Operations and Related Sciences	209	2.8	N/A	N/A	319	4.3	22	0.6	550	2.2
02: Architecture and the Built Environment	321	4.3	296	4.8	N/A	N/A	N/A	N/A	617	2.5
03: Visual and Performing Arts	292	3.9	333	5.4	175	2.4	N/A	N/A	800	3.2
04: Business, Economics and Management Studies	2 646	35.6	1 784	28.9	2016	27.3	528	14.2	6 974	28.2
05: Communication, Journalism and Related Studies	261	3.5	55	0.9	32	0.4	N/A	N/A	348	1.4
06: Computer and Information Sciences	184	2.5	206	3.3	100	1.4	194	5.2	684	2.8
07: Education	1 053	14.2	434	7.0	607	8.2	580	15.6	2 674	10.8
08: Engineering	1 243	16.7	490	7.9	448	6.1	N/A	N/A	2 181	8.8
09: Health Professions and Related Clinical Sciences	682	9.2	515	8.4	1362	18.5	697	18.7	3 256	13.2
10: Family Ecology and Consumer Sciences	83	1.1	N/A	N/A	N/A	N/A	8	0.2	91	0.4
11: Languages, Linguistics and Literature	N/A	N/A	262	4.2	198	2.7	191	5.1	651	2.6
12: Law	N/A	N/A	290	4.7	261	3.5	340	9.1	891	3.6
13: Life Sciences	15	0.2	331	5.4	519	7.0	89	2.4	954	3.9
14: Physical Sciences	177	2.4	245	4.0	182	2.5	353	9.5	957	3.9
15: Mathematics and Statistics	N/A	N/A	82	1.3	85	1.2	63	1.7	230	0.9
16: Military Sciences	N/A	N/A	N/A	N/A	171	2.3	N/A	N/A	171	0.7
17: Philosophy, Religion and Theology	N/A	N/A	45	0.7	193	2.6	59	1.6	297	1.2
18: Psychology	N/A	N/A	239	3.9	206	2.8	136	3.7	581	2.4
19: Public Management and Services	275	3.7	24	0.4	174	2.4	109	2.9	582	2.4
20: Social Sciences	N/A	N/A	534	8.7	332	4.5	355	9.5	1 221	4.9
Total	7 441	100.0	6 165	100.0	7 380	100.0	3 724	100.0	24 710	100.0

Management Studies'. In second and third place are graduates from the 'Health Professions and Related Clinical Sciences' and 'Education'. 'Engineering' takes fourth position. Outside of Business Studies (which is large at all of the four institutions), each institution has differing combinations of these areas: for CPUT it is engineering and education, for SU it is the health sciences. At UCT, social studies, health sciences, engineering and education all have large graduation numbers. At UWC it is health and education.

Tables 4.11 and 4.12 indicate the number of graduates who were beneficiaries of bursaries – either a NSFAS grant from the state or an award from some other form of university, private trust or corporate social responsibility source. As would be expected, CPUT and UWC benefit the most from the NSFAS's support for learners from poor and disadvantaged backgrounds. However, SU and UWC students benefit by a significant lead from the second (independent) category of bursaries (see Table 4.12). The aggregates from these two tables cannot be added together because some graduates would have been beneficiaries of both NSFAS and non-NSFAS bursaries.

Table 4.13 and 4.14 provide perhaps the most disturbing evidence of the school achievement inequalities in Mathematics and physical science that still persist in South Africa.

Table 4.11: Number and percentage of 2010 Western Cape graduates by NSFAS bursary status, by institution

	Graduates awarded NSFAS bursaries		Graduates NOT awarded NSFAS bursaries		Total	
	Count	%	Count	%	Count	%
CPUT	1 469	19.7	5 972	80.3	7 441	100.0
UCT	580	9.4	5 585	90.6	6 165	100.0
SU	240	3.3	7 140	96.7	7 380	100.0
UWC	654	17.6	3 070	82.4	3 724	100.0
Total	2 943	11.9	21 767	88.1	24 710	100.0

Source: Institutional HEMIS data for 2010

Table 4.12: Number and percentage of 2010 Western Cape graduates with bursaries other than NSFAS, by institution

	Graduates awarded a bursary other than NSFAS		Graduates NOT awarded a bursary other than NSFAS		Total	
	Count	%	Count	%	Count	%
CPUT	545	7.3	6 896	92.7	7 441	100.0
UCT	1 290	20.9	4 875	79.1	6 165	100.0
SU	2 804	38.0	4 576	62.0	7 380	100.0
UWC	1 226	32.9	2 498	67.1	3 724	100.0
Total	5 865	23.7	18 845	76.3	24 710	100.0

Source: Institutional HEMIS data for 2010

Table 4.13: Number and percentage of 2010 Western Cape undergraduates with matric mathematics and physical science by level and institution

	GRADE 12 MATHEMATICS LEVEL									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
HG	986	13.6	2 011	61.6	2 168	64.5	376	15.7	5 541	34.1
SG	3 650	50.5	480	14.7	979	29.1	1 090	45.5	6 199	38.2
LG	111	1.5	0	0.0	4	0.1	39	1.6	154	0.9
Other	29	0.4	0	0.0	0	0.0	0	0.0	29	0.2
None	2 453	33.9	772	23.7	212	6.3	888	37.1	4 325	26.6
Total	7 229	100.0	3 263	100.0	3 363	100.0	2 393	100.0	16 248	100.0
	GRADE 12 PHYSICAL SCIENCE LEVEL									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
HG	1 011	14.0	1 773	54.3	1 880	55.9	405	16.9	5 069	31.2
SG	1 870	25.9	113	3.5	292	8.7	561	23.4	2 836	17.5
LG	26	0.4	0	0.0	2	0.1	10	0.4	38	0.2
Other	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
None	4 322	59.8	1 377	42.2	1 189	35.4	1 417	59.2	8 305	51.1
Total	7 229	100.0	3 263	100.0	3 363	100.0	2 393	100.0	16 248	100.0

Source: Institutional HEMIS data for 2010
Note: Undergraduate only

Table 4.14: Number and percentage of 2010 Western Cape undergraduates with matric mathematics and physical science by performance and institution

	MATHEMTICS PERFORMANCE									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
A (80–100%)	340	7.8	1 037	41.7	1 098	34.8	138	9.2	2 613	22.7
B (70–79%)	388	8.9	489	19.7	642	20.4	135	9.0	1 654	14.4
C (60–69%)	731	16.8	459	18.5	599	19.0	237	15.7	2 026	17.6
D (50–59%)	962	22.1	304	12.2	515	16.3	331	22.0	2 112	18.4
E-H (0–49%)	1 927	44.3	195	7.9	297	9.4	664	44.1	3 083	26.8
Total	4 348	100.0	2 484	100.0	3 151	100.0	1 505	100.0	11 488	100.0
	PHYSICAL SCIENCE PERFORMANCE									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
A (80–100%)	51	1.9	650	34.6	559	25.7	17	1.7	1 277	16.5
B (70–79%)	144	5.3	433	23.1	440	20.2	45	4.6	1 062	13.8
C (60–69%)	424	15.7	432	23.0	526	24.2	150	15.4	1 532	19.8
D (50–59%)	729	27.1	235	12.5	433	19.9	281	28.8	1 678	21.7
E-H (0–49%)	1 346	50.0	127	6.8	216	9.9	483	49.5	2 172	28.1
Total	2 694	100.0	1 877	100.0	2 174	100.0	976	100.0	7 721	100.0

Source: Institutional HEMIS data for 2010
Note: Undergraduate only

Whereas about 62% of UCT undergraduates and 65% of SU undergraduates entered higher education with a higher grade (HG) certificate in mathematics, only about 14% and 16% did so at CPUT and UWC respectively. Similarly, whilst about 61% of UCT's graduates and 55 of SU's graduates obtained either an 'A' or 'B' symbol in mathematics, only about 18% of UWC and 17% of CPUT graduates did so.

The assessment above of maths and physical science performance in matric and how these are associated with employment is based on a rough yet stable estimation. The assessment is not as accurate as would normally be the case due to data limitations. The data for maths and science symbols, which is based on HEMIS data received from the four institutions, were limited in the following ways:

- Only data for undergraduate students were used as some institutions do not capture schooling results for postgraduate students on the assumption that graduates necessarily have a matric with university admission.
- The different gradations, i.e., higher, standard or lower grade, were not received for all graduates, nor were these gradations equally applicable across the spectrum, making accurate standardisations impossible.

We therefore simply used the matric symbols we obtained from the four institutions as a broad measure, but grouped into three broad categories

In closing, a number of important observations can be made about graduate output in the Western Cape. These observations are intended to serve as a critical backdrop to the tracer survey which is discussed in the next section. The key observations that have been made so far include:

- The Western Cape has the second highest graduate output nationally in terms of the size of the provincial population.
- It leads all other provinces in the production of post-graduates. Fifty-four per cent of the 2010 SU graduates were postgraduate. Similarly, 47% and 35% of UCT and UWC graduates were at postgraduate level in 2010. These are globally competitive scores. For example, postgraduates in the Australian Higher Education system constitute 33% of annual graduate output (Graduate Careers, 2009: 7).
- Fifty-seven per cent of the 2010 graduate cohort is female.
- Almost 20% of UCT's graduates are international graduates.
- Graduates in the province benefit from high levels of bursary support.
- The Grade 12 mathematics and physical science profiles of the 2010 Western Cape graduate cohort show significant differences across the four higher education institutions in the Western Cape. For example, whilst about 61% of UCT's graduates and 55% of SU's graduates obtained either an 'A' or 'B' symbol in mathematics in 2010, only about 18% of UWC and 17% of CPUT graduates did so.

The next section will begin to examine the findings of the 2010 tracer survey conducted between September and November 2012. It will be interesting to observe whether the contradictory elements noted above – the Western Cape having the potential for being the leading regional innovation system in the country versus a province unable to break with apartheid-induced educational inequities – are sustained or dissolved as graduates leave education and enter the world of work.

Survey Findings

5

HOME AND EDUCATION BACKGROUND

The next section will present the first part of the findings on 'home' and 'school education' background. At the outset, it is necessary to raise a technical point. As reported in Table 4.7, there are a number of international graduates in the 2010 cohort. These graduates (2 091 or about 8.5% of the total population) are omitted from the tables in this section. It is presumed that international graduates grew up elsewhere and attended schools outside the nine South African provinces listed in the template used below.

Provincial location of schooling

Table 5.1 reflects the provincial location of the high school attended by respondents prior to their transition into higher education. This provincial locale is most likely also their home base prior to higher education. It is significant that only about 63% of graduates are from the Western Cape, suggesting that 37% have migrated in from other parts of the country to study in Western Cape higher education institutions. For example, about 13% of school leavers left the Eastern Cape to enrol in Western Cape higher education institutions. Similarly for Gauteng and KwaZulu-Natal with about 8% and 6% migrations respectively. This migration of course is a global phenomenon as universities are considered national resources open to students from any region in their respective countries, including South Africa.

Further disaggregation of the data (see Table 5.2 and Table 5.3) reveals the racial composition of these migratory flows from different provinces into Western Cape higher education institutions. Of all Africans enrolled, those from the Western Cape constitute only 33% of the total – the rest are from other provinces, primarily from the Eastern Cape (the latter comprising about 35%). Conversely, about 92% of coloured graduates were already resident in the Western Cape prior to studying at the four higher education institutions of the Western Cape. In addition, the largest inflow of white students into Western Cape universities came from Gauteng (at 13%).

Table 5.3 confirms again that a large majority of graduates coming from the Eastern Cape to study in the Western Cape were African (77% of those who originate from the Eastern Cape are African), and similarly so from Limpopo (about 83%) and Mpumalanga (about 58%) but with far smaller aggregate numbers.

Table 5.1: Provincial home base of members of the 2010 Western Cape graduate cohort during their high school years

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
EC	1 335	19.1	295	6.0	677	10.1	522	15.4	2 829	12.8
FS	61	.9	126	2.5	145	2.2	35	1.0	366	1.7
GP	164	2.3	883	17.8	596	8.9	135	4.0	1 779	8.1
KZN	119	1.7	721	14.6	398	5.9	153	4.5	1 391	6.3
LP	116	1.7	128	2.6	242	3.6	108	3.2	594	2.7
MP	40	0.6	47	1.0	182	2.7	27	0.8	296	1.3
NC	121	1.7	32	0.6	265	4.0	60	1.8	478	2.2
NW	118	1.7	73	1.5	95	1.4	67	2.0	352	1.6
WC	4 928	70.4	2 650	53.5	4 097	61.2	2 286	67.4	13 962	63.3
Total	7 001	100.0	4 955	100.0	6 697	100.0	3 394	100.0	22 048	100.0

Survey Question: Q1.1
Note: Includes only graduates who mostly lived in South Africa while attending high school.

Table 5.2: Provincial home base of members of the 2010 Western Cape graduate cohort during their high school years, by race (read % vertically)

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
EC	2 162	35.3	158	2.5	26	3.3	471	5.5	2 817	12.9
FS	169	2.8	10	0.2	4	0.5	182	2.1	366	1.7
GP	493	8.0	84	1.3	54	6.8	1 118	13.0	1 749	8.0
KZN	400	6.5	39	0.6	240	30.1	691	8.0	1 371	6.3
LP	491	8.0	4	0.1	12	1.5	84	1.0	591	2.7
MP	170	2.8	6	0.1	5	0.7	115	1.3	296	1.4
NC	71	1.2	151	2.4	7	0.9	244	2.8	473	2.2
NW	171	2.8	32	0.5	14	1.7	125	1.5	342	1.6
WC	2 005	32.7	5 823	92.3	436	54.5	5 567	64.8	13 832	63.3
Total	6 133	100.0	6 307	100.0	799	100.0	8 598	100.0	21 837	100.0

Survey Question: Q1.1.1
Note: Includes only graduates who mostly lived in South Africa while attending high school.
Excludes 2% of graduates classified as 'other' or not classified at all.

Table 5.3: Provincial home base of members of the 2010 Western Cape graduate cohort during their high school years, by race (read % horizontally)

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
EC	2 162	76.7	158	5.6	26	0.9	471	16.7	2 817	100.0
FS	169	46.2	10	2.7	4	1.1	182	49.7	366	100.0
GP	493	28.2	84	4.8	54	3.1	1 118	63.9	1 749	100.0
KZN	400	29.2	39	2.8	240	17.5	691	50.4	1 371	100.0
LP	491	83.1	4	0.7	12	2.0	84	14.2	591	100.0
MP	170	57.4	6	2.0	5	1.7	115	38.9	296	100.0
NC	71	15.0	151	31.9	7	1.5	244	51.6	473	100.0
NW	171	50.0	32	9.4	14	4.1	125	36.5	342	100.0
WC	2 005	14.5	5 823	42.1	436	3.2	5 567	40.2	13 832	100.0
Total	6 133	28.1	6 307	28.9	799	3.7	8 598	39.4	21 837	100.0

Survey Question: Q1.1.1
Note: Includes only graduates who mostly lived in South Africa while attending high school.
Excludes 2% of graduates classified as 'other' or not classified at all.

Table 5.4: Type of neighbourhood of the 2010 Western Cape graduate cohort during their high school years, by institution

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
In a suburb of a town or city	4 829	69.3	4 451	90.1	5 747	86.9	2 433	72.1	17 460	79.7
In a township or informal settlement of a town or city	1 400	20.1	236	4.8	330	5.0	544	16.1	2 510	11.5
In a village or on a farm in a rural area	740	10.6	255	5.2	535	8.1	397	11.8	1 927	8.8
Total	6 970	100.0	4 942	100.0	6 611	100.0	3 375	100.0	21 898	100.0

Survey Question: Q1.1.2
Note: Includes only graduates who mostly lived in South Africa while attending high school.
Excludes 0.2% of graduates who attended home schooling mostly.

Table 5.5: Type of neighbourhood of the 2010 Western Cape graduate cohort during their high school years by race

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
In a suburb of a town or city	2 555	41.9	5 844	93.0	787	98.4	8 121	95.4	17 307	79.8
In a township or informal settlement of a town or city	2 162	35.5	269	4.3	0	0.0	38	0.4	2 469	11.4
In a village or on a farm in a rural area	1 376	22.6	171	2.7	13	1.6	351	4.1	1 911	8.8
Total	6 093	100.0	6 284	100.0	799	100.0	8 510	100.0	21 687	100.0

Survey Question: Q1.1.3
Note: Includes only graduates who mostly lived in South Africa while attending high school. Excludes 2% of graduates classified as 'other' or not classified at all. Excludes 0.2% of graduates who attended home schooling mostly.

Flows of white students entering the Western Cape higher education system reached 50% or above from four provinces: Free State, Gauteng, KwaZulu-Natal and Northern Cape.

The largest proportion of coloured students who entered the Western Cape higher education system came from the Northern Cape (about 32% of those who migrate from the Northern Cape are coloured), and for Indian students it was KwaZulu-Natal (about 18%) – flows reflecting the demographic profiles of different regions in South Africa.

Home town

The graduates of the 2010 cohort appear to be highly urbanised, considering type of neighbourhood lived in during school years, with low levels of rurality during childhood years across all race groups. Approximately 80% of the 2010 graduates grew up in urban suburbs, towns and cities, about 11% indicated they lived in a township during high school, and only about 9% indicating they lived in a rural setting. CPUT and UWC carried the highest number of graduates who came from townships and rural areas prior to studying.

However, if the above data are disaggregated further by race, a different picture emerges. Larger proportions of African graduates lived in townships and rural settings during their high school years – that is, about 36% and 23% respectively.

Private schooling

Table 5.6 indicates that a significant proportion of the 2010 graduate cohort attended private schooling prior to studying in Western Cape institutions of higher learning. Overall, about 17% attended private schooling. This attendance is far above the national average as determined by Census 2011 which put the figure for attendance at private schooling nationally at 7.3% (Stats-SA, Fact Sheet: 3). More interesting though is the enrolment of persons with private schooling at UCT – it constitutes 35% of the 2010 UCT graduate cohort.

Private school enrolments are not restricted to white graduates. Table 5.7 suggests that Indian graduates have the highest enrolment rate in private schooling – just under about 30%. Coloured graduates in the cohort have the lowest enrolment – at about 10%. Very few graduates (less than half a per cent) reported having had home schooling, and are consequently omitted here.

Data from the GDS suggests that private schools contributed a higher proportion of 2010 cohort members with A-D symbols in Grade 12 mathematics. In addition, only 15% of private school beneficiaries obtained an E-H school symbol – in sharp contrast to the 30% of cohort members from public school backgrounds who entered the four higher institutions with a E-H symbol.

Table 5.8: Maths symbol by type of school attended, 2010 graduate cohort

	Public		Private/independent		Total	
	Count	%	Count	%	Count	%
A – B	3 147	33.3	1 082	48.2	4 228	36.2
C – D	3 459	36.6	823	36.6	4 282	36.6
E – H	2 837	30.0	341	15.2	3 179	27.2
Total	9 442	100.0	2 246	100.0	11 689	100.0

Survey Question: Q1.1.2
Note: Includes undergraduate students only.

Table 5.6: Type of high school attended, 2010 Western Cape graduate cohort, by institution

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Public	6 235	89.3	3 218	65.0	5 841	87.6	2 978	88.4	18 271	83.2
Private/independent	749	10.7	1 730	35.0	827	12.4	392	11.6	3 698	16.8
Total	6 984	100.0	4 948	100.0	6 668	100.0	3 370	100.0	21 969	100.0

Survey Question: Q1.1.2
Note: Includes only graduates who mostly lived in South Africa while attending high school.
Excludes 0.2% of graduates who attended home schooling mostly.

Table 5.7: Type of high school attended, 2010 Western Cape graduate cohort, by race

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Public	5 374	87.8	5 625	89.6	557	70.1	6 564	76.6	18 120	83.3
Private/independent	745	12.2	651	10.4	238	29.9	2 005	23.4	3 639	16.7
Total	6 119	100.0	6 276	100.0	795	100.0	8 569	100.0	21 759	100.0

Survey Question: Q1.1.2
Note: Includes only graduates who mostly lived in South Africa while attending high school.
Excludes 2% of graduates classified as 'other' or not classified at all.
Excludes 0.2% of graduates who attended home schooling mostly.

Parental education

The discussion now shifts to parental education. The level of parental education is an important proxy for socio-economic background. It is also a key influence on whether children choose to study at higher education institutions and succeed (Ball, 2010). Tables 5.9 to 5.11 provide such data by institution, race and gender. As is evident in Table 5.9, 38% and 36% of graduates at UCT and SU had a mother or female guardian with a university degree or higher, compared to only 15% and 14% at CPUT and UWC. These inequities across institutions widen with regard to the education of fathers and/or male guardians (See Table 5.10). In this instance, about 47% and 44% of 2010 graduates at UCT and SU had fathers with university degrees, whereas only 18% and 15% of graduates at UWC and CPUT had fathers with these qualifications.

Consolidating these trends, 43% and 42% of graduates at UWC and CPUT had both parents/guardians with incomplete schooling, whereas only 18% and 14% of graduates at SU and UCT had both parents/guardians with incomplete schooling.

Disaggregating parental education by race reveals even more severe inequities than those observed above across the four institutions. For example, about 52% of fathers/male guardians and 43% of mothers/female guardians of white graduates have university qualifications, whereas this figure drops dramatically to 21% and 19% for Africans and 16% and 12% respectively for coloured graduates.

In contrast, 6% of both parents/guardians of white

Table 5.9: Highest level of education of mother/female guardian as on 1 September 2012, 2010 Western Cape graduate cohort, by institution

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
University postgraduate degree	519	7.9	1 282	22.1	1 202	17.4	229	6.9	3 232	14.3
University undergraduate degree	448	6.8	916	15.8	1 278	18.6	232	7.0	2 875	12.7
Sub-total: University degree and higher	967	14.7	2 198	37.9	2 480	36	461	13.9	6 107	27
Technikon/university of technology degree	102	1.6	169	2.9	130	1.9	50	1.5	452	2.0
University certificate or diploma	418	6.4	424	7.3	456	6.6	176	5.3	1 473	6.5
Technikon/university of technology certificate or diploma	264	4.0	353	6.1	519	7.5	144	4.3	1 281	5.7
Techinical college certificate, trade certificate or similar	247	3.8	424	7.3	403	5.9	129	3.9	1 203	5.3
Matric/Grade 12	1 822	27.7	1 300	22.4	1 486	21.6	789	23.8	5 396	23.9
Some formal schooling	1 904	29.0	738	12.7	1 089	15.8	1 150	34.7	4 880	21.6
No formal schooling	852	13.0	196	3.4	329	4.8	415	12.5	1 792	7.9
Sub-total: incomplete schooling	2 439	42.5	805	14.5	1 206	18	1 299	43.1	5 750	27.4
Total	6 575	100.0	5 803	100.0	6 892	100.0	3 314	100.0	22 584	100.0

Survey Question: Q3.1
Note: Excludes graduates who were not sure and whose parent/guardian was deceased at the time.

Table 5.10: Highest level of education of father/male guardian as on 1 September 2012, 2010 Western Cape graduate cohort, by institution

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
University postgraduate degree	564	9.8	1 870	33.5	1 893	28.2	353	11.7	4 680	22.2
University undergraduate degree	327	5.7	771	13.8	1 082	16.1	196	6.5	2 376	11.3
Sub-total: University degree and higher	891	15.5	2 641	47.3	2 975	44.3	549	18.2	7 056	33.5
Technikon/university of technology degree	146	2.5	174	3.1	199	3.0	28	0.9	547	2.6
University certificate or diploma	242	4.2	266	4.8	268	4.0	125	4.1	901	4.3
Technikon/university of technology certificate or diploma	228	4.0	275	4.9	376	5.6	108	3.6	987	4.7
Techinical college certificate, trade certificate or similar	315	5.5	388	6.9	358	5.3	172	5.7	1 233	5.9
Matric/Grade 12	1 477	25.7	1 034	18.5	1 329	19.8	736	24.4	4 576	21.7
Some formal schooling	1 576	27.5	673	12.1	936	14.0	889	29.5	4 075	19.4
No formal schooling	863	15.0	132	2.4	270	4.0	410	13.6	1 675	8.0
Sub-total: incomplete schooling	2 439	42.5	805	14.5	1 206	18	1 299	43.1	5 750	27.4
Total	5 738	100.0	5 583	100.0	6 710	100.0	3 017	100.0	21 048	100.0

Survey Question: Q3.1
Note: Excludes graduates who were not sure or whose parent/guardian was deceased at the time.

Table 5.11: Highest level of education of both parents/ guardians on both female and male graduates as on 1 September 2012

	Female graduates				Male graduates			
	Highest level of education of mother/female guardian of female graduates		Highest level of education of father/male guardian of female graduates		Highest level of education of mother/female guardian of male graduates		Highest level of education of father/male guardian of male graduates	
	Count	%	Count	%	Count	%	Count	%
University degree and higher	3 510	27.6	3 930	33.6	2 596	26.3	3 126	33.4
Incomplete schooling	3 667	28.9	3 222	27.6	3 006	30.4	2 528	27.1

Survey Question: Q3.1
Note: The percentage columns above are derived from the 'count', expressed as a percentage of the total number in each sub-grouping of men or women graduates.

Table 5.12: 2010 Western Cape graduates with at least one sibling with a degree, diploma or certificate from a higher education institution prior to or in 2010, by institution

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Yes	3 482	52.3	3 492	62.5	4 359	64.1	1 675	51.2	13 008	58.3
No	3 179	47.7	2 096	37.5	2 438	35.9	1 595	48.8	9 308	41.7
Total	6 661	100.0	5 588	100.0	6 797	100.0	3 270	100.0	22 316	100.0

Survey Question: Q3.2.1
Note: Excludes graduates who do not have siblings or who were not sure.

Table 5.13: 2010 Western Cape graduates with at least one sibling with a degree, diploma or certificate from a higher education institution prior to or in 2010, by race

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Yes	3 578	52.8	3 136	53.0	462	57.9	5 570	66.5	12 746	58.3
No	3 201	47.2	2 785	47.0	337	42.1	2 802	33.5	9 125	41.7
Total	6 779	100.0	5 922	100.0	799	100.0	8 372	100.0	21 871	100.0

Survey Question: Q3.2.1
Note: Excludes graduates who do not have siblings and who were not sure.
Excludes 2% of graduates classified as 'other' or not classified at all.

graduates have incomplete schooling compared to 48% (fathers) and 45% (mothers) for African graduates and 46% African (mothers) and 41% (fathers) for coloured graduates.

Gendered effects are less noticeable. For example, there is no noticeable difference between 2010 male and female graduates with respect to fathers with university degrees – at 34% for both 2010 male and female graduates. The pattern is similar for mothers but around 26–28%. There are also no significant differences with respect to those who had parents with incomplete schooling. Percentages range from 27–30% across both male and female graduates.

Sibling influences

Tables 5.9 – 5.11 indicated that the Western Cape 2010 graduate cohort have parents with relatively high education levels. These parents would have provided important influences (both explicit and implicit) shaping the educational outcomes of their children.

Similar influences are expected to arise from older siblings who have gone to university. Table 5.12 indicates that more than half of all graduates at all four institutions had siblings who had previously attended university – ranging from 51% at UWC to 64% at SU. These sibling effects permeate across racial boundaries, with 53% of coloureds and Africans, 58% of Indians and 66% of whites all having siblings with some form of higher education.

The precise effects of educated parents and siblings are not easy to measure quantitatively, but these important family achievements along with urban location and private schooling do contribute to the formation of 'social capital' which benefits all members of the family – both aspirationally (they too want to succeed and graduate with a university qualification) and in terms of accessing important networks later in life (Ball, 2010). As discussed in more detail in a later section on graduate job search behaviour, the concept of 'social capital' signifies those social networks and family know-how that enable young family members to successfully navigate their way through the modern-day labour market into rewarding jobs and careers.

These 'social capital' gateways are not open to graduates from very poor environments who do not have educated parents or siblings, or family friends who can assist in finding meaningful employment. Their transition into work is much more difficult.

6

UNIVERSITY LIFE

This section examines additional background factors which are believed to have an impact on the ability of graduates to find employment. Amongst the factors included for analysis are: the financing of studies, whether graduates worked prior to studying for the 2010 qualification, the extent of participation in internships and work placements, and finally, participation in campus extra-curricular activity.

Financing of studies

A key gateway into higher education is accessing the necessary funding to pay for tuition, board and lodging and the other costs of higher education. Determining the nature and source of this funding is usually a key component of tracer surveys. In a surprising turn in this study, the greatest source of funding for UWC and CPUT graduates comes from the graduates themselves – at 28% and 29% of funding sources respectively (Table 6.1). This own-funding suggests that many of these graduates were working and earning an independent income prior to studying. The converse is true for UCT graduates with only 17% paying their own way. At both UCT and SU, the greatest source of funding to cover the full costs of study is from parents and/or guardians – at about 30% and 24% respectively.

The second biggest source of income for funding the costs of study for CPUT and UWC students are NSFAS bursaries – at about 27% and 18% for graduates at these two campuses in 2010. Again the picture is different at UCT and SU – the second source of funding opportunities is from bursaries awarded by the institutions themselves – most likely a combination of merit and equity bursaries. A third source of bursary funding – from private corporations and benefactors – also plays a sizeable role, while these are most likely merit bursaries. Indeed, if all types of bursaries are added together, they comprise 12 232 of all 34 539 funding instances (35.4%) – considering that some students had more than one source of funding, with an

Table 6.1: Sources and instances of funding the costs of acquiring a qualification (registration, tuition and book fees), 2010 Western Cape graduate cohort, by institutions

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Free/discounted provision because a parent was a member of the university staff	163	1.7	267	2.9	291	2.8	105	2.0	826	2.4
My own funds	2 805	28.7	1 529	16.6	2 432	23.5	1 456	28.1	8 223	23.8
Funds or loans from my parents/guardians	1 683	17.2	2 798	30.3	2 494	24.1	827	16.0	7 801	22.6
Funds or loans from other family members or acquaintances	119	1.2	264	2.9	246	2.4	161	3.1	790	2.3
Funds or loans from my employer	494	5.0	470	5.1	631	6.1	185	3.6	1 780	5.2
NSFAS bursary/loan	2 630	26.9	666	7.2	644	6.2	949	18.3	4 890	14.2
NRF bursary	377	3.9	469	5.1	370	3.6	302	5.8	1 517	4.4
A bursary or scholarship from my university	214	2.2	1 137	12.3	1 059	10.2	312	6.0	2 722	7.9
A private bursary or scholarship	607	6.2	993	10.8	1 007	9.7	496	9.6	3 103	9.0
A bank loan	295	3.0	395	4.3	881	8.5	130	2.5	1 701	4.9
Other	403	4.1	236	2.6	285	2.8	261	5.0	1 186	3.4
Total	9 790	100.0	9 224	100.0	10 340	100.0	5 184	100.0	34 539	100.0

Survey Questions: Q2.2 and Q2.2.1
Note: The total of 34 539 responses around 'sources of funding' will necessarily be higher than the total population of 24 710 graduates as graduates could have reported multiple sources of funding.

average of 1.4 funding sources per graduate.

Bank loans are not a major mechanism for funding higher education in South Africa – constituting only about 5% of funding instances for graduates at the four institutions.

Table 6.2 shows the distribution of these funding opportunities by race. Overall, the largest source of funding is from 'own funds' and this is relatively evenly distributed across race at above 22% but peaking for coloured graduates at 28%. Parental funding is high for white and Indian graduates at 34% and 30% respectively, but significantly lower for coloureds and Africans (19% and 11% respectively).

Table 6.3 compares 'source of funding' by race. It indicates that whites constitute a very high proportion of those students who have their costs covered by parents or a guardian (about 57%). white students are also the largest beneficiaries of institutional bursaries – at 46%. They are also the largest beneficiaries of free or discounted tuition because parents are staff members of the university – at 51%. Within the category of 'bank loans' (which Table 6.2 indicated was a very small source of funding), white graduates lead at 63%. This suggests better access to funding at the banks.

In contrast to this funding scenario for white students, it is clear that Africans are the largest beneficiaries of NSFAS

Table 6.2: Sources and instances of funding the costs of acquiring a qualification (registration, tuition and book fees), by race (read % vertically)

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Free/discounted provision because a parent was a member of the university staff	152	1.5	216	2.4	21	1.6	410	3.2	799	2.4
My own funds	2 278	23.0	2 562	28.5	347	26.0	2 876	22.5	8 064	24.4
Funds or loans from my parents/guardians	1 116	11.3	1 718	19.1	404	30.2	4 341	33.9	7 579	22.9
Funds or loans from other family members or acquaintances	219	2.2	151	1.7	48	3.6	353	2.8	771	2.3
Funds or loans from my employer	603	6.1	589	6.6	69	5.2	465	3.6	1 727	5.2
NSFAS bursary/loan	2 808	28.3	1 414	15.7	94	7.0	556	4.3	4 871	14.7
NRF bursary	555	5.6	345	3.8	57	4.3	537	4.2	1 494	4.5
A bursary or scholarship from my university	715	7.2	608	6.8	121	9.1	1 209	9.4	2 653	8.0
A private bursary or scholarship	1 108	11.2	734	8.2	135	10.1	1 060	8.3	3 037	9.2
A bank loan	166	1.7	424	4.7	32	2.4	1 063	8.3	1 685	5.1
Other	346	3.5	437	4.9	28	2.1	347	2.7	1 158	3.5
Total	9 913	100.0	8 982	100.0	1 336	100.0	12 808	100.0	33 039	100.0

Survey Question: Q2.2.1
Note: Includes only graduates who themselves or a parent/guardian did not work for the university. Excludes 2% of graduates classified as 'other' or not classified at all.

Table 6.3: Sources and instances of funding the costs of acquiring a qualification (registration, tuition and book fees), by race (read % horizontally)

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Free/discounted provision because a parent was a member of the university staff	152	19.0	216	27.0	21	2.6	410	51.3	799	100.0
My own funds	2 278	28.2	2 562	31.8	347	4.3	2876	35.7	8 064	100.0
Funds or loans from my parents/guardians	1 116	14.7	1 718	22.7	404	5.3	4341	57.3	7 579	100.0
Funds or loans from other family members or acquaintances	219	28.4	151	19.6	48	6.2	353	45.8	771	100.0
Funds or loans from my employer	603	34.9	589	34.1	69	4.0	465	26.9	1 727	100.0
NSFAS bursary/loan	2 808	57.6	1 414	29.0	94	1.9	556	11.4	4 871	100.0
NRF bursary	555	37.1	345	23.1	57	3.8	537	35.9	1 494	100.0
A bursary or scholarship from my university	715	27.0	608	22.9	121	4.6	1 209	45.6	2 653	100.0
A private bursary or scholarship	1 108	36.5	734	24.2	135	4.4	1 060	34.9	3 037	100.0
A bank loan	166	9.9	424	25.2	32	1.9	1 063	63.1	1 685	100.0
Other	346	29.9	437	37.7	28	2.4	347	30.0	1 158	100.0
Total	9 913	30.0	8 982	27.2	1 336	4.0	12 808	38.8	33 039	100.0

Survey Question: Q2.2.1
Note: Includes only graduates who themselves or a parent/guardian did not work for the university. Excludes 2% of graduates classified as 'other' or not classified at all.

bursaries (at 58%) and whites the smallest (at 11%). Africans also receive the largest slice of private bursaries (at 36% for Africans) although whites were close in second place with 35%.

Part-time study

Another key question with regard to the socio-economic background of graduates is whether they studied full-time or part-time. The latter route indicates that (poor) graduates may have been pressured to earn a family income and therefore to study part-time, or that graduates were of a mature age and were already fully employed prior to studying for the 2010 qualification programme. In this instance, they continued working and studied part-time.

This 'mature age' distinction in the 2010 graduate cohort is significant, with 21% of graduates indicating they studied part-time (Table 6.4). The size of this grouping – 5202 graduates suggests that this is a distinctive and important pathway existing within the larger 2010 cohort.

An additional observation of interest in the data in Table 6.4 is the fact that CPUT does not have the highest number of part-time learners who graduated as part of the 2010 cohort. Indeed, SU has the highest percentage of part-time learners at 25.4%. A contributing factor could be that SU has more distance learning offerings than the other three universities. In regard to CPUT, part of the institutional logic of a 'university of technology' (polytechnics globally) is that they are the institutions specifically designed to recruit learners from the employed workforce, who then continue working but study part-time in work-related diploma and degree programmes. This does not seem to be the case with CPUT, which has a very high full-time contingent.

Participation in extra-curricula activities

Table 6.5 highlights participation in extra-curricula activities on campus such as faculty societies, cultural, sport and student organisation activities. Approximately half the 2010 cohort indicated they participated in such activities, with participation levels higher at SU and UCT and lower at CPUT.

Table 6.6 provides a more detailed account of participation in specific extra-curricular items such as student governance and cultural organisations. It is clear that sports organisations are the most popular, whereas student politics and governance activities feature relatively low down on the list of campus priorities. Interestingly, UWC offers the highest proportion of places for learners to participate in university life as teaching and laboratory assistants – with 36% of all UWC graduates participating in these activities in 2010 – a figure far higher than what was achieved at the three other campuses.

Table 6.7 provides an account of participation in these activities by race. Extra-curricular activity does not seem to be heavily stratified by race. For example, there are equally low levels of participation in student governance with 8% for Africans and 5% amongst the white graduates of 2010. Participation in a combined 'Research' and 'Teaching' Assistance category is highest amongst Coloureds (at 31%), Africans (23%), Indians (22%) and whites (20%).

Career guidance, internships and work placements

Another function of tracer surveys is to determine the degree to which university learners received appropriate career guidance and opportunities for internships and

Table 6.4: 2010 Western Cape graduate cohort by full-time or part-time study and institution

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Full-time	5 795	78.4	5 180	84.3	5 503	74.6	2 939	79.3	19 417	78.9
Part time	1 597	21.6	966	15.7	1 872	25.4	768	20.7	5 202	21.1
Total	7 391	100.0	6 146	100.0	7 375	100.0	3 707	100.0	24 619	100.0

Survey Question: Q2.1

Table 6.5: 2010 Western Cape graduate cohort by participation in extra-curricula activities and institution

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Yes	1 813	31.3	3 241	62.8	3 392	61.9	1 226	41.8	9 673	50.0
No	3 971	68.7	1 917	37.2	2 092	38.1	1 705	58.2	9 685	50.0
Total	5 785	100.0	5 159	100.0	5 483	100.0	2 932	100.0	19 358	100.0

Survey Question: Q2.1.1
Note: Includes only graduates who studied mostly full-time towards the qualification they obtained in 2010.

work placements. These are critical activities which prepare young graduates for the world of work. Table 6.8 provides the evidence.

The below table reports that about 43% of full-time learners who graduated in 2010 at Western Cape universities received some form of career guidance. Table 6.9 highlights those items of career guidance most often utilised. The data points to the importance of direct access and informal talks with lecturers as the most common form utilised by the 2010 cohort followed by the more formal attendance at career expos – at about 25% and 21% respectively. Talks by private companies on campus are the third most commonly used form of career advice. Overall, these utilisation rates are low.

Table 6.6: 2010 Western Cape graduate cohort by participation in extra-curricular activity, by type of activity

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Faculty/academic societies	67	2.7	777	11.3	587	8.5	135	7.0	1 565	8.6
Sports teams	726	29.3	1 298	19.0	1 655	24.1	355	18.3	4 035	22.2
Cultural organisations	250	10.1	866	12.6	814	11.8	146	7.5	2 076	11.4
Religious organisations	248	10.0	663	9.7	623	9.1	196	10.1	1 730	9.5
Student governance	257	10.4	358	5.2	358	5.2	122	6.3	1 095	6.0
Residence committees	216	8.7	532	7.8	1 144	16.7	101	5.2	1 993	11.0
Tutor/teaching assistant	347	14.0	1 340	19.6	914	13.3	480	24.7	3 081	17.0
Research/laboratory assistant	102	4.1	405	5.9	346	5.0	213	10.9	1 066	5.9
Other	264	10.7	609	8.9	431	6.3	197	10.1	1 501	8.3
Total	2 477	100.0	6 847	100.0	6 873	100.0	1 946	100.0	18 143	100.0

Survey Question: Q2.1.1.1
Note: Includes only graduates who studied mostly full-time towards the qualification they obtained in 2010 and who participated in any additional activities.

Table 6.7: 2010 Western Cape graduate cohort by participation in extra-curricular activity by race and type of activity

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Faculty/academic societies	351	6.8	215	9.3	94	13.4	858	9.2	1 518	8.7
Sports teams	1 027	20.0	466	20.1	71	10.2	2 352	25.1	3 916	22.4
Cultural organisations	517	10.1	242	10.4	99	14.2	1 133	12.1	1 992	11.4
Religious organisations	649	12.6	137	5.9	142	20.3	730	7.8	1 657	9.5
Student governance	410	8.0	78	3.4	44	6.3	511	5.5	1 042	6.0
Residence committees	560	10.9	137	5.9	28	4.1	1 226	13.1	1 952	11.1
Tutor/teaching assistant	837	16.3	550	23.7	123	17.7	1 432	15.3	2 942	16.8
Research/laboratory assistant	337	6.6	162	7.0	28	4.0	491	5.2	1 018	5.8
Other	443	8.6	332	14.3	69	9.8	630	6.7	1 473	8.4
Total	5 131	100.0	2 318	100.0	698	100.0	9 362	100.0	17 509	100.0

Survey Question: Q2.1.1.1
Note: Includes only graduates who studied mostly full-time towards the qualification they obtained in 2010 and who participated in any additional activities.
Excludes 2% of graduates classified as 'other' or not classified at all.

Table 6.8: 2010 Western Cape graduate cohort on whether they received any form of career guidance, by institution

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Yes	2 697	46.8	2 416	46.9	1 951	35.8	1 240	42.6	8 304	43.1
No	2 751	47.8	2 277	44.2	3 114	57.1	1 529	52.6	9 671	50.2
I am not sure	309	5.4	456	8.8	391	7.2	140	4.8	1 295	6.7
Total	5 756	100.0	5 149	100.0	5 455	100.0	2 909	100.0	19 270	100.0

Survey Question: Q2.1.2
Note: Includes only graduates who studied mostly full-time towards the qualification they obtained in 2010.

Table 6.9: 2010 Western Cape graduate cohort and type of career guidance, by institutions										
	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Aptitude tests	119	2.4	118	1.9	153	3.8	55	2.6	446	2.5
Personal discussions with a lecturer	1 536	31.2	1 203	18.9	1 040	25.8	667	30.8	4 446	25.4
Personal discussions with a career counsellor	386	7.8	796	12.5	269	6.7	179	8.3	1 631	9.3
Visits to career expos	913	18.5	1 440	22.7	866	21.4	537	24.8	3 756	21.5
Visits to or talks by private companies	699	14.2	1 209	19.0	666	16.5	323	14.9	2 897	16.6
Work experience with private companies	576	11.7	558	8.8	373	9.2	122	5.6	1 628	9.3
Information on further studies	540	11.0	905	14.3	579	14.3	243	11.2	2 267	13.0
Other	155	3.1	119	1.9	91	2.3	43	2.0	409	2.3
Total	4 925	100.0	6 348	100.0	4 037	100.0	2 169	100.0	17 479	100.0

Survey Question: Q2.1.2.1
Note: Includes only graduates who studied mostly full-time towards the qualification they obtained in 2010 and who received any form of career guidance.

Table 6.10: 2010 Western Cape graduate cohort and participation in internships and/or work placements as part of the qualification, by institution										
	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Yes	4 059	70.4	1 387	27.1	1 518	28.0	773	26.6	7 737	40.3
No	1 710	29.6	3 733	72.9	3 895	72.0	2 138	73.4	11 475	59.7
Total	5 769	100.0	5 119	100.0	5 413	100.0	2 911	100.0	19 212	100.0

Survey Question: Q2.1.3
Note: Includes only graduates who studied mostly full-time towards the qualification they obtained in 2010.

Table 6.11: 2010 Western Cape graduate cohort by length of time of internships and/or work placements, by institution										
	Institution									
	CPUT		UCT		SU		UWC		Total	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
	8.2	5.4	5.5	6.5	6.2	7.6	10.0	8.9	7.5	6.6

Survey Question: Q2.1.3.1
Note: Includes only graduates who studied mostly full-time towards the qualification they obtained in 2010 and who undertook any internships or work placements.

Participation levels in internships and work placements at UCT, SU and UWC are also low – at 27%–28%. In contrast, the Cape University of Technology provided 70% of learners with opportunities to acquire first-hand experience of work whilst studying for a career-oriented qualification. This result is appropriate given CPUTs career-oriented institutional mission. Concerns nationally that Universities of Technology are struggling to provide internship opportunities for their studies in a hostile labour market are not entirely supported by the evidence here. The average length of time for these internships and work placements was 8.2 months at CPUT and 6.6 months at all four universities. These time periods provide reasonable work experience opportunities. However, standard deviations in all instances are very high, suggesting that the bulk of respondents have reported periods far lower or higher than the mean, which is indicative of significant variation amongst respondents. In fact, roughly two-thirds of all respondents reported periods that range from about one month to 14 months.

Summing up

There are five important findings in this section on educational background and university life – some of which have important follow-up implications later on in this report. For example, the fact that 28% and 29% of funding sources at UWC and CPUT respectively came from 'own sources' (own income) will be followed up in Section Seven – specifically the focus on 35% of the 2010 graduate cohort who had prior experience of work before they started studying for the qualification they graduated with in 2010. Many among this group clearly funded their own higher education.

A second significant finding is the extent to which access to higher education is funded by bursaries of different forms. There are essentially four types of bursary – NSFAS, NRF, institutional and corporate/philanthropic. If all the bursary offers across these four types were added together the total constitutes a third of the total funding opportunities offered to the 2010 cohort. If these sources

were not available to students, it would represent a major blow to the number of students dependent on external funding.

A third finding of note is the size of the group who immediately continued studying after graduation in 2010 without a break or gap year – 21% of the cohort. This important pathway will be further examined in Section Eleven.

In another observation, it is evident that student extra-curricula activity has changed significantly from the 1970s, 1980s and early 1990s when black students were actively involved in institutional politics and the broader struggle against apartheid. Today, campuses are defined by greater student apathy with student politics and student governance activities featuring relatively low down on the list of campus extra-curricula priorities. Nor is this issue heavily stratified by race. There are equally low levels of participation in student governance between African and white graduates. These participation rates in extra-curricula activity are low, and this problem appears more severe given the importance placed on this background factor in the international literature.

And finally, career guidance interventions appear to be under-utilised in at least three of the campuses – UCT, SU and UWC. These low utilisation rates are sending signals to the higher education institutions in the Western Cape to consider some form of intervention by university authorities to improve the overall package of career guidance offered to students.

With growing concerns that university graduates are not prepared sufficiently for the world of work, low participation levels in internships, work placements and in extra-curricula activity are problematic. There should be greater opportunities for students to get more hands-on experience of the demands of the world of work.

7

EMPLOYMENT

Employment status in this survey is gauged at three key moments in time:

1. Employment prior to embarking on the study programme that led to the qualification obtained in 2010;
2. Employment between graduating in 2010 and 1 September 2012; and
3. Employment as on 1 September 2012 – the starting date for the launch of the survey.

Tables 7.1 up to 7.34 present the results of these employment measures.

THE FIRST MEASURE

Employment prior to studying for 2010 qualification

In referring to the time period prior to the start of studying for the qualification obtained in 2010 (in most cases, prior to 2007), Table 7.1 excludes graduates who were either still in school or who were studying full-time. In this measure of employment, Table 7.1 indicates that 8 422 graduates of the total cohort of 24 710 were employed in some form prior to the start of their study period leading to the acquisition of the 2010 qualification. This is a very significant number of 'mature age' students – 34% of the 2010 graduate cohort.

Of the grouping who were not in school (here we are referring to the time period prior to the start of studying for the qualification obtained in 2010, so many young graduates would have been in school then) or in full-time higher education (10 616 graduates), a number of important employment characteristics are revealed:

- 41% were employed in the private sector.
- 35% were employed in the public sector.
- 5% were self-employed or working in the informal sector.
- 9% considered themselves unemployed, although it was much higher for graduates linked to UWC (13%) and CPUT (12%).
- 10% were not seeking work – for example, care-givers, students on gap-year and people with health problems.

These employment results are gendered and racially stratified as is indicated by Tables 7.2 and 7.3. For example, although comparable percentages of men and women graduates worked in the private sector, more men than women were self-employed. In contrast, more women graduates worked in the public sector and informal economy, more were unemployed, and more women did not work because they had care-giving responsibilities.

Table 7.1: Employment status prior to the start of studying towards the qualification obtained in 2010, by institution

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Employed (part- or full-time) in the private sector	1 630	46.6	1 154	47.4	909	30.6	673	39.2	4 365	41.1
Employed (part- or full-time) in the public sector	954	27.3	662	27.2	1 493	50.3	605	35.2	3 714	35.0
Self-employed in the private sector	43	1.2	104	4.3	118	4.0	79	4.6	343	3.2
Sub-total: mature-age employed graduates	2 627	75.1	1 920	78.9	2 520	84.8	1 357	79.0	8 422	79.3
Employed in the informal sector	78	2.2	82	3.4	47	1.6	7	0.4	213	2.0
Unemployed and looking for work	409	11.7	148	6.1	164	5.5	219	12.8	941	8.9
Unemployed, but not looking for work	382	10.9	282	11.6	240	8.1	136	7.9	1 040	9.8
Total	3 496	100.0	2 432	100.0	2 971	100.0	1 717	100.0	10 616	100.0

Survey Question: Q3.3
Note: Excludes graduates who were (1) still in school or (2) studying full-time.

With regard to race, more white graduates worked in the private sector than any other race grouping and were also highly represented in the self-employment market (55%). Yet, in the public sector African and coloured graduates were in the majority (at 37% and 41%). Africans dominated the unemployment category – at 63%.

With regard to employment status, about 71% of these jobs were permanent, with 29% contract or temporary (See Table 7.4). Table 7.5 suggests that a high percentage of these jobs were also full-time (82%) with very high percentages amongst UCT and SU graduates.

Table 7.2: Employment status prior to the start of studying towards the qualification obtained in 2010, by gender

	Gender					
	Female		Male		Total	
	Count	%	Count	%	Count	%
Employed (part- or full-time) in the private sector	2 108	48.3	2 257	51.7	4 365	100.0
Self-employed in the private sector	125	36.4	218	63.6	343	100.0
Employed (part- or full-time) in the public sector	2 213	59.6	1 501	40.4	3 714	100.0
Employed in the informal sector	116	54.5	97	45.5	213	100.0
Unemployed and looking for work	507	53.9	433	46.0	941	100.0
Unemployed, but not looking for work	637	61.3	403	38.8	1 040	100.0
Total	5 706	53.7	4 910	46.3	10 616	100.0

Survey Question: Q3.3
Note: Excludes graduates who were (1) still in school or (2) studying full-time.

Table 7.3: Employment status prior to the start of studying towards the qualification obtained in 2010, by race

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Employed (part- or full-time) in the private sector	1 144	26.8	1 192	27.9	140	3.3	1 799	42.1	4 275	100.0
Self-employed in the private sector	75	22.3	70	20.8	5	1.5	188	55.8	337	100.0
Employed (part- or full-time) in the public sector	1 348	37.5	1 459	40.6	110	3.1	677	18.8	3 595	100.0
Employed in the informal sector	52	24.4	28	13.1	6	2.8	127	59.6	213	100.0
Unemployed and looking for work	578	63.1	172	18.8	23	2.5	143	15.6	916	100.0
Unemployed, but not looking for work	286	28.0	288	28.2	22	2.2	426	41.7	1 022	100.0
Total	3 483	33.6	3 209	31.0	305	2.9	3 361	32.4	10 358	100.0

Survey Question: Q3.3.2
Note: Excludes graduates who were (1) still in school and (2) studying full-time.
Excludes 2% of graduates classified as 'other' or not classified at all.

Table 7.4: Employment type prior to the start of studying towards the qualification obtained in 2010, by institution

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Permanent	1 792	69.8	1 293	67.8	1 972	78.9	833	62.1	5 891	70.9
Contractual/temporary	774	30.2	613	32.2	528	21.1	507	37.9	2 423	29.1
Total	2 566	100.0	1 907	100.0	2 500	100.0	1 341	100.0	8 314	100.0

Survey Question: Q3.3.3
Note: Excludes graduates who were (1) still in school and (2) studying full-time.
Includes only graduates who were employed in the private or public sector or self-employed in the private sector.

Table 7.5: Employment category prior to the start of studying towards the qualification obtained in 2010, by institution

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Full-time (40 hours per week)	2 006	78.0	1 567	82.2	2 269	90.4	997	74.3	6 838	82.1
Part-time (less than 40 hours per week)	567	22.0	340	17.8	240	9.6	345	25.7	1 492	17.9
Total	2 573	100.0	1 907	100.0	2 509	100.0	1 342	100.0	8 330	100.0

Survey Question: Q3.3.4
Note: Excludes graduates who were (1) still in school or (2) studying full-time.
Includes only graduates who were employed in the private or public sector or self-employed in the private sector.

Continuity of employment

The survey also investigated the continuing employment of this grouping who were employed prior to studying for their 2010 qualification. The survey asked specifically about continuing employment during the time of studying for the 2010 qualification, and following graduation in 2010 through to the 1 September 2012 (the date of the launch of the CHEC survey). Table 7.6 provided the results.

A number of respondents were excluded in determining the results of Table 7.6 – graduates who were still in school and studying full-time during this period (in most cases, prior to 2008). It includes only graduates who were employed in the private or public sector or who were self-employed during this period. Within this employed grouping, about 47% had retained the same job throughout their studies leading up to graduation in 2010 – suggesting a reasonable level of job continuity over at least a five year period (2007–2012), particularly in the case of SU graduates – 59% retained their jobs throughout this period of higher learning.

Promotion and salary increases after graduation

The GDS also provides data on employment benefits accrued through acquiring a qualification in 2010. Analysing the occurrence of employment benefits and promotion is best done with graduates who were employed prior to acquiring the qualification. With such a grouping, a clearer picture of employment can be ascertained – they were employed both before and after the acquisition of a qualification. As a consequence of the above, this analysis will be restricted to only those graduates who had employment prior to graduating in the 2010 qualification.

Tables 7.7 and 7.8 outline the results of this inquiry. Both tables indicate that the distribution of employment benefits were relatively equal across all four races.

This distribution of benefits (31%; 39%; 2%; 28%) arising from the acquisition of a qualification is reasonably aligned to the racial distribution of graduates in the 2010 cohort which was: Africans (comprising 31% of all graduates), coloureds (26%), Indians (4%) and whites (37%).

THE SECOND MEASURE

The next section discusses the second measure of employment – that being to determine the employment status of the full cohort after graduation in 2010.

Employment status between graduation in 2010 and 1 September 2012

An average of 83% of graduates obtained employment during the two-year transitional period between graduation in 2010 and 1 September 2012. Nonetheless, frictional

Table 7.6: Continuation of employment from before and after studying, by institution

Question: On 1 September 2012, did you still have the same job you had just before you started studying towards the qualification you obtained in 2010?

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Yes	1 148	44.1	760	39.9	1 478	58.9	545	40.3	3 932	47.0
No	1 455	55.9	1 143	60.1	1 031	41.1	807	59.7	4 435	53.0
Total	2 603	100.0	1 903	100.0	2 509	100.0	1 352	100.0	8 367	100.0

Survey Question: Q3.3.2
Note: Excludes graduates who were (1) still in school or (2) studying full-time.
Includes only graduates who were employed in the private or public sector or self-employed in the private sector.

Table 7.7: Extent of promotion and pay increases, by race

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
A promotion to a higher rank, position or level	349	21.7	355	17.3	26	20.2	304	20.3	1 034	19.6
A pay increase	274	17.0	374	18.2	21	16.6	320	21.5	990	18.7
Increased benefits	185	11.5	205	10.0	14	10.8	143	9.6	547	10.4
Increased tasks and responsibilities	353	21.9	517	25.2	18	13.9	300	20.1	1 188	22.5
Other	30	1.9	27	1.3	4	3.2	32	2.1	93	1.8
None of the above	418	26.0	574	28.0	45	35.4	395	26.4	1 432	27.1
Total	1 610	100.0	2 052	100.0	128	100.0	1 493	100.0	5 283	100.0

Survey Question: Q3.4.11
Note: Includes only graduates who were employed in the private or public sectors, and who have had the same job on 1 September they have had just before they started studying towards the qualification they obtained in 2010.
Excludes 2% of graduates classified as 'other' or not classified at all.

Table 7.8: Extent of promotion and pay increases, by race										
	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
A promotion to a higher rank, position or level	349	33.8	355	34.3	26	2.5	304	29.4	1 034	100.0
A pay increase	274	27.7	374	37.8	21	2.1	320	32.4	990	100.0
Increased benefits	185	33.9	205	37.4	14	2.5	143	26.1	547	100.0
Increased tasks and responsibilities	353	29.7	517	43.6	18	1.5	300	25.2	1 188	100.0
Other	30	32.3	27	29.1	4	4.3	32	34.2	93	100.0
None of the above	418	29.2	574	40.1	45	3.2	395	27.6	1 432	100.0
Total	1 610	30.5	2052	38.8	128	2.4	1 493	28.3	5 283	100.0

Survey Question: Q3.4.11
Note: Includes only graduates who were employed in the private or public sectors, and who have had the same job on 1 September they have had just before they started studying towards the qualification they obtained in 2010.
Excludes 2% of graduates classified as 'other' or not classified at all.

Table 7.9: Employment status between graduation in 2010 and 1 September 2012										
	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Employed (part- or full-time) in the private sector	1 992	44.8	1 432	45.7	1 458	37.9	751	36.7	5 633	41.8
Employed (part- or full-time) in the public sector	1 410	31.7	810	25.9	1 751	45.5	877	42.9	4 848	36.0
Self-employed in the private sector	143	3.2	127	4.1	175	4.5	66	3.2	510	3.8
Employed in the informal sector	84	1.9	87	2.8	44	1.1	0	0.0	215	1.6
Unemployed and looking for work	719	16.2	513	16.4	333	8.6	309	15.1	1 874	13.9
Unemployed, but not looking for work	102	2.3	162	5.2	89	2.3	43	2.1	396	2.9
Total	4 449	100.0	3 131	100.0	3 850	100.0	2046	100.0	13 477	100.0

Survey Question: Q3.4.1.1
Note: Excludes graduates who (1) were unemployed on 1 September 2012, (2) were studying full-time between graduating and starting the job they had on 1 September 2012, or (3) started the job they had on 1 September 2012 soon after studying.

unemployment was very high for UCT (16.4%), CPUT (16.2%) and (UWC (15.1). Unemployment at SU was significantly lower, at 8.6%. Frictional unemployment has to do temporary difficulties in the match between supply of new graduates and the immediate availability of jobs in their fields.

However, as will be revealed in Table 7.11, these unemployment peaks at UCT and SU are short-term and quickly reduced as frictional difficulties in finding jobs are overcome with time. Unemployment at UCT drops from 16.4% to 6.4 % and at SU from 8.6 to 4.8%. This is not the case with CPUT and UWC, where unemployment levels remain high throughout the transition between graduation and 1 September 2012. CPUT witnesses a slight reduction in unemployment from 16.2% to 15.8%. Similarly, a small reduction occurs at UWC, from 15.1% to 13.4% (see Tables 7.9 and 7.11).

Causal factors behind these frictional dynamics are not revealed by the GDS. In the mix of possible reasons could be the timing of graduation ceremonies. Both UCT and SU had December graduations in year 2010, whereas UWC and CPUT had March 2011 graduations (for the 2010 cohort). This 'timing of graduation' factor may be part of the reason why UCT frictional unemployment is temporarily high – their graduates were in the labour market three months earlier than CPUT and UWC graduates.

Job churn

Amongst those employed during the period 2010 to 2012, there was relatively little job 'churn' with a mean of one and a half jobs taken during this period leading up to 1 September 2012. Again, standard deviations are relatively high, suggesting noticeable proportions of graduates who either held fewer or more than one-and-a-half jobs in that period.

Table 7.10: Number of jobs held during period between graduating in 2010 and starting the job occupied on 1 September 2012					
	Institution				
	CPUT	UCT	SU	UWC	Total
Mean	1.5	1.5	1.4	1.6	1.5
Std. Dev.	0.8	1.0	0.8	0.9	0.9

Survey Question: Q3.4.1.1

Note: Excludes graduates who (1) were unemployed on 1 September 2012, (2) were studying full-time or (3) were mostly unemployed between graduating and starting the job they had on 1 September, or (4) started the job they had on 1 September soon after studying.

THE THIRD MEASURE

Employment on 1 September 2012

The third measure of employment recorded was on 1 September 2012. This measure excludes those graduates of 2010 who continued to study in additional higher education programmes (they are captured in Section 11 on continuing higher education).

Table 7.11 suggests that total employment in the private and public sectors is high, at 84% with a significant grouping employed by government (36%). Self-employment levels are small (at 3%) and employment in the informal economy is marginal (less than 1%). Unemployment is measured in Table 7.11 at about 10% – noticeably lower compared to the results of the HSRC study in 2005 (32% unemployment) and the 2011 Census (50% of the 20–24 year old age group including those with and without higher education).

Unemployment, however, steepens for historically disadvantaged groups – women and Africans. Table 7.12 highlights some of the gendered effects prevalent in the labour market. More men find employment in the private sector (a 12% lead over women) and more women face unemployment (a 2.7% lead over men). However, more women are employed in the public service (a 11% lead over men). This factor softens the overall impact of unemployment for women.

Employment by race continues to reflect apartheid-era patterns of discrimination. Table 7.13 shows that, whereas 61% of whites and 58% of Indians are employed in the private sector, only 35% of Africans and 44% of coloureds are employed in the same sector. Indeed, African and coloured unemployment would be significantly larger if it were not for the public sector, which employs 42% of African and 45% of coloured graduates.

The public sector is clearly playing a critical role in human capital formation amongst university graduates, firstly, by employing a significant number of young graduates from the four institutions, secondly, by employing more women than men, and thirdly, by employing larger numbers of Africans and coloureds than the private sector. Notwithstanding the positive impact of public sector employment, 19% of African graduates are unemployed – the largest number across the four races.

Table 7.14 unpacks the distribution of the unemployed by race. It is African graduates who carry the brunt of unemployment long after graduation – at 61% of all those unemployed. Coloured graduates comprise 20% of all those unemployed and white graduates 18%.

Table 7.11: 2010 Western Cape graduate cohort: Total employment as at 1 September 2012, by institution

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Employed (part- or full-time) in the private sector	3 129	45.8	2 819	57.6	2 670	46.4	1 187	38.1	9 806	47.6
Employed (part- or full-time) in the public sector	2 351	34.4	1 359	27.8	2 428	42.2	1 356	43.5	7 493	36.4
Self-employed in the private sector	130	1.9	195	4.0	222	3.9	80	2.6	627	3.0
Employed in the informal sector	63	0.9	79	1.6	32	0.6	17	0.6	191	0.9
Unemployed and looking for work	1 076	15.8	311	6.4	276	4.8	419	13.4	2 082	10.1
Unemployed, but not looking for work	85	1.2	129	2.6	124	2.2	56	1.8	393	1.9
Total	6 834	100.0	4 891	100.0	5 752	100.0	3 115	100.0	20 592	100.0

Survey Question: Q3.4
Note: Excludes graduates who were studying full-time.

Table 7.12: Total employment as at 1 September 2012, by gender

	Gender					
	Female		Male		Total	
	Count	%	Count	%	Count	%
Employed (part- or full-time) in the private sector	4 910	42.6	4 896	54.1	9 806	47.6
Employed (part- or full-time) in the public sector	4 732	41.0	2 761	30.5	7 493	36.4
Self-employed in the private sector	270	2.3	358	4.0	627	3.0
Employed in the informal sector	91	0.8	100	1.1	191	0.9
Unemployed and looking for work	1 307	11.3	775	8.6	2 082	10.1
Unemployed, but not looking for work	230	2.0	164	1.8	393	1.9
Total	11 539	100.0	9 053	100.0	20 592	100.0

Survey Question: Q3.4
Note: Excludes graduates who were studying full-time.

Table 7.13: Total employment as at 1 September 2012, by race (read % vertically)										
	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Employed (part- or full-time) in the private sector	2 288	35.0	2 523	44.0	414	57.7	4 451	61.4	9 676	47.8
Employed (part- or full-time) in the public sector	2 762	42.2	2 599	45.3	238	33.2	1 751	24.2	7 350	36.3
Self-employed in the private sector	97	1.5	125	2.2	16	2.3	375	5.2	613	3.0
Employed in the informal sector	54	0.8	21	0.4	7	0.9	104	1.4	187	0.9
Unemployed and looking for work	1 248	19.1	404	7.0	23	3.2	362	5.0	2 036	10.1
Unemployed, but not looking for work	90	1.4	68	1.2	20	2.8	205	2.8	384	1.9
Total	6 539	100.0	5 740	100.0	717	100.0	7 249	100.0	20 246	100.0

Survey Question: Q3.4
Note: Excludes graduates who were studying full-time. Excludes 2% of graduates classified as 'other' or not classified at all.

Table 7.14: Total employment as at 1 September 2012, by race (read % horizontally)										
	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Employed (part- or full-time) in the private sector	2 288	23.6	2 523	26.1	414	4.3	4 451	46.0	9 676	100.0
Employed (part- or full-time) in the public sector	2 762	37.6	2 599	35.4	238	3.2	1 751	23.8	7 350	100.0
Self-employed in the private sector	97	15.8	125	20.4	16	2.6	375	61.2	613	100.0
Employed in the informal sector	54	28.9	21	11.2	7	3.7	104	55.6	187	100.0
Unemployed and looking for work	1 248	61.3	404	19.8	23	1.1	362	17.8	2 036	100.0
Unemployed, but not looking for work	90	23.4	68	17.7	20	5.2	205	53.4	384	100.0
Total	6 539	32.3	5 740	28.4	717	3.5	7 249	35.8	20 246	100.0

Survey Question: Q3.4
Note: Excludes graduates who were studying full-time. Excludes 2% of graduates classified as 'other' or not classified at all.

Unemployment amongst Indian graduates is minimal – partly because it emerges off a small base.

The transition from initial unemployment to work, 2010–2012

The above sections have discussed employment and unemployment during two crucial moments:

1. Employment for the period between graduating in 2010 and 1 September 2012; and
2. Employment on 1 September 2012 – the starting date for the launch of the CHEC survey.

Unemployment of 13.9% was measured between graduation in 2010 and 1 September 2012. However, unemployment levels were reduced to 10.1% on 1 September 2012. A key question to investigate across these two moments is to determine which graduates were initially unemployed after graduation and then to determine which among the unemployed were able to find a job by 1 September 2012.

The answers provided here use two measures: the first is to look at employment and unemployment by qualification type, and the second measure is to focus in more detail on the social composition of graduates who were initially unemployed but then obtained employment by 1 September 2012.

Table 7.15 illustrates employment and unemployment by qualification type during the period after graduation in 2010 and 1 September 2012. It shows the private sector as the main employer and the public sector as the second largest employer of graduates across all three types of qualifications – (1) 'certificates and diplomas', (2) 'undergraduate bachelors degrees' and (3) 'postgraduate degrees'. Unemployment levels are relatively equal across two of the qualification categories – 17.3% for graduates with undergraduate degrees and 17.0% for graduates with certificates and diplomas. In contrast, only 8.4% of graduates with postgraduate qualifications are unemployed. The data here suggests that holders of 'certificates and diplomas' have 'parity of esteem' with holders of 'undergraduate degrees'. However, as Table 7.16 shows, this is not straight forwardly the case.

Table 7.16 shows a number of employment changes at the end of this transition phase between graduation in 2010 and 1 September 2012. Firstly, the number of graduates unemployed in percentage terms, and per qualification type, has increased slightly from 17.0% to 18.1% for holders of diplomas and certificates, but has shrunk in percentage terms, for holders of degrees – from 17.3% to 9.1% – a significant reduction in graduate unemployment. One of the reasons for this reduction is the increased role of the private economy to employ more graduates with degrees – up from 42.9% to 53.0% in a period less than two years for most graduates. This is

Table 7.15: Employment status by qualification between graduation in 2010 and 1 September 2012

	Certificates and diplomas		Undergraduates		Postgraduates		Total	
	Count	%	Count	%	Count	%	Count	%
Employed (part- or full-time) in the private sector	1 334	42.5	2 260	42.9	2039	40.3	5 633	41.8
Self-employed in the private sector	95	3.0	184	3.5	231	4.6	510	3.8
Employed (part- or full-time) in the public sector	1 071	34.1	1 633	31.0	2 145	42.3	4 848	36.0
Employed in the informal sector	36	1.1	96	1.8	83	1.6	215	1.6
Unemployed and looking for work	533	17.0	913	17.3	428	8.4	1874	13.9
Unemployed, but not looking for work	68	2.2	188	3.6	140	2.8	396	2.9
Total	3 139	100.0	5 273	100.0	5 065	100.0	13 477	100.0

Source: CHEC, 2013. Survey Question: Q3.4.1.1
Notes: χ^2 (10, N = 3 032) = 70.399, p = .000 (The percentage differences above is therefore significant at the 95% confidence level.) Excludes graduates who (1) were unemployed on 1 September 2012, (2) were studying full-time between graduating and starting the job they had on 1 September, or (3) started the job they had on 1 September 2012 soon after studying.

Table 7.16: Employment status by qualification on 1 September 2012

	Certificates and diplomas		Undergraduates		Postgraduates		Total	
	Count	%	Count	%	Count	%	Count	%
Employed (part- or full-time) in the private sector	2 151	43.2	4 475	53.0	3 180	44.4	9 806	47.6
Self-employed in the private sector	80	1.6	219	2.6	329	4.6	627	3.0
Employed (part- or full-time) in the public sector	1 716	34.5	2 736	32.4	3 041	42.4	7 493	36.4
Employed in the informal sector	48	1.0	78	0.9	64	0.9	191	0.9
Unemployed and looking for work	907	18.2	768	9.1	406	5.7	2 082	10.1
Unemployed, but not looking for work	73	1.5	172	2.0	149	2.1	393	1.9
Total	4 975	100.0	8 449	100.0	7 169	100.0	20 592	100.0

Survey Question: Q3.4
Notes: χ^2 (10, N = 4 633) = 175.148, p = .000 (The percentage differences above is therefore significant at the 95% confidence level.) Excludes graduates who were studying full-time.

a significant increase in graduate absorption. In contrast, unemployment of holders of certificates and diplomas remained relatively static at 17%–18% throughout this period of transition, with a marginal increase in the private economy's absorption of these qualifications.

Interestingly though, the total number of graduates unemployed holding certificates and diplomas as at 1 September 2012 was 44% of the total unemployed – higher than for those with degrees which was 37% (see Table 7.16). The converse applied in the first measure of unemployment (after graduation but before 1 September 2012, see Table 7.15), where holders of certificates and diplomas constituted 49% of the unemployed as compared with 28% for holders of undergraduate bachelors degrees.

The second measure of this transition from initial unemployment to employment is to focus in more detail on the graduates who were initially unemployed but then who obtained employment by 1 September 2012. The database identified 1 859 such graduates. Table 7.17, 7.18 and 7.19 show their central characteristics.

Of those who overcame unemployment during this transitional period, 38% came from CPUT – or 716 unemployed graduates as is reflected in Table 7.17. UCT graduates come in at second place, with 578 of their initially unemployed graduates overcoming this employment hurdle by 1 September 2012 – by which time they had a job.

Table 7.17: Graduates unemployed between graduation and 2012, but employed as at 1 September 2012, by institution

	Number of graduates who overcame unemployment between graduation in 2010 and 1 September 2012	% of graduates who overcame unemployment between graduation in 2010 and 1 September 2012
CPUT	715	38.4
UCT	509	27.4
SU	333	17.9
UWC	303	16.3
Total	1 859	100.0

Transitional unemployment is not dominated by one race, but surprisingly, mirrors the make-up of the original 2010 Western Cape graduate cohort relatively closely:

- The racial composition of those graduates unemployed as at 1 September 2012 is 36%:28%:4%:32% for Africans : coloureds : Indians : whites – as is reflected in Table 7.18.
- The racial composition of the total 2010 Western Cape graduate cohort is 31%:27%:4%:38%.
- The racial composition of the Western Cape society is 33%:49%:1%:17%. The data here suggests that unemployment is relatively evenly shared between the races.

The measure of overcoming unemployment (between graduation in 2010 and 1 September 2012) is strongest

Table 7.18: Graduates who were unemployed between graduation and 2012, but employed as at 1 Sept 2012, by race			
	Number of graduates who overcame unemployment between graduation in 2010 and 1 Sept 2012	% of graduates who overcame unemployment between graduation in 2010 and 1 Sept 2012	% distribution of those unemployed soon after graduation in 2010
African	664	36.2	30
Coloured	508	27.7	25
Indian	79	4.3	30
White	586	31.9	15
Total	1 838	100.0	100.0

in the fields of 'SET' and 'Business and Commerce'. This ranking of qualifying fields makes sense given that more of these kinds of jobs exist in the private economy.

Table 7.19: Graduates who were unemployed between graduation and 2012, but employed as at 1 Sept 2012, by CESM categories		
	Number of graduates who overcame unemployment between graduation in 2010 and 1 September 2012	% of graduates who overcame unemployment between graduation in 2010 and 1 September 2012
SET	716	38.5
Business and commerce	578	31.1
Education	117	6.3
Other humanities	447	24.1
Total	1 859	100.0

EMPLOYMENT BY SECTOR AND OCCUPATION

The discussion now shifts to examine employment patterns by sector and occupation in the national economy. Table 7.20 indicates that the largest sectoral employer by far (about 49%) on the 1st September 2012 was the 'Community, social and personal services' sector, which is comprised of a few sub-sectors. This 'public good' aspect of graduate output is an interesting and unexpected finding. For example, 64% of UWC and 56% of SU graduates from the 2010 cohort work in this 'public good' component of the economy. UCT and CPUT also have high numbers of graduates working here (42% and 41%) respectively.

The second largest employer is the 'services sector' (at 25.3%) which includes: finances, insurance, real estate, IT and business services. Participation in this sector is noticeably higher for UCT with 34% of their graduates working here – a 10% lead over graduates from the three other institutions.

Table 7.20: Total employment by sector, as at 1 Sept 2012, by institution										
	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Agriculture, hunting, forestry and fishing	75	1.4	36	0.8	161	3.2	42	1.7	313	1.8
Mining and quarrying	53	1.0	125	2.9	137	2.7	14	0.6	330	1.9
Manufacturing	385	7.1	136	3.2	114	2.2	37	1.5	671	3.9
Electricity, gas and water supply	188	3.5	113	2.7	87	1.7	31	1.2	419	2.4
Construction (including building and design)	570	10.5	244	5.7	132	2.6	18	0.7	964	5.6
Wholesale and retail trade (including sale of products, tourism, hotels and restaurants, vehicle repairs)	475	8.8	229	5.4	235	4.6	116	4.6	1 055	6.1
Transport, storage and communication, tele-communications	230	4.2	103	2.4	252	5.0	55	2.2	640	3.7
Finance, insurance, real estate, IT, and business services	1 198	22.1	1 462	34.4	1 105	21.7	601	23.9	4 367	25.3
Community, social and personal services: Health and social work	474	8.7	361	8.5	1 014	19.9	490	19.4	2 338	13.5
Community, social and personal services: Education and research	761	14.1	838	19.7	996	19.6	541	21.5	3 136	18.2
Community, social and personal services: Government and municipalities	775	14.3	181	4.3	570	11.2	470	18.7	1 997	11.6
Community, social and personal services: NGOs	39	0.7	151	3.5	113	2.2	37	1.5	340	2.0
Community, social and personal services: Entertainment, arts and culture, sport and the media	191	3.5	275	6.5	170	3.3	66	2.6	702	4.1
Total	5 416	100.0	4 253	100.0	5 085	100.0	2 519	100.0	1 7274	100.0

Source: CHEC, 2013. Survey Question: Q3.4.2
Note: Includes only graduates who were employed in the private or public sectors or self-employed in the private sector.

CPUT has a higher percentage of its graduates working in sectors more dependent on vocational skills such as manufacturing, electricity, gas and water supply, construction and wholesale and retail. SU clearly has strengths in mining and agriculture.

Table 7.21 provides a summary of total employment in the 'community, social and personal services' sector. It is a sub-component of Table 7.19, and the percentages in Table 7.21 derive from Table 7.20 (they do not aggregate to 100% because they exclude several other sectors that are listed in Table 7.19). Table 7.21 highlights the central contribution of three universities to the production of teachers – SU (996 graduates), UCT (838 graduates) and CPUT (761 graduates).

Similarly, 19.9% and 19.4% of SU and UWC graduates are health professionals and many would be employed in the public system. UWC and CPUT also contribute to the production of public sector officials employed by government and municipalities. UCT leads in terms of its contribution to the training of personnel working in the NGO and arts and culture sectors.

Sectoral employment is still highly gendered (see Table 7.22), with women making up the majority of the workforce in 'community, social and personal services' – teachers, nurses, government clerks, NGO staffers and artists. In contrast, male dominated sectors include: agriculture, mining, manufacturing, electricity, construction, transport and financial services.

Table 7.21: Employment in the 'community, social or personal services' sector as at 1 September 2012, by institution

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Community, social and personal services: Health and social work	474	8.7	361	8.5	1 014	19.9	490	19.4	2 338	13.5
Community, social and personal services: Education and research	761	14.1	838	19.7	996	19.6	541	21.5	3 136	18.2
Community, social and personal services: Government and municipalities	775	14.3	181	4.3	570	11.2	470	18.7	1 997	11.6
Community, social and personal services: NGOs	39	0.7	151	3.5	113	2.2	37	1.5	340	2.0
Community, social and personal services: Entertainment, arts and culture, sport and the media	191	3.5	275	6.5	170	3.3	66	2.6	702	4.1
Sub-total: community social and personal services	2 240	41.4	1 806	42.5	2 863	56.3	1 604	63.7	8 513	49.4

Survey Question: Q3.4.2
Note: Includes only graduates who were employed in the private or public sectors or self-employed in the private sector.

Table 7.22: Total employment by sector and gender, as at 1 September 2012

	Gender					
	Female		Male		Total	
	Count	%	Count	%	Count	%
Agriculture, hunting, forestry and fishing	128	1.3	185	2.4	313	1.8
Mining and quarrying	107	1.1	223	2.9	330	1.9
Manufacturing	311	3.3	361	4.7	671	3.9
Electricity, gas and water supply	123	1.3	296	3.8	419	2.4
Construction (including building and design)	221	2.3	743	9.6	964	5.6
Wholesale and retail trade (including sale of products, tourism, hotels and restaurants, vehicle repairs)	634	6.7	421	5.4	1 055	6.1
Transport, storage and communication, tele-communications	255	2.7	385	5.0	640	3.7
Finance, insurance, real estate, IT, and business services	2 107	22.1	2 260	29.2	4 367	25.3
Community, social and personal services: Health and social work	1 686	17.7	653	8.4	2 338	13.5
Community, social and personal services: Education and research	1 997	21.0	1 139	14.7	3 136	18.2
Community, social and personal services: Government and municipalities	1 271	13.3	726	9.4	1 997	11.6
Community, social and personal services: NGOs	255	2.7	86	1.1	340	2.0
Community, social and personal services: Entertainment, arts and culture, sport and the media	433	4.5	269	3.5	702	4.1
Sub-total for community, social and personal services (the last five rows)	5 642	59.2	2 873	37.1	8 513	49.3
Total	9 527	100.0	7 746	100.0	17 274	100.0

Survey Question: Q3.4.2
Note: Includes only graduates who were employed in the private or public sectors or self-employed in the private sector.

Patterns of employment by race are similar to the overall description of trends, with a few differences. Some sectors remain over-represented by particular race groups. For example, whites have a higher level of employment than other races in 'construction' and the 'arts'. Coloureds dominate in 'education and research' and Africans in 'government employment'.

Employment by occupation

The majority of the 2010 graduates were employed as professionals – about 61%. The number of 'professionals' produced was higher at UCT and SU – 73% and 71% respectively. CPUT had the highest number of graduates employed as technicians, associated professionals, clerical,

Table 7.23: Total employment by sector and race, as at 1 September 2012

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Agriculture, hunting, forestry and fishing	77	1.6	41	.8	8	1.2	188	3.0	313	1.8
Mining and quarrying	93	1.9	44	.9	5	.8	182	2.9	323	1.9
Manufacturing	184	3.8	167	3.3	10	1.6	297	4.7	658	3.9
Electricity, gas and water supply	205	4.2	78	1.5	20	3.2	113	1.8	415	2.4
Construction (including building and design)	229	4.7	227	4.5	22	3.4	460	7.2	938	5.5
Wholesale and retail trade (including sale of products, tourism, hotels and restaurants, vehicle repairs)	178	3.6	365	7.2	42	6.5	458	7.2	1 043	6.1
Transport, storage and communication, tele-communications	190	3.9	148	2.9	14	2.1	282	4.4	635	3.7
Finance, insurance, real estate, IT, and business services	1 118	22.8	1 204	23.7	234	36.1	1 750	27.6	4 306	25.3
Community, social and personal services: Health and social work	620	12.6	764	15.0	97	15.1	810	12.8	2 291	13.5
Community, social and personal services: Education and research	690	14.1	1 229	24.2	105	16.3	1046	16.5	3 071	18.1
Community, social and personal services: Government and municipalities	1 097	22.4	594	11.7	60	9.3	210	3.3	1 961	11.5
Community, social and personal services: NGOs	117	2.4	69	1.4	14	2.2	137	2.2	337	2.0
Community, social and personal services: Entertainment, arts and culture, sport and the media	108	2.2	156	3.1	15	2.4	419	6.6	699	4.1
Sub-total for community, social and personal services (the last five rows)	2 632	53.6	2 812	55.3	291	45.0	2 622	41.3	8 359	49.2
Total	4 907	100.0	5 086	100.0	647	100.0	6 351	100.0	16 990	100.0

Survey Question: Q3.4.2
Note: Includes only graduates who were employed in the private or public sectors or self-employed in the private sector. Excludes 2% of graduates classified as 'other' or not classified at all.

Table 7.24: Total employment by occupation, as at 1 September 2012

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Elementary worker	113	2.1	139	3.3	91	1.8	50	2.0	394	2.3
Plant or machinery operator and assembler	39	0.7	5	0.1	14	0.3	4	0.1	62	0.4
Craft or related trade worker	52	1.0	32	0.8	17	0.3	7	0.3	108	0.6
Skilled agricultural or fishery worker	42	0.8	0	0.0	56	1.1	7	0.3	105	0.6
Service worker or shop and sales worker	405	7.5	135	3.2	183	3.6	224	8.9	947	5.5
Clerk	1 003	18.5	291	7.0	444	8.6	363	14.5	2 101	12.2
Technician or associated professional	1 218	22.5	358	8.6	360	7.0	186	7.4	2 124	12.3
Professional	2 213	40.8	3 065	73.3	3 667	71.3	1 523	60.8	10 468	60.7
Legislator, senior official or manager	309	5.7	153	3.7	250	4.9	110	4.4	822	4.8
Armed forces	31	0.6	0	0.0	57	1.1	30	1.2	119	0.7
Total	5 427	100.0	4 179	100.0	5 139	100.0	2 504	100.0	17 248	100.0

Source: CHEC, 2013. Survey Question: Q3.4.3
Note: Includes only graduates who were employed in the private or public sectors or self-employed in the private sector.

sales and craft workers – which again are all mission-appropriate employment outcomes. In contrast to the above success, it is disturbing that 394 graduates see themselves as working as 'elementary labourers'. This may be a respondent misinterpretation of the question, but it may also reflect a certain level of under-employment in the economy.

Employment by occupation – as by sector – is still gendered in stereotypical ways. For example, women make up larger numbers of the workforce in sales, services and clerical work. Interestingly, women constitute 65% of elementary workers – a domain normally occupied by men. However, there are much smaller margins today in traditionally male occupations such as craft workers, where men and women are relatively equally employed (but off a very small base).

But more importantly, as Table 7.25 indicates, women also form the majority of professionals – 58%. This statistic, plus the higher levels of female employment in professional posts in the government sector reported earlier in the text, have had a major impact on the structure of the labour market for women professionals.

Table 7.27 highlights the distribution of occupations across each race. It suggests that 65% and 66% of white and Indian graduates are professionals, whereas only 56% of Africans and 58% of coloureds are professionals. The next biggest occupational employment category for Africans and whites is the 'Technician/associated professional' category – at 14% and 12% respectively. For coloureds and Indians, it is clerical work – at 17% and 12% respectively.

Table 7.28 cross tabulates 'occupational employment' with 'field of study'. The data indicates which fields of study feed particular occupational categories. For example, the two academic fields which produce the most graduates as 'professionals' are firstly health and then education

Table 7.25: Total employment by occupation and gender, as at 1 September 2012 (read % vertically)

	Gender					
	Female		Male		Total	
	Count	%	Count	%	Count	%
Elementary worker	256	2.7	138	1.8	394	2.3
Plant or machinery operator and assembler	13	0.1	49	0.6	62	0.4
Craft or related trade worker	52	0.6	55	0.7	108	0.6
Skilled agricultural or fishery worker	21	0.2	84	1.1	105	0.6
Service worker or shop and sales worker	621	6.6	326	4.2	947	5.5
Clerk	1 375	14.5	726	9.3	2 101	12.2
Technician or associated professional	763	8.1	1 360	17.5	2 124	12.3
Professional	5 960	63.0	4 508	57.9	10 468	60.7
Legislator, senior official or manager	363	3.8	459	5.9	822	4.8
Armed forces	38	0.4	81	1.0	119	0.7
Total	9 461	100.0	7 787	100.0	17 248	100.0

Survey Question: Q3.4.3
Note: Includes only graduates who were employed in the private or public sectors or self-employed in the private sector.

Table 7.26: Total employment by occupation and gender, as at 1 September 2012 (read % horizontally)

	Gender					
	Female		Male		Total	
	Count	%	Count	%	Count	%
Elementary worker	256	65.0	138	35.0	394	100.0
Plant or machinery operator and assembler	13	21.0	49	79.0	62	100.0
Craft or related trade worker	52	48.1	55	50.9	108	100.0
Skilled agricultural or fishery worker	21	20.0	84	80.0	105	100.0
Service worker or shop and sales worker	621	65.6	326	34.4	947	100.0
Clerk	1 375	65.4	726	34.6	2 101	100.0
Technician or associated professional	763	35.9	1 360	64.0	2 124	100.0
Professional	5 960	56.9	4 508	43.1	10 468	100.0
Legislator, senior official or manager	363	44.2	459	55.8	822	100.0
Armed forces	38	31.9	81	68.1	119	100.0
Total	9 461	54.9	7 787	45.1	17 248	100.0

Survey Question: Q3.4.3
Note: Includes only graduates who were employed in the private or public sectors or self-employed in the private sector.

Table 7.27: Occupation distribution by race, 2010 employed graduates, as at 1 September 2012

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Elementary worker	143	2.9	76	1.5	11	1.6	153	2.4	383	2.3
Plant or machinery operator and assembler	41	0.8	5	0.1	0	0.0	16	0.3	62	0.4
Craft or related trade worker	11	0.2	52	1.0	0	0.0	45	0.7	108	0.6
Skilled agricultural or fishery worker	34	0.7	12	0.2	0	0.0	60	0.9	105	0.6
Service worker or shop and sales worker	250	5.1	343	6.8	31	4.7	312	4.9	936	5.5
Clerk	596	12.0	848	16.8	90	13.8	544	8.6	2 077	12.2
Technician or associated professional	705	14.2	576	11.4	66	10.1	745	11.8	2 093	12.3
Professional	2 790	56.3	2 923	57.9	433	66.4	4 133	65.4	10 279	60.5
Legislator, senior official or manager	297	6.0	200	4.0	21	3.3	300	4.7	818	4.8
Armed forces	88	1.8	17	0.3	0	0.0	13	0.2	119	0.7
Total	4 955	100.0	5 052	100.0	652	100.0	6 321	100.0	16 979	100.0

Table 7.28: Occupation by six broad CESM groupings, 1 September 2012

	Science, engineering and technology		Business and commerce		Human and social sciences		Health sciences		Law		Education		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Elementary worker	112	2.5	77	1.6	149	5.0	8	0.3	25	4.1	23	1.4	394	2.3
Plant or machinery operator and assembler	53	1.2	9	0.2	0	0.0	0	0.0	0	0	0	0.0	62	0.4
Craft or related trade worker	27	0.6	13	0.3	59	2.0	0	0.0	0	0	9	0.5	108	0.6
Skilled agricultural or fishery worker	46	1.0	19	0.4	24	0.8	8	0.3	0	0	8	0.5	105	0.6
Service worker or shop and sales worker	212	4.7	331	6.9	268	8.9	54	2.1	30	4.9	52	3.1	947	5.5
Clerk	202	4.5	1 261	26.2	436	14.5	52	2.0	101	16.7	48	2.9	2 101	12.2
Technician or associated professional	1 449	32.2	317	6.6	238	7.9	72	2.7	29	4.7	20	1.2	2 124	12.3
Professional	2 147	47.7	2 394	49.7	1 671	55.6	2 378	90.0	377	62.2	1 500	89.4	10 468	60.7
Legislator, senior official or manager	186	4.1	388	8.1	138	4.6	61	2.3	32	5.3	17	1.0	822	4.8
Armed forces	65	1.4	12	0.2	21	0.7	8	0.3	13	2.1	0	0.0	119	0.7
Total	4 498	100.0	4 820	100.0	3 004	100.0	2 642	100.0	607	100.0	1 677	100.0	17 248	100.0

Survey Question: Q3.4.3
Note: Includes only graduates who were employed in the private or public sectors or self-employed in the private sector.

– at 90% and 89% respectively. This is probably because entry into both professional areas requires some form of professional university qualification. Law follows in third place, and is only at 62% because a sizeable group are still doing their articles (see Law by 'clerical work' in Table 7.28 which is at 17%) and have not yet formally qualified as practising lawyers. Humanities, interestingly, comes in fourth with 56% of its graduates evaluating themselves as 'professionals'.

The 'Business and Commerce' field of study stands out as being associated with the highest number of clerical workers employed – at 26.2%. Many of these will be low-skill jobs in the services sector. Similarly, 14.9% of humanities graduates are employed as clerical workers and a further 8.2% as sales and shop workers. Only 4.7% are appointed at managerial level. This allocation of humanities graduates across the occupational spectrum reflects the shortcomings of such degrees for many humanities degree holders with regard to the labour market.

Status of employment

The bulk of the jobs occupied by the graduates of 2010 were permanent (72%) and full-time (90%). Employment is relatively secure for the 2010 cohort because part-time work affects only a small percentage. However, given that 28% of jobs are on contract indicates a certain level of vulnerability. This vulnerability may reduce over time as full-time employment grows.

Table 7.31 highlights data on contract employment by sector, and suggests this is relatively high (above 10%) in four sectors (see grey-shaded blocks below): the 'Finance and business services' sector and three branches of public sector employment: 'Health and social work'; 'Education'; and 'government departments and municipalities'.

Table 7.29: Employment by status (permanent/temporary), as at 1 September 2012

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Permanent	3 921	72.8	2 745	66.8	3 939	78.5	1 600	64.7	12 205	71.9
Contractual/temporary	1 465	27.2	1 366	33.2	1 078	21.5	871	35.3	4 781	28.1
Total	5 385	100.0	4 112	100.0	5 017	100.0	2 471	100.0	16 985	100.0

Survey Question: Q3.4.4
Note: Includes only graduates who were employed in the private or public sectors.

Table 7.30: Employment by status of employment (full-time/part-time), as at 1 September 2012

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Full-time (40 hours per week)	4 886	90.1	3 777	90.9	4 592	91.1	2 089	84.4	15 344	89.8
Part-time (less than 40 hours per week)	534	9.9	380	9.1	446	8.9	387	15.6	1 748	10.2
Total	5 420	100.0	4 157	100.0	5 039	100.0	2 476	100.0	17 092	100.0

Survey Question: Q3.4.5
Note: Includes only graduates who were employed in the private or public sectors.

Table 7.31: Permanent and contract employment by sector, as at 1 September 2012

	Permanent		Contractual/temporary		Total	
	Count	%	Count	%	Count	%
Agriculture, hunting, forestry and fishing	200	1.7	91	1.9	290	1.8
Mining and quarrying	265	2.2	60	1.3	325	2.0
Manufacturing	530	4.5	122	2.6	653	4.0
Electricity, gas and water supply	341	2.9	70	1.5	411	2.5
Construction (including building and design)	702	6.0	220	4.7	922	5.6
Wholesale and retail trade (including sale of products, tourism, hotels and restaurants, vehicle repairs)	695	5.9	267	5.7	962	5.8
Transport, storage and communication, tele-communications	497	4.2	120	2.6	616	3.7
Finance, insurance, real estate, IT, and business services	3 014	25.5	1 140	24.4	4 154	25.2
Community, social and personal services: Health and social work	1 652	14.0	516	11.1	2 168	13.2
Community, social and personal services: Education and research	1 978	16.8	1 089	23.3	3 067	18.6
Community, social and personal services: Government and municipalities	1 399	11.9	556	11.9	1 955	11.9
Community, social and personal services: NGOs	143	1.2	192	4.1	336	2.0
Community, social and personal services: Entertainment, arts and culture, sport and the media	382	3.2	222	4.8	604	3.7
Total	11 799	100.0	4 665	100.0	16 463	100.0

Survey Question: Q3.4.2
Note: Includes only graduates who were employed in the private or public sectors or self-employed in the private sector.

Job search behaviour

Investigating the different techniques of 'job search' form a critical part of graduate destination surveys. In this CHEC survey, sending CVs to prospective employers (18% of graduates) seems to have been the main job search technique used, followed by responding to a job advertisement in the print media (13%). However, if two techniques are grouped together – finding a job through family and friends, as well as through being asked to apply by the firm – they are jointly the most common search methods used by graduates. Both referrals – either through 'family and friends' or 'being asked to apply for a job' – signify prior knowledge of where to secure employment, features of job search which derive from one's social connections or 'social capital'. As indicated in Section Five, the concept

Table 7.32: Primary 'job search' method of finding the job held on 1 September 2012

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
A holiday job or internship gave me access to this job	541	11.1	266	6.8	222	4.9	204	8.8	1 233	7.9
Through help of a lecturer	137	2.8	161	4.1	239	5.3	108	4.6	645	4.1
Through my university's career office	208	4.3	306	7.9	226	5.0	106	4.5	847	5.4
I initially offered to work for free	23	0.5	33	0.8	48	1.1	14	0.6	118	0.8
I had to work off a bursary I got from my employer	184	3.8	285	7.3	289	6.4	91	3.9	849	5.4
I simply sent in my CV or asked for work	876	17.9	691	17.8	753	16.7	444	19.1	2 763	17.7
I responded to a job ad in the printed media	717	14.7	306	7.9	714	15.9	314	13.5	2 050	13.1
I responded to a job ad on an employment website	437	8.9	348	9.0	385	8.6	219	9.4	1 389	8.9
I responded to a job ad on a company website	351	7.2	276	7.1	198	4.4	177	7.6	1 001	6.4
I responded to a job ad in the Government Gazette	245	5.0	66	1.7	239	5.3	165	7.1	715	4.6
I placed ads or flyers advertising my services on notice boards or in post-boxes	16	0.3	0	0.0	4	0.1	7	0.3	27	0.2
I walked from door-to-door	74	1.5	13	0.3	20	0.4	37	1.6	145	0.9
Through one of the Department of Labour's employment centres	41	0.8	5	0.1	31	0.7	35	1.5	112	0.7
Through a recruitment agency or labour broker	185	3.8	181	4.7	145	3.2	76	3.3	587	3.8
Through a social network	41	0.8	70	1.8	37	0.8	15	0.7	164	1.0
Through family or friends	629	12.9	503	12.9	636	14.1	223	9.6	1 992	12.8
I was headhunted or asked to apply for the job	184	3.8	378	9.7	313	7.0	93	4.0	968	6.2
Sub-total – social capital	813	16.7	881	22.6	949	21.1	316	13.6	2 960	19.0
Total	4 890	100.0	3 888	100.0	4 498	100.0	2 328	100.0	15 605	100.0

Source: CHEC, 2013. Survey Question: Q3.4.6
Note: Includes only graduates who were employed in the private or public sectors. Excludes graduates who were already in the company and did not approach or contact the company like all other job seekers. The total of 15 605 methods of 'job search' is necessarily higher than the actual number of graduates as graduates could have indicated multiple methods.

Table 7.33: Primary 'job search' method, 1 September 2012, by race

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
A holiday job or internship gave me access to this job	408	8.8	356	8.0	48	8.0	403	7.1	1 216	7.9
Through help of a lecturer	130	2.8	152	3.4	19	3.2	337	6.0	638	4.2
Through my university's career office	324	7.0	171	3.8	51	8.6	282	5.0	829	5.4
I initially offered to work for free	19	0.4	24	0.5	13	2.1	57	1.0	113	0.7
I had to work off a bursary I got from my employer	292	6.3	209	4.7	32	5.4	304	5.4	837	5.5
I simply sent in my CV or asked for work	795	17.2	832	18.7	107	17.8	970	17.1	2 703	17.6
I responded to a job ad in the printed media	813	17.6	623	14.0	27	4.6	557	9.8	2 020	13.2
I responded to a job ad on an employment website	388	8.4	466	10.5	82	13.6	436	7.7	1 372	8.9
I responded to a job ad on a company website	345	7.4	346	7.8	47	7.8	241	4.2	978	6.4
I responded to a job ad in the Government Gazette	307	6.6	280	6.3	18	3.0	99	1.7	704	4.6
I placed ads or flyers advertising my services on notice boards or in post boxes	18	0.4	9	0.2	0	0	0	0.0	27	0.2
I walked from door-to-door	57	1.2	21	0.5	0	0	67	1.2	145	0.9
Through one of the Department of Labour's employment centres	44	0.9	37	0.8	4	0.6	24	0.4	109	0.7
Through a recruitment agency or labour broker	126	2.7	179	4.0	35	5.8	235	4.1	575	3.7
Through a social network	43	0.9	34	0.8	8	1.4	75	1.3	160	1.0
Through family or friends	344	7.4	477	10.7	81	13.4	1 061	18.7	1 962	12.8
I was headhunted or asked to apply for the job	177	3.8	237	5.3	29	4.8	518	9.1	961	6.3
Sub-total: social capital	521	11.2	714	16.0	110	18.2	1 579	27.8	2 923	19.1
Total	4 630	100.0	4 452	100.0	601	100.0	5 666	100.0	15 349	100.0

Survey Question: Q3.4.6
Note: Includes only graduates who were employed in the private or public sectors. Excludes graduates who were promoted internally. Excludes 2% of graduates classified as 'other' or not classified at all.

Table 7.34: Beneficiaries of social capital as primary 'job search' method by race, 1 September 2012										
	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Beneficiaries of social capital: i.e., those who acquired a job through referrals from family and friends or through being asked to apply for the post	521	17.8	714	24.4	110	3.8	1 579	54.0	2 923	100.0

signifies those social networks and family know-how that enable young family members to successfully navigate their way through the modern-day labour market into rewarding jobs and careers. Working class families, who generally have limited 'social capital' (poor social networks and access to information about educational and employment opportunities), are therefore unable to support the decisions of their graduated young with regard to employment options. In contrast, middle-class families have access to information, and are often friends or family of the managers and owners of firms, and they are more likely to influence the employment choices made by their offspring (Ball, 2010). Data shaded in grey in Tables 7.32 and 7.33 highlight this 'social capital' factor.

The influence of social capital is more telling in Table 7.33. It suggests that those social networks structured around white students are very influential in helping them find employment – 28% of white graduates used and benefited from this form of job search, whereas only 11% of Africans did. This is a significant difference both quantitatively but also in percentage terms.

When reading the rows horizontally, as is done in Table 7.34, with a specific focus on the two job search techniques discussed above under the concept 'social capital', the data in Table 7.34 suggests that white students are able to successfully tap into those social networks that help them to find employment – 54% of such beneficiaries were white graduates, whereas only 18% of 'social capital' beneficiaries were Africans.

Summing up

A number of elements of the graduate labour market have been highlighted in this study. First amongst them is that women form the majority of graduates and professionals – 56% and 58% respectively. This employment achievement is due in large part to higher levels of female employment in professional posts in the government sector.

Another positive association is the fact that public sector employment is the largest absorber of 2010 graduates by far – at about 49%. Disaggregating this overall employment achievement, the data from the GDS shows that graduates contribute to differing branches of the public sector and the 'public good' efforts of society in sizeable contributions:

Education and research	18.2%
Health and social work	13.5%
Provincial and municipal government	11.6%
Arts and culture, sport	4.1%
NGOs	2.0%
TOTAL	49.4%

The public sector is clearly playing a critical role in human capital formation by employing large numbers of Western Cape graduates.

Another significant discovery is the size of the 'mature student' category in the Western Cape – a category comprising those students who had experience of employment prior to studying for their 2010 qualification. All in all, 35% of the total cohort of 24 710 were employed in some form prior to the start of their study period leading to the acquisition of the 2010 qualification.

This is a very significant measure of the determination of employed people to continue to study whilst working – most often, working full-time and studying part-time. A significant grouping from this mature age category (24% of the total cohort) also funded their own studies. And even more encouragingly, about 47% of this mature age group retained the same job throughout their studies leading up to graduation in 2010 – suggesting a reasonable level of job continuity over at least a five year period (2007–2012).

There are some negative dynamics in the graduate labour market in the Western Cape. The first and most obvious one would be unemployment of graduates. This study measured unemployment three times. The first measure had to do with the above 'mature age' grouping. Unemployment in the second measure was 13.9% – measured after graduation in 2010 but before 1 September 2012. However, by the time the third measure was taken on 1 September 2012, unemployment levels had been reduced to 10.1%. Although this 10.1% measure appears small, it hits higher levels for specific groupings. For example, unemployment of Africans reached 19% of the total number of African graduates in the 2010 cohort. This is a high percentage and will require various policy interventions.

Another negative is the number of graduates who might be facing under-employment and/or low-skill work. In the

analysis of occupations by academic field, it was revealed that 26.2% of graduates in the 'Business and Commerce' field of study were working as clerical workers – at 26.2%. Many of these will be low-skill jobs in the services sector. Similarly, 14.5% of graduates with humanities backgrounds are employed at clerical level and a further 8.9% are employed as shop and sales workers. The data provides no further elaboration on this question, but international trends suggest that graduates are increasingly being employed in low-skill areas such as clerical and sales work (Teichler, 2002: 209)

A final observation of the influence of 'social capital'. This category in the GDS comprised graduates benefiting from 'finding a job through family and friends', as well as through being 'asked to apply by the firm'. This joint category was the largest job search technique used by graduates. Both techniques signify prior knowledge of where to secure employment, qualities which derive from one's social connections or 'social capital'.

The data from the GDS suggests that of the beneficiaries of this joint technique, white students were the most successful to tap into these social networks that helped them find employment – 54% – whereas only 18% of 'social capital' beneficiaries were Africans. This gap is wide and reflects the continuing societal inequities left behind by apartheid's footprint.

8

SELF-EMPLOYMENT

The next set of tables investigates the extent of self-employment amongst graduates of the 2010 Western Cape cohort. Only 558 from a total of 24 710 graduates ended up in this category – 2.2%. It must be noted that starting up your own business in less than three years after graduating is rather ambitious – hence the low participation rate. Of those who were self-employed, 65% are white and 39% are female. As Table 8.1 suggests, the majority (58%) of those who opted for self-employment (58%) indicated in the survey that they voluntarily chose the status of self-employment so that they could 'be their own boss and own their own business, company or practice'. This reason was particularly strong for SU, UCT and UWC graduates, but less so for CPUT graduates. For the latter, working from home and the prospect of making more money were stronger factors for becoming self-employed (15% and 13% respectively). In contrast, almost a further 11% suggested a more involuntary reason – they could not find any other job more than two years after graduation in private sector firms or public institutions, so settled for self-employment.

Other reasons given included 'I took over a family business' for 10% of UCT self-employed graduates. This is an outcome significantly higher than the percentages achieved at the three other campuses.

The type of work undertaken by these 558 self-employed graduates varied from knowledge services as a consultant (35%) to producing goods and services for multiple clients (29%) to selling the products of other companies (10%). Just under half of the graduates from SU (46%) provided knowledge services, whereas a similar percentage of graduates from CPUT (46%) produced their own 'goods and services' – again an outcome which makes sense in terms of the institutional missions of these two higher education institutions.

As indicated earlier, 65% of self-employed graduates are white. As a consequence, they dominate each employment activity in Table 8.3 – production of own goods and services (72%), sale of other firms' goods and services (72%) and knowledge services (57%). The equivalent percentages for coloureds are 17%, 13% and 17% and for Africans 9%, 15% and 19% respectively.

Table 8.4 compares self-employment categories by sector. There are three self-employment activities that are significant sectorally. They are the grey-shaded blocks in Table 8.4. These self-employment activities include:

- Firstly, producing own-products for sale to multiple clients is strong (above 10%) in the 'Government Services' (38%), 'Construction' (19%) and 'Finance and Business Services' (at 14%).

Table 8.1: Reasons for opting for self-employment at 1 September 2012

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
I preferred to be my own boss or have my own business, company or practice	43	38.4	112	60.6	134	66.2	36	61.6	325	58.3
I took over a family business	0	0	19	10.2	8	4.2	0	0	27	4.9
I wanted to work from home	15	13.7	4	2.4	18	8.8	0	0	38	6.7
I could make more money	13	11.5	10	5.4	19	9.4	3	6.0	45	8.1
I lost my job	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
I could not find a job	16	14.3	27	14.4	5	2.6	15	25.1	63	11.2
Other	25	22.1	13	7.1	18	8.8	4	7.3	60	10.7
Total	111	100.0	185	100.0	203	100.0	59	100.0	558	100.0

Survey Question: Q3.4.7
Note: Includes only graduates who were self-employed in the private sector.

Table 8.2: Self-employment by type of work, 1 September 2012

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
I produced goods and services to multiple clients	44	39.9	63	34.8	48	23.1	7	13.4	162	29.4
I worked as a sub-contractor producing goods and services for a limited number of clients	0	0.0	4	2.5	5	2.2	0	0.0	9	1.6
I sold goods and services produced by other companies	10	9.0	22	12.3	18	8.5	7	14.2	57	10.4
I provided knowledge services as a consultant working on my own	28	25.6	57	31.8	95	45.8	12	22.6	193	35.0
Other	28	25.5	34	18.6	42	20.4	25	49.8	130	23.6
Total	111	100.0	181	100.0	208	100.0	51	100.0	551	100.0

Survey Question: Q3.4.7
Note: Includes only graduates who were self-employed in the private sector.

Table 8.3: Self-employment by type of work and race, 1 September 2012

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
I produced goods and services to multiple clients	15	9.3	27	16.7	4	2.5	116	71.6	16	100.0
I worked as a sub-contractor producing goods and services for a limited number of clients	0	0.0	0	0.0	0	0.0	9	100.0	9	100.0
I sold goods and services produced by other companies	8	15.1	7	13.2	0	0.0	38	71.7	53	100.0
I provided knowledge services as a consultant working on my own	37	19.2	33	17.1	12	6.2	110	57.0	193	100.0
Other	18	15.1	22	18.5	0	0.0	79	66.4	119	100.0
Total	78	14.6	90	16.8	16	3.0	352	65.7	536	100.0

Survey Question: Q3.4.8
Note: Includes only graduates who were self-employed in the private sector. Excludes 2% of graduates classified as 'other' or not classified at all.

Table 8.4: Self-employment by sector and type of work, 1 September 2012

	I produced goods and services to multiple clients		I worked as a sub-contractor producing goods and services for a limited number of clients		I sold goods and services produced by other companies		I provided knowledge services as a consultant working on my own		Other		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Agriculture, hunting, forestry and fishing	15	9.7	0	0.0	0	0.0	0	0.0	0	0.0	15	2.8
Mining and quarrying	0	0.0	0	0.0	5	8.1	0	0.0	0	0.0	5	0.9
Manufacturing	6	3.8	0	0.0	0	0.0	0	0.0	9	7.3	15	2.8
Electricity, gas and water supply	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Construction (including building and design)	29	18.6	0	0.0	0	0.0	13	6.7	0	0.0	42	7.8
Wholesale and retail trade (including sale of products, tourism, hotels and restaurants, vehicle repairs)	14	8.9	0	0.0	31	54.3	5	2.4	13	10.6	62	11.7
Transport, storage and communication, tele-communications	12	7.6	0	0.0	4	6.6	0	0.0	0	0.0	16	3.0
Finance, insurance, real estate, IT, and business services	22	13.7	0	0.0	13	23.0	89	47.2	16	13.5	140	26.3
Community, social and personal services	59	37.7	9	100.0	5	8.0	83	43.7	82	68.6	238	44.7
Total	157	100.0	9	100.0	57	100.0	189	100.0	120	100.0	533	100.0

Survey Question: Q3.4.2 and Q3.4.8
Note: Includes only graduates who were self-employed in the private sector.

- Secondly, selling the products of other firms is strong in 'Wholesale and Retail' (47%) and in 'Finance and Business Services' (23%).
- And lastly, selling knowledge services as a consultant was strong in 'Finance and Business Services' (47%) and 'Government Services' (44%).

Conclusion

The self-employed component of the 2010 Western Cape graduate cohort may be small – at 2.2% or 558 individuals/firms – but it compares reasonably well internationally. For example, self-employment amongst graduates in Australia has been measured at 2.4% of a graduate cohort – but which grew over a three-year period to 3.1% (Graduate Careers, 2010: 26). Schomburg and Teichler (2006: 51) report a 3% mean for self-employment across a twelve country graduate destination survey undertaken in 1999, four years after graduation. What is interesting in this study is the country variation with Italy reaching 4% but Japan having almost no self-employment tradition at all. Clearly, the choice of the self-employment pathway is determined socially, by the enablers and dis-enablers society places at the disposal of the recent graduate.

9

UNEMPLOYMENT

This section highlights the experiences of the 10% of the 2010 cohort who were unemployed on 1 September 2012. Table 9.1 highlights the core employment and unemployment details of the 2010 Western Cape graduate cohort. The most critical piece of information here is the fact that 10% of graduates were unemployed two years after graduating – with unemployment peaking amongst CPUT graduates at 16%. Unemployment rates amongst SU and UCT graduates are relatively low – at about 5% and 6%.

Respondents were also asked to outline the length of time they have been looking for a job and how long they have been unemployed. Of those unemployed, 44% had been unemployed during 2012 (a maximum of 9 months given that 1 September 2012 was the key cut-off date), 38% since 2011 (a maximum of 21 months), and 18% since 2010 (a maximum of 33 months) – see Table 9.2. For the 1 641 graduates affected, these are long periods of unemployment. Table 9.2 also suggests that unemployed graduates at UCT and SU were largely confined to less than a year (50% and 56%), whereas 43% of unemployed graduates at CPUT were unemployed for more than a year, up to a maximum of 21 months.

Table 9.3 shows the patterns of graduate unemployment as they affect the four race groups. White graduates are largely unemployed for a period of less than a year (63% of them are unemployed during 2012), with 28% unemployed for just under 2 years and only 9% of white unemployed graduates remaining unemployed for just under three years. This is in stark contrast to African graduates who are unemployed. For the latter category, 34% of African graduates are unemployed for under a year, 43% are unemployed for under two years, and 23% are unemployed for just under three years. The reduction of the rate of unemployment over time is much more rapid for white graduates than it is for Africans where a large grouping (229 graduates) appear to be 'stuck' in unemployment for nearly 3 years.

These patterns of length of unemployment are not that different from Schomburg and Teichler's findings for several European country GDSs. For example, in three countries – Italy, Spain and France – 36%, 38% and 68% of graduates took more than 13 months to find their first job. In sharp contrast, 78% of Japanese graduates found their first job immediately or within one month after graduating and only 25% of graduates took more than 25 months (2006: 62).

Table 9.4 shows employment/unemployment status by differing qualification types. The majority of unemployed graduates have certificates and diplomas (44%) followed by Bachelors degrees (37%) – with graduates with these two qualification types comprising 81% of all unemployed.

Table 9.1: Total employment as at 1 September 2012

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Employed (part- or full-time) in the private sector	3 129	45.8	2 819	57.6	2 670	46.4	1 187	38.1	9 806	47.6
Employed (part- or full-time) in the public sector	2 351	34.4	1 359	27.8	2 428	42.2	1 356	43.5	7 493	36.4
Self-employed in the private sector	130	1.9	195	4.0	222	3.9	80	2.6	627	3.0
Employed in the informal sector	63	0.9	79	1.6	32	0.6	17	0.6	191	0.9
Unemployed and looking for work	1 076	15.8	311	6.4	276	4.8	419	13.4	2 082	10.1
Unemployed, but not looking for work	85	1.2	129	2.6	124	2.2	56	1.8	393	1.9
Total	6 834	100.0	4 891	100.0	5 752	100.0	3115	100.0	20 592	100.0

Survey Question: Q3.4
Note: Excludes graduates who were studying full-time.

Table 9.2: Length of unemployment, 2010 graduate cohort

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Sometime since 2012 (before 1 September)	330	38.6	133	49.7	117	55.7	135	44.2	716	43.6
Sometime since 2011	365	42.6	83	31.1	71	33.5	107	35.2	626	38.2
Sometime since 2010 or before	161	18.8	52	19.2	23	10.8	63	20.6	298	18.2
Total	856	100.0	268	100.0	211	100.0	305	100.0	1 641	100.0

Survey Question: Q3.4.12
Note: Includes only graduates who were unemployed and looking for work on 1 September 2012.

Table 9.3: Length of unemployment by race, 2010 graduate cohort

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Sometime since 2012 (before 1 September)	337	33.8	180	57.1	5	31.8	168	62.8	689	43.2
Sometime since 2011	432	43.3	107	33.9	5	36.5	75	28.1	619	38.8
Sometime since 2010 or before	229	22.9	28	9.0	5	31.8	24	9.1	286	17.9
Total	999	100.0	315	100.0	15	100.0	267	100.0	1 595	100.0

Survey Question: Q3.4.12
Note: Includes only graduates who were unemployed and looking for work on 1 September 2012. Excludes 2% of graduates classified as 'other' or not classified at all.

Table 9.4: Employment status by qualification type, 1 September 2012

	Certificate/ diploma		Postgraduate certificate/ diploma/ bachelor's		Bachelor's		Honours		Masters		Doctorate		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Employed (part- or full-time) in the private sector	2 151	21.9	807	8.2	4 475	45.6	1 045	10.7	1 235	12.6	93	0.9	9 806	100.0
Self-employed in the private sector	80	12.7	74	11.7	219	35.0	64	10.2	186	29.7	4	0.7	627	100.0
Employed (part- or full-time) in the public sector	1 716	22.9	1 066	14.2	2 736	36.5	761	10.2	974	13.0	240	3.2	7 493	100.0
Employed in the informal sector	48	25.3	12	6.4	78	41.1	31	16.1	21	11.1	0	0.0	191	100.0
Unemployed and looking for work	907	43.6	70	3.4	768	36.9	187	9.0	115	5.5	34	1.6	2 082	100.0
Unemployed, but not looking for work	73	18.6	16	4.2	172	43.7	68	17.2	51	13.0	14	3.4	393	100.0
Total	4 975	24.2	2 046	9.9	8 449	41.0	2 155	10.5	2 583	12.5	384	1.9	20 592	100.0

Survey Question: Q3.4
Note: Excludes graduates who were studying full-time.

Table 9.5 highlights employment/unemployment by age category. Seventy-two per cent of unemployed graduates from 2010 are young people in the age category 25 years and younger, followed by 20% in the 26–35 years old category. Only 8 per cent of members of the 2010 cohort older than 36 are unemployed. Graduate unemployment is clearly a problem facing young people.

Graduates in the fields of SET and 'Business and Commerce' face the highest levels of unemployment – at 31.2% and 29.1% respectively of those unemployed as is shown in Table 9.6. Levels of unemployment amongst graduates with 'Humanities' qualifications was also high – at 27.4% of those unemployed. In sharp contrast, unemployment in Health, Education and Law are low – at 6.4%, 3.45 and 2.2% respectively. In the case of health and education, low unemployment is a likely result of high levels of public sector employment in these fields.

Unemployment by matriculation symbol

Table 9.7 shows the clear correlation between unemployment status and the matriculation symbol. It shows that unemployment is lowest amongst those with A-B symbols (only 5%), but steadily increases to 15.9% for those with E and H symbols. There is however, a large grouping in the middle, with C-D symbols. Unemployment clearly affects all graduates (56% have either a A, B, C, or D symbol) but it increases steadily with E and H symbols.

Table 9.5: Employment status by age, 1 September 2012

	Age during 2010							
	25 or younger		26–35		36 or older		Total	
	Count	%	Count	%	Count	%	Count	%
Employed (part- or full-time) in the private sector	6 613	71.9	1 734	18.8	854	9.3	9 201	100.0
Self-employed in the private sector	238	40.7	165	28.1	182	31.1	585	100.0
Employed (part- or full-time) in the public sector	3 294	46.1	1 781	24.9	2 070	29.0	7 146	100.0
Employed in the informal sector	117	71.7	21	13.0	25	15.3	163	100.0
Unemployed and looking for work	1 325	72.2	365	19.9	144	7.9	1 835	100.0
Unemployed, but not looking for work	249	67.9	72	19.6	46	12.5	368	100.0
Total	11 837	61.3	4 138	21.4	3 321	17.2	19 296	100.0

Survey Question: Q3.4
Note: Excludes graduates who were studying full-time.

Table 9.6: Employment status by CESM category, 1 September 2012

	Science, engineering and technology		Business and commerce		Human and social sciences		Health sciences		Law		Education		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Employed (part- or full-time) in the private sector	3 146	32.1	3 728	38.0	1 554	15.9	696	7.1	384	3.9	298	3.0	9 806	100.0
Self-employed in the private sector	79	12.6	177	28.2	200	31.8	125	19.9	25	4.0	21	3.4	627	100.0
Employed (part- or full-time) in the public sector	1 454	19.4	1 072	14.3	1 420	19.0	1 881	25.1	220	2.9	1 445	19.3	7 493	100.0
Employed in the informal sector	50	26.2	67	35.4	57	29.9	4	1.9	5	2.4	8	4.1	191	100.0
Unemployed and looking for work	650	31.2	606	29.1	570	27.4	133	6.4	46	2.2	77	3.7	2 082	100.0
Unemployed, but not looking for work	94	23.8	97	24.6	141	36.0	33	8.4	3	.8	25	6.4	393	100.0
Total	5 473	26.6	5747	27.9	3 943	19.1	2 871	13.9	683	3.3	1 874	9.1	20 592	100.0

Survey Question: Q3.4
Note: Excludes graduates who were studying full-time.

Table 9.7: Maths symbol by unemployment status, 1 September 2012

	Employed in the private or public sector or self-employed in the private sector		Unemployed and looking for work		Total	
	Count	%	Count	%	Count	%
A – B	4 491	94.6	258	5.4	4 749	100.0
C – D	4 113	90.4	435	9.6	4 549	100.0
E – H	2 871	84.1	545	15.9	3 415	100.0
Total	11 475	90.3	1 238	9.7	12 713	100.0

Job search behaviour of the unemployed

The discussion now shifts to job search behaviour. For the unemployed, the job search technique of first choice was responding to job adverts on employment websites (17%). Secondary job search tools included 'sending CVs to prospective employers' (14% of respondents used this) followed by 'responding to a job advertisement in the print media' (13%). However, whereas social capital was a powerful device in the case of graduates who found employment relatively easily (25% of cases), for the unemployed, 'social capital' (approaching family and friends) as a resource for finding employment was significantly weaker, varying from between about 6% for CPUT and UWC graduates to 8% for UCT and 9% for SU (see shaded line in Table 9.8).

However, when examining the usage patterns of each job search item by race (see Table 9.9), the numbers become more revealing. Two specific activities of job search stand out that are highly racialised – 'Walking from door-to-door' (with 75% of those doing this being Africans compared to only 9% for white unemployed graduates), and 'Approaching the Department of Labour Employment Centres' (with 83% of those doing this being African as compared with only 8% for whites). The same applies to putting up notices in post boxes and on notice boards. These statistics suggest that African graduates are more inclined to use Government employment services and

Table 9.8: Methods of job search, unemployed graduates, 2010 graduate cohort

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
I approached a lecturer	90	2.3	60	3.4	47	4.4	51	3.3	249	3.0
I approached my university's career office	113	2.9	110	6.2	34	3.2	46	3.0	302	3.7
I have offered to work for free	117	3.0	97	5.5	41	3.9	56	3.6	311	3.8
I sent my CV or asked for jobs directly	523	13.5	256	14.4	176	16.6	215	13.8	1 169	14.1
I responded to job ads in the printed media	552	14.2	200	11.2	129	12.1	237	15.3	1 118	13.5
I responded to job ads on employment websites	701	18.1	260	14.6	177	16.6	260	16.8	1 398	16.9
I responded to job ads on company websites	497	12.8	232	13.1	144	13.6	235	15.2	1 109	13.4
I responded to job ads in the Government Gazette	262	6.8	84	4.7	47	4.4	96	6.2	489	5.9
I placed ads or flyers advertising my services on notice boards or in post-boxes	47	1.2	19	1.1	9	0.8	12	0.7	87	1.0
I walked from door-to-door asking for work	181	4.7	18	1.0	4	0.4	45	2.9	249	3.0
I approached one of the Department of Labour's employment centres	117	3.0	28	1.6	5	0.4	25	1.6	174	2.1
I used social networks	196	5.0	117	6.6	79	7.4	87	5.6	479	5.8
I approached recruitment agencies or labour brokers	222	5.7	149	8.4	68	6.4	68	4.4	508	6.1
Social capital factor: I approached family or friends personally	223	5.7	135	7.6	95	8.9	97	6.3	549	6.6
Other	41	1.1	14	0.8	9	0.8	20	1.3	83	1.0
Total	3 881	100.0	1 780	100.0	1064	100.0	1 549	100.0	8 274	100.0

Survey Question: Q3.4.13
Note: Includes only graduates who were unemployed and looking for work on 1 September 2012.

Table 9.9: Methods of job search, unemployed graduates, by race, 2010 graduate cohort

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
I approached a lecturer	120	48.2	42	16.9	14	5.6	72	28.9	249	100.0
I approached my university's career office	177	60.6	37	12.7	10	3.4	68	23.3	292	100.0
I have offered to work for free	161	53.5	54	17.9	14	4.7	73	24.3	301	100.0
I sent my CV or asked for jobs directly	665	58.6	213	18.8	10	0.9	247	21.8	1 135	100.0
I responded to job ads in the printed media	686	62.8	236	21.6	10	0.9	160	14.7	1 092	100.0
I responded to job ads on employment websites	839	61.2	277	20.2	15	1.1	240	17.5	1 371	100.0
I responded to job ads on company websites	650	60.5	223	20.7	18	1.7	184	17.1	1 075	100.0
I responded to job ads in the Government Gazette	321	66.3	83	17.1	5	1.0	74	15.3	484	100.0
I placed ads or flyers advertising my services on notice boards or in post-boxes	63	76.8	0	0.0	5	6.1	14	17.1	82	100.0
I walked from door-to-door asking for work	183	75.0	35	14.3	5	2.0	21	8.6	244	100.0
I approached one of the Department of Labour's employment centres	141	83.4	9	5.3	5	3.0	13	7.7	169	100.0
I approached recruitment agencies or labour brokers	309	62.0	80	16.1	10	2.0	100	20.1	498	100.0
I approached family or friends personally	284	52.2	118	21.7	10	1.8	132	24.3	544	100.0
I used social networks	224	48.3	86	18.5	10	2.2	143	30.8	464	100.0
Other	27	32.5	17	20.5	5	6.0	34	41.0	83	100.0
Total	4 853	60.0	1 510	18.7	143	1.8	1 577	19.5	8 083	100.0

Survey Question: Q3.4.13
Note: Includes only graduates who were unemployed and looking for work on 1 September 2012. Excludes 2% of graduates classified as 'other' or not classified at all.

agencies to find work, and are more desperate to find work (being more prepared to walk door-to-door looking for work) than is the case for unemployed white graduates.

Understanding graduate unemployment globally

Schomburg and Teichler's 2006 study of graduate employment in twelve countries provides a quick source of comparative information and insight into graduate unemployment elsewhere in the globe. Although now a dated cohort (comprising the 1995 graduate cohort in twelve countries in Europe and Japan, surveyed four years after graduation in 1999) the research is useful to compare and contrast South African graduate destination outcomes.

The core results of the Schomburg and Teichler study in 2006 include:

- 69% found regular employment
- 21% went into continuing education
- 11% had various temporary jobs
- 4% were unemployed
- 3% had family care responsibilities (Schomburg and Teichler, 2006: 76)

The core results for the 2010 Western Cape graduate cohort are not that different. The core South African results compare with Schomburg and Teichler's global results in the following way:

- 70% of the 2010 Western Cape cohort found regular employment – almost the same as Schomburg and Teichler's 69% average for twelve countries in Europe in 1999.
- 20% went into continuing education – 1% less than Shomburg and Teichler's 21% for Europe.
- 8% of the South African cohort reported being unemployed – a figure double that of 4% for Europe.
- Home care responsibilities were similar – at 2–3%.

These similarities suggest that South African graduate transitions from education into work are not unique and distinctive, but common to many countries across the globe. The differences – especially unemployment levels which are high in South Africa – are of concern and will need careful institutional and state intervention over the medium- to long-term.

KEY FACTORS BEHIND GRADUATE UNEMPLOYMENT

The next section will investigate factors that are associated with graduate unemployment. Socio-economic and educational factors such as 'Grade 12 symbols', 'home province', 'location of childhood school', 'participation in extra-mural activities at university', internships whilst at university', 'level of parental education', and finally, 'sibling influences' all appear to have an association with increased employment levels. However, two other factors – 'access to career advice' and 'type of secondary school (public or private) attended' – don't appear to have much influence on employment/unemployment outcomes.

Unemployment and Grade 12 symbols

The first association to be investigated is that between level of unemployment and matriculation symbol attained in Grade 12 mathematics and physical science. As is evident in Table 9.10, unemployment increases as matriculation symbol in both mathematics and physical science declines from 'A' to 'H'. This decreasing trend is also evident in terms of employment – very high levels of employment are obtained for those with A–B symbols (95% and 97% respectively for mathematics and physical science). However, employment decreases to 84% and 88% for those with E–H symbols in mathematics and physical science respectively. There appears to be a clear association here, but it is not hugely punitive if seen in terms of actual unemployment numbers because 84% and 88% of graduates with poor maths and science grades are still attaining employment in large numbers. Yet performance in maths and physical science at school is still likely to have some indirect influence on graduates' ability to find employment by, for example, enabling or blocking access to particular fields of study in higher education and employment in the labour market which are dependent on mathematics or science as pre-requisite subjects.

Unemployment and home province

The home province during schooling is also a significant factor in the employment outcome for many graduates in the 2010 cohort. Table 9.11 shows that very high levels of unemployment exist among graduates who came from Limpopo Province (19% unemployment), North West (17%), Eastern Cape (15%) and Mpumalanga (15%). Unemployment amongst graduates who completed secondary schooling in KwaZulu-Natal and Free State is 4.2 and 6.5 – both significantly lower than the first category of provinces listed above. The sub-cohort who schooled in the Western Cape is close to the mid-point with unemployment rates at 8.5%. The very high percentages of unemployment listed above are reflections of the wider inequitable schooling system with poor Grade 12 pass rates and achievement scores in Limpopo, North West, Eastern Cape and Mpumalanga.

Table 9.10: Graduate unemployment by matriculation symbol in mathematics and physical science (employment/unemployment as measured on 1 September 2012)

		Employed in the private or public sector or self-employed in the private sector		Unemployed and looking for work		Total	
GRADE 12 MATHEMATICS SYMBOL							
		Count	**%**	**Count**	**%**	**Count**	**%**
Maths symbol	A – B	4 190	94.8	230	5.2	4 421	100.0
	C – D	3 918	90.8	396	9.2	4 315	100.0
	E – H	2 820	84.5	519	15.5	3 339	100.0
	Total	10 928	90.5	1146	9.5	12 075	100.0
GRADE 12 PHYSICAL SCIENCE SYMBOL							
Physical science symbol	A – B	2 472	96.3	95	3.7	2 567	100.0
	C – D	3 185	92.6	255	7.4	3 440	100.0
	E – H	2 040	84.8	366	15.2	2 407	100.0
	Total	7 698	91.5	716	8.5	8 413	100.0

Source: CHEC, 2013. Survey Question: Q3.4
Note: Includes only South African graduates living in South Africa on 1 September 2012. Includes undergraduates only. Maths and science results not available for postgraduates.

Table 9.11: Unemployment by home province during secondary schooling (employment/unemployment as measured on 1 September 2012)

	Employed in the private or public sector or self-employed in the private sector		Unemployed and looking for work		Total	
	Count	**%**	**Count**	**%**	**Count**	**%**
EC	2 002	84.5	368	15.5	2 370	100.0
FS	235	93.5	16	6.5	251	100.0
GP	1 202	91.7	109	8.3	1 311	100.0
KZN	1 046	95.9	45	4.1	1 091	100.0
LP	369	80.7	88	19.3	457	100.0
MP	213	84.8	38	15.2	251	100.0
NC	358	93.3	26	6.7	384	100.0
NW	231	82.8	48	17.2	279	100.0
WC	10 003	91.5	929	8.5	10 932	100.0
Total	15 659	90.4	1 666	9.6	17 326	100.0

Source: CHEC, 2013. Survey Questions: Q1.1.1 and Q3.4
Note: Includes only South African graduates living in South Africa on 1 September 2012.

Unemployment and location of childhood school

A key socio-economic indicator for poverty and wealth in South Africa is the location of the secondary school attended during childhood. The CHEC GDS asked respondents about what kind of neighbourhood their senior secondary school was located in. The vast majority of employed graduates (93%) went to school in the suburbs of the major cities and towns of South Africa. With regard to unemployment, there is an association between unemployment and schooling in a township (19% are unemployed) and rural village setting (14% unemployment). Employment is significantly lower than for those who attended secondary schooling in the suburbs (only 7% unemployment for graduates originating from this suburban setting).

Participation in extra-mural activities at university

Student participation in extra-curricula activities is seen to contribute to overall learning and leadership development for those who choose to participate, and for some, to lead other students in these activities. Learning in these more informal settings may also have a bearing on future employability because employers seek out graduates who have achieved additional goals and shown initiative beyond the minimum requirements of their formal degree. The association between unemployment and extra-curricula activity is strong (as is evident in Table 9.13). Even though there is a minor gap amongst the employed of 5% between those who participated in extra-curricula activity and those who did not, this gap grows to 22% for those unemployed. Table 9.13 shows that 61% of those unemployed have not participated in extra-curricula activity. For those who participated in extra-curricula activity the burden of unemployment is significantly lower – at 40%.

However, the association between employment and participation in extra-curricula activity is counter-intuitive. Employment is higher for those who did not participate (52%) than for those who did (47%). This suggests that other factors played an equal or more important role in assuring them employment – for example, very high grades in high school and university.

Table 9.12: Unemployment by location of Secondary School (employment/unemployment as measured on 1 September 2012)						
	Employed in the private or public sector or self-employed in the private sector		Unemployed and looking for work		Total	
	Count	%	Count	%	Count	%
In a suburb of a town or city	12 393	92.6	992	7.4	13 385	100.0
In a township or informal settlement of a town or city	1 782	81.1	414	18.9	2 196	100.0
In a village or on a farm in a rural area	1 376	85.5	233	14.5	1 609	100.0
Total	15 552	90.5	1 639	9.5	17 191	100.0

Source: CHEC, 2013. Survey Questions: Q1.1.1 and Q3.4
Note: Includes only South African graduates living in South Africa on 1 September 2012.

Table 9.13: Unemployment by participation in extra-curricula activities at university, (employment/unemployment as measured on 1 September 2012)							
		Employed in the private or public sector or self-employed in the private sector		Unemployed and looking for work		Total	
		Count	%	Count	%	Count	%
While studying towards the qualification you obtained in 2010, did you participate in any additional activities beyond the requirements of your degree?	Yes	5 545	47.8	598	38.9	6 143	46.8
	No	6 054	52.2	939	61.1	6 993	53.2
	Total	11 599	100.0	1 537	100.0	13 136	100.0

Survey Questions: Q2.1.1 and Q3.4
Note: Includes only South African graduates living in South Africa on 1 September 2012.

Level of parental education

The relationship between unemployment and parental education shows an association for both male and female guardians/parents. Table 9.14 shows that 31% and 32% of unemployed graduates have tertiary educated male and female guardians/parents. A further 40% of the unemployed have parents with some or no schooling. This increase in the scale of unemployment as the level of parental education declines is reversed for employed graduates. Here employment levels increase as parental education levels increase – as would be expected.

Unemployment and sibling influences

Having siblings with tertiary education qualifications does seem to influence the employment outcomes of graduates in South Africa – there is a 15% employment advantage for those with tertiary educated siblings (58%) over those without tertiary educated siblings (42%). However, amongst unemployed graduates, having tertiary educated siblings appears to have a very slight advantage of 2% over those unemployed with no tertiary educated siblings (49% versus 51%).

Unemployment and access to career advice

Not all the socio-economic and educational factors highlighted in this GDS have a distinctive association with employment outcomes. For example, a weak association exists between unemployment and attaining career advice at university. Table 9.16 shows there is a mere 0.2% difference in unemployment levels between those who received career guidance as opposed to those who did not.

Table 9.14: Unemployment by highest level of education of mother/female guardian and father/male guardian (employment/unemployment as measured on 1 September 2012)							
		Employed in the private or public sector or self-employed in the private sector		Unemployed and looking for work		Total	
HIGHEST LEVEL OF EDUCATION OF MOTHER/FEMALE GUARDIAN							
		Count	%	Count	%	Count	%
What was the highest level of education that your mother/female guardian had completed as on 1 September 2012	Tertiary	6 346	43.1	476	31.1	6 822	42.0
	Matric/Grade12	3 615	24.6	433	28.3	4 047	24.9
	Some or no schooling	4 747	32.3	623	40.7	5 370	33.1
	Total	14 708	100.0	1 531	100.0	16 239	100.0
HIGHEST LEVEL OF EDUCATION OF FATHER/MALE GUARDIAN							
What was the highest level of education that your father/male guardian had completed as on 1 September 2012	Tertiary	6 376	46.6	434	31.7	6 810	45.3
	Matric/Grade12	3 163	23.1	383	28.0	3 547	23.6
	Some or no schooling	4 138	30.3	551	40.3	4 689	31.2
	Total	13 677	100.0	1 369	100.0	15 045	100.0

Survey Questions: Q3.1 and Q3.4
Note: Includes only South African graduates living in South Africa on 1 September 2012.

Table 9.15: Unemployment and sibling influences (employment/unemployment as measured on 1 September 2012)

		Employed in the private or public sector or self-employed in the private sector		Unemployed and looking for work		Total	
		Count	%	Count	%	Count	%
Did any of your siblings obtain a degree, diploma or certificate from a higher education institution prior to or in 2010?	Yes	8 469	57.8	745	49.4	9 214	57.0
	No	6 179	42.2	762	50.6	6 940	43.0
	Total	14 648	100.0	1 507	100.0	16 155	100.0

Survey Questions: Q3.2.1 and Q3.4
Note: Includes only South African graduates living in South Africa on 1 September 2012.

Table 9.16: Unemployment by career advice received at university (employment/unemployment as measured on 1 September 2012)

		Employed in the private or public sector or self-employed in the private sector		Unemployed and looking for work		Total	
		Count	%	Count	%	Count	%
While studying towards the qualification you obtained in 2010, did you receive any form of career guidance from your university?	Yes	5 130	47.4	680	47.2	5 810	47.4
	No	5 692	52.6	762	52.8	6 453	52.6
	Total	10 821	100.0	1 442	100.0	12 263	100.0

Survey Questions: Q2.1.2 and Q3.4
Note: Includes only South African graduates living in South Africa on 1 September 2012.

Unemployment and type of school (public or private)

Similarly, attendance at private or public schooling does not seem to have a noticeable influence on employment prospects. The CHEC GDS asked respondents about the ownership of the secondary school they attended during childhood. The results are interesting. In both instances, attending a public or private school did not make any significant difference to employment prospects – in both cases, the private and public schools helped produce graduates who have attained the same high level of employment – 90%. This is an extremely positive outcome for public schools, which are considered to be the losers when middle class families move their children to private schools especially for the secondary phase.

Summary

Even though aggregate unemployment on 1 September 2012 was only 10.1% overall in this GDS – not an alarming level in global terms – the rate of unemployment reached far higher levels once the macro data was disaggregated along a number of axes. For example, higher levels of unemployment are found in the following five specific mezo and micro contexts:

1. *Disaggregation by race:* unemployment was 19% amongst Africans in the cohort.
2. *Disaggregation by provincial home location:* very high levels of unemployment exist among graduates who came from Limpopo (19% unemployment), North West (17%), Eastern Cape (15%) and Mpumalanga (15%).
3. *Disaggregation by institution:* unemployment within the 2010 cohort was 16% at CPUT.
4. *Disaggregation by school background and Grade 12 mathematics symbol:* 16% of those who received an E–H symbol in mathematics were unemployed.
5. *Disaggregation by location of childhood secondary school:* 19% of graduates who went to a township school are unemployed as is the case for 14% of those who went to a rural village secondary school.

Table 9.17: Unemployment by public and private secondary schooling (employment/unemployment as measured on 1 September 2012)

	Employed in the private or public sector or self-employed in the private sector		Unemployed and looking for work		Total	
	Count	%	Count	%	Count	%
Public	13 211	90.5	1 394	9.5	14 606	100.0
Private/independent	2 391	90.4	254	9.6	2 646	100.0
Total	15 603	90.4	1 649	9.6	17 251	100.0

Survey Questions: Q2.1.2 and Q3.4
Note: Includes only South African graduates living in South Africa on 1 September 2012.

Some factors contributed positively to higher levels of graduate employment. These factors included, for example, participation in extra-curricula activities. However, three important factors (access to career advice; internships; and type of school [public or private]) attended) don't appear to have much influence on employment/unemployment outcomes. These are surprising results which will require further disaggregation and analysis.

There are also clearly certain contradictory results which were not expected prior to the study. A good example would be the high level of graduates with degrees who were unemployed. Amongst the unemployed, 44% had certificates and diplomas and 37% had bachelors degrees. It has been assumed in the past that higher levels of unemployment would exist among holders of certificates and diplomas and significantly lower levels of unemployment would be evident among bachelors degree graduates. This has not been the case with 37% of those unemployed possessing bachelors degrees.

Also, unemployment in the so-called 'scarce skill areas' such as SET and Business and Commerce are unexpectedly high. Among unemployed graduates, 31% have a Science, Engineering and Technology qualification, and 29% have a Business and Commerce background. These contradictions can't be explained easily from the available data. They may have to do with employer prejudices towards certain institutions and qualification programmes.

10

MASTERS AND DOCTORAL GRADUATES

This section examines the production of masters and doctoral graduates. The first part looks at some of the reasons graduates give for studying to these high levels. The discussion then moves on to examine the education and social composition of 3 318 masters and doctoral students from amongst the 2010 cohort. The second part focuses on additional masters and doctoral registrations since 2010. The third part examines doctoral production in more detail, particularly with regard to 'age'. The final part compares Western Cape masters and doctoral output with national and international trends.

Reasons for studying for a masters or doctorate

Table 10.1 provides the reasons graduates gave for enrolling and completing postgraduate qualifications at masters and doctoral levels. Interestingly, 'personal fulfilment' was provided as the main reason (at about 29%) while more career-oriented answers scored lower responses. For example, the answer 'to enable me to become a researcher or an academic' scored 16% whilst 14% enrolled for postgraduate qualifications 'to enable themselves to do their current job better'. Other career options – 'to enable me to get a better or higher paying job in the same field' and 'to improve my chances of getting a job as I have yet to find one' – had lower frequencies (11% and 12%).

The production of masters and doctoral graduates

Masters and doctoral graduates from the 2010 cohort are now examined. Table 10.2 highlights the intra-institutional distribution of masters and doctoral qualifications whilst Table 10.3 examines the cross-institutional dynamics per qualification type. It is clear from Table 10.3 that Stellenbosch University produces the largest number of masters and doctoral graduates – at 47% of the overall total. UCT follows in second place at 39%. Table 10.2 highlights the rise of coursework masters, particularly at UCT, SU and UWC – at 67%, 65% and 50% of total masters and doctoral production respectively. Masters by research falls into second place (lagging by a large margin). Masters by research only comprises 33% of masters graduates at UWC, 21% at SU, and 19% at UCT.

Table 10.4 profiles the masters and doctoral graduates by race at the four universities in the Western Cape. Overall, 52% of these graduates are white, 28% are African, 15% coloured and 5% Indian. Compared against the 2011 regional population profile (which is 33% African,

Table 10.1: Reasons for registering and graduating at masters and doctoral levels, 2010 Western Cape graduate cohort

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
For personal fulfilment	57	26.9	935	29.3	922	27.5	271	34.3	2 185	28.9
To improve my chances of getting a job as I have yet to find one	26	12.3	88	12.1	362	10.8	124	15.7	900	11.9
To enable me to do my current job better	27	12.8	412	12.9	523	15.6	107	13.6	1 069	14.2
To enable me to make more money or get promoted in my current job	0	0.0	260	8.1	252	7.5	47	6.0	559	7.4
To enable me to get a better or higher paying job in the same field	21	10.1	379	11.9	359	10.7	78	9.9	837	11.1
To enable me to change careers to a different field	38	18.2	232	7.3	282	8.4	19	2.4	571	7.6
To enable me to become a researcher or an academic	41	19.6	497	15.6	541	16.1	125	15.8	1 204	15.9
Other	0	0.0	90	2.8	116	3.4	19	2.3	224	3.0
Total	210	100.0	3 191	100.0	3 358	100.0	791	100.0	7 550	100.0

Survey Question: Q2.4.2
Note: Includes only graduates who obtained a masters or doctoral qualification.

Table 10.2: Type of postgraduate qualification received, masters and doctoral graduates, 2010 Western Cape graduate cohort (read % vertically)

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
A master's degree by course work and research	47	43.1	865	66.6	997	65.1	189	49.7	2 098	63.2
A master's degree by research only	62	56.9	254	19.6	324	21.1	127	33.4	767	23.1
A doctoral degree	0	0.0	179	13.8	211	13.8	63	16.6	453	13.7
Total	109	100.0	1 298	100.0	1 532	100.0	380	100.0	3 318	100.0

Survey Question: Q2.4.1
Note: Includes only graduates who obtained a masters or doctoral qualification.

Table 10.3: Type of postgraduate qualification received, masters and doctoral graduates, 2010 Western Cape graduate cohort (read % horizontally)

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
A master's degree by course work and research	47	2.2	865	41.2	997	47.5	189	9.0	2 098	100.0
A master's degree by research only	62	8.1	254	33.1	324	42.2	127	16.6	767	100.0
A doctoral degree	0	0.0	179	39.5	211	46.6	63	13.9	453	100.0
Total	109	3.3	1 298	39.1	1 532	46.2	380	11.5	3 318	100.0

Survey Question: Q2.4.1
Note: Includes only graduates who obtained a masters or doctoral qualification.

Table 10.4: Masters and doctoral graduates, by race

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
A master's degree by course work and research	541	26.8	302	14.9	116	5.7	1 063	52.6	2 022	100.0
A master's degree by research only	210	29.7	117	16.5	29	4.1	351	49.6	707	100.0
A doctoral degree	131	30.0	55	12.6	16	3.7	234	53.7	436	100.0
Total	881	27.8	474	15.0	162	5.1	1 648	52.1	3 165	100.0

Survey Question: Q2.4.1
Note: Includes only graduates who obtained a masters or doctoral qualification. Excludes 2% of graduates classified as 'other' or not classified at all.

48% coloured; 1% Indian and 16% white), it could be said that whites are significantly over-represented by a margin of 36% whilst coloureds are significantly under-represented by a margin of 33%. Africans are slightly under-represented by a margin of 5%. Indians are slightly over-represented by a margin of 4%.

However, the production of postgraduate talent in the 'national innovation systems' literature is seen as a national responsibility and national resource, and not purely regional. With this in mind, the degrees of over- and under-representivity shift dramatically when the masters and doctoral graduate outputs of the Western Cape are measured against the national population profile (which is 80% African, 9% coloured; 2% Indian and 9% white). In this comparison, whites are significantly over-represented by a margin of 43% whilst coloureds and Indians are over-represented by margins of 9% and 5% respectively. In sharp contrast nationally, Africans are significantly under-represented by a margin of 52%. These equity ratios are problematic and will require sensitive future steering so that a more equitable balance is achieved, taking into account both regional needs and realities, as well as national education and economic priorities.

Table 10.5 shows the production of doctoral graduates by academic field in 2010. SET dominates by a large lead (at 56% of all doctorates), followed by Health Sciences (at 16%) and then Humanities and Social Sciences at 13%. The Western Cape production of graduates does not follow the national trend where the humanities and social sciences are the largest group of doctoral enrolments [54% of the total] (Assaf, 2010: 49). Rather, its doctoral output is closer to the national policy target of 30/30/40 for enrolments and graduations across 'SET', 'Business and Commerce' and the 'Humanities'.

Additional masters and doctoral registrations since 2010

In addition to the 3 318 masters and doctoral graduates produced in 2010 within the 2010 cohort of students, other members of the cohort registered for masters and doctoral degrees, firstly, after graduation but before

Table 10.5: Type of qualification by CESM field, 2010 Western Cape graduate cohort

	Science, engineering and technology		Business and commerce		Human and social sciences		Health sciences		Law		Education		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
A masters degree by course work and research	390	18.6	662	31.6	567	27.0	263	12.5	149	7.1	66	3.2	2 098	100.0
A masters degree by research only	390	50.8	68	8.9	128	16.7	127	16.6	7	0.9	47	6.1	767	100.0
A doctoral degree	253	55.7	30	6.7	61	13.4	72	15.9	4	1.0	33	7.3	453	100.0
Total	1 033	31.1	761	22.9	756	22.8	462	13.9	161	4.8	146	4.4	3 318	100.0

Survey Question: Q2.4.1
Note: Includes only graduates who obtained a masters or doctoral qualification.

1 September 2010, and secondly, as measured on 1 September 2012 by the GDS. Table 10.6 indicates that an additional 901 masters and doctoral students were enrolled after graduation, but before 1 September 2012. Table 10.7 indicates that an additional 3 718 masters and doctoral students were recorded on 1 September 2012.

Table 10.6: Registration for masters and doctoral degrees between graduation in 2010 and 1 September 2012

	CPUT	UCT	SU	UWC	TOTAL
	Count	Count	Count	Count	Count
A masters degree	69	264	318	140	792
A doctoral degree	16	38	28	27	109
Total	85	302	346	167	901

Survey Question: Q4.1.4.2
Note: Includes only graduates who were registered for another qualification at a university between graduation in 2010 and 1 September 2012 (apart from any qualification they may have been registered for on 1 September 2012). Excludes graduates registered for pre-degree purposes.

Table 10.7: Registration for masters and doctoral degrees 1 September 2012

	CPUT	UCT	SU	UWC	TOTAL
	Count	Count	Count	Count	Count
A masters degree	318	874	1274	614	3 079
A doctoral degree	26	236	234	143	639
Total	344	1 110	1 508	757	3 718

Survey Question: Q4.1.2
Note: Includes only graduates who were registered for and studying towards another qualification at a university on 1 September 2012. Excludes graduates registered for pre-degree purposes.

If the three counts are combined, they produce the following number of students from a single graduate cohort who have either already graduated with a masters or doctorate degree, or who since graduation have registered to undertake such a qualification. The aggregate count is:

- 3 318 masters and doctoral students graduated in 2010
- 901 students registered for masters and doctoral programmes after graduation in 2010
- 3 718 students registered for masters and doctoral programmes by 1 September 2012
- A total of 7 939 students out of a total cohort membership of 24 710 – or 32% of the total cohort.

This is an impressive stay-on rate to do higher degrees. Table 10.8 illustrates the masters and doctoral registrations by academic field. They follow the same patterns as the graduations in 2010, with the highest enrolments in SET and then health – at 41% and 17% of all masters and doctoral enrolments respectively.

Doctoral graduates by age

The next section examines South African doctoral production in more detail, and for this reason, the following tables exclude all international candidates. Only South African

Table 10.8: Masters and doctoral registrations by academic field, 1 September 2012

	A masters degree		A doctoral degree		Total	
	Count	%	Count	%	Count	%
Science, engineering and technology	1 094	44.2	142	40.8	1 236	43.8
Business and commerce	377	15.2	21	5.9	397	14.1
Human and social sciences (including performing and fine arts)	480	19.4	51	14.7	531	18.8
Health sciences	243	9.8	60	17.4	304	10.8
Law	130	5.3	19	5.4	149	5.3
Education	75	3.0	35	10.0	110	3.9
Other	75	3.0	20	5.8	95	3.4
Total	2 474	100.0	347	100.0	2 821	100.0

Survey Question: Q4.1.3
Note: Includes only South African graduates registered at South African universities.

candidates are included in Tables 10.9–10.12. This is a significant reduction – 111 doctoral graduates are international graduates, or 25% of the total 2010 doctoral graduate cohort.

Examining the remaining South African doctorates, it is evident that Africans constitute only 9% of doctoral graduates in 2010 and whites 73% (see Table 10.9). Table 10.10 suggests that African students undertaking doctorates at a younger age – with 59% of African graduates completing their dissertations between the ages of 26 and 35. In contrast, 56% of coloured doctoral graduates completed their studies later, in the age group of 36 years and older.

The age and race profiles of the new registrations in 2012 for doctoral programmes look much improved. Tables 10.11 highlights the fact that African registrations are 27% of total enrolments for doctoral programmes and white enrolments are 49% – the latter figure being significantly lower than the graduation rate of 73% in Table 10.8.

Table 10.12 shows that there is now a younger group from the 2010 cohort enrolled for doctoral programmes in the four Western Cape higher education institutions – 52% are 25 years old or younger – as opposed to only 1.5% actually graduating with a doctorate in 2010 (as highlighted in Table 10.10). The age differentials between the group who graduated with doctorates in 2010 and the group that registered for doctoral study in 2012 could have to do with the long life cycle entailed in undertaking doctoral programmes – from registering to completion – but it could also indicate the enrolment of younger cohorts because of a range of new policy instruments encouraging young students to choose this career pathway. The data does not provide confirmation for any of these assumptions.

Table 10.9: Doctoral graduates by age, 2010 Western Cape graduate cohort (read % horizontally)

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
25 or younger	0	0.0	0	0.0	0	0.0	4	100.0	4	100.0
26 – 35	16	10.7	18	12.3	5	3.3	108	73.6	146	100.0
36 or older	11	8.0	24	17.1	4	2.8	100	72.1	139	100.0
Total	27	9.3	42	14.5	9	3.0	212	73.3	289	100.0

Note: Includes only South African graduates who completed a doctorate in 2010.

Table 10.10: Doctoral graduates by age, 2010 Western Cape graduate cohort (read % vertically)

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
25 or younger	0	0.0	0	0.0	0	0.0	4	2.0	4	1.5
26 – 35	16	58.6	18	43.2	5	55.7	108	50.8	146	50.6
36 or older	11	41.4	24	56.8	4	44.3	100	47.1	139	47.9
Total	27	100.0	42	100.0	9	100.0	212	100.0	289	100.0

Note: Includes only South African graduates who completed a doctorate in 2010.

Table 10.11: Doctoral registrations by age, 1 September 2012, Western Cape 2010 cohort (read % horizontally)

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
25 or younger	30	18.6	19	11.7	21	12.9	93	56.8	164	100.0
26 – 35	31	38.0	11	13.7	9	10.8	31	37.4	83	100.0
36 or older	22	33.9	14	21.2	0	0.0	29	44.9	66	100.0
Total	84	27.0	44	14.2	30	9.6	153	49.2	312	100.0

Note: Includes only South African graduates who were registered for a doctorate at a South African university on 1 September 2012.

Table 10.12: Doctoral registrations by age, 1 September 2012, 2010 Western Cape graduate cohort (read % vertically)

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
25 or younger	30	36.2	19	43.1	21	70.1	93	60.6	164	52.4
26 – 35	31	37.4	11	25.6	9	29.9	31	20.2	83	26.5
36 or older	22	26.5	14	31.3	0	0.0	29	19.2	66	21.0
Total	84	100.0	44	100.0	30	100.0	153	100.0	312	100.0

Note: Includes only South African graduates who were registered for a doctorate at a South African university on 1 September 2012.

Western Cape postgraduate output in national perspective

The production of 3 188 graduates at masters and doctoral level is a significant achievement for the four Western Cape higher education institutions – it is 38% of the national output at these qualification levels (DBE, 2010: 29). However, all is not rosy. A number of problems face the national system in terms of producing sufficient numbers of masters and doctoral graduates for the national innovation system – and these problems are relevant to the Western Cape context even with its favourable outcomes.

The first problem faced is that enrolments for masters degrees have fluctuated nationally over the past decade, decreasing first from 45 332 in 2004 to 41 176 in 2007, and then recovering slightly to 43 723 in 2009 (DBE, 2010: 29). Graduations have remained relatively flat at about 7 800 graduates a year (this figure includes both research and course-work masters programmes) with numbers improving to 8 112 in 2009 (DBE, 2010: 29). Enrolments for doctorates have increased slightly. Graduations remain relatively flat at around 1200 doctorates a year.

A detailed Academy of Science study of enrolments and graduation trends published in 2010 identified the major restriction on growth as a decrease in the number of first-enrolments in the humanities and social sciences – from 3 334 in 2003 to 2 740 in 2007 (Assaf, 2010: xii). Graduations in Social Sciences and Humanities constitute 54 per cent of all doctoral enrolments – so declines here affect aggregate outcomes. A second contributing factor

Table 10.13: Enrolments and graduations in masters and doctoral degrees, 2004–2007

	Headcount enrolments	% of total enrolments	Headcount graduates	% of total graduates
Masters degrees				
2004	45 332	6.1%	7 883	6.8%
2005	44 321	6.0%	8 022	6.7%
2006	42 899	5.8%	7 883	6.3%
2007	41 176	5.4%	7 516	5.9%
Target		6.0%		6.0%
Doctorates				
2004	9 103	1.2%	1 103	0.9%
2005	8 434	1.3%	1 189	1.0%
2006	9 828	1.3%	1 100	0.9%
2007	10 052	1.3%	1 274	1.0%
Target		1.0%		1.0%

Source: CHE, 2009a: 60

Table 10.14: Comparative statistics for masters and doctoral graduations, 2000–2007

	2000	2001	2002	2003	2004	2005	2006	2007	Average annual growth rate, 2000–2007
All PG	23 182	25 092	27 862	29 665	31 573	30 803	30 634	30 629	4.0%
M	5 795	6 426	6 871	7 396	7 536	7 881	7 883	7 516	4.0%
D	823	843	981	1 031	1 087	1 176	1 100	1 274	6.1%
M as % of all PG	25%	26%	25%	25%	24%	26%	26%	25%	–
D as % of all PG	4%	3%	4%	3%	3%	4%	4%	4%	–
D as % of M	14%	13%	14%	14%	14%	15%	14%	17%	–

Source: Assaf, 2010: 46

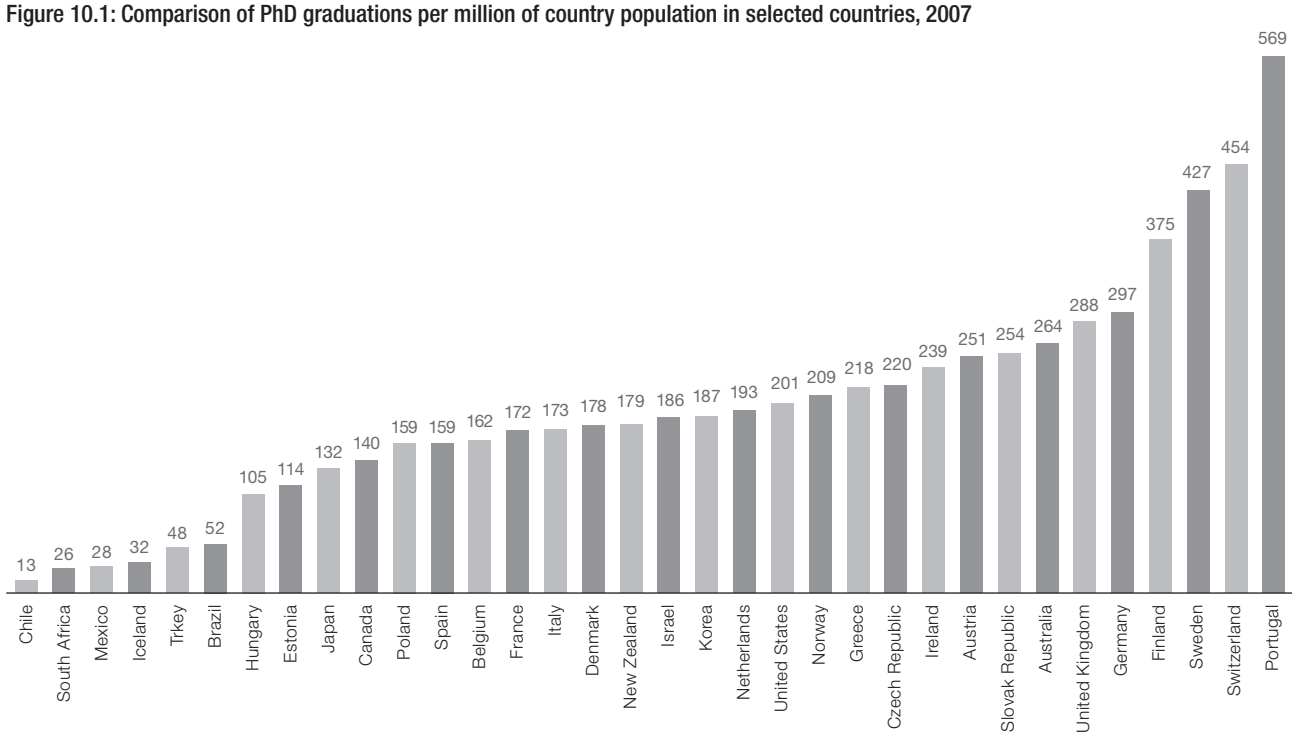
is what the Assaf study called 'pile-up' effects – a major growth in the number of recurring students who are unable to complete the degree, and constitute a serious logjam in the system. This has occurred both at the masters and Doctoral levels nationally (Assaf, 2010: xvii).

Another restriction on growth is the fact that in percentage terms, the pool of masters and doctoral graduations has remained static at 25% and 4% of total postgraduates respectively (see Table 10.14), suggesting almost no ramping up of numbers at the top-end of the education system.

South Africa's performance as described above is weak when compared with other countries globally. When comparing PhD graduations per million of a country's population in a select range of countries, as is done in Figure 10.1, South Africa comes second last.

So even though the Western Cape postgraduate outputs are good in comparative terms with the rest of the country, national output compares poorly with the rest of the world, and growth is static. The four Western Cape institutions are part of the national system and will have to assist in improving output even further.

Figure 10.1: Comparison of PhD graduations per million of country population in selected countries, 2007



Source: Assaf, 2010: 46

11

CONTINUING HIGHER EDUCATION

Respondents were asked about further studies since 2010. There are three components to this question:

- Studies undertaken and completed between graduation in 2010 and 1 September 2012
- Current studies, as at 1 September 2012
- Future studies

In all three instances, a relatively high percentage of graduates have, or intend to study further. Data obtained in this chapter (Tables 11.1 to 11.21) are derived from questions in the GDS survey which ask respondents whether they continued to study further, and if so, in which fields and at what qualification level. At no stage were they asked the name of the institution in which they were continuing to study after 2010. It could be the same Western Cape institution as prior to 2010, but it also could be any of the other higher institutions in the country – or an international university. Hence, Tables 11.1 to 11.21 measure the contribution of the four Western Cape universities to the national pool of (largely postgraduate) continuing higher education students. This data provides both inter- and intra-institutional comparisons of the contribution of each of the four universities in the Western Cape to the national pool of continuing higher learners – by race, gender, academic field and qualification level.[1]

CONTINUING HIGHER EDUCATION BETWEEN 2010 AND 2012

The first measure of continuing higher education entailed asking respondents whether they were registered for another qualification at a university between graduation in 2010 and 1 September 2012, which would typically include undergraduates proceeding straight towards an honours degree. Table 11.1 shows that 5 026 students or about 21% of the 2010 cohort continued with their studies in the period 2010–2012. The relative 'smallness' of this pathway of continuing higher education contrasts with data from the second measure of continuing higher education (measured on 1 September 2012), where a much larger quotient of the 2010 cohort registered for further studies. Table 11.9 indicates that 7 475 graduates returned to continuing higher education in 2012 after either completing a prior or intermediate qualification or (for 2 449

Table 11.1: Registration for continuing higher education between graduation in 2010 and 1 September 2012

	Institutional origin of 2010 qualification									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Yes	1 384	19.2	1 467	24.4	1 357	19.2	819	23.3	5 026	21.1
No	5 814	80.8	4 554	75.6	5 726	80.8	2 696	76.7	18 790	78.9
Total	7 198	100.0	6 021	100.0	7 083	100.0	3 515	100.0	23 816	100.0

Survey Question: Q4.1.4
Note: Apart from any qualification they may have been registered for on 1 September 2012.

1 A small percentage of this contribution to the South African 'national pool' of highly educated continuing students registered for their continuing qualification overseas – 3.5% of continuing learners in the period from graduation to September 2012 and 6% as measured on 1 September 2012. This rider to the concept of 'national pool' applies to all the tables from Table 11.1 to Table 11.21. Some of the learners registered for overseas degrees will return to South Africa and form part of the 'national pool' after graduation (and perhaps after some work experience) but the extent of this 'brain gain' and 'brain loss' is not known.

graduates) after having taken a short break from continuous study.

Tables 11.1 suggests that UCT contributed the highest proportion of students who continued with their learning pathways directly after graduation in 2010 – at 24%. In addition, the large majority of continuing students (97%) registered with South African higher education institutions. The largest component of students registered at international universities originated from UCT (at 6.5%).

Table 11.3 indicates that the honours degree is the most subscribed continuing higher education qualification level amongst the 2010 graduation. Just over 60% of UWC's 2010 graduates returned to the higher education system nationally to do a honours programme in the 2010–2012 period. The figure is 50% at SU and 49% at UCT. The bulk of continuing higher education students from the CPUT 2010 cohort enrolled to do a bachelors (BTech) degree – at 61%. Both trends – high enrolments in honours and BTech degrees – are logical next steps in the sequence of higher learning taken by students who continue their studies.

SU contributed the highest number of returning graduates to the higher education system in the 2010–2012 period who enrolled for a masters degree. Similarly, UWC contributed the largest proportion of returning graduates enrolled for doctoral degrees – at just over 3%.

Whereas Table 11.3 is intra-institutional, Table 11.4 provides a cross-institutional perspective, highlighting which university contributes the most to the higher education system in terms of enrolments for each qualification type. Data from Table 11.4 makes it clear that the largest number of returning graduates from the Western Cape enrolled for a bachelors (BTech) degree in the national system came from CPUT (84%), SU contributes the highest number of enrolled masters students (40%), and UCT contributes the largest number of honours and doctoral students (at 36% and 35% of the total number of Western Cape 2010 graduates registered for these qualifications nationally).

Table 11.5 shows that the biggest field of enrolment for continuing education learners from the 2010 Western Cape graduate cohort was 'Business and Commerce' (35%), then SET (at 26%) followed by 'Human and Social Sciences' (16%).

Table 11.6 shows that CPUT contributes the biggest number of enrolments from the Western Cape to the national system in the fields of "SET" and 'Business and Commerce' – at 34% and 36% respectively. Of the four universities in the Western Cape, UCT (at 45%) contributes the highest number of enrolments in 'Human and Social Sciences' to the national pool of postgraduates enrolled in these fields, Similarly, SU leads with a contribution of 43% of the Western Cape's contribution to 'Health Sciences'. UWC leads with 39% of the Western Cape's enrolments in 'Law'. Contributions to the national postgraduate pool of enrolments in Education are relatively equal

Table 11.2: Registration for continuing higher education at a South African or international university between graduation in 2010 and 1 September 2012

	Institutional origin of 2010 qualification									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
South African	1 354	98.3	1 354	93.5	1 325	97.5	783	97.7	4 817	96.6
International	23	1.7	94	6.5	34	2.5	18	2.3	169	3.4
Total	1 377	100.0	1 448	100.0	1 359	100.0	802	100.0	4 986	100.0

Survey Question: Q4.1.4.1
Note: Includes only graduates who were registered for another qualification at a university between graduation in 2010 and 1 September 2012 (apart from any qualification they may have been registered for on 1 September 2012).

Table 11.3: Registration for continuing higher education in the national system, by qualification type, between graduation in 2010 and 1 September 2012

	Institutional origin of 2010 qualification									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
A certificate or diploma	335	25.1	375	26.7	240	18.2	90	11.3	1 040	21.4
A bachelor's degree	814	61.0	33	2.4	71	5.4	57	7.2	976	20.1
An honours degree	100	7.5	695	49.5	659	50.1	483	60.5	1 937	39.9
A masters degree	69	5.2	264	18.8	318	24.2	140	17.6	792	16.3
A doctoral degree	16	1.2	38	2.7	28	2.1	27	3.4	109	2.3
Total	1 335	100.0	1 405	100.0	1 316	100.0	798	100.0	4 855	100.0

Survey Question: Q4.1.4.2
Note: Includes only graduates who were registered for another qualification at a university between graduation in 2010 and 1 September 2012 (apart from any qualification they may have been registered for on 1 September 2012). Excludes graduates registered for pre-degree purposes.

Table 11.4: Registration for continuing higher education in the national system, by qualification type (between graduation in 2010 and 1 September 2012)

	Institutional origin of 2010 qualification									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
A certificate or diploma	335	32.2	375	36.1	240	23.1	90	8.7	1 040	100.0
A bachelor's degree	814	83.4	33	3.4	71	7.3	57	5.8	976	100.0
An honours degree	100	5.2	695	35.9	659	34.0	483	24.9	1 937	100.0
A masters degree	69	8.7	264	33.3	318	40.2	140	17.7	792	100.0
A doctoral degree	16	14.7	38	34.9	28	25.7	27	24.8	109	100.0
Total	1 335	27.5	1 405	28.9	1 316	27.1	798	16.4	4 855	100.0

Survey Question: Q4.1.4.2
Note: Includes only graduates who were registered for another qualification at a university between graduation in 2010 and 1 September 2012 (apart from any qualification they may have been registered for on 1 September 2012). Excludes graduates registered for pre-degree purposes.

Table 11.5: Registration for continuing higher education, by field of study (between graduation in 2010 and 1 September 2012) (read % vertically)

	Institutional origin of 2010 qualification									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Science, engineering and technology	441	32.5	377	26.1	249	18.4	223	27.9	1 291	26.0
Business and commerce	629	46.4	453	31.3	451	33.4	187	23.3	1 721	34.7
Human and social sciences (including performing and fine arts)	38	2.8	369	25.5	270	20.0	138	17.2	815	16.4
Health sciences	73	5.4	77	5.3	165	12.2	71	8.8	386	7.8
Law	15	1.1	45	3.1	53	3.9	71	8.8	184	3.7
Education	84	6.2	91	6.3	89	6.6	89	11.1	353	7.1
Other	77	5.7	35	2.4	75	5.6	22	2.8	210	4.2
Total	1 357	100.0	1448	100.0	1 353	100.0	801	100.0	4 959	100.0

Survey Question: Q4.1.4.3
Note: Includes only graduates who were registered for another qualification at a university between graduation in 2010 and 1 September 2012 (apart from any qualification they may have been registered for on 1 September 2012).

Table 11.6: Registration for continuing higher education in the national system, by field of study (between graduation in 2010 and 1 September 2012) (read % horizontally)

	Institutional origin of 2010 qualification									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Science, engineering and technology	441	34.2	377	29.2	249	19.3	223	17.3	1 291	100.0
Business and commerce	629	36.5	453	26.3	451	26.2	187	10.9	1 721	100.0
Human and social sciences (including performing and fine arts)	38	4.7	369	45.3	270	33.1	138	16.9	815	100.0
Health sciences	73	18.9	77	19.9	165	42.7	71	18.4	386	100.0
Law	15	8.2	45	24.5	53	28.8	71	38.6	184	100.0
Education	84	23.8	91	25.8	89	25.2	89	25.2	353	100.0
Other	77	36.7	35	16.7	75	35.7	22	10.5	210	100.0
Total	1 357	27.4	1 448	29.2	1 353	27.3	801	16.2	4 959	100.0

Survey Question: Q4.1.4.3
Note: Includes only graduates who were registered for another qualification at a university between graduation in 2010 and 1 September 2012 (apart from any qualification they may have been registered for on 1 September 2012).

Table 11.7: Completion of qualification (registered for qualification between graduation in 2010 and 1 September 2012)

	Institutional origin of 2010 qualification									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Yes	873	67.1	1158	84.4	1 022	81.7	541	70.8	3 594	76.7
No (I deregistered or discontinued this qualification)	27	32.9	215	15.6	229	18.3	223	29.2	1 094	23.3
Total	1 300	100.0	1373	100.0	1 250	100.0	764	100.0	4 688	100.0

Survey Question: Q4.1.4.4
Note: Includes only graduates who were registered for another qualification at a university between graduation in 2010 and 1 September 2012 (apart from any qualification they may have been registered for on 1 September 2012).

across all four institutions – between 24%–26% each.

Table 11.7 indicates that 77% of graduates completed this 'follow-up' qualification for which they registered in one of the 21 national higher education institutions (and with a small component of international registrations) after graduating in the Western Cape in 2010 with a prior qualification. It suggests a successful continuing education pathway, with only 24% of students failing to complete the qualification in the given time (2010–2012).

Difficulties with completion were most strongly experienced amongst African continuing students – they constituted 43% of all incomplete qualifications.

CURRENTLY STUDYING

Table 11.9 indicates that 31% of the 2010 cohort were registered for further studies in the national system on 1 September 2012. Table 11.10 shows that the bulk of these graduates (94%) were registered for continuing higher education at South African universities, and only a small number pursued further degrees at international universities. However, amongst the UCT graduates of 2010, 14% registered at an international university, with international registrations from SU graduates coming a distant second – at 5%. Table 11.11 shows that UCT graduates comprised 56% of those 2010 cohort members who were registered for further study at foreign universities.

Enrolment by qualification type

Table 11.12 confirms that a high proportion of the 2010 Western Cape graduate cohort were registered for a masters degree in the national system of higher education on 1 September 2012 – 42%. The data also suggests a

Table 11.8: Completion of additional qualification, by race (registered for qualification between graduation in 2010 and 1 September 2012)

	African		Coloured		Indian		White		Total	
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Yes	883	25.4	917	26.4	133	3.8	1 542	44.4	3 474	100.0
No (I deregistered or discontinued this qualification)	463	43.2	296	27.6	27	2.5	284	26.5	1 071	100.0
Total	1 346	29.6	1213	26.7	160	3.5	1 826	40.2	4 545	100.0

Survey Question: Q4.1.4.4
Note: Includes only graduates who were registered for another qualification at a university between graduation in 2010 and 1 September 2012 (apart from any qualification they may have been registered for on 1 September 2012). Excludes 2% of graduates classified as 'other' or not classified at all.

Table 11.9: Registration for study towards another qualification on 1 September 2012

	Institutional origin of 2010 qualification									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Yes	1 943	26.5	1 745	28.5	2 511	34.4	1 277	35.1	7 475	30.7
No	5 379	73.5	4 372	71.5	4 785	65.6	2 356	64.9	16 893	69.3
Total	7 322	100.0	6 116	100.0	7 296	100.0	3 633	100.0	24 368	100.0

Survey Question: Q4.1

Table 11.10: Registration for study towards another qualification at a South African or international university on 1 September 2012 (read % vertically)

	Institutional origin of 2010 qualification									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
South African	1 920	98.8	1 491	85.7	2 371	94.8	1 221	96.4	7 003	94.0
International	23	1.2	249	14.3	131	5.2	45	3.6	448	6.0
Total	1 943	100.0	1 740	100.0	2 502	100.0	1 266	100.0	7 451	100.0

Survey Question: Q4.1.1
Note: Includes only graduates who were registered for and studying towards another qualification at a university on 1 September 2012.

Table 11.11: Registration for study towards another qualification at a South African or international university on 1 September 2012 (read % horizontally)

	Institutional origin of 2010 qualification									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
South African	1 920	27.4	1 491	21.3	2 371	33.9	1221	17.4	7 003	100.0
International	23	5.1	249	55.6	131	29.2	45	10.0	448	100.0
Total	1 943	26.1	1 740	23.4	2 502	33.6	1266	17.0	7 451	100.0

Survey Question: Q4.1.1
Note: Includes only graduates who were registered for and studying towards another qualification at a university on 1 September 2012.

logical sequence of studying for those graduates pursuing continuing higher education – first acquiring a Bachelors degree in 2010, a honours degree between 2010 and 2012, and registering for a masters degree in the current period (September 2012). Some students have in fact progressed to a doctoral degree in this time period as well – 9% of those studying further in the national system of higher education.

For CPUT students, this sequential pattern is similar, from certificate and diploma qualifications in 2010 in the Western Cape to bachelors (BTech) degrees and upwards in the national system of higher education. Tables 11.12 and 11.13 show a very high number of 2010 CPUT graduates currently registered for bachelors degrees somewhere in the national system (70%). This is a significant sign of continuing higher education in the university of technology system with a large number of students moving up the qualifications ladder.

Table 11.13 shows that, of the four universities in the Western Cape, SU contributes the largest grouping of continuing higher education students from the Western Cape to the national system, at 33%, followed by CPUT at 26%, UCT at 23% and UWC to 17%. In this comparison, SU graduates dominate two categories of on-going higher learning – honours and masters degrees (at 38% and 41% respectively). As compared with the three other Western Cape institutions, UCT contributes the highest number of continuing learners registered for a doctoral degree in the national system (at 37% of its returning cohort). As mentioned earlier, CPUT makes the highest contribution at the lower qualifications – certificates/diplomas and bachelors programmes – at 39% and 70% – as compared with the contributions made at these levels by the three other universities in the Western Cape.

Table 11.12: Registration for continuing higher education in the national system, by qualification type, on 1 September 2012 (read % vertically)

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
A certificate or diploma	366	19.1	151	8.9	287	11.8	128	10.3	931	12.8
A bachelor's degree	1 022	53.3	146	8.6	192	7.9	105	8.5	1 464	20.1
An honours degree	187	9.7	286	16.9	438	18.1	247	20.0	1 158	15.9
A masters degree	318	16.6	874	51.6	1 274	52.5	614	49.6	3 079	42.4
A doctoral degree	26	1.4	236	13.9	234	9.6	143	11.6	639	8.8
Total	1 918	100.0	1 692	100.0	2 425	100.0	1 236	100.0	7 271	100.0

Survey Question: Q4.1.2
Note: Includes only graduates who were registered for and studying towards another qualification at a university on 1 September 2012. Excludes graduates registered for pre-degree purposes.

Table 11.13: Registration for continuing higher education in the national system, by qualification type, on 1 September 2012 (read % horizontally)

	Institutional origin of 2010 qualification									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
A certificate or diploma	366	39.3	151	16.2	287	30.8	128	13.7	931	100.0
A bachelor's degree	1 022	69.8	146	10.0	192	13.1	105	7.2	1 464	100.0
An honours degree	187	16.1	286	24.7	438	37.8	247	21.3	1 158	100.0
A masters degree	318	10.3	874	28.4	1 274	41.4	614	19.9	3 079	100.0
A doctoral degree	26	4.1	236	36.9	234	36.6	143	22.4	639	100.0
Total	1 918	26.4	1 692	23.3	2 425	33.4	1 236	17.0	7 271	100.0

Survey Question: Q4.1.2
Note: Includes only graduates who were registered for and studying towards another qualification at a university on 1 September 2012. Excludes graduates registered for pre-degree purposes.

Table 11.14: Registration for continuing higher education in the national system, by qualification type and gender, on 1 September 2012

	Gender					
	Female		Male		Total	
	Count	%	Count	%	Count	%
A certificate or diploma	566	60.8	366	39.3	931	100.0
A bachelor's degree	844	57.7	620	42.3	1 464	100.0
An honours degree	686	59.2	472	40.8	1 158	100.0
A masters degree	1 628	52.9	1 451	47.1	3 079	100.0
A doctoral degree	358	56.0	281	44.0	639	100.0
Total	4 081	56.1	3 190	43.9	7 271	100.0

Survey Question: Q4.1.2
Note: Includes only graduates who were registered for and studying towards another qualification at a university on 1 September 2012. Excludes graduates registered for pre-degree purposes.

Table 11.15: Registration for continuing higher education in the national system, by qualification type and race, on 1 September 2012 (read % vertically)

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
A certificate or diploma	365	15.8	259	14.8	22	7.7	283	10.4	928	13.2
A bachelor's degree	616	26.8	469	26.9	32	11.3	336	12.3	1 454	20.6
An honours degree	284	12.3	331	18.9	82	29.4	443	16.2	1 141	16.2
A masters degree	831	36.1	593	34.0	114	40.8	1 450	53.1	2 988	42.3
A doctoral degree	206	9.0	96	5.5	30	10.7	216	7.9	548	7.8
Total	2 303	100.0	1 748	100.0	280	100.0	2 728	100.0	7 059	100.0

Survey Question: Q4.1.2
Note: Includes only graduates who were registered for and studying towards another qualification at a university on 1 September 2012. Excludes graduates registered for pre-degree purposes. Excludes 2% of graduates classified as 'other' or not classified at all.

Table 11.16: Registration for continuing higher education in the national system, by qualification type and race, on 1 September 2012 (read % horizontally)

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
A certificate or diploma	365	39.3	259	27.9	3.0	0.3	283	30.5	928	100.0
A bachelor's degree	616	42.4	469	32.3	2.2	0.2	336	23.1	1 454	100.0
An honours degree	284	24.9	331	29.0	2.5	0.2	443	38.8	1 141	100.0
A masters degree	831	27.8	593	19.8	0.7	0.0	1 450	48.5	2 988	100.0
A doctoral degree	206	37.6	96	17.5	3.2	0.6	216	39.4	548	100.0
Total	2 303	32.6	1 748	24.8	280	–	2 728	38.6	7 059	100.0

Survey Question: Q4.1.2
Note: Includes only graduates who were registered for and studying towards another qualification at a university on 1 September 2012. Excludes graduates registered for pre-degree purposes. Excludes 2% of graduates classified as 'other' or not classified at all.

Table 11.17: Registration for continuing higher education in the national system, by academic field, on 1 September 2012 (read % vertically)

	Institutional origin of 2010 qualification									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Science, engineering and technology	618	31.8	609	34.9	637	25.6	357	28.2	2 221	29.8
Business and commerce	851	43.8	358	20.5	620	24.9	215	17.0	2 045	27.5
Human and social sciences (including performing and fine arts)	60	3.1	371	21.3	534	21.4	193	15.3	1 158	15.5
Health sciences	165	8.5	202	11.6	311	12.5	185	14.6	862	11.6
Law	17	.9	113	6.4	163	6.5	132	10.4	424	5.7
Education	166	8.6	52	3.0	122	4.9	141	11.1	481	6.5
Other	65	3.4	40	2.3	107	4.3	44	3.5	257	3.4
Total	1 943	100.0	1 745	100.0	2 494	100.0	1 267	100.0	7 449	100.0

Survey Question: Q4.1.3
Note: Includes only graduates who were registered for and studying towards another qualification at a university on 1 September 2012.

Women members of the 2010 graduate cohort who have continued to study are in the majority and they dominate enrolments in every type of qualification including doctoral degrees at 56%.

Table 11.15 highlights the distribution of members of each race across the different qualification types. High enrolments at masters level is common to all race groups, but highest for whites (53%) and lowest for Africans (36%). However, the second largest grouping of African enrolments is bachelors degrees (at 27%) – again a signifier of continuing education occurring from the pre-degree level into degree programmes. Table 11.16 consolidates this observation. It highlights the racial composition of each category of qualification. The data indicates that Africans comprise the largest component of enrolments for a bachelors degree – at 42% – the key step in continuing education from pre-degree programmes into degree programmes at universities of technology.

Table 11.16 also shows that Whites form a majority of the returning Western Cape graduates enrolled for continuing higher education in the national system – although the margin at doctoral level is very small. Whites comprise 39% of all doctoral candidates whereas Africans comprise 38%.

Enrolment by field

Data on enrolment by field provides positive results. The highest number of returning Western Cape graduates have enrolled in 'Science, Engineering and Technology [SET]' (30%) in the national system, followed by 'Business and Commerce' at 27%. As compared with the the three other Western Cape universities, CPUT's highest contribution is in the field of 'Business and Commerce' at 44%. As for the contributions of UCT and UWC, the top field is SET at 35% and 28% of their 2010 cohorts respectively. For SU, these two fields (SET and 'Business and Commerce') are almost equally subscribed at 26% and 25%.

Table 11.18 shows the contribution of each Western

Table 11.18: Registration for continuing higher education in the national system, by academic field, on 1 September 2012 (read % horizontally)

	Institutional origin of 2010 qualification									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Science, engineering and technology	618	27.8	609	27.4	637	28.7	357	16.1	2 221	100.0
Business and commerce	851	41.6	358	17.5	620	30.3	215	10.5	2 045	100.0
Human and social sciences (including performing and fine arts)	60	5.2	371	32.0	534	46.1	193	16.7	1 158	100.0
Health sciences	165	19.1	202	23.4	311	36.1	185	21.5	862	100.0
Law	17	4.0	113	26.7	163	38.4	132	31.1	424	100.0
Education	166	34.5	52	10.8	122	25.4	141	29.3	481	100.0
Other	65	25.3	40	15.6	107	41.6	44	17.1	257	100.0
Total	1 943	26.1	1 745	23.4	2 494	33.5	1 267	17.0	7 449	100.0

Survey Question: Q4.1.3
Note: Includes only graduates who were registered for and studying towards another qualification at a university on 1 September 2012.

Table 11.19: Registration for continuing higher education in the national system, by academic field and gender, on 1 September 2012

	Gender					
	Female		Male		Total	
	Count	%	Count	%	Count	%
Science, engineering and technology	967	43.5	1 254	56.5	2 221	100.0
Business and commerce	1 034	50.6	1 010	49.4	2 045	100.0
Human and social sciences (including performing and fine arts)	858	74.1	300	25.9	1 158	100.0
Health sciences	578	67.1	285	33.1	862	100.0
Law	225	53.1	199	46.9	424	100.0
Education	334	69.4	147	30.6	481	100.0
Other	163	63.4	94	36.6	257	100.0
Total	4 159	55.8	3 289	44.2	7 449	100.0

Survey Question: Q4.1.3
Note: Includes only graduates who were registered for and studying towards another qualification at a university on 1 September 2012.

Table 11.20: Registration for continuing higher education in the national system, by academic field and race, on 1 September 2012 (read % vertically)

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Science, engineering and technology	729	31.0	420	23.4	93	31.5	918	32.9	2 159	29.8
Business and commerce	795	33.8	513	28.6	80	27.0	633	22.7	2 021	27.9
Human and social sciences (including performing and fine arts)	271	11.5	269	15.0	28	9.6	559	20.0	1 127	15.6
Health sciences	277	11.8	214	11.9	55	18.8	254	9.1	801	11.1
Law	104	4.4	100	5.6	21	7.0	196	7.0	421	5.8
Education	119	5.1	184	10.3	13	4.5	142	5.1	458	6.3
Other	58	2.4	95	5.3	5	1.6	93	3.3	250	3.5
Total	2 352	100.0	1 795	100.0	294	100.0	2795	100.0	7 237	100.0

Survey Question: Q4.1.2
Note: Includes only graduates who were registered for and studying towards another qualification at a university on 1 September 2012. Excludes graduates registered for pre-degree purposes. Excludes 2% of graduates classified as 'other' or not classified at all.

Table 11.21: Registration for continuing higher education in the national system, by academic field and race, on 1 September 2012 (read % horizontally)

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Science, engineering and technology	729	33.8	420	19.5	93	4.3	918	42.5	2 159	100.0
Business and commerce	795	39.3	513	25.4	80	4.0	633	31.3	2 021	100.0
Human and social sciences (including performing and fine arts)	271	24.0	269	23.9	28	2.5	559	49.6	1 127	100.0
Health sciences	277	34.6	214	26.7	55	6.9	254	31.7	801	100.0
Law	104	24.7	100	23.8	21	5.0	196	46.6	421	100.0
Education	119	26.0	184	40.2	13	2.8	142	31.0	458	100.0
Other	58	23.2	95	38.0	5	2.0	93	37.2	250	100.0
Total	729	33.8	420	19.5	93	4.3	918	42.5	2 159	100.0

Survey Question: Q4.1.3
Note: Includes only graduates who were registered for and studying towards another qualification at a university on 1 September 2012. Excludes 2% of graduates classified as 'other' or not classified at all.

Table 11.22: Motivating reasons for continuing higher education

	Institutional origin of 2010 qualification									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
For personal fulfilment	1 092	27.4	1123	25.9	1 507	26.0	778	26.6	4 500	26.4
To improve my chances of getting a job as I have yet to find one	622	15.6	763	17.6	1 037	17.9	532	18.2	2 954	17.4
To enable me to get a better or higher paying job in the same field	551	13.8	527	12.2	755	13.1	325	11.1	2 158	12.7
To enable me to become a researcher or an academic	224	5.6	666	15.4	702	12.1	401	13.7	1 993	11.7
To enable me to do my current job better	541	13.6	314	7.3	543	9.4	297	10.1	1 695	10.0
To enable me to make more money or get promoted in my current job	496	12.5	308	7.1	485	8.4	225	7.7	1 514	8.9
To enable me to change careers to a different field	258	6.5	402	9.3	411	7.1	224	7.7	1 295	7.6
Other	146	3.7	129	3.0	216	3.7	100	3.4	590	3.5
Someone else me wanted me to study further	48	1.2	98	2.3	134	2.3	42	1.4	321	1.9
Total	3 979	100.0	4 329	100.0	5 789	100.0	2 924	100.0	17 021	100.0

Survey Question: Q4.1.5
Note: Includes only graduates who were registered for and studying towards another qualification at a university on 1 September 2012, or were registered for another qualification between graduation in 2010 and 1 September 2012 (apart from any qualification they may have been registered for on 1 September 2012).

Cape institution to continuing higher education nationally by academic field. CPUT contributes the largest number of 'Business and Commerce' students (42%). SU contributes the highest number of 'SET', 'Human and Social Science', 'Health" and 'Law' students (29%, 46%, 36% and 38% respectively). UWC leads in 'Education' by contributing 29% of continuing enrolments from the four Western Cape institutions.

As indicated earlier, women constitute the majority of continuing students at 56%. There is one exception – in SET where women are only 43% of enrolments. In all other fields, women constitute the majority.

Table 11.20 highlights the distribution of the 2010 Western Cape graduate cohort enrolled for continuing education in the national system of higher education by race and academic field. Table 11.21 shows the racial composition of returning Western Cape graduates by academic field. SET is the biggest enrolment category for Whites and Indians (33% and 31%), whereas 'Business and Commerce' is the highest enrolment field for Africans and Coloureds (at 34% and 29% respectively). A large percentage of Indians have enrolled in the health sciences relative to other races (19%), and this is also the case with Coloureds enrolled for Education (10%).

However, when examining the racial composition of registration within each academic field, Whites dominate enrolments in 'Human and Social Sciences' and 'Law' by wide margins, as well as in SET, but with a smaller lead. Africans lead enrolments in 'Business and Commerce' and 'Health Sciences' and Coloureds do so in 'Education'.

Motivation to study further

Students from the 2010 cohort enrolled for continuing higher education during the period 2010–2012 were asked why they chose to study further. The four top reasons given (in order of priority) were:

- For personal fulfillment (26% of students chose this motive)
- To improve my chances of getting a job as I have yet to find one (17%)
- To enable me to get a better or higher paying job in the same field (13%)
- To enable me to become a researcher or an academic (12%)

It is significant that two of these reasons are strongly related to employment in the labour market, and the fourth is related to employment in academia (although this last reason was far lower down the list for CPUT graduates). 'Earning more money' was also low down on the list of reasons – 6 out of 8 possible reasons. It is clear that the orientation of CPUT graduates is more focused on getting a well-paid job in the private economy where they can use their career-oriented skills.

The total of 17 021 is necessarily higher than the total number of graduates studying further as graduates could have indicated multiple reasons for studying further.

Graduates also indicated that their 2010 qualification did prepare them for further studies in higher education. The mean scores as reflected in Table 11.23 are all between 3.9 and 4.3 – results which range from good to very good. Measure '5' would be the highest measure of preparation – at 'excellent'. UWC graduates were the least satisfied with the degree of preparation for further studies (although they still assigned a mean score of 'good'). The standard deviations are not significantly high – suggesting moderate variance in the mean ratings of graduates.

Table 11.23: Extent to which 2010 qualification prepared graduates for continuing higher education

	Institutional origin of 2010 qualification				
	CPUT	UCT	SU	UWC	Total
Science, engineering and technology	618	609	637	357	2 221
Business and commerce	851	358	620	215	2 045

Survey Question: Q4.1.6
Note: Includes only graduates who were registered for and studying towards another qualification at a university on 1 September 2012, or were registered for another qualification between graduation in 2010 and 1 September 2012 (apart from any qualification they may have been registered for on 1 September 2012). Excludes graduates registered for pre-degree purposes.

Intent to study further in the future

Table 11.24 suggests that the graduates of the Western Cape 2010 cohort have a strong intention to study further sometime in the future – with 71% indicating such an intention and only 14% suggesting a definitive 'no' to further higher learning. Table 11.25 highlights the commitment of especially African graduates to study further sometime in the future – at 86% of all African graduates in the continuing higher education contingent – whereas only

Table 11.24: Intention to study further in the future 2010 graduate cohort

	Institutional origin of 2010 qualification									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Yes	5 808	79.1	3 859	62.9	4 692	64.1	2 958	80.8	17 318	70.8
No	884	12.0	912	14.9	1 448	19.8	365	10.0	3 610	14.8
I am not sure	649	8.8	1 366	22.3	1 180	16.1	336	9.2	3 531	14.4
Total	7 341	100.0	6 138	100.0	7 320	100.0	3 659	100.0	24 458	100.0

Survey Question: Q5.1

Table 11.25: Intention to study further in the future 2010 graduate cohort, by race

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Yes	6 386	85.7	4 877	75.3	635	72.3	5 077	55.5	16 975	70.8
No	614	8.2	744	11.5	69	7.8	2 114	23.1	3 541	14.8
I am not sure	452	6.1	859	13.3	174	19.8	1 965	21.5	3 450	14.4
Total	7 452	100.0	6 481	100.0	878	100.0	9 156	100.0	23 967	100.0

Survey Question: Q5.1
Note: Excludes 2% of graduates classified as 'other' or not classified at all.

56% of Whites intended to do so. These differing percentages may have to do with white graduates reaching their learning threshold (for example, masters and doctoral qualifications) at an earlier age and stage in their lives because of greater opportunities to do so. Nonetheless, the 30% difference in intent to study further is significant.

Satisfaction levels

One factor behind such high levels of further learning is a high level of satisfaction with previous experiences of higher education. Table 11.26 suggests an all-round positive rating from graduates from all four universities in the Western Cape. The mean scores range from 3.9 to 4.1 on a five-point scale (with '1' being on the negative side and '5' on the positive) for all three questions asked. This is equivalent to a 'good' ranking for: 'relevance of curriculum to the current job', 'being able to apply what was learnt to the job', and 'general satisfaction with the qualification in terms of acquiring employment'.

Table 11.26: Relevance and satisfaction of qualification, Measured on a five-point Likert scale, 2010 Graduate Cohort as at 1 September 2010

		Institutional origin of 2010 qualification				
		CPUT	UCT	SU	UWC	Total
Was the job that you did on 1 September 2012 related to the field in which you did your 2010 qualification?	Mean	3.9	4.1	4.1	3.9	4.0
	Std. Dev.	1.3	1.3	1.3	1.4	1.3
Were you able to apply what you learnt in your 2010 qualification in the job you had on 1 September 2012?	Mean	3.8	4.0	4.1	3.9	4.0
	Std. Dev.	1.3	1.1	1.2	1.3	1.2
Were you satisfied with your 2010 qualification in relation to the job you had on 1 September 2012?	Mean	3.9	4.1	4.1	3.9	4.0
	Std. Dev.	1.3	1.1	1.2	1.3	1.2

Survey Question: Q3.4.10

Note: Includes only graduates who were employed in the private or public sectors or self-employed in the private sector.

Note: Considering that most standard deviations in Table 13.1 are just above '1', and considering a five-point scale, it suggests a noticeable degree of variation in responses amongst graduates, although seemingly not significant enough to suggest opposing groups (i.e., large numbers of graduates checking the upper or lower ends of scales and consequently yielding a 'false' mean.

International comparisons

In conclusion, the continuing higher education ratios in the four universities of the Western Cape are high by international comparisons. For example, in Schomburg and Teichler's 2006 graduate destination survey of 12 country cohorts, the continuing higher education of the cohorts investigated varied from 20% in France to 4% in the Czech Republic. As Table 11.9 suggests, the continuing higher education mean of 31% for the four institutions in the Western Cape is excellent by any measure.

12

MIGRATION

Migration of skilled labour is a phenomenon strongly associated with the acquisition of higher education qualifications. For a region such as the Western Cape – as it would be for any other region in the country or globe – it is critical that its labour market retain and absorb the skilled labour produced by its four higher education institutions. To determine whether this is the case, two measures are required to assess the migration patterns into and out of the Western Cape:

- A determination of where the graduates lived prior to coming to study for the degree they acquired in 2010. This is primarily the location of the secondary school attended immediately prior to coming to university for most of the (younger) 2010 graduates.
- A determination of where they are currently employed.

Table 12.1 indicates that about 10% of graduates lived outside of South Africa prior to coming to study in the Western Cape and would in all likelihood comprise international students.

International students pose problems for weighting. It is quite likely that students who have moved abroad, whether temporarily or permanently, including those who have continued their studies abroad, would be under-represented in the respondent database as they are less likely to have been tracked or to have been reached telephonically. Another problem relating to migration is that those international students who remained in South Africa after their studies would have been more likely to participate in the survey than those outside, leading to some bias in the results regarding migration gains. However, this is a fundamental difficulty that haunts all such tracer studies and not much can be done about it. In the next set of tables, international students are excluded and the focus is purely on migration of South African graduates.

Table 12.2 reflects the home province of those who attended secondary schooling in South Africa. The data indicates that only about 63% of graduates lived in the Western Cape (attended high school in this province) prior to coming to study for the qualification obtained in 2010. The remaining 37% reflects the 'national' character of the four higher education institutions in the Western Cape.

The next biggest schooling categories were those from the 2010 cohort who attended secondary schooling in the Eastern Cape (13%) and then Gauteng (8%) and KwaZulu-Natal (6%). CPUT's enrolment/recruitment of school students from the Western Cape was the highest of all four institutions – at 70% – although UWC and SU also had sizeable Western Cape enrolments – at 67% and 64% respectively. UCT enrolled/recruited fewer students from the Western Cape (at 53%) and attracted 18% of its 2010 cohort from Gauteng and 15% from KwaZulu-Natal. UWC and to a lesser extent, SU, both had sizeable enrolments from the Eastern Cape (15% and 10% respectively).

Table 12.1: Location of high school attended, by country, Western Cape 2010 graduate cohort

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
In South Africa	7 028	94.8	4 992	81.0	6 741	91.4	3 407	91.9	22 168	89.9
Elsewhere in Africa	361	4.9	922	15.0	547	7.4	260	7.0	2 091	8.5
Elsewhere in the world	21	0.3	250	4.1	87	1.2	39	1.0	397	1.6
Total	7 411	100.0	6 165	100.0	7 375	100.0	3 707	100.0	24 657	100.0

Survey Question: Q1.1
Note: Includes international graduates.

Table 12.3 profiles the racial composition of each provincial component of the 2010 graduate cohort. Of the students enrolled from the Western Cape, only 14% were African. From Table 5.2 in Section Five of this study we know that Africans comprised 33% of all graduates in the 2010 cohort. These two sets of data suggest that more than half (58%) of the African contingent of 2010 graduates in the Western Cape originated from outside the province – mainly from the Eastern Cape. In sharp contrast to the low 14% for Africans, 42% coloured and 40% of white graduates came from the Western Cape respectively.

Migratory flows of other race groups are also apparent in the data. For example, of the cohort from Gauteng, 64% were white and only 28% African. A similar trend is evident from KZN – of those school students coming to study in the Western Cape, 50% were white and 29% African. Also, of the students migrating from the Northern Cape, 52% were white and 32% coloured. All of these migratory movements make the four higher education institutions in the Western Cape 'national' rather than solely 'regional' assets in terms of human resources development in the country.

The enrolment of 2010 cohort students by race poses interesting questions: The percentage enrolment by race was 15%:42%:3%:40% for African/coloured/Indian/white enrolment, whereas the population profile in the Western Cape is 33%:49%:1%:17%. Africans are under-represented by a wide margin (an 18% difference), and coloureds less so (a 7% margin). In contrast, whites are over-represented by 23% and Indians by 2%.

The under-representation of Africans from the Western Cape in the output of Western Cape higher education institutions raises a number of problems. Key amongst these is the question: Were African school students living in the Western Cape excluded from higher education or did they migrate to enrol at institutions in other provinces? Or did they simply not enrol in higher education at all? These questions are not satisfactorily answered by the data in this GDS. A comprehensive answer would require a detailed demographic study of young people in the Western Cape in the age group 18–24 followed by a study of access into higher education institutions nationally.

Table 12.2: Provincial location of high school attended, by province, Western Cape 2010 graduate cohort

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
EC	1 335	19.1	295	6.0	677	10.1	522	15.4	2 829	12.8
FS	61	0.9	126	2.5	145	2.2	35	1.0	366	1.7
GP	164	2.3	883	17.8	596	8.9	135	4.0	1 779	8.1
KZN	119	1.7	721	14.6	398	5.9	153	4.5	1 391	6.3
LP	116	1.7	128	2.6	242	3.6	108	3.2	594	2.7
MP	40	0.6	47	1.0	182	2.7	27	0.8	296	1.3
NC	121	1.7	32	0.6	265	4.0	60	1.8	478	2.2
NW	118	1.7	73	1.5	95	1.4	67	2.0	352	1.6
WC	4 928	70.4	2 650	53.5	4 097	61.2	2 286	67.4	13 962	63.3
Total	7 001	100.0	4 955	100.0	6 697	100.0	3 394	100.0	22 048	100.0

Survey Question: Q1.1
Note: Includes only graduates who mostly lived in South Africa while attending high school.

Table 12.3: Provincial location of high school attended, by province and race, Western Cape 2010 graduate cohort

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
EC	2 162	76.7	158	5.6	26	0.9	471	16.7	2 817	100.0
FS	169	46.2	10	2.7	4	1.1	182	49.7	366	100.0
GP	493	28.2	84	4.8	54	3.1	1 118	63.9	1 749	100.0
KZN	400	29.2	39	2.8	240	17.5	691	50.4	1 371	100.0
LP	491	83.1	4	0.7	12	2.0	84	14.2	591	100.0
MP	170	57.4	6	2.0	5	1.7	115	38.9	296	100.0
NC	71	15.0	151	31.9	7	1.5	244	51.6	473	100.0
NW	171	50.0	32	9.4	14	4.1	125	36.5	342	100.0
WC	2 005	14.5	5 823	42.1	436	3.2	5 567	40.2	13 832	100.0
Total	6 133	28.1	6 307	28.9	799	3.7	8 598	39.4	21 837	100.0

Survey Question: Q1.1
Note: Includes only graduates who mostly lived in South Africa while attending high school. Excludes 2% of graduates classified as 'other' or not classified at all.

International migration flows after graduation

A number of distinct migration trends are visible when comparing locational data after graduation with the pre-higher education period. Firstly, whereas about 10% of enrollees into higher education came from outside South Africa (see Table 12.1), only about 6% indicated they lived outside South Africa after graduation as recorded by the survey on 1 September 2012 (see Table 12.4). This is a net gain of skilled personnel – assuming a reasonable overlap between those who indicated they were schooled outside South Africa and those who left the country again after graduation. To be more specific, the Western Cape gained 2 488 international students who all graduated in 2010. After graduation, 1 381 South African and international graduates relocated to jobs outside South Africa, leaving a net international migration gain of 1 107 skilled persons working in the South African economy.

Table 12.5 suggests that of the 1 238 skilled migrants who left South Africa in 2011/2012, 48% were white, 35% African, 13% coloured and 4% Indian. Of the Africans leaving South Africa, some would be graduates returning to their home country on the continent.

Additional characteristics of the graduates who have left South Africa after graduating in 2010 in search of work (or returning home) are highlighted in Tables 12.6 to 12.8. Table 12.6 indicates that 51% of the skilled migrants leaving South Africa are young – 25 years old or younger. Table 12.7 shows that 70% of these leavers are South

Table 12.4: Location of employment/home on 1 September 2012, by global location (Western Cape 2010 graduate cohort)

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
In South Africa	7 253	98.6	5 420	88.5	6 853	93.5	3 564	97.4	23 090	94.4
Elsewhere in Africa	62	0.8	279	4.6	260	3.5	52	1.4	652	2.7
Elsewhere in the world	44	0.6	424	6.9	216	3.0	43	1.2	729	3.0
Total	7 359	100.0	6 123	100.0	7 329	100.0	3 659	100.0	24 471	100.0

Survey Question: Q5.1

Table 12.5: Location of employment/home on 1 September 2012, by race (Western Cape 2010 graduate cohort)

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
In South Africa	7 016	30.8	6 337	27.9	829	3.6	8 566	37.7	22 748	100.0
Elsewhere in Africa	370	63.9	70	12.1	11	1.9	128	22.1	579	100.0
Elsewhere in the world	59	9.0	93	14.1	38	5.8	468	71.0	659	100.0
Combined sub-total: outside South Africa	429	34.7	163	13.2	49	4.0	596	48.1	1 238	100.0
Total	7 445	31.0	6 500	27.1	878	3.7	9 162	38.2	23 985	100.0

Survey Question: Q5.2
Note: Excludes 2% of graduates classified as 'other' or not classified at all.

Table 12.6: 2010 graduates living outside South Africa, by age (read % vertically)

	South African		International		Total	
	Count	%	Count	%	Count	%
25 or younger	385	63.5	54	21.0	439	50.9
26–35	153	25.2	105	41.1	258	29.9
36 or older	68	11.3	97	37.9	165	19.1
Total	607	100.0	255	100.0	862	100.0

Note: Graduates living outside SA on 1 September 2012.

Table 12.7: 2010 graduates living outside South Africa, by age (read % horizontally)

	South African		International		Total	
	Count	%	Count	%	Count	%
25 or younger	385	87.8	54	12.2	439	100.0
26–35	153	59.3	105	40.7	258	100.0
36 or older	68	41.4	97	58.6	165	100.0
Total	607	70.4	255	29.6	862	100.0

Note: Graduates living outside SA on 1 September 2012.

African and 30% are international graduates. And finally, Table 12.8 shows a high proportion of graduates leaving the country have degrees in SET – 47%, followed by 'Business and Commerce' at 20%. These are serious losses.

Migration within South Africa's borders

The discussion now shifts to examine patterns of migration within South Africa's borders – between the Western Cape and the other eight provinces. The data in Table 12.9 illustrates the 'pull' of the Gauteng economy with 20% of UCT's graduation segment finding employment in that province. The Gauteng 'pull' has impacted on SU as well, with 12% of its 2010 graduates finding employment in that province. However, these could also include graduates originally from these provinces returning 'home' or returning to previously held jobs.

Table 12.10 is an amalgam of data from Section Five (on the provincial location of the 2010 graduates' secondary schooling) and the provincial location of their employment on 1 September 2012. Data from this table suggests that the Western Cape is in a 'win-win' situation regarding the complex relationship between migration, education and employment. It is what Brown and Lauder (2012) call a 'magnet economy'. This is because it attracts both high levels of Grade 12 students into the province from other regions, and several years later, retains the bulk of them as skilled workers in the provincial economy.

Table 12.10 indicates that the Western Cape acquired an additional 8 085 Grade 12 students enrolled for qualifications in its four higher education institutions. It also shows that of the total cohort (excluding foreigners), 4 859 graduating students sought employment in other provinces (especially Gauteng), resulting in a net gain for the Western Cape of 3 226 graduates who were from provinces other than the Western Cape, but who sought employment in the Western Cape after graduation. This is a 15% gain in high-skill personnel for the province.

Migration to Gauteng

The migration of skilled graduates to jobs in Gauteng – the biggest internal outflow from the Western Cape as indicated in Table 12.10 – requires additional analysis. The bulk of skilled migrants to Gauteng (70%) are 25 years old or younger (Table 12.11). Forty-four per cent studied at UCT (Table 12.12). This correlates with the fact that UCT had the highest enrolment of school leavers who originated from outside the Western Cape – and who came to study for the qualification they received in 2010. Now some of them have returned to work in their home province. The Gauteng sector with the greatest 'pull' in terms of jobs for

Table 12.8: 2010 graduates living outside South Africa, by academic field

	South African		International		Total	
	Count	%	Count	%	Count	%
SET	245	40.1	399	51.9	645	46.7
Business and commerce	144	23.6	136	17.6	280	20.3
Education	32	5.3	11	1.4	43	3.1
Other humanities	190	31.1	223	29.0	413	29.9
Total	612	100.0	769	100.0	1 381	100.0

Note: Graduates living outside SA on 1 September 2012.

Table 12.9: Provincial Location of employment/home on 1 September 2012 (Western Cape 2010 graduate cohort)

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
EC	273	3.8	94	1.7	310	4.5	119	3.4	795	3.5
FS	19	0.3	9	0.2	102	1.5	18	0.5	148	0.6
GP	309	4.3	1071	19.8	790	11.6	241	6.8	2 411	10.5
KZN	77	1.1	197	3.6	214	3.1	99	2.8	587	2.6
LP	43	0.6	18	0.3	51	0.7	42	1.2	154	0.7
MP	43	0.6	14	0.3	156	2.3	32	0.9	244	1.1
NC	72	1.0	25	0.5	106	1.6	49	1.4	253	1.1
NW	92	1.3	53	1.0	73	1.1	50	1.4	267	1.2
WC	6 301	87.2	3918	72.6	5 038	73.7	2 881	81.6	18 138	78.9
Total	7 229	100.0	5398	100.0	6 841	100.0	3 531	100.0	22 998	100.0

Survey Question: Q5.2.1
Note: Includes only graduates who were living in South Africa on 1 September 2012.

Table 12.10: Net effect of migration into and out of the Western Cape				
INFLOW of matriculants into the Western Cape	PROVINCE	OUTFLOW from the Western Cape of skilled professionals	NET GAIN OR LOSS Net gain/loss of skilled graduates to the Western Province	
Count		Count	Net gain/loss	%
2 829	Eastern Cape	795	2 034	71.9
366	Free State	148	218	59.6
1 779	Gauteng	2 411	Loss -632	-35.5
1 391	KwaZulu-Natal	587	804	57.8
594	Limpopo	154	440	74.1
296	Mpumalanga	244	52	17.6
478	Northern Cape	253	225	47.1
352	North West	267	85	24.1
Total students		Outflow	Net Gain	
8 085		4 859	3 226	

Survey Questions: Q1.1.1 and Q5.2.1
Note: 'Inflow' is determined from the high school location of the 2010 graduate cohort. 'Outflow' is determined by the location of graduate employment on 1 September 2012. The data excludes 13 962 graduates who did their secondary schooling in the Western Cape.

Western Cape graduates is by far the 'Financial and Business Services' sector (at 49%) followed by 'Government Services' at 33% (Table 12.13).

Table 12.11: 2010 Graduates living and working in Gauteng, by age		
	Count	%
25 or younger	1 610	70.4
26 – 35	435	19.0
36 or older	242	10.6
Total	2 287	100.0

Note: Graduates living in Gauteng on 1 September 2012.

Table 12.12: 2010 Graduates living and working in Gauteng, by institution		
	Count	%
CPUT	309	12.8
UCT	1 071	44.4
SU	790	32.8
UWC	241	10.0
Total	2 411	100.0

Note: Graduates living in Gauteng on 1 September 2012.

Table 12.13: 2010 Graduates living and working in Gauteng, by sector		
	Count	%
Agriculture, hunting, forestry and fishing	15	0.8
Mining and quarrying	84	4.2
Manufacturing	93	4.6
Electricity, gas and water supply	72	3.6
Construction (including building and design)	115	5.7
Wholesale and retail trade (including sale of products, tourism, hotels and restaurants, vehicle repairs)	75	3.8
Transport, storage and communication, tele-communications	89	4.5
Finance, insurance, real estate, IT, and business services	799	39.8
Community, social and personal services	664	33.1
Total	2 006	100.0

Note: Graduates living in Gauteng on 1 September 2012 and who were employed or self-employed either in the private or public sectors.

Leaving the Western Cape in the near future

The survey also asked all those graduates not living in the Western Cape whether they would move to the Western Cape in the near future. A noticeable 38% said yes, with a further 28% undecided. Yet, this might also be a combination of those originally from the Western Cape, having found employment elsewhere, but now hoping to return one day, as well as graduates originally from outside the Western Cape (both local and international), now wanting to move to the Western Cape following their study experience.

However, the Western Cape's attraction for skilled professionals can by no means be taken for granted. When asked if they would consider moving out of the province in search of work elsewhere, 27% of graduates working in the province on 1 September 2012 said 'Yes'. This is less than the likely inflow of graduates from other provinces discussed above. However, it still poses a medium- to long-term risk for the Western Cape economy. Of greater concern, 46% of African graduates from the 2010 cohort working in the Western Cape indicated they were prepared to leave the province sometime in the future (Table 12.16). However, this may be due to many African graduates originating from provinces such as the Eastern Cape and KwaZulu-Natal. There may be a desire to return to the 'home province'.

Leaving South Africa

Graduates were also asked whether they would consider leaving South Africa sometime in the future, either permanently or temporarily. About 27% said 'Yes'. The potential permanent 'brain drain' is small – only 5.2% – whilst the temporary outflow (22%) is a potential 'brain gain' – as

Table 12.14: Extent to which 2010 graduates not living in the Western Cape would move to the Western Cape in the near future

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Yes	534	52.4	678	31.1	859	37.9	325	43.4	2 396	38.5
No	287	28.1	737	33.8	842	37.2	205	27.4	2 072	33.3
I am not sure	199	19.5	768	35.2	565	24.9	219	29.2	1 751	28.2
Total	1 021	100.0	2 183	100.0	2 265	100.0	748	100.0	6 218	100.0

Survey Question: Q5.2.1
Note: Includes only graduates who were not living in the Western Cape on 1 September 2012.

Table 12.15: Extent to which 2010 graduates currently living in the Western Cape would move out of the province in the near future

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Yes	1 950	31.3	1 014	26.0	1 087	21.7	875	30.6	4 925	27.4
No	2 783	44.6	1 853	47.5	2 861	57.2	1 291	45.2	8 789	48.8
I am not sure	1 505	24.1	1 038	26.6	1 056	21.1	690	24.2	4 289	23.8
Total	6 238	100.0	3 905	100.0	5 005	100.0	2 855	100.0	18 003	100.0

Survey Question: Q5.2.1.2
Note: Includes only graduates who were not living in the Western Cape on 1 September 2012.

Table 12.16: Extent to which 2010 graduates currently living in the Western Cape would move out of the province in the near future, by race

	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Yes	2 148	46.0	1 232	21.4	118	21.1	1 351	20.1	4 849	27.4
No	1 270	27.2	3 195	55.5	259	46.3	3 949	58.7	8 674	49.0
I am not sure	1 246	26.7	1 326	23.0	182	32.6	1 425	21.2	4 179	23.6
Total	4 664	100.0	5 753	100.0	560	100.0	6 725	100.0	17 702	100.0

Survey Question: Q5.2.1.2
Note: Includes only graduates who were living in the Western Cape on 1 September 2012. Excludes 2% of graduates classified as 'other' or not classified at all.

long as the more experienced South Africans return to the country after their sojourn in the global labour market.

The maximum loss of graduates to the Western Cape and South Africa comprises the 5.7% already living outside South Africa, plus the potential 5.2% revealed in Table 12.11 who want to leave South Africa in the near future – a potential migration loss of 10.9% of the original 24 710 graduates.

An additional concern here is that a large proportion of graduates (about 26%) have indicated that they are unsure whether they will leave the country in the future – pointing towards high levels of uncertainty amongst graduates about whether to stay or leave.

Table 12.17 suggests that there are marginal differences in terms of future locational aspirations across the four campuses – except in the case of UCT where 31% of graduates from the 2010 cohort aspire to work overseas on a temporary basis to gain additional work experience (a figure higher than for any of the other campuses).

The region of choice for those thinking of leaving South Africa either permanently or temporarily, is Europe (54%), followed by North America (14%), Oceania (Australia and new Zealand) (10%), Asia (10%), and Africa (9%). These aspirations of course may not turn into reality. Emigration is largely influenced by respective countries' immigration policies, more so than where people opt to go.

The CHEC GDS results on the question of intention to move overseas – both permanently and temporarily – is a smaller percentage of young graduates than that reported by the South African Graduate Recruiters Association (SAGRA) survey of graduates in 2011. SAGRA reported a figure of 50% of young graduates who aspire to work overseas (SAGRA, 2011: 46). Nonetheless, the scale of potential human resource losses to the province is large and retention strategies will need to be devised by both provincial and national government to address these potential losses.

Table 12.17: Intention to leave the country permanently or temporarily sometime in the future, (2010 Western Cape graduate cohort)

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Yes – permanently	399	5.5	323	6.0	287	4.2	183	5.1	1 193	5.2
Yes – temporarily	1 233	17.0	1 665	30.7	1 408	20.6	751	21.0	5 057	21.9
No	3 540	48.8	1 917	35.4	3 589	52.4	1 710	47.9	10 756	46.6
I am not sure	2 084	28.7	1 513	27.9	1 559	22.8	924	25.9	6 079	26.3
Total	7 256	100.0	5 417	100.0	6 844	100.0	3 568	100.0	23 085	100.0

Survey Question: Q5.2.2
Note: Includes only graduates who were living in South Africa on 1 September 2012.

Table 12.18: Region of destination for those who leave the country sometime in the future

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Africa	125	8.5	179	9.6	132	8.6	81	9.4	517	9.0
Latin America and the Caribbean	38	2.6	42	2.3	46	3.0	18	2.1	144	2.5
North America	152	10.3	320	17.2	239	15.6	102	11.9	812	14.2
Asia	138	9.3	179	9.6	116	7.6	118	13.8	550	9.6
Europe (including the UK)	824	55.7	1 006	54.1	817	53.5	449	52.5	3 096	54.1
Oceania	202	13.7	133	7.1	179	11.7	89	10.4	603	10.5
Total	1 479	100.0	1 858	100.0	1 529	100.0	857	100.0	5 723	100.0

Survey Question: Q5.2.2.1
Note: Includes only graduates who were living in South Africa on 1 September 2012 and who think they will leave the country either permanently or temporarily in the near future.

13

PREDICTORS OF 'EMPLOYMENT' AND 'FURTHER STUDY'

Section 13 provides a different analytical utilisation of the data yielded by the GDS than has been the case in the previous survey results sections. This section seeks to identify, using specific statistical methods which background factors are the strongest predictors of employment and further studies. To do this, a number of CHAID (Chi-square Automatic Interaction Detection) analyses were conducted to determine which of several 'background' factors were statistically the strongest predictors of 'employment' and 'further study'. Background factors of graduates that were included in the study and that were deemed to influence the ability of graduates to find employment and study further were grouped into three conceptual categories, namely:

- '**Socio-demographic**', which included:
  - Gender;
  - Age (during 2010);
  - Race;
  - Home province; and
  - Type of area in which high school was located.

- '**Schooling and family background**', which included:
  - Level of education of the mother/female guardian;
  - Level of education of the father/male guardian;
  - Type of high school attended (public/independent);
  - Matric maths symbol;
  - Matric physical science symbol; and
  - Whether a sibling obtained a higher education qualification prior to or in 2010.

- '**University background**', which included:
  - Participation in extramural activities;
  - Career guidance received;
  - Internships or work placements undertaken and
  - Field of study.

Because of the geopolitical and economic nature of work, all of the subsequent analyses are based on South African graduates who were also living in South Africa as on 1 September 2012. The analyses therefore do not account for the minority of international graduates or graduates currently living abroad, since international dynamics around employment and further study are arguably different to those encountered here.

Moreover, separate analyses were conducted for graduates who received either a certificate, diploma or bachelor degree (i.e., those who were 'undergraduate students') and graduates who received either a postgraduate certificate or diploma, honours, masters or doctorate degree (i.e., those who were 'postgraduate students'). It was argued that this dichotomy served as a proxy for 'younger' vs. more 'mature' graduates whose pathways from study to work are arguably different. It is, however, limited as 'postgraduates' included honours students – many of whom would have proceeded straight from a bachelors without any prior engagement with the world of work. Finally, separate analyses were also conducted to determine the strongest predictor in each of the three categories above in order to determine at least three different types of predictors of employment and further study for both undergraduates and postgraduates. The analysis below therefore includes twelve CHAID diagrams, six for both questions around employment and further study (three sets of factors analysed for both undergraduates and postgraduates).

PREDICTORS OF 'EMPLOYMENT'

This analysis placed those graduates who were employed against those who were unemployed. 'Employed' graduates included all those either employed in the private or public sectors, or self-employed in the private sector as on 1 September 2012. 'Unemployed' graduates included all those who described themselves as 'unemployed and looking for work'.

Socio-demographic predictors of employment

Diagram 13.1 shows the strongest socio-demographic predictor of undergraduate employment.

Diagram 13.1 first shows a breakdown of 87% employment versus. 13% unemployment as far as South African undergraduates, currently living in South Africa, are concerned. Of all five socio-demographic variables listed above, namely gender, age, race, home province, and type of area in which the high school was located, 'race' emerged as statistically the strongest 'socio-demographic' predictor of employment amongst these graduates. A significantly larger percentage of white and Indian undergraduates (about 96%) were employed as opposed to coloured (about 91%) and in particular African (about 77%) undergraduates (χ^2 (2, N = 2 758) = 161.493, p = .00). It should be noted that the CHAID automatically grouped white and Indian graduates together due to their relatively similar employment vs. unemployment profile.

When 'race' was removed from the CHAID, 'type of area in which the high school was located' emerged as the next strongest predictor, with a significant larger percentage of graduates who attended a suburban school (about 90%) finding themselves employed as opposed to those who attended a rural or township school (about 79%) (χ^2 (2, N = 2 758) = 60.554, p = .00). The latter actually reiterates the association between race and employment due to race and school locality being such close proxies, which highlights the dominant role of race over other socio-demographic factors in terms of Western Cape undergraduates finding employment. Diagram 13.2 shows the strongest socio-demographic predictor of postgraduate employment.

Diagram 13.2 first shows a breakdown of about 95% employment vs. about 5% unemployment as far as South African postgraduates, currently living in South Africa, are concerned – an unemployment rate much lower than for undergraduates. Although the CHAID identified 'type of area in which the high school was located' as the strongest predictor, it did so on the basis of having grouped all postgraduate respondents (based on their relatively similar profile in terms of high school locality) apart from those respondents who did not indicate their high school location, denoted as 'missing'. The analysis here is therefore irrelevant. Similarly, when 'type of area in which the high school was located' was removed from the CHAID, no other socio-demographic variable was identified as a statistically significant predictor of employment amongst postgraduates. The influence of socio-demographics on postgraduates' ability to find employment therefore seems less evident compared to their undergraduate counterparts.

Diagram 13.1: 'Socio-demographic' predictors of undergraduate employment

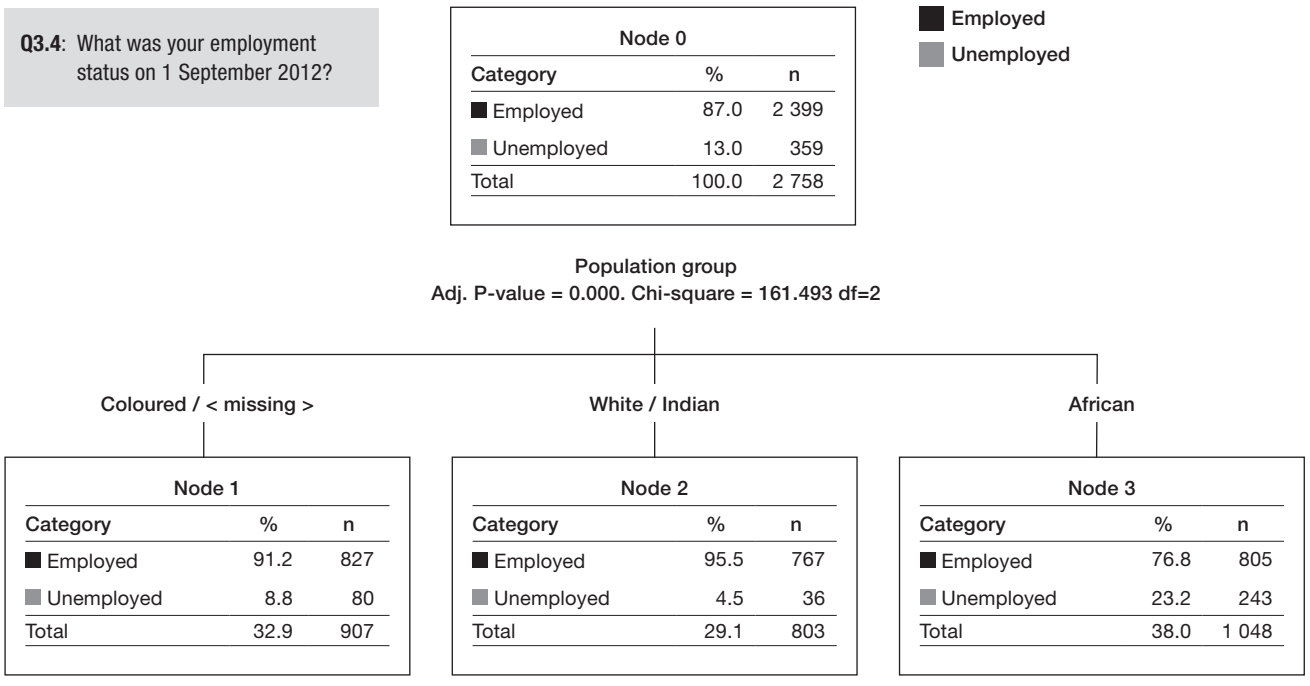


Diagram 13.2: 'Socio-demographic' predictors of postgraduate employment

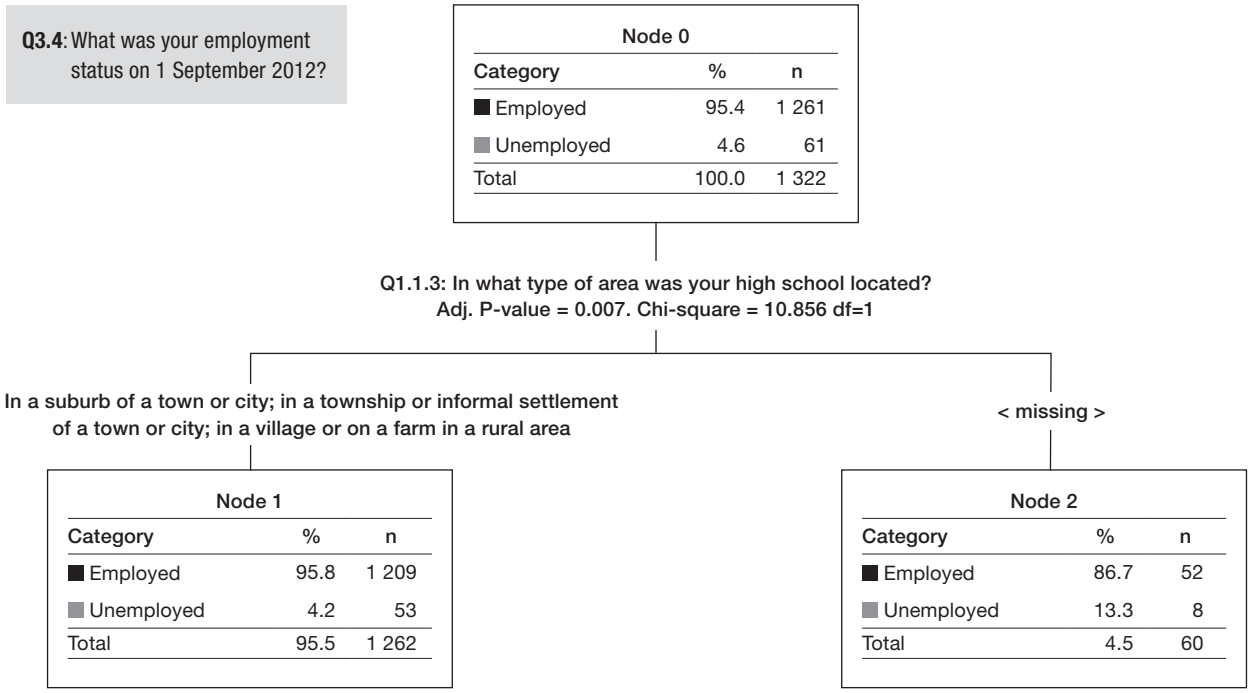
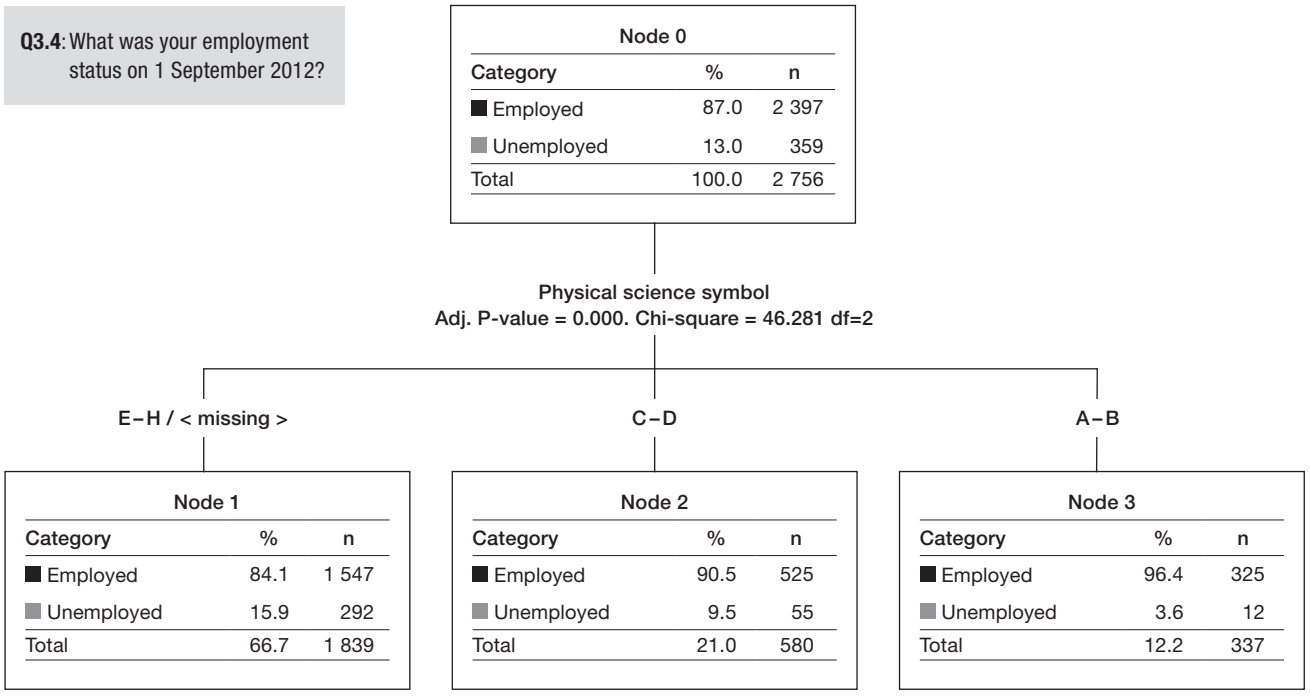


Diagram 13.3: 'Schooling and family background' predictors of undergraduate employment



Schooling and family background predictors of employment

Diagram 13.3 shows the strongest schooling and family background predictor of undergraduate employment.

Of all five schooling and family background variables listed above, 'matric physical science symbol' emerged as statistically the strongest 'schooling background' predictor of employment amongst undergraduates. A significantly larger percentage of undergraduates who obtained a 'B' or higher for physical science in matric (about 96%) were employed as opposed to those who obtained a 'C' or 'D' (about 91%) and in particular those who obtained an 'E' or lower (only about 84%) (χ^2 (2, N = 2 756) = 46.281, p = .00). When 'matric physical science symbol' was removed from the CHAID, 'matric maths symbol' emerged as the strongest predictor, yielding a relatively similar percentage distribution to physical science symbols across employed and unemployed undergraduates (χ^2 (2, N = 2 756) = 42.228, p = .00). Academic performance in matric, particularly in maths and physical science, therefore seem strongly related to undergraduates' ability to find employment, more so than other schooling and family background factors such as parental education, type of schooling or sibling having succeeded at higher education.

For postgraduates, 'maths' and 'physical science' were omitted from the analysis as some institutions do not keep record of matric results for postgraduate students. It is important to keep this in mind when comparing these results with those of undergraduates. Diagram 13.4 shows the strongest schooling and family background predictor of postgraduate employment.

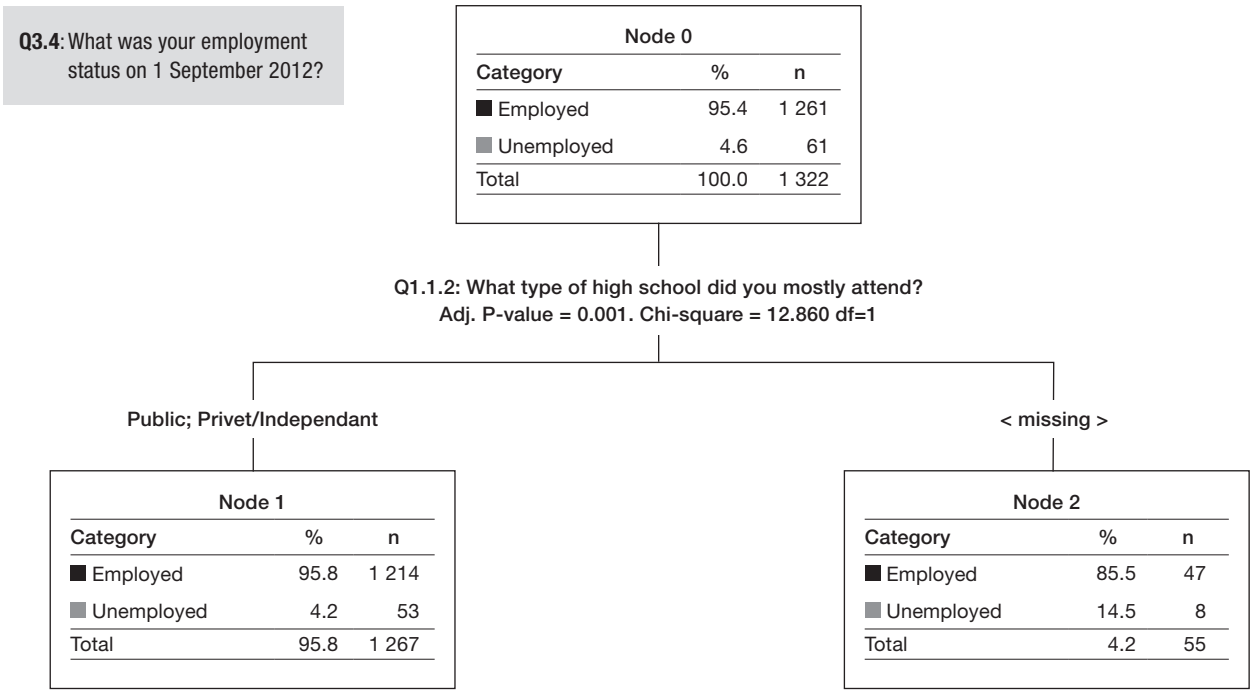
Again, although the CHAID identified 'type of high school attended' as the strongest predictor, it did so on the basis of having grouped all postgraduate respondents (based on their relatively similar profile in terms of high school attended) apart from those respondents who did not indicate what type of high school attended, denoted as 'missing'. The analysis here is therefore also irrelevant. Similarly, when 'type of high school attended' was removed from the CHAID, no other socio-demographic variable was identified as a statistically significant predictor of employment amongst postgraduates. The influence of schooling and family background on postgraduates' ability to find employment therefore also seems less evident compared to their undergraduate counterparts.

University background predictors of employment

The analysis here focused only on graduates who studied full-time, since most of the factors considered here, such as extra-curricular activities, career guidance, and internships, applied to full-time study only. Diagram 13.5 shows the strongest university background predictor of undergraduate employment.

Diagram 13.5 first shows a breakdown of about 86% employment vs. about 4% unemployment as far as South African undergraduates, currently living in South Africa, are

Diagram 13.4: 'Schooling and family background' predictors of postgraduate employment



concerned. This percentage distribution would necessarily be slightly different to the one presented earlier since the analysis here includes full-time students only. Of all four variables listed above, 'field of study' (as classified in terms of the four main CESMs used by the DHET), emerged as statistically the strongest 'university background' predictor of undergraduate employment. A significantly larger percentage of those who studied education (about 95%) found themselves employed as opposed to those who studied science, engineering and technology (about 87%) and humanities or business and commerce in particular (only 83%) (χ^2 (2, N = 2 311) = 17.329, p = .00). It should again be noted that the CHAID automatically grouped graduates from the humanities and business and commerce fields due to their relatively similar employment vs. unemployment profile.

When 'field of study' was removed from the CHAID, 'participation in extramural activities' emerged as the strongest predictor of undergraduate employment, with a significantly larger percentage of those who participated in any extramural activities (88%) finding themselves employed as opposed to those who did not (about 84%) (χ^2 (1, N = 2 307) = 8.642, p = .01). Thus, neither career guidance nor internships or work placements emerged as a statistically significant predictor of undergraduate employment. The pathway to work therefore seems to be predicted foremost by field of study, followed by participation in extramural activities, rather than career guidance and internships or work placements. However, this is not to say that career guidance, internships or work placements do not have any influence in terms of finding employment, although such influences appear to be relatively small.

Diagram 13.6 shows the strongest university background predictor of postgraduate employment.

Again, 'field of study', emerged as statistically the strongest 'university background' predictor of postgraduate employment. However, for these graduates, the effect of field of study is almost reversed, with a significantly larger percentage of those who studied business and commerce (99%) now finding themselves employed as opposed to those who studied humanities, education, sciences, engineering and technology (91% employment) (χ^2 (1, N = 714) = 14.048, p = .00).

This might be due to MBA and similar sought-after managerial and financial qualifications. Managerial skills tend to be in demand, with indications that employers may be favouring graduates with a humanities, education or technical background, but topped with a managerial or financial postgraduate qualification. However, it could also point towards postgraduates that were already employed prior to studying in 2010 veering towards studying business and commerce due to being exposed to business-oriented working environments, even though the analysis here included full-time study only. However, it must be pointed out that, as in the previous analysis, obtaining a postgraduate qualification in business or commerce does not necessarily guarantee employment. It is a matter of associations, influenced by various other factors.

Diagram 13.5: 'University background' predictors of undergraduate employment

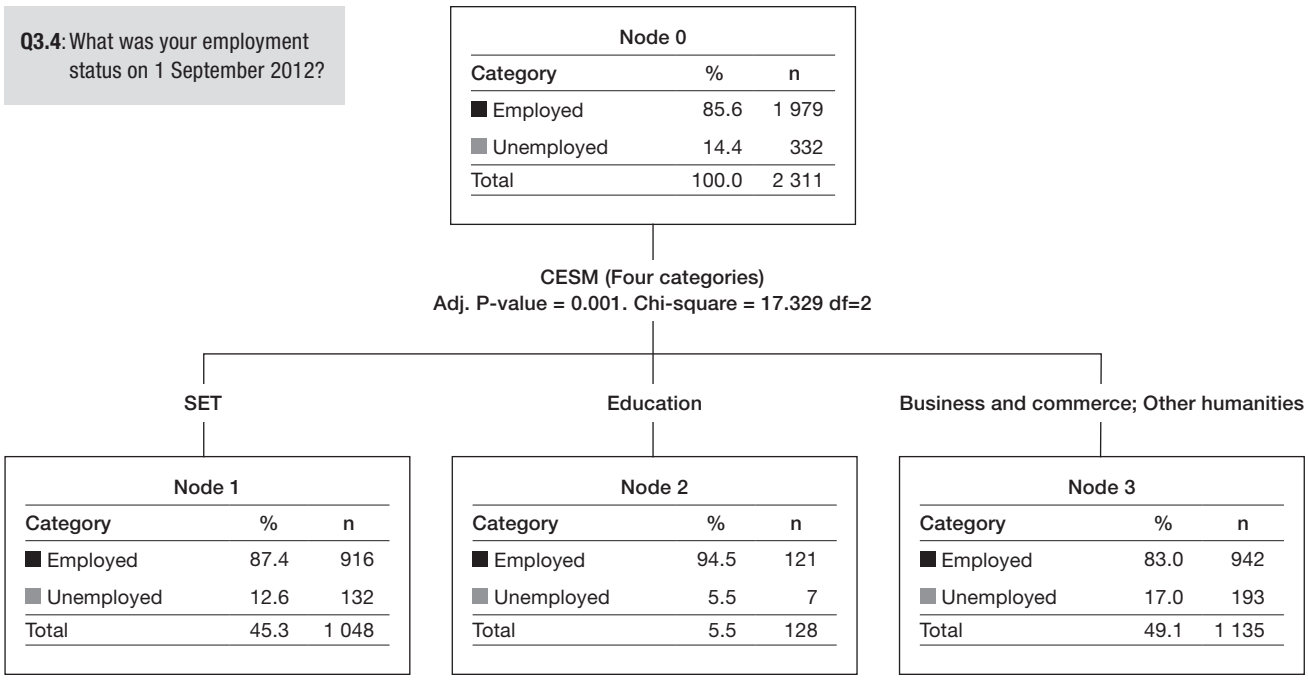


Diagram 13.6: 'University background' predictors of postgraduate employment

Q3.4: What was your employment status on 1 September 2012?

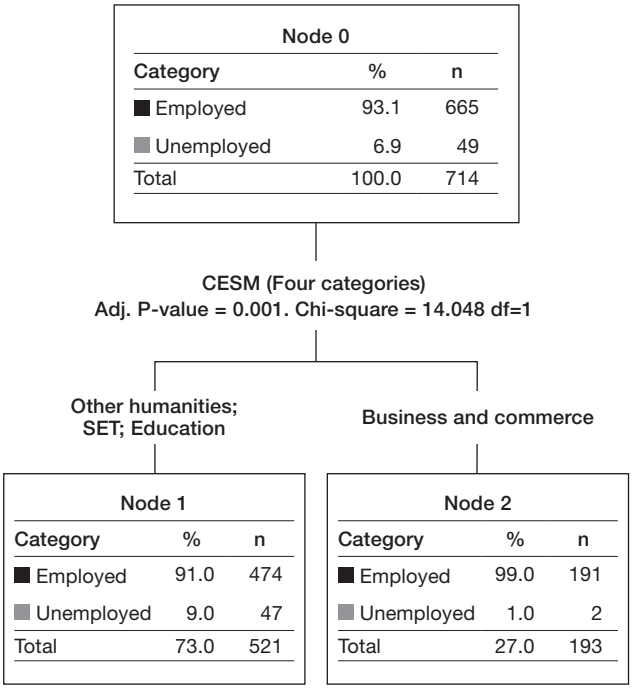
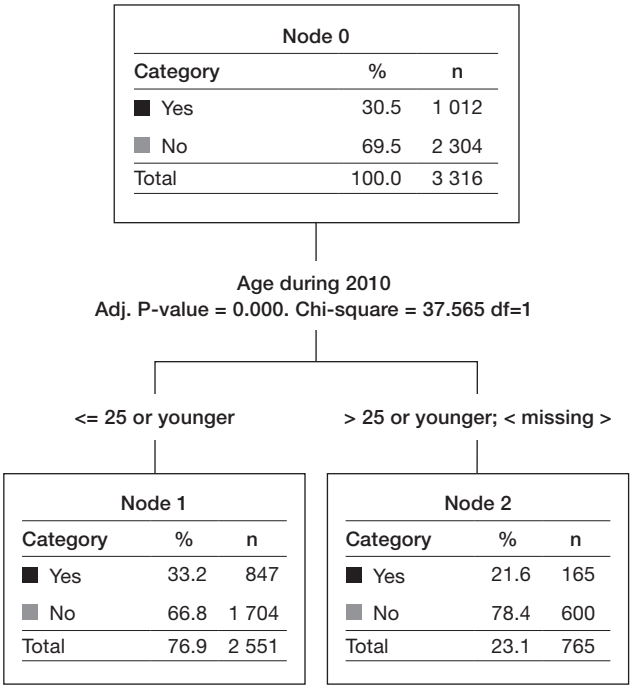


Diagram 13.7: 'Socio-demographic' predictors of undergraduates studying further

Q4.1: Were you registered for and studying towards another qualification at a university on 1 September 2012?



PREDICTORS OF 'FURTHER STUDY'

The analysis here placed those graduates who were registered for and studying towards another qualification at a university on 1 September 2012 against those who were not.

Socio-demographic predictors of further study

Diagram 13.7 shows the strongest socio-demographic predictor of undergraduates studying further.

Diagram 13.7 first shows a breakdown of about 30% studying further as opposed to about 70% not studying further as far as South African undergraduates, currently living in South Africa, are concerned. Of all five socio-demographic factors listed above, namely gender, age, race, home province, and type of area in which the high school was located, 'age' emerged as statistically the strongest 'socio-demographic' predictor of further study amongst undergraduates. Here, the CHAID analysis automatically created two groups based on relative similarity, those who were 25 years old or younger in 2010, and those who were older than 25 years. A significantly larger percentage of those who were 25 years old or younger (about 33%) were studying further as opposed to their older counterparts (about 22%) (χ^2 (2, N = 3 316) = 37.565, p = .00). This points towards a natural progression, as those who are younger are more likely to study further to top-up a first qualification, but also because they arguably have fewer work or family commitments than older graduates. However, when 'age was removed from the CHAID, 'race' emerged as the strongest predictor, with a significant larger percentage of Indian and white graduates (about 35%) studying further as opposed to African and coloured graduates (about 28%) (χ^2 (2, N = 3 316) = 13.166, p = .00).

Diagram 13.8 shows the strongest socio-demographic predictor of postgraduates studying further.

Again, 'age', emerged as statistically the strongest 'socio-demographic' predictor of further study amongst postgraduates. An even significantly larger percentage of those who were 25 years old or younger (about 38%) were studying further as opposed to their older counterparts (about 21%) (χ^2 (2, N = 1 568) = 51.273, p = .00). Interestingly, when 'age was removed from the CHAID, 'race' again emerged as the strongest predictor, but now with a significant larger percentage of African and Indian graduates (about 34%) studying further as opposed to coloured and white (about 25%) (χ^2 (2, N = 1 568) = 13.496,

p = .00). This may be indicative of two trends, a substantive number of unemployed African postgraduates studying further in the meanwhile, or a substantive number of African postgraduates who previously gained access to the labour market and who are now reskilling themselves for new or higher positions.

Schooling and family background predictors of further study

Diagram 13.9 shows the strongest schooling and family background predictor of undergraduates studying further. The 'level of education of the father/male guardian' emerged as the strongest schooling and family background predictor of undergraduate further study, with a significantly larger percentage of those with a father/male guardian with tertiary education (about 36%) studying further as opposed to those with a father/male guardian with matric, some schooling or no schooling (about 27%) (χ^2 (1, N = 3 313) = 27.112, p = .00). When 'level of education of the father/male guardian' was removed from the CHAID, 'matric maths symbol' emerged as the strongest predictor, with a significantly larger percentage of undergraduates with 'A' down to 'D' symbols for maths (about 34%) studying further as opposed to those with an 'E' or lower (about 26%) (χ^2 (1, N = 3 313) = 23.866, p = .00).

Diagram 13.10 shows the strongest schooling and family background predictor of postgraduates studying further.

'Tertiary qualified sibling' emerged as the strongest schooling and family background predictor of postgraduate further study, with, ironically, a significantly larger percentage of those without a tertiary qualified sibling (about 33%) studying further as opposed to those with a tertiary qualified sibling (about 24%) (χ^2 (1, N = 1 130) = 14.477, p = .00). However, the majority of postgraduates may well comprise older siblings, which means that their younger siblings are unlikely to have qualified by the time postgraduates were studying. It is therefore necessary to also examine the results when 'tertiary qualified sibling' is removed from the CHAID. Yet, when 'tertiary qualified sibling' was removed, no other significant schooling or

Diagram 13.8: 'Socio-demographic' predictors of postgraduates studying further

Q4.1: Were you registered for and studying towards another qualification at a university on 1 September 2012?

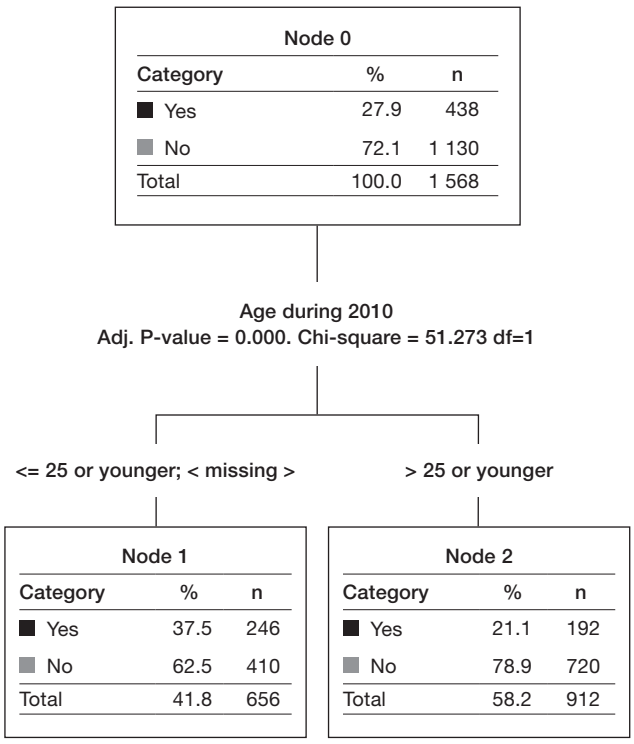
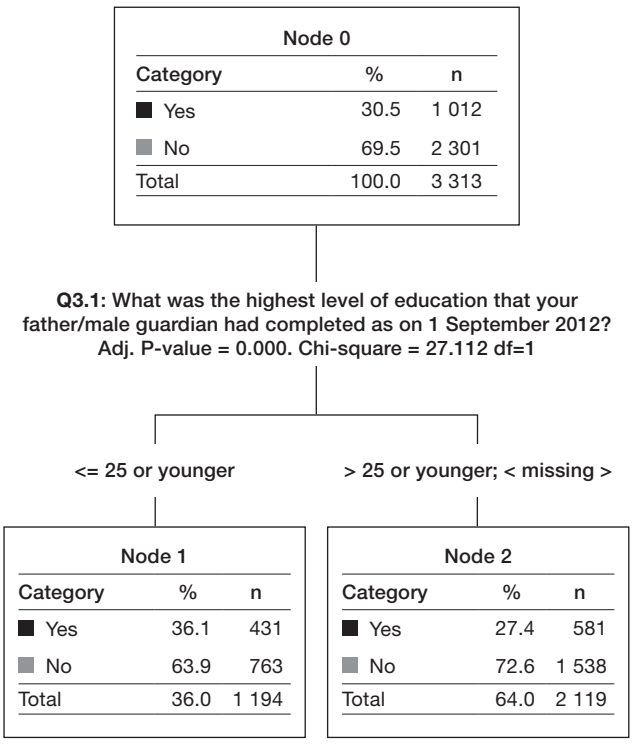


Diagram 13.9: 'Schooling and family background' predictors of undergraduates studying further

Q4.1: Were you registered for and studying towards another qualification at a university on 1 September 2012?



family background predictor emerged. The influence of schooling or family background factors on postgraduate further study is therefore inconclusive.

University background predictors of further study

Diagram 13.11 shows the strongest university background predictor of undergraduates studying further.

Internships or work placements undertaken whilst studying emerged as the strongest university background predictor of undergraduate further study, with a significantly larger percentage of those who did not undertake any internship or work placements (about 36%) studying further as opposed to those who did (about 27%) (χ^2 (1, N = 1 955) = 27.558, p = .00). It is possible that those who did undertake internships or work placements got involved in full-time employment, or were studying a more technical field to start with, contributing to these graduates not studying further. When 'internships or work placements' was removed from the CHAID analysis, 'field of study' emerged as the strongest predictor, with a significantly larger percentage of those who studied SET, business and commerce (about 33%) now studying further as opposed to those who studied education (about 14%) (χ^2 (1, N = 2 856) = 21.226, p = .00). Here, a similar logic may apply, in that those who studied teaching perhaps have become involved in full-time employment more easily than their counterparts.

Diagram 13.12 shows the strongest university background predictor of postgraduates studying further.

'Field of study' emerged as statistically the strongest university background predictor of postgraduates studying further, with a significantly larger percentage of those who studied SET (about 43%) now studying further, compared to those who studied humanities (about 35%) and education, business and commerce in particular (only about 15%) (χ^2 (1, N = 946) = 59.045, p = .00). When 'field of study' was removed from the CHAID analysis, 'internships or work placements' emerged as the strongest predictor, with, like their undergraduate counterparts, a significantly larger percentage of those who did not undertake any internship or work placements (about 36%) studying further as opposed to those who did (about 22%) (χ^2 (1, N = 943) = 16.167, p = .00).

Diagram 13.10: 'Schooling and family background' predictors of postgraduates studying further

Q4.1: Were you registered for and studying towards another qualification at a university on 1 September 2012?

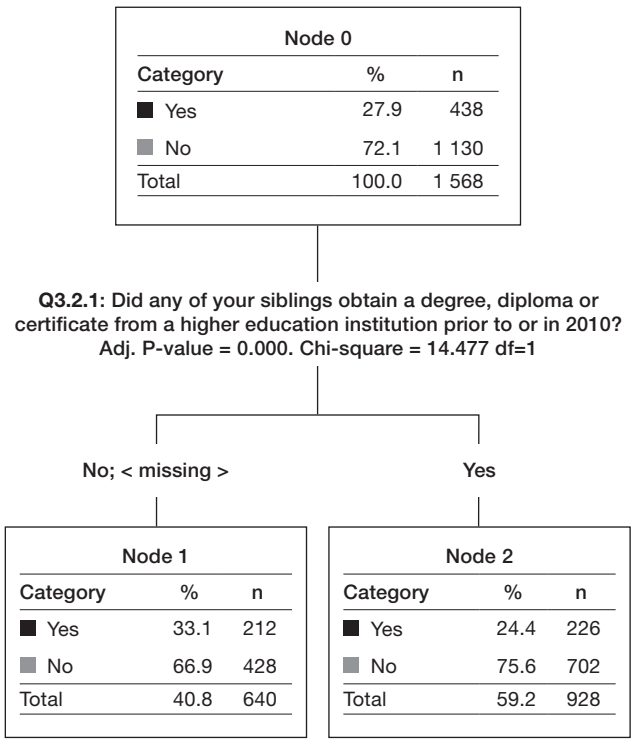


Diagram 13.11: 'University background' predictors of undergraduates studying further

Q4.1: Were you registered for and studying towards another qualification at a university on 1 September 2012?

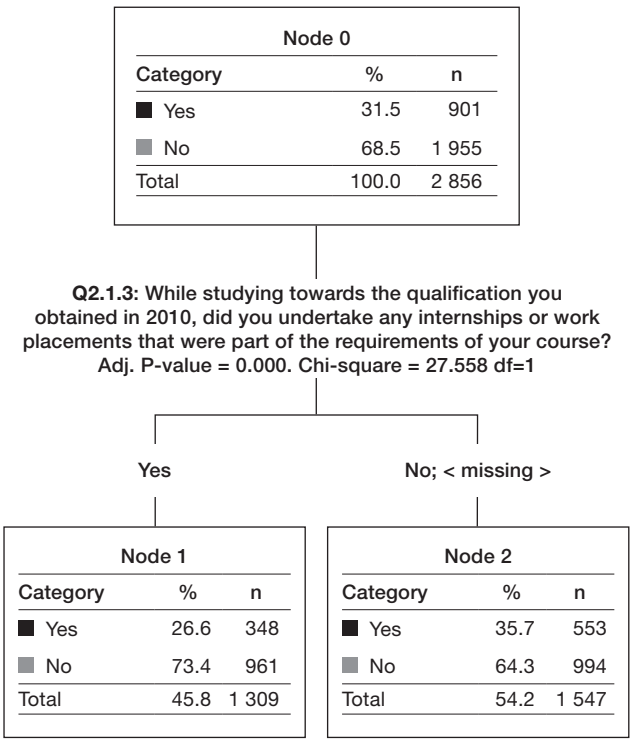


Diagram 13.12: 'University background' predictors of postgraduates studying further

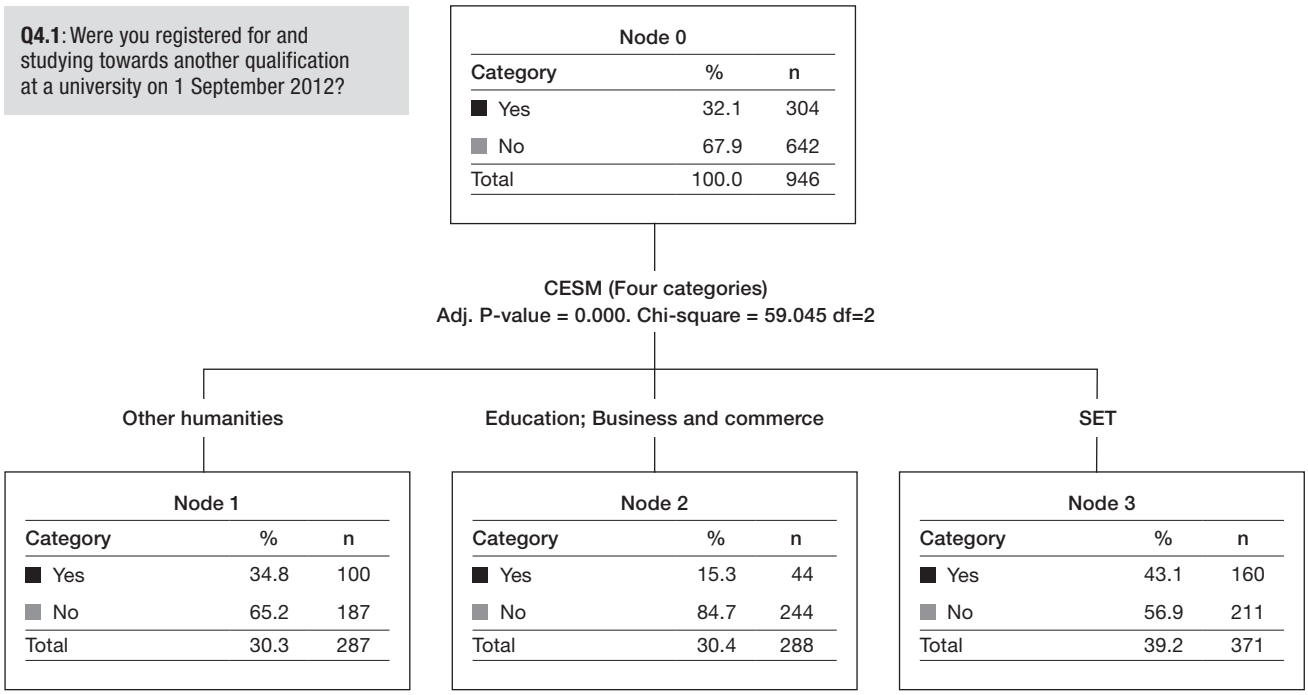


Table 13.1: Summary of CHAID analyses

		For undergraduates	For postgraduates
Predictors of employment	Socio-demographic	**Race** (with Indian and white graduates more likely to be employed)	(Inconclusive)
	Schooling and family background	**Matric physical science symbol** (with 'A' and 'B' candidates more likely to be employed)	(Inconclusive)
	University background	**Field of study** (with education graduates more likely to be employed)	**Field of study** (with business and commerce graduates more likely to be employed)
Predictors of further study	Socio-demographic	**Age** (with younger graduates more likely to study further)	**Age** (with younger graduates more likely to study further)
	Schooling and family background	**Level of education of the father/male guardian** (with those with higher educated fathers/male guardians more likely to study further)	(Inconclusive)
	University background	**Internship or work placement undertaken whilst studying** (with those who did not benefit from internships and work placements more likely to study further)	**Field of study** (with those who studied SET now more likely to study further)

Conclusion

Table 13.1 summarises the results from the CHAID analyses, with the strongest predictor highlighted in each quadrant based on the size of the chi-square statistic.

The CHAID analysis presented above is only the beginning of a much more detailed and multi-level statistical and econometric analysis that can be done of the GDS database constructed in this study. CHEC will investigate the further analysis of the data by other econometrical and statistical experts, as well as through qualitative analysis.

14

CONCLUSION

This report adopted the concept of 'pathways' from higher education into work as a 'framing' device allowing the reader to more easily see the different and sometimes complex transitions from higher education into work. Seven different pathways were identified in the study and investigated. The seven pathways are as follows:

1. Young first-time entrants into the labour market
2. 'Mature' graduates who have had prior work experience
3. Self-employed graduates working in the private sector
4. Employed in the informal sector
5. Unemployed graduates looking for work
6. Continuing to study full-time
7. Care-givers: unemployed, but not looking for work

Each of the seven pathways will now be summarised.

Employed graduates who have entered the labour market for the first time

The most important task of the GDS was to determine the rate of employment of the 2010 cohort. The answer provided by the evidence generated in this report is favourable – according to Table 7.11 about 84% of 2010 graduates were employed on 1 September 2012 – a period of just under two years after graduation.

Table 14.1 shows that this employed grouping is not a homogenous grouping. In fact, two relatively equal sub-components exist which make up the 'employed' category:

- 9 707 employed graduates entered the economy and labour market for the first time after graduating in 2010
- 7 415 employed graduates have been employed prior to, during, and after studying for the qualification which was awarded to them in 2010.

These two groupings are therefore denoted as 'young' and 'mature' entrants into the 2010 labour market.

Table 14.2 provides an analysis of first-time entrants by higher education institution. CPUT has both the largest pool of first-time entrants and the highest unemployment rate within this subset of the 2010 cohort.

The burden of unemployment amongst first-time entrants is clearly among African graduates, especially at CPUT where unemployment rates reach 20.2% on 1 September 2012.

Table 14.1: 'First-time entrants' in the labour market and previously employed 'mature-age graduates', 1 September 2012

Q3.4: Employment status on 1 September 2012	Q3.3: What was your employment status just before you started studying towards the qualification you obtained in 2010?							
	First time entrants (previously in school, studying full-time or unemployed but not looking for work)		Mature graduates (previously employed in the formal economy)		Other (previously employed in informal sector or unemployed and looking for work)		Total	
	Count	%	Count	%	Count	%	Count	%
Employed (in the public or private sector, or self-employed)	9 707	65.3	7 415	88.9	748	65.3	17 871	73.4
Unemployed and looking for work	1 434	9.6	385	4.6	252	21.9	2 071	8.5
Other (studying further, employed in informal sector, or not looking for work)	3 728	25.1	544	6.5	146	12.8	4 418	18.1
Total	14 869	100.0	8 344	100.0	1146	100.0	24 359	100.0

Source: Q3.4 cross-tabulated with Q3.3

Table 14.2: 'First-time entrants' in the labour market by higher education institution, 1 September 2012

	Institution									
	CPUT		UCT		SU		UWC		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Employed in the private or public sector or self-employed in the private sector	2 948	69.3	2 578	64.9	2 879	62.5	1 302	62.4	9 707	65.1
Unemployed and looking for work	775	18.2	193	4.9	191	4.1	275	13.2	1 434	9.6
Other (studying further, employed in the informal sector, not looking for work)	534	12.5	1 198	30.2	1 537	33.4	510	24.5	3 780	25.3
Total	4 257	100.0	3 970	100.0	4 607	100.0	2 087	100.0	14 921	100.0

Source: Q3.4 cross-tabulated with Q3.3
Note: Includes only 'new entrants', i.e., graduates that were (1) previously in school, (2) studying full-time or (3) unemployed but not looking for work as per Q3.3. Includes international graduates and graduates living abroad on 1 September 2012.

Table 14.3: 'First-time entrants' in the labour market by race, 1 September 2012

	Population group									
	African		Coloured		Indian		White		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Employed in the private or public sector or self-employed in the private sector	2 559	60.1	2 555	70.7	412	70.1	4 068	65.5	9 594	65.4
Unemployed and looking for work	862	20.2	282	7.8	13	2.3	248	4.0	1 405	9.6
Other (studying further, employed in the informal sector, not looking for work)	840	19.7	778	21.5	162	27.6	1 894	30.5	3 674	25.0
Total	4 261	100.0	3 614	100.0	588	100.0	6 210	100.0	14 673	100.0

Note: Includes only 'new entrants', i.e., graduates that were (1) previously in school, (2) studying full-time or (3) unemployed but not looking for work as per Q3.3. Includes international graduates and graduates living abroad on 1 September 2012. Excludes 2% of graduates classified as 'other' or not classified at all.

Some of this high unemployment – especially for inexperienced first-timers – is frictional and reduces over time. This occurs primarily because of the graduate employment absorption rates of firms in the private sector which increased over time.

Comparing the respective absorption rates of the public and private sectors between the second measure (measured after graduation 2010 but before 1 September 2012) and the third measure of employment (on 1 September 2012) reveals a significant increase in employment capacity by the private sector, whereas the state absorption rate of newly trained graduates remained relatively static.

This growth in the private economy's ability to increase employment over time helped reduce unemployment amongst 2012 graduates. This occurred because the number of unemployed graduates with degrees shrank in percentage terms – from 14.3% to 8.1% – alongside a simultaneous increase in the private sector's absorptive capacity to employ from 41.8% to 47.6%. This did not happen for holders of certificates and diplomas where the aggregate number of those unemployed went up and where the percentage value remained static at 13.9%. Surprisingly, in quantitative terms, it was holders of degrees who constituted the largest pool of unemployed soon after graduation, and although this gap reduced because the number of unemployed graduates with certificates and diplomas increased from 533 to 907, the aggregate number of unemployed people with degrees still remained large.

Table 14.4: Overcoming unemployment: the 2010 graduate cohort at two measures in time

	Employment at 2nd measure As % of 2010 cohort	Employment at 3rd measure As % of 2010 cohort
Employment sectors	%	%
Employed (part- or full-time) in the private sector	41.8	47.6
Employed (part- or full-time) in the public sector	36.0	36.4

Note: These % levels do not add up to 100% as they are extracts from Table 7.15 and 7.16

Table 14.5: Unemployment by type of qualification: the 2010 graduate cohort at two measures in time

	Unemployment at the 2nd measure		Unemployment at the 3rd measure	
% of unemployment by qualification type	Count	%	Count	%
Certificates and diplomas	533	17.2	907	18.2
Degrees	913	17.3	768	9.1

Note: These % levels do not add up to 100% as they are extracts from Table 7.15 and 7.16

The public sector is the second largest employer of the 2010 graduates. About 49% of employed members of the 2010 cohort found employment in the public sector and contributed to the public good through health and education provision as well as working in the civil service. The data provided by the GDS shows that the public sector is playing an affirming role by employing significant numbers of women professionals and more African and coloured graduates than is the case with the private economy. This is important for social transformation.

Employed graduates who were employed prior to studying for the qualification achieved in 2010

A second pathway identified in this study is the 'mature student' category described above – a category comprising those students who had experience of employment prior to studying for their 2010 qualification. All in all, 8 344 graduates or 34% of the total cohort of 24 710 people were employed in the formal economy prior to the start of their study period leading to the acquisition of the 2010 qualification (Table 14.1).

This is a very significant measure of the determination of working people to continue to study whilst working – most often, working full-time and studying part-time. A significant grouping from this mature age category (24% of the total cohort) also funded their own studies. And even more encouragingly, about 47% of this mature age group retained the same job throughout their studies leading up to graduation in 2010 – suggesting a reasonable level of job continuity and stability over at least a five year period (2008–2012).

Self-employed graduates

The third pathway is self-employment. Self-employment is a small phenomenon in graduate labour markets globally and in South Africa. This is because high-skill self-employment requires both a university qualification but also work experience – which many of the 2010 cohort members did not have. Only 558 graduates from a total of 24 710 graduates ended up in this self-employed category – 2.2%. Most were white (65%) and male (71%).

Graduates employed in the informal sector

Similarly, employment in the informal sector constitutes a very small fourth pathway in this study – just under 1% of the cohort and comprising 191 people. Additional data – for example, on the kinds of informal activity engaged in – was not collected by the GDS. Informal sector employment in this instance is most likely a protection against unemployment for the graduates who resorted to informal work. They might have done this because they could not find jobs that used their qualifications.

Unemployed graduates

As indicated above, unemployment was reduced from 13.9% just after graduation in 2010 to 10.1% on 1 September 2012. Unemployment peaked amongst CPUT graduates at 16% in general, but amongst its African graduates, it reached 19%.

Seventy-two per cent of the cohort's unemployed graduates are young people in the age category 25 years and younger, followed by 20% in the 26–35 years old category. Only 8% of the unemployed are older than 36 years of age. Graduate unemployment is clearly a problem facing young people.

Continuing to study

One of the more remarkable achievements of the university system in the Western Cape is their contribution to the national pool of returning students who undertake higher levels of study – 7 586 full-time and part-time students (or 31%) of the 2010 cohort). These are globally competitive rates. For example, the mean for 'further studies' in Schomburg and Teichler's twelve country study was 12% (Schomburg and Teichler, 2006: 77). The Western Cape's contribution to the national pool of returning students far exceeds this.

The highest percentage of returning students was among SU graduates, at 34%, followed by CPUT at 26%, UCT at 23% and UWC 17%. Stellenbosch graduates were the largest grouping in two categories of on-going higher learning – honours and masters degrees (at 38% and 41% respectively). UCT graduates constituted the largest number of continuing learners registered for a doctoral degree (at 37%). CPUT took the lead with lower-level qualifications – certificates/diplomas and BTech programmes – at 39% and 70%.

There is a logical sequence to these continuing higher education enrolments in the national system of higher education. For example, after acquiring a bachelors degree in 2010, a honours degree between 2010 and 2012, returning students would then register for a masters degree in the current period (Sept 2012). Some students have in fact progressed to a doctoral degree in this time period as well.

Apartheid-induced historical inequities have not been eliminated in these continuing studies. Some inequities have been reduced whilst others have been overturned. So for example, whites still form a majority of enrollees in all the postgraduate qualification categories – although the margin at doctoral level is now very small. Whites

comprise 39% of all doctoral candidates whereas Africans comprise 38%. And in more encouraging news, the GDS shows that women constitute the majority of continuing students at 56%. There is one exception – in SET where women are only 43% of enrolments. In all other fields, women constitute the majority. Nonetheless, some progress is being made on the equity front.

Caregivers

Little is known about the last pathway – those who graduated, are not employed and who declare themselves not to be looking for a job. They comprise 393 graduates – or 1.9% of the 2010 cohort. Amongst them are caregivers, homemakers, persons of ill-health, religious persons who are not allowed to work and beneficiaries of gap-years – graduates who take time out to travel and explore the world. This is not a significant category in South African higher education, and the causes of withdrawal from the labour market are strictly personal, not requiring any public policy intervention or concern.

Other transitions

The above seven pathways represent the most known-about routes out of higher education into work. But there are other transitions which the graduates of 2010 have traversed which are not reflected in the 7 pathways – but which cut across these seven categories. International migration is the most important of these and it recruits candidates from all four employment pathways described above as well as from full-time students. This pathway is beneficial to the region and country if migrants who leave the province and who go overseas come back to South Africa and share their newly acquired expertise. It is wasteful if they do not return. The GDS indicated that there are already 5.7% of the cohort living outside the country, with another 5.2% indicating they would like to leave South Africa sometime in the future. This constitutes a brain drain of 10.9% of the original 24 710 graduates – a significant loss.

THE VALUE OF GRADUATE DESTINATION SURVEYS

The value of this GDS is not merely in its detailed depiction of the Western Cape graduate labour market. It is also about the value of the GDS to institutional planning and state higher education policy reform. GDSs are very dynamic tools for university managers and government higher education planners to generate a range of useful data about quality and satisfaction levels, university performance, graduate destinations and employability. In the case of the Western Cape 2010 GDS, all qualification levels were surveyed across all public higher education institutions in the province, providing a very detailed picture of the entire Western Cape graduate labour market (from the perspective of one cohort). This kind of picture has not been available before, and it has allowed the authors to generalise with relative confidence across important categories. It has provided a truly systemic view of how higher education works in relation to the graduate labour market in the Western Cape for the year 2010. These are findings which can be generalised to some extent for the years before 2010 and the years thereafter. The trends are likely to be similar, at least in the foreseeable future.

The challenge in the future is to complement the quantitative work done here with more detailed qualitative work on how employers value the various graduate attributes acquired in higher education and transferred to the workplace. Studies are also needed on local labour markets, for example, of the public sector, which absorbs high levels of female professionals. Another area would be to investigate 'low skill work' – by interviewing graduates who are doing clerical, sales and shop work in the wholesale and retail as well as services sectors.

But the most important next step is to put in place plans to repeat this survey every five years. Only then can medium- to long-term trends be measured. The time for sporadic and occasional efforts to research graduate destinations is over. The challenge now is to institutionalise in a creative way such graduate destination instruments into the five-yearly reporting requirements of universities.

BIBLIOGRAPHY

Ball, S.J. (2010) New class inequalities in education: Why education policy may be looking in the wrong place! Education policy, civil society and social class, *International Journal of Sociology and Social Policy*, 30 (3/4): 155–166.

Bhorat, H., Visser, M. and Mayet, N. (2010) Student graduation, labour market destinations and employment earnings. In Letseka, M., Cosser, M., Brier, M., and Visser, M. *Student Retention and Graduate Destination: Higher Education and Labour Market Access*. Pretoria. Human Sciences Research Council.

Bhorat, H., Mayet, N. and Visser, M. (2012) Student graduation, labour market destinations and employment earnings, Development Policy Research Unit Working Paper 12/153, University of Cape Town.

Brown, P. and Lauder, H. (2012) Globalisation, knowledge, and the myth of the magnet economy, in Livingstone, D.L. and D. Guile (eds) *The Knowledge Economy and Lifelong Learning*, London: Sense.

Cloete, N. (2009) Comments on the CHE's *The State of Higher Education* Report 2009, Centre for Higher Education Transformation (CHET), Wynberg, Cape Town, November.

Cloete, H., Branson, N., Zuze, T. L., Papier, J., Needham, S., and Nel, H. (2009) *Responding to the Educational Needs of Post-school Youth: Determining the Scope of the Problem and Developing a Capacity-Building Model*, Centre for Higher Education Transformation (CHET), Wynberg, Cape Town.

Cosser, M.C., Badroodien, A., McGrath, S. and Maja, B. (eds) (2003) *Technical College Responsiveness in South Africa*. Cape Town: HSRC Press.

Davies, R. and Elias, P. (2003) Dropping out: A study of Early Leavers from Higher Education. Research Report. Department for Education and Skills: Norwich.

Development Policy Research Unit (2006) Graduate unemployment in post-apartheid South Africa: Nature and Possible Policy Responses. Research compiled for Standard Bank and Business Leadership South Africa. School of Economics, University of Cape Town.

Fisher, G. and Scott, I. (2011) Higher Education, draft chapter for World Bank publication on the South African education system, forthcoming.

Graduate Careers (2009) *Beyond Graduation 2009: The Report of the Beyond Graduation Survey*, Graduate Careers, Melbourne.

Letseka, M., Cosser, M., Brier, M., and Visser, M. (2010) *Student Retention and Graduate Destination: Higher Education and Labour Market Access*. Pretoria. Human Sciences Research Council.

Marks, G.N. (2007) Completing University: Characteristics and Outcomes of Completing and Non-completing Students, LSAY Research Report number 51, Camberwell, Melbourne, Australia.

Mugabushaka, A.M., Teichler, U. and Schomburg, H. (2003) Failed or Self-Hindering Prophecies? Employment Experiences of African Graduates in the 1990s, *Journal of Higher Education in Africa* 1 (1): 57–77.

Nunez, I. and Livanos, I. (2009) Higher education and unemployment in Europe: An analysis of the academic subject and national effects, *Higher Education*, 59.

ROA (2012) *Maastricht University Graduate Surveys 2012*, Research Centre for Education and the Labour Market (Research Centrum voor Onderwijs en Arbeidsmarkt – ROA), School of Business and Economics, Maastricht University, Netherlands.

Rodríguez, A., Dahlman, C. and Salmi, J. (2008) *Knowledge and Innovation for Competitiveness in Brazil*. The International Bank for Reconstruction and Development/World Bank, Washington DC.

Richter, D. (2009) Graduating Student Survey Final Report, Department of Institutional Research and Planning, CPUT.

Schomburg, H. and Teichler, U. (2006) *Higher Education and Graduate Employment in Europe: Results from Graduate Surveys from Twelve Countries*. Higher Education Dynamics 15. Dordrecht. Springer.

Scott, I., Yeld, N. and Hendry, J. (2007) *A Case for Improving Teaching and Learning in South African Higher Education*. Higher Education Monitor No. 6. Pretoria: Council on Higher Education.

Scott, I. (2008) First-year experience as terrain of failure or platform of development: Critical choices for higher education. Unpublished paper, Centre for Higher Education Development, University of Cape Town.

Teichler, U. (2002) Graduate employment and work in Europe: Diverse situations and common perceptions, *Tertiary Education and Management 8*: 199–216.

University of Cape Town (UCT) (2009) December 2009 Graduate Exit Survey: Findings, Institutional Planning Office.

Stellenbosch University (SU) (2003) 'Bestemmingsopname van Afstuderende Studente', Sentrum vir Studente-voorligting en-Ontwikkeling. Desember 2002 en April 2003.

APPENDIX
ONLINE SURVEY INSTRUMENT

SECTION 1: AT HIGH SCHOOL

Core questions (all respondents)	Filtered questions (selected respondents)	Filtered questions (selected respondents)
Q1.1: Where did you mostly live while attending high school? • In South Africa ➔ Q1.1.1 • Elsewhere in Africa • Elsewhere in the world	**Q1.1.1: In which province did you mostly live while attending high school?** • Eastern Cape • Free state • Gauteng • KwaZulu-Natal • Limpopo • Mpumalanga • Northern Cape • Northwest • Western Cape • N/A	
	Q1.1.2: What type of high school did you mostly attend? • Public • Private / independent • N/A – I did home schooling	
	Q1.1.3: In what type of area was your high school located? • In a suburb of a town or city • In a township or informal settlement of a town or city • In a village or on a farm in a rural area • N/A – I did home schooling	

SECTION 2: AT UNIVERSITY

Core questions (all respondents)	Filtered questions (selected respondents)	Filtered questions (selected respondents)
Q2.1: While studying towards the qualification you obtained in 2010, were you mostly a full-time or part time (correspondence, distance or afterhours) student? • Full-time ➔ Q2.1.1 • Part time	**Q2.1.1: While studying towards the qualification you obtained in 2010, did you participate in any additional activities beyond the requirements of your degree? (for example, faculty societies, cultural, sport or student organisation activities)** • Yes ➔ Q2.1.1.1 • No	**Q2.1.1.1: Which activities on campus did you participate in? (Tick all options that are applicable to you)** • Faculty/academic societies (e.g., Geog., Psych, etc.) • Sports teams • Cultural organisations • Religious organisations • Student governance (e.g., SRC and sub-committees) • Residence committees • Tutor/teaching assistant • Research/laboratory assistant • Other
	Q2.1.2: While studying towards the qualification you obtained in 2010, did you receive any form of career guidance from your university? • Yes ➔ Q2.1.2.1 • No • I am not sure	**Q2.1.2.1: Which forms of career guidance did you receive from your university? (Tick all options that are applicable to you)** • Aptitude tests • Personal discussions with a lecturer • Personal discussions with a career counsellor • Visits to career expos • Visits to or talks by private companies (potential employers) • Work experience with private companies • Information on further studies • Other
	Q2.1.3: While studying towards the qualification you obtained in 2010, did you undertake any internships or work placements that were part of the requirements of your course? • Yes ➔ Q2.1.3.1 • No	**Q2.1.3.1: For approximately how many months did you undertake your internship or work placement?**
Q2.2: Did you or your parent/guardian work for the university from which you obtained your qualification in 2010. enabling you to study for free or at a significant discount? • Yes • No ➔ Q2.2.1	**Q2.2.1: What means did you use to pay for the registration, tuition and book fees for the qualification you obtained in 2010? (Tick all options that are applicable to you)** • My own funds • Funds or loans from my parents/guardians • Funds or loans from other family members or acquaintances • Funds or loans from my employer • NSFAS bursary/loan • NRF bursary • A bursary or scholarship from my university • A private bursary or scholarship • A bank loan • Other	
Q2.3: In which field did you graduate in 2010? • Science, engineering and technology • Business and commerce • Human and social sciences (including performing and fine arts) • Health sciences • Law • Education • Other		

Core questions (all respondents)	Filtered questions (selected respondents)	Filtered questions (selected respondents)
Q2.4: Did you obtain a masters or doctoral qualification in 2010? • Yes ➔ Q2.4.1 • No	**Q2.4.1: What type of qualification did you obtain in 2010?** • A masters degree by coursework and research • A masters degree by research only • A doctoral degree	
	Q2.4.2: Why did you choose to do the masters/doctoral qualification you obtained in 2010? (Tick all options that are applicable to you) • For personal fulfilment • To improve my chances of getting a job as I have yet to find one • To enable me to do my current job better • To enable me to make more money or get promoted in my current job • To enable me to get a better or higher paying job in the same field • To enable me to change careers to a different field • To enable me to become a researcher or an academic • Other	
Q2.5: By which month in 2010 did you complete your studies (i.e., passed all your exams)?		

SECTION 3: BACKGROUND, EMPLOYMENT AND RELEVANCE OF QUALIFICATION

Core questions (all respondents)	Filtered questions (selected respondents)	Filtered questions (selected respondents)
Q3.1: What was the highest level of education that each of your parents/guardians had completed as on 1 September 2012? • University postgraduate degree • University undergraduate degree • Technikon/university of technology degree • University certificate or diploma • Technikon/university of technology certificate or diploma • Technical college certificate, trade certificate or similar certificate • Matric/Grade 12 • Some formal schooling • No formal schooling • I am not sure • N/A – This parent/guardian was deceased at the time		
Q3.2: Do you have any siblings (alive or deceased)? • Yes ➔ Q3.2.1 • No	**Q3.2.1: Did any of your siblings obtain a degree, diploma or certificate from a higher education institution prior to or in 2010?** • Yes • No • I am not sure	
Q3.3: What was your employment status just before you started studying towards the qualification you obtained in 2010? • N/A – I was still in school • N/A – I was studying full-time, not working and not looking for work at all • Employed (part- or full-time) in the private sector (e.g., in a business or company, etc.) ➔ Q3.3.1–4 • Self-employed in the private sector (you are a registered business in terms of tax) ➔ Q3.3.1–4 • Employed (part- or full-time) in the public sector (e.g., in a government department, university, science council, public school or public health centre) ➔ Q3.3.1–4 • Employed in the informal sector (e.g., you are an unregistered informal trader, maker or seller of goods and services) • Unemployed and looking for work • Unemployed, but not looking for work (e.g., 'gap-year', caregiver, homemaker; stay-at-home parent, etc.)	**Q3.3.1: When did you start the job you had just before you started studying towards the qualification you obtained in 2010?**	
	Q3.3.2: On 1 September 2012, did you still have the same job you had just before you started studying towards the qualification you obtained in 2010? • Yes [Filter out Q3.4.1] • No ➔ Q3.3.2.1	**Q3.3.2.1: When did you end the job you had just before you started studying towards the qualification you obtained in 2010?**
	Q3.3.3: On what basis were you employed in the job you had just before you started studying towards the qualification you obtained in 2010? • Permanent • Contractual/temporary	

Core questions (all respondents)	Filtered questions (selected respondents)	Filtered questions (selected respondents)
	Q3.3.4: Were you employed full-time or part time in the job you had just before you started studying towards the qualification you obtained in 2010? • Full-time (40 hours per week) • Part time (less than 40 hours per week)	
Q3.4: What was your employment status on 1 September 2012? • N/A – I am studying full-time, not working and not looking for work at all • Employed (part- or full-time) in the private sector (e.g., in a business or company, etc.) ➔ Q3.4.1–6 & Q3.4.10–11 • Self-employed in the private sector (you are a registered business in terms of tax) ➔ Q3.4.1–3 & Q3.4.7–10 • Employed (part- or full-time) in the public sector (e.g., in a government department, university, science council, public school or public health centre) ➔ Q3.4.1–6 & Q3.4.10–11 • Employed in the informal sector (e.g., you are an unregistered informal trader, maker or seller of goods and services) ➔ Q3.4.1 • Unemployed and looking for work ➔ Q3.4.12–13 • Unemployed, but not looking for work (e.g., 'gap-year', caregiver, homemaker; stay-at-home parent, etc.)	**Q3.4.1: When did you start the job you had on 1 September 2012?**	**Q3.4.1.1 What was your employment status mostly between graduating and starting the job you had on 1 September 2012?** • N/A – I was studying full-time, not working and not looking for work at all • Employed (part- or full-time) in the private sector (e.g., in a registered tax-paying business, company or institution) ➔ Q3.4.1.1.1 • Self-employed in the private sector (you are registered for tax-purposes) ➔ Q3.4.1.1.1 • Employed (part- or full-time) in the public sector (e.g., in a government department, university, science council, public school or public health centre) ➔ Q3.4.1.1.1 • Employed in the informal sector (e.g., you are an unregistered informal trader, maker or seller of goods and services) ➔ Q3.4.1.1.1 • Unemployed and looking for work • Unemployed, but not looking for work (e.g., 'gap-year', caregiver, homemaker; stay-at-home parent, etc.) • N/A – The job I had on 1 September I started soon after studying
		Q3.4.1.1.1: How many different jobs did you have between graduating and starting the job you had on 1 September 2012?
	Q3.4.2: In which sector did you work in the job you had on 1 September 2012? ➔ Q3.4.2.1 1. Agriculture, hunting, forestry and fishing 2. Mining and quarrying 3. Manufacturing 4. Electricity, gas and water supply 5. Construction (including building and design) 6. Wholesale and retail trade (including sale of products, tourism, hotels and restaurants, vehicle repairs) 7. Transport, storage and communication, tele-communications 8. Finance, insurance, real estate, information technology, and business services (which includes legal, accounting, bookkeeping, auditing; tax consultancy; business and management consultancy) 9. Community, social and personal services, comprising: o Health and social work o Education and research o Government and municipalities o NGOs o Entertainment, arts and culture, sport and the media	**Q3.4.2.1: Did you work as a scientist or researcher in the job you had on 1 September 2010?** • Yes ➔ Q3.4.2.2 • No **Q3.4.2.2: In what type of institution did you work in the job you had on 1 September 2012?** • A university ➔ Q3.4.2.2.1 • A science/research council ➔ Q3.4.2.2.1 • A research and development NGO ➔ Q3.4.2.2.1 • A research and development unit in a government department ➔ Q3.4.2.2.1 • None of the above **Q3.4.2.2.1: What type of position did you have in the job you had on 1 September 2012?** • Academic, scientist or (research) professional • Other

Core questions (all respondents)	Filtered questions (selected respondents)	Filtered questions (selected respondents)
	Q3.4.3: What was your occupation in the job you had on 1 September 2012? • Elementary worker • Plant or machinery operator and assembler • Craft or related trade worker • Skilled agricultural or fishery worker • Service worker or shop and sales worker • Clerk • Technician or associated professional • Professional • Legislator, senior official or manager • Armed forces	
	Q3.4.4: On what basis were you employed in the job you had on 1 September 2012? • Permanent • Contractual/temporary	
	Q3.4.5: Were you employed full-time or part time in the job you had on 1 September 2012? • Full-time (40 hours per week) • Part time (less than 40 hours per week)	
	Q3.4.6: What was the primary method of finding the job you had on 1 September 2012? • A holiday job or internship gave me access to this job • Through help of a lecturer • Through my university's career office • I initially offered to work for free • I had to work off a bursary I got from my employer • I simply sent in my CV or asked for a job • I responded to a job ad in the printed media • I responded to a job ad on an employment website • I responded to a job ad on a company website • I responded to a job ad in the Government Gazette • I placed ads or flyers advertising my services on notice boards or in post-boxes • I walked from door-to-door asking for work • Through one of the Department of Labour's employment centres • Through a recruitment agency or labour broker • Through family or friends • Through a social network (e.g., Facebook, Linked-In, etc.) • I was headhunted or asked to apply for the job • N/A – I was promoted internally to this position	
	Q3.4.7 What was the main reason for you being self-employed in the job you had on 1 September 2012? • I preferred to be my own boss or have my own business, company or practice • I took over a family business • I wanted to work from home • I could make more money • I lost my job • I could not find a job • Other	

Core questions (all respondents)	Filtered questions (selected respondents)	Filtered questions (selected respondents)
	Q3.4.8: What kind of work did you do when you were self-employed in the job you had on 1 September 2012? • I produced goods and services to multiple clients • I worked as a sub-contractor producing goods and services for a limited number of clients • I sold goods and services produced by other companies • I provided knowledge services as a consultant working on my own • Other	
	Q3.4.9: In the job you had on 1 September 2012, how many people did you employ? • 1 – 5 • 6 – 10 • 11 – 15 • 16 – 20 • 21 or more	
	Q3.4.10: On a scale of 1 to 5, with '1' being 'not at all' and '5' being 'to a large extent', to what extent… • Was the job that you did on 1 September 2012 related to the field in which you did your 2010 qualification? • Were you able to apply what you learnt in your 2010 qualification in the job you had on 1 September 2012? • Were you satisfied with your 2010 qualification in relation to the job you had on 1 September 2012?	
	Q3.4.11: Did your 2010 qualification lead to any of the following? (Tick all options that are applicable to you) • A promotion to a higher rank, position or level • A pay increase • Increased benefits • Increased tasks and responsibilities • Other • None of the above	
	Q3.4.12: Since when have you been looking for work given your current unemployment situation?	
	Q3.4.13: How did you look for work? (Tick all options that are applicable to you) • I approached a lecturer • I approached my university's career office • I have offered to work for free • I sent my CV or asked for jobs directly • I responded to job ads in the printed media • I responded to job ads on employment websites • I responded to job ads on company websites • I responded to job ads in the Government Gazette • I placed ads or flyers advertising my services on notice boards or in post-boxes • I walked from door-to-door asking for work • I approached one of the Department of Labour's employment centres • I approached recruitment agencies or labour brokers • I approached family or friends personally • I used social networks (e.g., Facebook, Linked-In, etc.) • Other	

SECTION 4: CURRENT STUDIES

Core questions (all respondents)	Filtered questions (selected respondents)	Filtered questions (selected respondents)
Q4.1: Were you registered for and studying towards another qualification at a university on 1 September 2012? • Yes ➔ Q4.1.1–6 • No ➔ Q4.1.4	**Q4.1.1: Were you registered at a South African or foreign university on 1 September 2012?** • South African • Foreign	
	Q4.1.2: What qualification were you registered for on 1 September 2012? • Occasional studies (not for degree purposes) • A certificate or diploma • A bachelor's degree • An honours degree • A masters degree • A doctoral degree	
	Q4.1.3: In which field were you studying on 1 September 2012? • Science, engineering and technology • Business and commerce • Human and social sciences (including performing and fine arts) • Health sciences • Law • Education • Other	
	Q4.1.4: Were you registered for another qualification at a university between your graduation in 2010 and 1 September 2012 (apart from any qualification you may have been registered for on 1 September 2012)? • Yes ➔ Q4.1.4.1–4 • No	**Q4.1.4.1: Were you registered at a South African or foreign university between your graduation in 2010 and 1 September 2012?** • South African • Foreign
		Q4.1.4.2: What qualification were you registered for between your graduation in 2010 and 1 September 2012? • Occasional studies (not for degree purposes) • A certificate or diploma • A bachelor's degree • An honours degree • A masters degree • A doctoral degree
		Q4.1.4.3: In which field were you studying between your graduation in 2010 and 1 September 2012? • Science, engineering and technology • Business and commerce • Human and social sciences (including performing and fine arts) • Health sciences • Law • Education • Other
		Q4.1.4.4: Did you complete this qualification by 1 September 2012? • Yes • No (I deregistered or discontinued this qualification)

Core questions (all respondents)	Filtered questions (selected respondents)	Filtered questions (selected respondents)
	Q4.1.5: Why did you choose to study further after graduating in 2010? (Tick all options that are applicable to you) • For personal fulfilment • To improve my chances of getting a job as I have yet to find one • To enable me to do my current job better • To enable me to make more money or get promoted in my current job • To enable me to get a better or higher paying job in the same field • To enable me to change careers to a different field • To enable me to become a researcher or an academic • Someone else me wanted me to study further (e.g., a family member, boy-/girlfriend, etc.) • Other	
	Q4.1.6: On a scale of 1 to 5, with '1' being 'not at all' and '5' being 'to a large extent', to what extent did your 2010 qualification prepare you for further studies?	

SECTION 5: FUTURE PLANS

Core questions (all respondents)	Filtered questions (selected respondents)	Filtered questions (selected respondents)
Q5.1: Apart from any qualification you may currently be registered for; do you think you will study further in the near future? • Yes • No • I am not sure		
Q5.2: Where did you live on 1 September 2012? • In South Africa ➔ Q5.2.1–2 • Elsewhere in Africa ➔ Q5.2.1.1 • Elsewhere in the world ➔ Q5.2.1.1	**Q5.2.1: In which province did you live on 1 September 2012?** • Eastern Cape ➔ Q5.2.1.1 • Free state ➔ Q5.2.1.1 • Gauteng ➔ Q5.2.1.1 • KwaZulu-Natal ➔ Q5.2.1.1 • Limpopo ➔ Q5.2.1.1 • Mpumalanga ➔ Q5.2.1.1 • Northern Cape ➔ Q5.2.1.1 • Northwest ➔ Q5.2.1.1 • Western Cape ➔ Q5.2.1.2	**Q5.2.1.1: Do you think you will move to the Western Cape in the near future?** • Yes • No • I am not sure
		Q5.2.1.2: Do you think you will move from the Western Cape in the near future? • Yes • No • I am not sure
	Q5.2.2: Do you think you will leave South Africa in the near future? • Yes – permanently ➔ Q5.2.2.1–2 • Yes – temporarily (e.g., to gain overseas work experience) ➔ Q5.2.2.1 • No • I am not sure	**Q5.2.2.1: Please indicate the continent/region to which you intend moving to:** • Africa • Latin America and the Caribbean • North America • Asia (eg India, China, Malaysia, Japan) • Europe (including the UK) • Oceania (eg Australia, New Zealand)
		Q5.2.2.2: Why do you want to leave South Africa permanently?

This Graduate Destination Survey has generated an immensely important new database for understanding how tertiary education relates to labour market prospects. This report provides a first stab at analysing this data and already brings to the fore some crucial insights. Further research on this database should inform both labour market and education policies, and it is of immediate use for university planning. CHEC's initiative in this regard should be greatly lauded and they should be encouraged to undertake such tracer studies on a regular basis.

– **Professor Servaas van den Berg, Professor of the Economics of Education, Stellenbosch University**

I think the methodology section is superb … The really important consequence of this work is that it can alert the institutions to thinking forward about complex issues.

– **Professor Tim Dunne, Professor of the Statistics, University of Cape Town**

5 560 responses from the total of 24 710 graduates can be seen as a great success of the study. The response rate was 23% which is similar to graduate surveys in Europe and Japan.

– **Professor Harald Schomburg, International Centre for Higher Education Research, University of Kassel**

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