

# **Employment Experiences of Graduates**

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## Introduction

People with higher education experience a persistent advantage in the labour market. Their likelihood of being unemployed is low; and when this does occur, the period of unemployment is of relatively short duration. When they are employed it is often in relatively better paid jobs. Such employees also gain in terms of knowledge and experience which further benefit them in the job market. However, this advantage is not experienced by all segments of people with higher education, as there are differentiations by race and gender.

By regularly surveying graduates, a picture can be built up of their entry into and progression through the labour market. A regular graduate tracking system can potentially provide prospective and current students, as well as employers, with in-depth information on the way in which the graduate labour market works, thus helping them to make realistic plans. It would also help planners to develop longer-term strategies for the development and retention of people with the necessary levels of knowledge and skill. This focus on graduates is essential, given the considerable resources invested in their education by both the public and private individuals.

The first chapter presents findings on employment of graduates and includes: the period it takes them to find employment, the factors that influence employability, the types of jobs they find, their own perceptions of the relation of the level of jobs they found both to their qualification and the sectors of employment. Chapter two looks at unemployment, the period of unemployment and the reasons for unemployment. Chapter three reports on mobility in the South African labour market and its influences. Chapter four looks at moving abroad and the reasons for this choice. Chapter five covers further studies and investigates why graduates choose to continue with studies after obtaining their first degrees. Chapter six reports on graduates' perceptions of the skills they acquired through higher education.

## Background

The outlook for graduate employment is influenced by three important demand and supply factors. The first is the growth in the number of jobs requiring graduate level education, the second is the number of new graduates coming on to the market, third is the ability of new graduates to make connections with the job openings. Increases in the number of jobs requiring graduate level education arises largely from growth in industries with occupations requiring a degree, and upgrading of jobs as skills required become more complex because of technological change or new business practices. The structural changes in the economy, which is influenced by varying patterns of demand as some sectors expand while others contract, also impact on the demand for people with higher qualifications.

Structural changes in the economy, such as the decline in the contribution of primary sectors to GDP and the increasing share provided by the secondary and tertiary sectors, have played a major role in influencing changes in the structure of demand (Mazumbdar and van Seventer, 2002). These in turn are significant drivers of employment trends, consequently affecting the demand for people with higher qualifications.

Changes in the occupational structure of the workforce indicate a strong growth in employment of people with higher qualifications. Labour market employment trends in South Africa indicate that employment is skills biased, and that professionals are among the fastest growing occupational category (Bhorat et al, 2001). Between 1995 and 1999 professionals (72.6%), managers (37.8%) and crafters (25.2%) had the highest increases in employment, compared with an increase of only 7.6% increase in elementary work employment, and a decline of 4.5% in the employment of clerks (Poswell, 2002).

However while employment of professionals has increased during this period, there were differences within racial groups. African professionals experienced a decline in employment while all other race groups experienced an increase in employment between 1995 and 1999 (see table below). While the increase in the employment of whites, Asians and coloureds has been the result of technological and business changes, the drop for Africans has been as a result of structural changes. Poswell, (2002) attributes the decline in employment of African professionals during this period to restructuring that resulted in a decline in total employment in the public sector which is the largest employer of African professionals.

There were also differences in employment patterns by gender. Women have increased their participation in the labour force by 29.8% compared to 18.5% for men. This increase, however translates into poor labour absorption rates as 42.8% of women seeking work were unable to find it in 1999, compared to 29.7% of men (Poswell, 2002).

<b>Tertiary Employment Growth by Race, 1995 to 1999</b>		
<b>Race</b>	<b>Change</b>	<b>% Change</b>
African	-77 121	-11.84%
Asian	9 193	15.16%
Coloured	2 606	3.10%
White	66 741	10.25%
Total	6 380	0.45%

*Source: Bhorat (2001) cited in Poswell (2002)*

The supply side also has a significant impact on the outlook for graduates. There was a significant increase in the percentage of the economically active population during the period 1994-1998. Africans had the largest increase in both absolute and percentage terms (27.2%), compared to 22.1%, 18.3% and 10.0%, for Asians, coloureds and whites respectively (Poswel, 2002). The number of degrees and diplomas awarded by public institutions of higher learning also increased by about 29% between 1992 and

1996, but declined by about 5% between 1996 and 1998. The number of degrees, diplomas and certificates awarded to Africans increased from 30% to 49% between 1994 and 1998, whereas those awarded to whites during the same period decreased from 56% to 40% (SAIRR, 2002). However, this increase in numbers of African graduates and decline of white graduates is (as Cooper describes it) skewed. Most African students still graduate with a three-year university bachelor's degree, thrusting them into middle-level bureaucratic or technical positions in industry and the civil service (Cooper, 2001).

All these factors influence the employment of people with degrees. This report presents findings from a follow-up postal survey of 2672 university graduates in South Africa. It reports on their employment experiences in the labour market during the period 1990 to 1998. The key objectives of the survey were to gather qualitative and quantitative data relating to graduates' experiences in the labour market with respect to: finding employment, unemployment, mobility, and the relation of their studies to the jobs they found. This study not only complements existing labour market research, but also contributes to the labour market information resources that relate to graduates, and improves our understanding of the labour market for this segment of the population.

# CHAPTER 1 GRADUATE EMPLOYMENT

## 1.1 INTRODUCTION

Students begin their studies with the hope that a higher education qualification will help them get a job. This hope is influenced by important changes in the occupational and industry structure and changes in the supply of higher education graduates. These factors do to a large extent influence the employment experiences of graduates.

Graduates' experiences are also influenced by the relationship between their qualifications and the information they convey in the labour market. Some fields of study (such as engineering), impart certain job-specific skills that are clearly understood in the labour market, and hence provide some evidence that these graduates possess 'tools' needed to be productive at work. In more general fields, graduates' qualifications indicate to employers that they are workers who possess character traits necessary for success on the job. Thus, for example, those who possess qualifications that are commerce related are expected to do better in business than those with humanities and arts qualifications. Whereas the latter impart certain skills (albeit not job specific) to graduates, employers are less certain about their 'potential level of productivity'. Thus employers identify qualifications and characteristics that are correlated with performance on the job. This is why graduates from humanities and arts often have lower employment prospects and tend to take longer to settle in jobs.

The process of finding a 'suitable' job for some is as a result not easily accomplished. Nevertheless, it is generally accepted that graduates have an advantage in the labour market. Their unemployment rate is low, and where it exists, it is of a short duration. However, this advantage is not equally enjoyed by all graduates. This is partly due to individual circumstances, and mismatches between employers and jobseekers. But it is also due to there being more people with degrees than there are degree level job openings.

## 1.2 EMPLOYMENT

The employment experiences of graduates reflect not only that sector of the labour market in which graduates participate but also the wider economic reality.

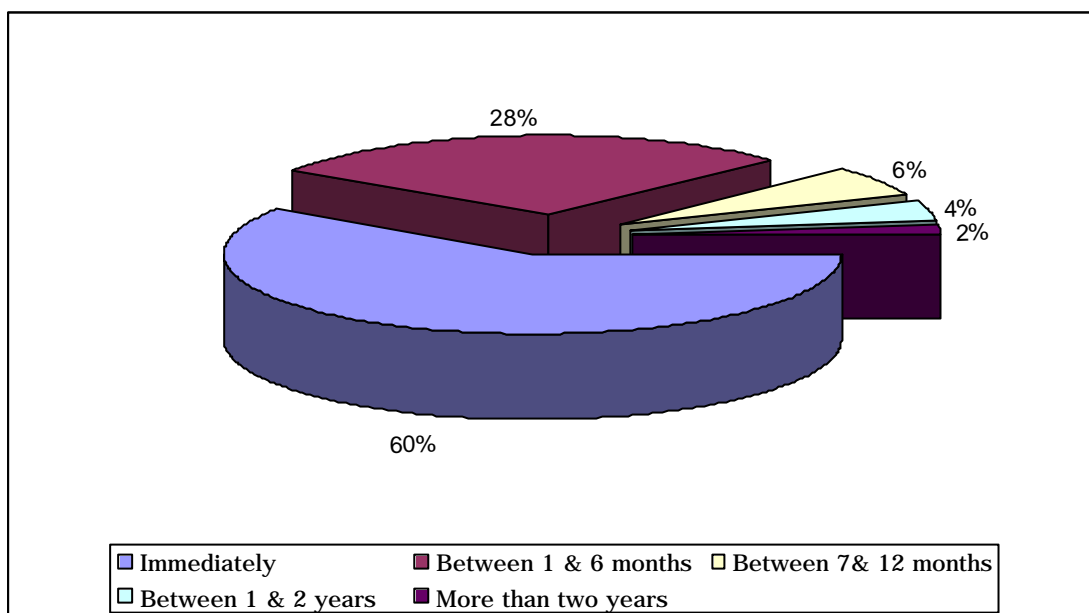
There is a clear skill bias, where despite the high unemployment rate in the general population, the unemployment rate of people with higher education is relatively low. This is reflected in both this study and other national studies. In this particular study, it was found that 60% of graduates found employment immediately<sup>1</sup>, a further 28% found

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<sup>1</sup> Employment immediately in this study is defined as finding a job/employment immediately after obtaining a degree. This implies that no unemployment was experienced by these graduates.

employment between a month and six months after qualifying, 6% did so between 7 and 12 months and 6% took more that a year after obtaining their qualifications (Figure 1.1).

**Figure 1.1: Period before finding employment**



Whereas higher education confers upon the graduates an advantage in the labour market, there are other important factors or characteristics, that influence economic outcomes. These are, for example, occupation, industry/sector of employment, geographic area, choice of institution of learning, gender and race. Of these, occupational differentials are the most important because they reflect the influence of several of the principal determinants of economic outcomes. Chief among these are differences between workers in levels of education and training, and differences between jobs in terms of various non-economic attributes, such as status, prestige, and quality of working conditions.

This is reflected in the results of the study. Graduates in fields with a more professional focus, such as medical sciences (79%) and engineering (77%) had higher rates of rapid employment than those who studied in fields, that were largely of a general nature (Table 1.1). However, not all professional fields were untouched by labour market forces of demand and supply. For example the field of law which is profession orientated and thus could be expected to have better rewards in terms of employability had a higher rate of graduates who took longer to find employment than other profession-orientated fields. The difference might be due to the nature of law as a profession compared to medicine, for example. In medicine-related fields, graduates can normally move into immediately after completing their studies if they choose to. In law, however, graduates have to initially go through articles/clerkship before they can qualify. They are thus subjected to the functioning of the forces of the labour market,

i.e. the demand for and supply of articled clerks, before becoming fully professionally accredited as lawyers.

Looking at the more general fields, it appears that there are clear differences in the signals these degrees convey to employers. When comparing humanities and arts with economic and management sciences and natural sciences for example, fewer humanities and arts graduates found employment rapidly after obtaining their qualifications. Economic and management sciences and natural sciences degrees usually have majors associated with character traits correlated with the skills and performances which employers require. Hence these graduates have an advantage over those from humanities and arts. The experiences of the latter group reflect the disadvantage that their qualifications do not have a particular professional focus which makes it more difficult to find jobs. Some of these graduates took longer than a year to find employment which is a matter of concern.

**Table 1.1: Period before finding employment, by field of study**

Field of study	Immediately	Between 1 & 6 months	Between 7 & 12 months	Between 1 & 2 years	More than 2 years	Total
	%	%	%	%	%	%
Natural sciences	55,0	38,8	3,8	2,1	0,4	100
Engineering	77,2	18,3	3,0	1,0	0,5	100
Agriculture	61,6	31,4	5,8	1,2	0,0	100
Medical sciences	79,3	18,5	2,2	0,0	0,0	100
Humanities and arts	46,8	33,1	8,5	7,3	4,2	100
Education	57,0	33,8	3,9	4,4	0,9	100
Law	49,6	30,2	8,6	7,2	4,1	100
EMS*	65,4	23,3	6,2	3,7	4,3	100
Total	59,5	28,4	5,9	4,2	2,0	100

\*EMS: Economic and Management sciences

The above analysis reflects the generally accepted facts relating to differentials in economic outcomes in the labour market for graduates. There are, however, other differentials affecting the employment outcomes and prospects of graduates in the labour market besides the field of study. In general, it was found that race; gender and institution attended (defined as historically black and/or historically white university) had a significant impact on graduates' employment prospects.

Whereas Africans were concentrated in fields of study with less employment 'prospects', a comparison within the study fields indicated that their white counterparts had better prospects. For example, white graduates made up a high proportion of those who found immediate employment (70%) compared with 57.8% of Africans, 57% of coloureds and 52% of Asians. In other words within study fields the differences varied according to race. More than 50% of white graduates found immediate employment in

all study fields, whereas the only fields where more than 50% of Africans found employment immediately were engineering (88%), medical sciences (66%) and agriculture (53%). It was only in engineering that African graduates experienced the highest proportion of those in immediate employment (88.9%) compared to 78.3%, 50%, and 50% for whites, Asians, and coloureds respectively. The disadvantage of Africans and coloureds in the labour market was clearly shown evident in this analysis. While in fields with a professional focus there were insignificant differences in terms of being absorbed into the labour market, there were significant differences in general fields like humanities and arts and economic and management sciences. (Table 1.2).

**Table 1. 2: Immediate employment by race**

Field of study	Asian		African		Coloured		White	
	Not immediately employed	Immediately employed	Not immediately employed	Immediately employed	Not immediately employed	Immediately employed	Not immediately employed	Immediately employed
	%	%	%	%	%	%	%	%
Natural sciences	70.0	30.0	54.1	45.9	47.8	52.2	40.1	59.9
Engineering	50.0	50.0	11.1	88.9	50.0	50.0	21.7	78.3
Agriculture	100.0		46.7	53.3	16.7	83.3	35.7	64.3
Medical sciences	54.0	46.0	34.3	65.7	67.5	32.5	8.8	91.2
Humanities and arts	46.4	53.6	61.3	38.7	66.7	33.3	43.6	56.4
Education	28.6	71.4	50.7	49.3	71.4	28.6	25.0	75.0
Law	63.6	36.4	73.2	26.8	48.4	51.6	30.4	69.6
EMS*	46.5	53.5	62.5	37.5	57.8	42.2	25.2	74.8
Total	52.4	47.6	57.0	43.0	57.8	42.2	29.6	70.4

\*EMS: Economic and Management sciences

There were small differences between gender groups. While more than half of male and female graduates gained immediate employment in almost all study fields except for law and humanities and arts, the proportions were slightly higher for males than females. The total for males who gained immediate employment was 62.3% compared to 57% for females. The only study fields where the proportion of females (58.7%) in immediate employment was higher than that of males (54.9%) was education. The rate at which each gender is absorbed into the labour market is also not very different (Table 1.3).

**Table 1. 3: Period before finding employment by gender**

Field of study	Immediately		Between 1 & 6 months		Between 7 & 12 months		Between 1 & 2 years		More than 2 years	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	Natural sciences	58.7	50.9	35.7	42.1	3.2	4.4	1.6	2.6	0.8
Engineering	78.5	70.0	16.9	26.7	3.5		0.6	3.3	0.6	
Agriculture	67.3	54.1	28.6	35.1	2.0	10.8	2.0			
Medical sciences	81.3	78.5	16.0	19.5	2.7	2.1				
Humanities and arts	48.0	46.1	30.2	34.9	8.2	8.8	7.5	7.2	6.0	3.1



Field of study	Immediately		Between 1 & 6 months		Between 7 & 12 months		Between 1 & 2 years		More than 2 years	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Education	54.9	58.7	32.4	34.9	6.9	1.6	3.9	4.8	2.0	
Law	50.0	49.2	25.0	37.3	8.8	8.5	8.8	5.1	7.5	
EMS*	67.9	62.6	18.4	29.0	8.2	3.8	3.6	3.8	2.0	0.8
Total	62.3	57.0	24.7	31.9	6.3	5.5	3.9	4.4	2.8	1.3

\*EMS: Economic and Management sciences

Differences by institution attended indicate that graduates from historically white universities (HWUs) had better prospects than those from historically black universities (HBUs). The field of study also influences institutional differences. HBUs had higher proportions of those graduating in the fields with lower employment prospects, i.e. humanities and arts, and education. Hence HBUs had a higher proportion of those with lower prospects. Overall, of those who found employment immediately only about 40% were from HBU compared to 69% from HWU. While field of study influences institutional differences, there are indications of disadvantage for those graduating from HBUs. For example, there is a big difference in law, in which only 27% of those who found employment immediately were from HBUs, compared to 67.5% from HWUs. In economic and management sciences the figures were 38.5% for HBUs, and 73.5% for HWUs respectively.

In any labour market it could be expected that graduates in general fields will take longer to find employment. In these cases the period immediately after obtaining a qualification cannot necessarily be used as a correct measure of unemployment. The interesting difference is thus the rate at which these graduates are absorbed into the labour market. As can be seen from the table below, the disadvantage experienced by those from HBUs is evident. Higher proportions of those from HWUs get absorbed in the labour market fairly quickly (within the first 6 months of graduating) whereas those from HBUs take longer to find employment. (table 1.4). It is likely that institutions serve as a signal in the labour market, whereby graduates from HWUs are assumed to have characters that are correlated with higher performance in the labour market, compared to those from HBUs.

**Table 1. 4: Period before finding employment by field of study and institution attended**

Field of study	Immediately		Between 1 & 6 months		Between 7 & 12 months		Between 1 & 2 years		More than 2 years	
	HBU	HWU	HBU	HWU	HBU	HWU	HBU	HWU	HBU	HWU
	%	%	%	%	%	%	%	%	%	%
Natural sciences	40,0	59,5	47,3	36,2	10,9	1,6	1,8	2,2	0,0	0,5
Engineering	60,0	77,7	20,0	18,3	0,0	3,0	20,0	0,5	0,0	0,5
Agriculture	53,3	63,4	33,3	31,0	13,3	4,2	0,0	1,4	0,0	0,0
Medical sciences	57,3	88,8	37,8	10,1	4,9	1,1	0,0	0,0	0,0	0,0
Humanities and arts	34,0	55,8	36,3	30,9	10,9	6,9	11,2	4,6	7,6	1,8

	Immediately		Between 1 & 6 months		Between 7 & 12 months		Between 1 & 2 years		More than 2 years	
	HBU	HWU	HBU	HWU	HBU	HWU	HBU	HWU	HBU	HWU
Education	49,7	72,6	38,1	24,7	5,8	0,0	5,2	2,7	1,3	0,0
Law	27,4	67,5	37,1	24,7	14,5	3,9	12,9	2,6	8,1	1,3
EMS*	38,5	73,5	26,9	22,2	16,9	3,0	13,1	0,9	4,6	0,5
Total	40,5	68,8	35,9	24,8	10,5	3,6	8,6	2,0	4,5	0,8

\*EMS: Economic and Management sciences

### 1.3 TYPES OF JOBS GRADUATES FIND

While being employed is an important indicator of economic outcome, the type of job one holds is just as important. It can be expected that the type of jobs that graduates hold not only reflects the utilisation of their education but also contributes towards paying off their investment in education. Types of job described here are based on graduates' own perceptions, and are not measured through purely objective variables. Whereas subjective variables should for good reasons be treated with caution, they cannot be entirely ignored as they provide useful information about how people feel about their jobs. These answers provide meaningful and useful information about economic life that should not be ignored (Freeman, 1989).

For 66% of graduates, their first job was permanent, while 19% found temporary and 15% contract employment. Only in the field of law did less than half (47%) of graduates find permanent immediate employment after qualifying (Table 1.5).

**Table 1. 5: Status of first job by field of study**

Field of study	Status of first job		
	Permanent	Temporary	Contract
Natural sciences	62.0	19.0	19.0
Engineering	88.1	7.5	4.5
Agriculture	77.0	17.2	5.7
Medical sciences	70.6	16.2	13.2
Humanities and arts	59.0	26.1	14.8
Education	60.6	29.6	9.7
Law	46.7	20.4	32.8
EMS*	72.3	11.3	16.4
Total	66.1	19.1	14.8

\*EMS: Economic and Management sciences

The permanent jobs graduates found were also related to their field of study. Humanities and arts graduates had the lowest figures (73.9%) for finding jobs related to their studies. The temporary jobs found were also related to the field of study, with economic and management sciences scoring lowest with only 58% of graduates in jobs related to the study field (Table 1.6). This perhaps suggests that the disciplines of the humanities and arts, and economic and management sciences are not preparing

graduates adequately for the job market. It also reflects the willingness of these graduates to accept any employment, even outside their fields of study.

**Table 1. 6: Status of first job related to field of study**

Field of study	Percentage in jobs related to study field		
	Permanent	Temporary	Contract
	%	%	%
Natural sciences	83.7	75.6	86.7
Engineering	96.6	66.7	100.0
Agriculture	95.5	86.7	100.0
Medical sciences	99.5	97.7	100.0
Humanities and arts	73.9	62.3	72.2
Education	94.9	86.6	72.7
Law	84.4	78.6	84.4
EMS	82.8	58.7	91.2

\*EMS: Economic and Management sciences

Those whose jobs were not related to their field of study indicated the extent of use of skills acquired in their studies to the jobs they held. Only 10% indicated that they use their acquired skills to a great extent, whereas 21.6% said they did not use their skills at all, and a further 68.3% indicated that they use their acquired skills to some or a small extent.

Assessing the requirement level of the jobs they held over half of graduates (59,7) felt that they were in jobs that required graduate level ability, whereas 33,3% said they were in jobs that required a lower-level ability, and 7% were in jobs that required higher-level ability (post-graduate or specialist). Humanities and arts (42,7%), economic and management sciences (39,4), and natural sciences (36,5%) were the fields with the highest numbers of graduates indicating that they were in jobs which required a lower level of ability (Table 1.7).

**Table 1. 7: Requirement level of first job by field of study**

Field of study	Requirement level			
	Entry level	Higher level	Lower level	Total
	%	%	%	%
Natural sciences	56,7	6,9	36,5	100
Engineering	63,8	7,1	29,1	100
Agriculture	66,3	10,8	22,9	100
Medical sciences	84,7	8,4	6,9	100
Humanities and arts	50,8	6,6	42,7	100
Education	68,5	2,7	28,8	100
Law	64,6	4,7	30,7	100
EMS*	51,8	8,8	39,4	100
Total	59,7	7,0	33,3	100

\*EMS: Economic and Management sciences

The phenomenon of graduates taking jobs that require lower levels of ability is related to the level of qualification with which graduates enter the labour market. Due to the general nature of the degrees in humanities and arts, economic and management sciences and natural sciences study fields, graduates in these fields are likely to be in positions in which they feel underemployed. Their fields of study do not necessarily prepare them for a profession or specific career. Graduates who entered the labour market with post-graduate qualifications were more likely to find themselves in jobs requiring graduate level ability (see Table 1.8). A post-graduate qualification does to a large extent supplement the first degree and it is at this level that some form of specialization occurs. Hence better labour market prospects and the optimal utilization of their education and skills.

**Table 1. 8: Level of qualification of entry to labour market for those in jobs requiring graduate level ability**

Field of study	Bachelors	Honours	Masters	Total
	%	%	%	%
Natural sciences	55,7	30,0	14,3	100
Engineering	78,7	10,6	10,6	100
Agriculture	82,4	11,8	5,9	100
Medical sciences	86,7	6,7	6,7	100
Humanities and arts	66,2	32,4	1,4	100
Education	76,3	22,0	1,7	100
Law	61,9	38,1	0	100
EMS*	74,6	25,4	0	100
Total	69,7	26,5	3,7	100

\*EMS: Economic and Management sciences

The majority of graduates were in professional jobs (58%), with 19% in managerial positions. There were, however, 11% who were in administrative jobs. Engineering had the largest proportion of those in management (35%), whereas economic and management sciences and humanities and arts had the highest proportion of those in administrative jobs (17% and 15% respectively) (Table 1.9).

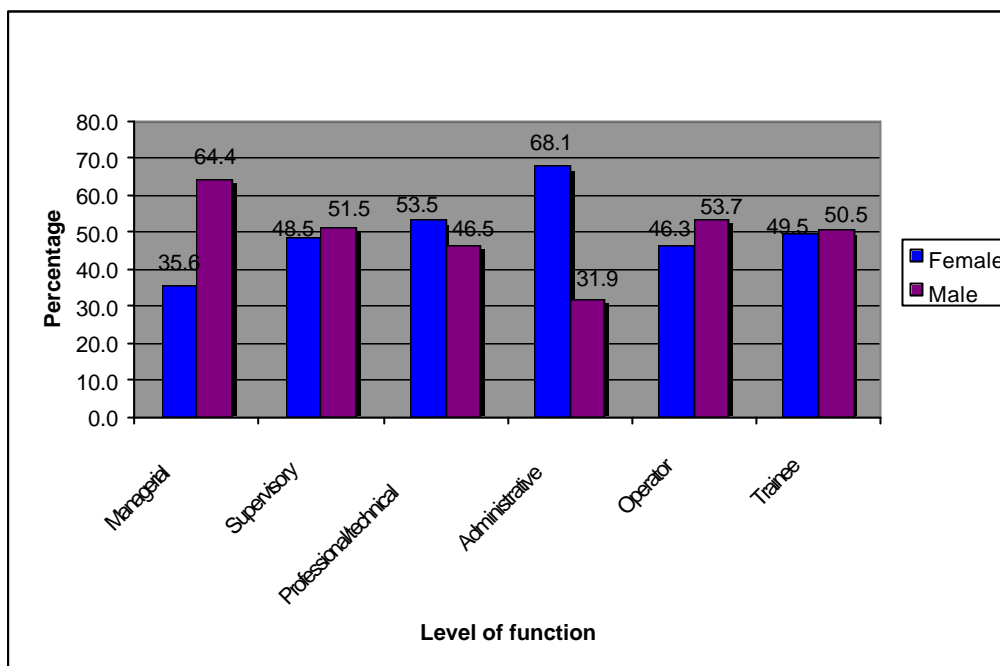
**Table 1. 9: Level of function by field of study**

Field of study	Level of function					
	Managerial	Supervisory	Professional / technical	Administrative	Operator	Trainee
	%	%	%	%	%	%
Natural sciences	14.2	4.7	72,0	4,7	0,9	3,4
Engineering	34.7	2	58,3	4,0	0,0	1,0
Agriculture	31.8	3.5	57,6	3,5	1,2	2,4
Medical sciences	14.3	3.1	77,2	1,5	2,7	1,2
Humanities and arts	12.9	6	59,6	15,2	2,4	3,9
Education	10.1	6.7	69,7	8,2	1,9	3,4
Law	12.8	4.5	64,7	12,8	0,8	4,5
EMS*	28.8	8.2	36,8	17,1	1,8	7,3
Total	19.3	5.6	58.3	11	1.7	4.1

\*EMS: Economic and Management sciences

Levels at which graduates functioned were different by gender. A larger proportion of males were in managerial functions, while a larger proportion of females were in administrative functions. Females had a slightly higher proportion of those in professional jobs compared to males (Figure 1.3).

**Figure 1.3 Level of function by gender**



Within race groups there were differences as well. While in all race groups there were more graduates in professional jobs, whites made up the highest proportion of those in managerial positions (23.6%), followed by Asians (19.6%), Africans (10.8%) and coloureds (10.6%) (Table 1.10).

**Table 1.10: Level of function by race**

Level of function	Asian	Black	Coloured	White	Other
Managerial	19.6	10.8	10.6	23.6	21.4
Supervisory	6.3	7.7	8.1	4.4	7.1
Professional/technical	63.9	59.9	55.0	57.2	67.9
Administrative	5.1	13.1	16.3	10.4	
Operator	0.6	3.8	3.1	0.8	3.6
Trainee	4.4	4.6	6.9	3.5	
Total	100.0	100.0	100.0	100.0	100.0

It could be expected that the period spent in the labour market would largely influence the level at which graduates function. This is especially so for higher levels such as management. An investigation of those who indicated that they were functioning at management level and the number of years they had worked did not reveal any differences that might account for more white and Asian graduates being in management, compared to their African and coloured counterparts. The proportion of

white and Asian graduates within each category of number of years worked is not as high compared to that of other race groups, (see Table 1.11).

**Table 1.11: Number of years worked by those in management by race**

Number of years worked	Race			
	Asian	African	Coloured	White
0-5 years	46.7	34.4	58.8	38.6
6-10 years	36.7	50.8	35.3	51.8
11-15 years	16.7	14.8	5.9	7.5

Looking at fields of study once more the differences reflect the concentration of African graduates in certain fields. However it also shows the unevenness of the distribution of graduates within management levels. Not only is the proportion of white graduates higher in all fields of study, but other race groups do not have graduates functioning at this level in certain fields (Table 1.12).

**Table 1.12 Racial distribution of those at management level by number of years worked**

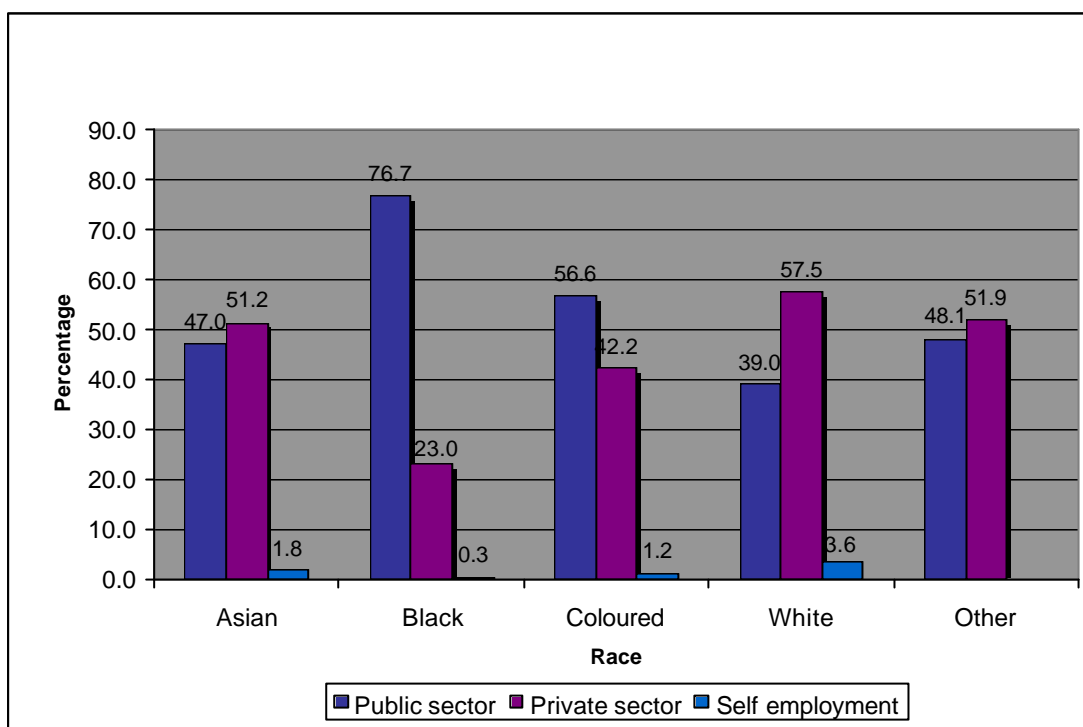
Field of study	Asian			African			Coloured			White		
	0-5 yrs	6-10 yrs	11-15 yrs	0-5 yrs	6-10 yrs	11-15 yrs	0-5 yrs	6-10 yrs	11-15 yrs	0-5 yrs	6-10 yrs	11-15 yrs
Natural sciences	5.3	16.7		5.3			5.3	8.3		84.2	75.0	
Engineering		2.4		8.0	4.9					92.0	92.7	100
Agriculture										100	100	100
Medical sciences	40.0	33.3		6.7	11.1	33.3	6.7			46.7	50.0	66.7
Humanities & arts			8.3	30.3	30.8	58.3	9.1	5.1		60.6	64.1	33.3
Education					73.3		20.0			80.0	26.7	100
Law				50.0	16.7		12.5	16.7		37.5	66.7	
EMS*	11.9	2.6	17.4	5.1	3.9	4.3	5.1	33.3	4.3	78.0	88.3	69.6
Total												

\*EMS: Economic and Management sciences

## 1.4 SECTOR OF EMPLOYMENT

Half of all graduates (50.9%) had their first job in the public sector, with 46.8% in the private sector and only 2.4% in self employment. Most African graduates (76.6%) and coloured graduates (56.6%) found their first job in the public sector, by contrast 57.7% of white graduates and 51.2% of Asians found their first job in the private sector (Figure 1.4).

**Figure 1.4: Sector of first job by race**



While the public sector was the greatest provider of first jobs for most graduates, especially for Africans, there were differences within sectors in the current occupations given. The proportions of African graduates increased in the public sector, while that of other race groups decreased (this is discussed in more detail in chapter 3). Whereas the public sector can be expected to employ more African graduates, given that a larger proportion of them are ‘crowded’ into fields like education, the trend can be seen in other fields as well. Thus, in almost all fields of study, there were more Africans employed in the public sector whereas in almost all fields of study except education, there were more white graduates employed in the private sector (Table 1.13).

**Table 1.13: Current job sector, by race and field of study**

Field of study	Asian			African			Coloured			White		
	Public sector	Private sector	Self employ	Public sector	Private sector	Self employ	Public sector	Private sector	Self employ	Public sector	Private sector	Self employ
Natural sciences	50.0	44.4	5.6	70.6	29.4		54.5	40.9	4.5	35.9	56.9	7.2
Engineering	28.6	71.4		62.5	37.5			100.0		19.6	69.8	10.6
Agriculture		100.0		100.0						26.8	47.9	25.4
Medical sciences	40.0	40.0	20.0	68.6	14.3	17.1	50.0	41.7	8.3	35.2	46.9	17.9
Humanities & arts	70.4	22.2	7.4	86.5	11.9	1.6	62.9	35.7	1.4	38.2	50.8	11.0
Education	80.0		20.0	96.1	3.9		100.0			61.9	22.2	15.9
Law	18.2	45.5	36.4	64.9	27.0	8.1	41.7	33.3	25.0	24.6	59.4	15.9
EMS*	34.9	60.5	4.7	64.0	34.9	1.2	46.7	53.3		16.4	74.5	9.1
Total	43.9	43.9	12.1	82.0	15.7	2.4	57.1	39.1	3.7	29.0	59.0	12.0

\*EMS: Economic and Management sciences

Looking at the levels at which graduates were functioning in various sectors reveals an interesting picture. While the proportions of whites and Asians in professional levels were higher in the public sector (71.5% and 79.4% respectively), there were almost equal proportions of those functioning at managerial levels for all race groups. However, when one looks at the private sector, not only is the proportion of those functioning on professional levels higher for whites and Asians (51% and 47.8% respectively), but their proportions in management are higher as well (about 27% for both race groups), compared to Africans and coloureds (11.9% and 9.7% respectively) (Table 1.14).

**Table 1.14 Level of function within sector of employment**

Level of function	Public sector				Private sector				Self employed			
	Asian %	Black %	Colour ed %	White %	Asian %	Black %	Colour ed %	White %	Asian %	Black %	Colour ed %	White %
Managerial	8.8	10.3	11.0	10.2	27.5	9.8	11.3	27.2	26.3	38.5		39.1
Supervisory	5.9	8.2	9.9	5.1	7.2	6.5	6.5	4.4	5.3			1.8
Professional/technical	79.4	63.8	58.2	71.5	47.8	42.4	46.8	51.1	68.4	46.2	100	52.7
Administrative	2.9	11.6	9.9	9.5	8.7	21.7	25.8	12.1		7.7		4.1
Operator	1.5	2.9	3.3			7.6	3.2	1.2		7.7		1.2
Trainee	1.5	3.2	7.7	3.6	8.7	12.0	6.5	4.0				1.2

## 1.5 CONCLUSION

Employment in the traditional professional occupations has grown faster than overall employments and people with higher education qualifications enjoy considerable advantages in the labour market. Graduates are thus quickly absorbed into the labour market, with most -93.8% finding employment within the first year after graduating. Differences within fields of study, race and gender, however, reveal a complex and worrying picture. While it should be expected that people with different types of qualifications in terms of field of study will have different prospects in the labour market affected by demand and supply, it is of concern to see that race, gender, and institution play a role in employment prospects. Even taking into consideration the differences in fields studied, African and coloured graduates seem to have fewer prospects when compared to their white and Asian counterparts even where they have similar qualifications (studied in the same fields of study). Similarly, those who graduated from historically black universities are absorbed into the labour market more slowly after they have obtained their degrees than those from historically white universities, whose absorption rate peaks earlier within the first few months after graduation. It appears that males are also absorbed more rapidly into the labour market than females.

While this does not necessarily suggest (or rule out) discrimination in the labour market, it reflects the concentration of Africans in those fields of study with less employment prospects. This is disquieting as it suggests that although their



participation in higher education has increased, this does not necessarily translate into economic improvement.

The role of the public sector as an employer is of particular interest. It is the first sector of employment for most graduates irrespective of field of study, race and gender. This is especially true for African graduates who make up higher proportions of those employed in this sector. As graduates change jobs and sectors of employment, Africans and coloured proportions in this sector increased while that of Asians and whites decreased. In terms of levels at which graduates function, they were almost equally spread in managerial and on professional levels in the public sector. However, in the private sector, there were stark differences. More whites and Asians were in managerial functions, while Africans and coloureds made up higher proportions of those functioning at administrative level. This, given the restructuring taking place in the public sector, is of concern, as it translates into fewer employment prospects for African graduates. This has serious implications for equity and improvement of economic and social well being of Africans, who are the majority of those affected by poverty.

## CHAPTER 2 UNEMPLOYMENT

### 2.1 INTRODUCTION

Job search provides an important theoretical explanation for the existence of unemployment. However, it does so from the supply side, whereby an individual searching for a job continues to search, as long as the benefits of an extra search exceed the cost of searching. This is assuming that the searcher has some advanced knowledge about the labour market. There is, however, also the demand side to the search process, which concerns the decisions and behaviour of employers. This chiefly influences involuntary unemployment.

The search for a better job by people with higher education usually involves spells of unemployment for only relatively short periods. However, it is associated with periods of under-employment for most. This is evident in the relatively low unemployment rates they experience, and the relatively short periods of unemployment for those who do not find jobs immediately (see chapter one). Despite these low unemployment rates, job searching is associated with spells of under-employment. It seems that there is a fair amount of 'crowding out' taking place in the labour market. As they search for better jobs, graduates, who have an advantage in the labour market conferred by their education, take up a broad range of jobs, some of which do not match their education. Because the nature of jobs they find do not change, i.e. they are not upgraded, these graduates searching for better jobs that are more closely related to their studies. Therefore, most avoid the unemployment associated with job search by becoming underemployed.

#### UNEMPLOYMENT

Like employment, unemployment rate and incidence differs for graduates and is influenced by factors such as study fields, race and gender. As can be seen in table 2.1, humanities and arts had the highest proportion of those unemployed (48.2%). Interestingly, two of the other general fields, economic and management sciences, and natural sciences had lower rates of those unemployed. Thus, while they also do not necessarily prepare graduates for a specific occupation, this reflects the relative advantage they hold over humanities and arts as fields of study. Intuitively, this makes sense as these fields provide a relatively sound springboard for building a career. For example economic and management science graduates mostly hold BComm degrees. These could be springboards for accounting, business management and economics careers, which have relatively better prospects in the labour market.

It is also of interest that education had a higher proportion of the unemployed. Within the South African context this is understandable as there are reportedly higher unemployment rates of teachers for largely structural reasons. On the other hand, there is a high demand for teachers with mathematics and science teaching qualifications.

**Table 2. 1: Proportions of those who experienced period of unemployment, by field of study**

Field of study	%
Natural sciences	9.9
Engineering	2.6
Agriculture	1.5
Medical sciences	4.4
Humanities and arts	48.2
Education	15.4
Law	8.1
EMS*	9.9
Total	100

\*EMS: Economic and Management sciences

Africans (62.5%) had the highest proportion of graduates who experienced periods of unemployment compared to 5.5% for Asians, 5.5% for coloured graduates, and 26.5% for white graduates. The majority of African graduates who experienced unemployment were in the humanities and arts fields (Table 2.2). This is partly because many of the African graduates are 'crowded' into these fields. In contrast, Africans in study fields that are professionally oriented were doing well, with the proportion of those experiencing periods of unemployment lower than for other population groups within each study field (Table 2.2).

**Table 2.2: Proportion of those who experience unemployment, by field of study and race**

Field of study	Unemployment by race and field of study			
	African	Asian	Colored	White
Natural sciences	5.9	40		15.3
Engineering	0.6	6.7		6.9
Agriculture	0.6			4.2
Medical sciences	0.6	20		11.1
Humanities and arts	52.4	20	60	41.7
Education	19.4	13.3	13.3	6.9
Law	10		20	2.8
EMS*	10.6		6.7	11.1
Total	62.5	5.5	5.5	26.5

\*EMS: Economic and Management sciences

Females made up a higher proportion of those who experienced periods of unemployment (54.8%), compared to males (45.2%). Interestingly, the field of law had the highest proportion of males (77.3%) who experienced periods of unemployment compared to females (22.7%). The other study fields with higher proportions of males experiencing periods of unemployment compared to females were natural sciences and engineering (Table 2.3).

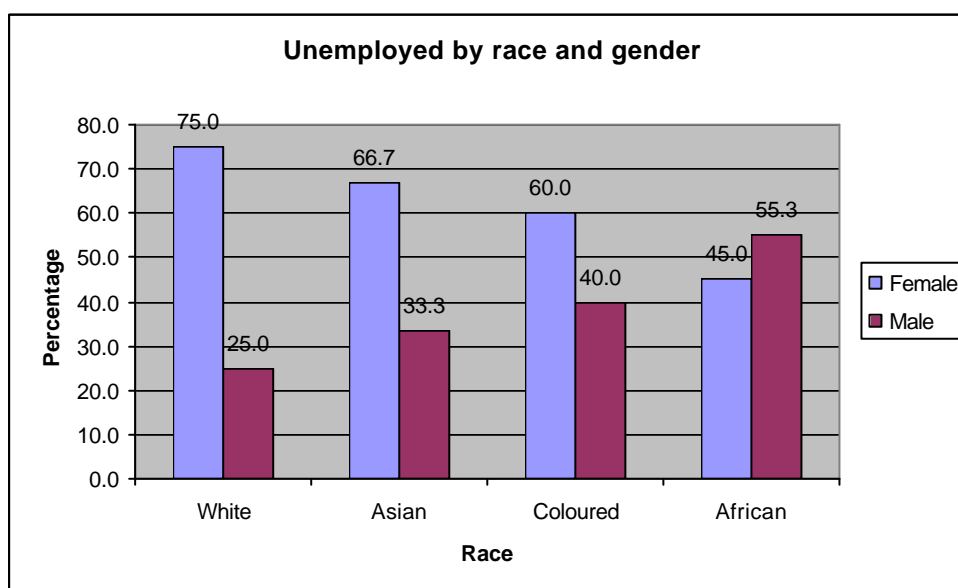
**Table 2.3: Unemployed, by gender and field of study**

Field of study	Female	Male
	%	%
Natural sciences	44.4	55.6
Engineering	42.9	57.1
Agriculture	50.0	50.0
Medical sciences	91.7	8.3
Humanities and arts	56.5	43.5
Education	59.5	40.5
Law	22.7	77.3
EMS*	63.0	37.0
Total	54.8	45.2

\*EMS: Economic and Management sciences

Looking at gender differences within race groups, all groups except Africans had higher proportions of females who experienced periods of unemployment than males (Figure 2.1). However, it should be noted that there was a proportion of white female graduates who indicated that they were voluntarily unemployed. This might partly account for the higher proportion of unemployed females within this race group.

**Figure 2.1**



As could be expected, unemployment experiences for graduates differed according to the institution they attended. Those from historically black institutions had higher proportions of unemployment (65.4%), compared to those from historically white universities (34.6%). There were also differences within fields of study. At the historically black universities study fields with higher proportions of those experiencing periods of unemployment were humanities and arts, law, economic and management sciences, and education. The other study fields had higher proportions of those experiencing periods of unemployment at historically white universities- (Table 2.4).

**Table 2.4: Unemployment by institution attended**

Field of study	Institution attended		
	HBU %	HWU %	Total %
Natural sciences	37.0	63.0	100.0
Engineering		100.0	100.0
Agriculture	25.0	75.0	100.0
Medical sciences	41.7	58.3	100.0
Humanities And Arts	67.9	32.1	100.0
Education	83.3	16.7	100.0
Law	86.4	13.6	100.0
EMS*	70.4	29.6	100.0
Total	65.4	34.6	100.0

\*EMS: Economic and Management sciences

## 2.2 REASONS FOR BEING UNEMPLOYED

Whereas there were graduates (the majority of whom were white) who were voluntarily unemployed, most graduates were involuntarily unemployed.

The majority of graduates who experienced periods of unemployment (42.1%) stated that it was because they could not find any kind of job. A large proportion of these were in the humanities and arts (54.4%) and education (19%). Interestingly, only 12.9% indicated that they could not find a job they really wanted. This might indicate that to some extent, graduates are choosy and have high job expectations. The majority of Africans (62.1%) indicated that they could not find any kind of job, compared to 1.4% of the white graduates. This reflects the difficulties African graduates have in obtaining employment (Table 2.5).

**Table 2. 5: Unemployment reasons, by field of study**

Reasons	Natural Science %	Engineeri ng %	Agricultur e %	Medical science %	Humanitie s and arts %	Education %	Law %	EMS %
Voluntarily unemployed	7.4	14.3		58.3	11.5	7.1	4.8	18.5
Studying full time	55.6	57.1	50	16.7	8.4	9.5	4.8	7.4
Medically unit to work					0.8			
Retrenched		14.3			5.3	14.3	4.8	3.7
Cannot find a job you really want	11.1		25	8.3	14.5	7.1	19	14.8
cannot find any kind of job	22.2			8.3	47.3	52.4	52.4	44.4
Cannot find work in area where you live					6.9	2.4		7.4
Other	3.7	14.3	25	8.3	5.4	7.2	14.3	3.7

## 2.3 SEARCH METHODS

Information plays an important role in the various methods of searching for a job. Those who experienced some periods of unemployment used multiple methods in their search for employment, with the most frequent being a response to advertised vacancies. Some also took the initiative by approaching firms where they thought they could work. This was the case for all race groups. However, one sees differences whereby some race groups, i.e. Africans, had a lower proportion of those who investigated work opportunities outside South Africa, while many Asians considered that option. Asians and whites also had higher proportions than Africans and coloureds of those who considered self-employment (Table 2.6).

**Table 2.6. Methods of search by race**

<b>Steps taken to find employment</b>	<b>Asian</b>	<b>African</b>	<b>Coloured</b>	<b>White</b>
Applied for advertised jobs	55.6	95.7	85.7	64.5
Gave details to employment agencies	33.3	53.1	28.6	48.4
Sent CVs to preferred places	77.8	79.0	71.4	58.1
Joined organisation that can help find work	22.2	16.0	21.4	12.9
Investigated work opportunities outside SA	44.4	8.6	28.6	32.3
Considered becoming self-employed	44.4	22.2	14.3	48.4
Other	0.0	3.1	0.0	0.0

## 2.4 CONCLUSION

The unemployment of graduates has features of both structural and frictional unemployment. Structural unemployment tends to be concentrated among certain groups that may have been affected by a decline in demand for their skills. It also tends to be long lasting and thus largely affects those graduates from fields which do not prepare them for a specific career, i.e. humanities and arts, economic and management sciences and natural sciences. Frictional unemployment on the other hand affects all groups, although the incidence is not the same for everyone. It also lasts only for a relatively short period. A large proportion of graduates experienced no unemployment at all, and for those who did, it was for a relatively short period in most fields of studies. Structural unemployment was concentrated among Africans, especially those who had studied humanities and arts.

As with employment, factors such as field of study, race, gender and institution attended play a role in unemployment. Africans, women, those who studied humanities and arts, and those who studied at historically black universities had the highest proportions of those unemployed. This partly reflects the skills mismatch problem that this country faces. There is a mismatch between the type of skills/qualifications held by many and the demand for certain skills/qualifications which are in short supply. Africans make up a larger proportion of those who hold less desirable qualifications. They are thus likely to experience higher rates of unemployment.

## CHAPTER 3 MOBILITY IN THE LABOUR MARKET

### 3.1 INTRODUCTION

There are several categories of labour market mobility;

- from one job to another within the same labour market;—between employers or within a-firm; from one industry to another, or from one level of skill to another,
- from unemployment to employment or vice versa, or from student to employment or vice versa
- migration between different local labour markets

In theory most labour mobility is associated with differences in demand and supply of labour both at regional and local levels, differences that create various forms of unemployment and vacancy chains. Through rational decisions individuals are supposed to move from low-paid to well-paid jobs, from unemployment to employment, from declining industries to expanding ones. Younger people with higher education tend to be more mobile. According to human capital theory these persons would benefit more from changing their labour market situation, as their investment in education has to be paid off. A decision on whether to move or not is usually based on the difference between the total expected income and the present income. Income differences are however not the only factors that determine decisions influencing labour mobility. The possibility of obtaining better employment is also of central importance. In particular the possibility of entering full-time, and higher-level job are some of the pull factors for labour mobility.

### 3.2 CHANGING JOBS

About 56% of graduates have changed jobs since entering the labour market. A majority (52.6%) have changed jobs once. This has been the case across all fields of study. For many the most number of jobs they have held is three, with only a few (less than 5%) in most fields holding more than three (Table 3.1). This indicates less job-hopping, which might imply that obtaining employment presented difficulties for some so that those who found jobs stuck to them. For others this might be because they found satisfactory jobs fairly quickly and easily.

**Table 3.1: Number of times graduates changed jobs since graduation by field of study**

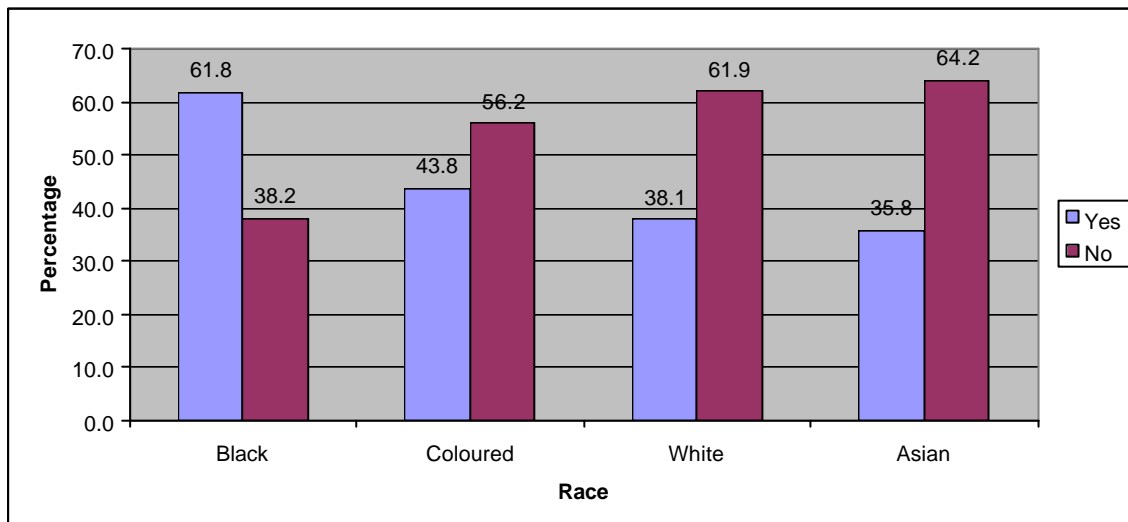
Field of study	Number of times changed jobs						
	1	2	3	4	5	6	
Natural sciences	53.1	26.9	10.0	6.9	1.5	1.5	100.0
Engineering	51.4	32.4	9.9	2.7	1.8	1.8	100.0
Agriculture	56.3	27.1	10.4	4.2	2.1		100.0
Medical sciences	42.2	28.6	14.3	7.5	4.3	3.1	100.0
Humanities and arts	51.1	27.1	15.7	3.1	1.5	1.5	100.0
Education	60.3	27.9	5.9	2.9		2.9	100.0

Field of study	Number of times changed jobs						
	1	2	3	4	5	6	
Law	67.9	19.2	10.3	1.3	1.3		100.0
EMS*	53.6	29.7	11.1	3.3	1.4	0.8	100.0
Total	52.6	28.0	12.1	4.0	1.8	1.5	100.0

\*EMS: Economic and Management sciences

Racial differences in terms of mobility indicate that despite popular perceptions that recent African graduates are participating eagerly in 'job-hopping' to obtain better salaries, 61.8% were still in their first job since graduation. By contrast, this figure was much lower for White (38.1%) and Asian graduates (35.8%). This partially reflects the disciplines studied by the different race groups; Africans are more likely to have graduated in the education field where job turnover is lower; however, it also reflects the difficulties African graduates experience in obtaining employment in the first place (Figure 3.1).

**Figure 3.1: Number of graduates in first job since graduation, by race**

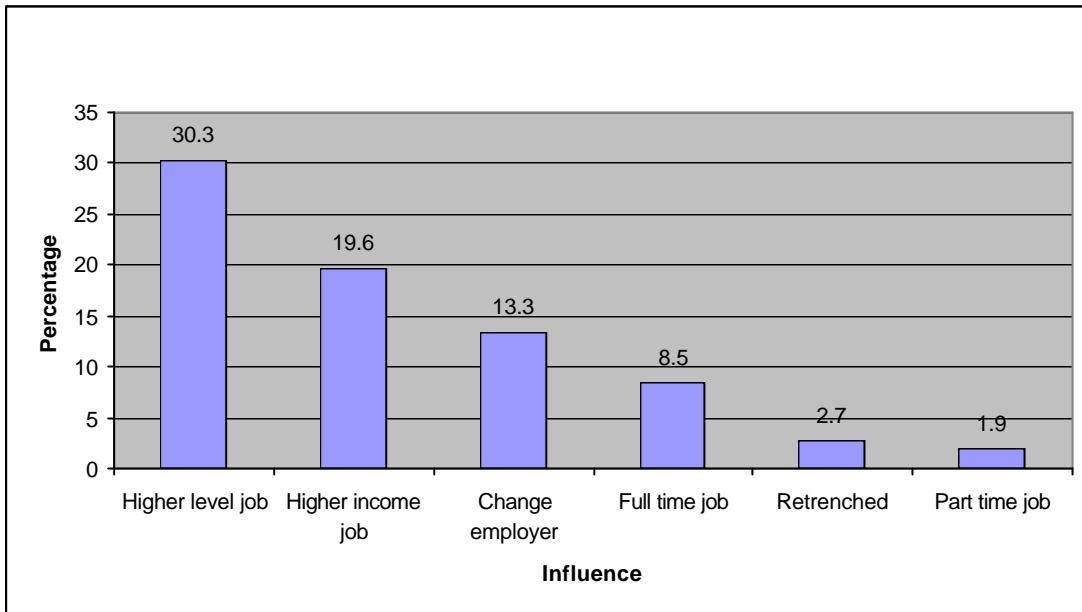


### 3.3 REASONS FOR CHANGING JOBS

The interesting question is what influences mobility. Most respondents (30%) indicated that an opportunity to occupy a higher level position was the main influence on their decision to change jobs. While a job on a higher level could be expected to yield with higher earnings it is interesting that even when given an option of choosing higher earnings as the main influence for changing a job, only 20% of the graduates indicated this preference (Figure 3.2).

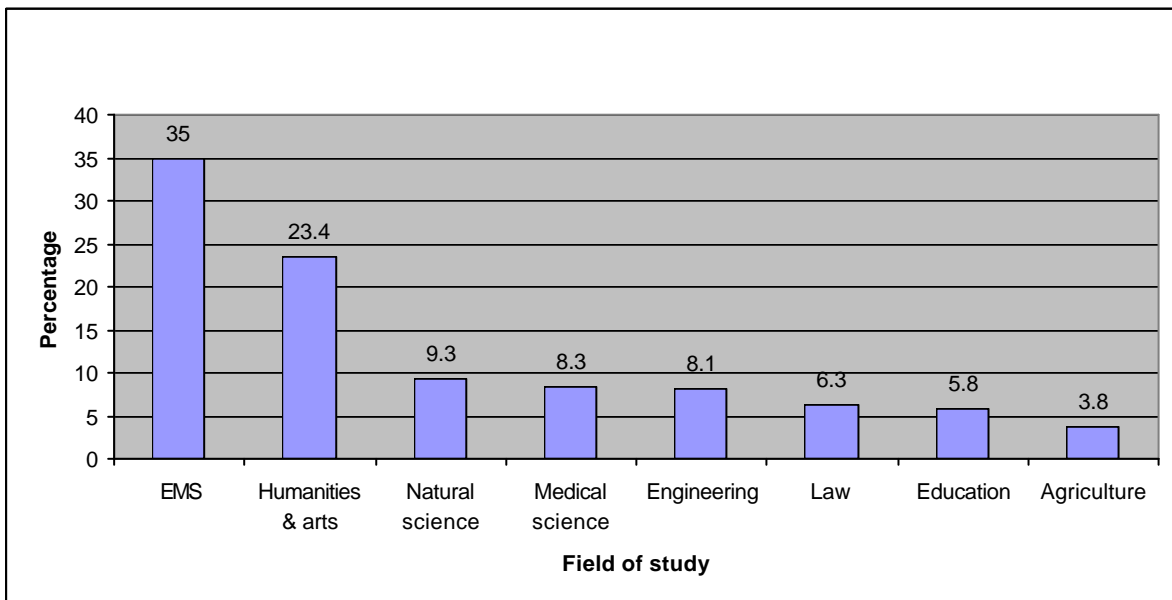


**Figure 3.2: Main influence in decision to change job**



The majority of those who changed jobs to a higher level were from those study fields with higher proportions of underemployment in the first job, i.e. economic and management sciences (35%) and humanities and arts (23%) (Figure 3.3).

**Figure 3.3: Number of graduates who changed jobs to enter a job on a higher level, by field of study**



As mentioned in the previous chapter graduates prefer to be under-employed rather than unemployed when searching for a suitable job. Being in a less preferred job means that they can switch to a preferred without experiencing any periods of unemployment. This also indicates that graduates have a lower reservation/acceptance wage (i.e. the lowest wage that an unemployed person will consider accepting). It is also indicative of the

broadness of their scope of search. It can be assumed from the data that graduates make job contacts in a sequential order and accept the first offer that exceeds their minimum aspiration level. Because they have a lower acceptance wage, they find job offers quickly and the period of unemployment is shortened. A low acceptance wage is used as a benchmark by which to accept or reject offers, with the anticipation that after a certain period a satisfactory job will be found. Hence the main influence in the decision to change jobs for most was an opportunity to occupy a job on a higher level.

This is also apparent when comparing current jobs with previous jobs. Overall, in all fields, most graduates were in jobs that were on a higher level than the previous one. Within fields education had the highest proportion of graduates (11%) in jobs at a level lower than their previous jobs (Table 3.2).

**Table 3.2: Level of current job compared to the previous job**

Field of study	Same level	Higher level	Lower level
Natural sciences	23.5	74.2	2.3
Engineering	15.9	78.8	5.3
Agriculture	31.9	63.8	4.3
Medical sciences	31.7	61.6	6.7
Humanities and arts	19.6	71.0	9.4
Education	25.4	63.4	11.3
Law	20.0	71.3	8.8
EMS*	12.6	81.9	5.5

\*EMS: Economic and Management sciences

### 3.3 MATCHING JOBS WITH EDUCATION

As graduates changed jobs, the matching of jobs and their field of education improved. Most graduates (85.9%) moved to jobs that were related to their field of study, which was the case in all study fields. Only humanities and arts (23%) had a high proportion of those whose current jobs were not related to their study field (Table 3.3), which reflects the general nature of this field.

**Table 3.3: Relation of current job to field of study**

Field of study	Yes %	No %	Total %
Natural sciences	86.5	13.5	100
Engineering	88.9	11.1	100
Agriculture	89.4	10.6	100
Medical sciences	97.7	2.3	100
Humanities and arts	76.9	23.1	100
Education	90.3	9.7	100
Law	87.9	12.1	100
EMS*	87.4	12.6	100
Total	85.9	14.1	100

\*EMS: Economic and Management sciences

In the current job category the number of respondents who indicated some level of under-employment decreased. Job matching improved as they moved to better jobs. Matching job requirement by field of study, 67% of graduates in current job were in jobs which required graduate level ability, compared to 59.7% in the first job; and 24% were in jobs that required lower level ability compared to 33% in the first job. The improvement was also evident across all fields of studies. This was especially so in fields that experienced higher levels of under-employment. The proportion of those who were in jobs that required lower level ability decreased from 39.4% to 22.4% in economic and management sciences, from 42.7% to 31.3% in humanities and arts, and from 30.7 to 15.9% in law (compare Table 1.7 in chapter 1 with Table 3.4 below).

**Table 3.4: Requirement level of current job, by field of study**

Field of study	Entry level	Lower level	Higher level	Total
Natural sciences	59,1	30,4	10,4	100
Engineering	69,8	23,6	6,5	100
Agriculture	69,4	20,0	10,6	100
Medical sciences	85,8	5,8	8,5	100
Humanities and arts	60,1	31,3	8,5	100
Education	65,7	28,5	5,8	100
Law	75,8	15,9	8,3	100
EMS*	67,5	22,4	10,1	100
Total	67,2	24,1	8,7	100

\*EMS: Economic and Management sciences

The improvement in prospects is evident in all study fields, especially so in economic and management sciences, humanities and arts, and law where most graduates seem to experience longer periods of unemployment and under-employment. For those who changed jobs the numbers of those entering graduate level jobs improved for all racial groups while those in jobs which required lower level ability decreased (compare Table 3.5 with 3.6 below).

**Table 3.5 Requirement level of first job**

Requirement level of first job	Race			
	Asian	African	Coloured	White
Graduate level	61.8	57.7	51.1	56.3
Lower level	30.4	34.2	47.7	37.5
Higher level	7.8	8.1	1.1	6.1

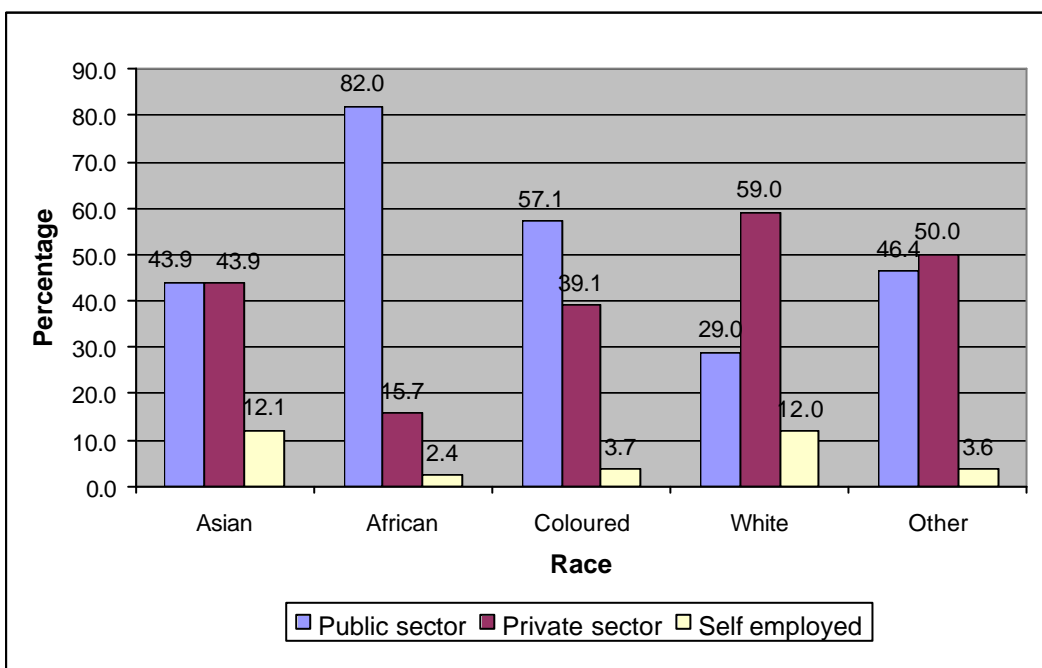
**Table 3.6 Requirement level of current job**

Requirement level of current job	Race			
	Asian	African	Coloured	White
Graduate level	66.7	60.6	66.7	69.7
Lower level	18.6	24.8	24.4	22.0
Higher level	14.7	14.6	8.9	8.3

### 3.4 MOBILITY BETWEEN SECTORS OF EMPLOYMENT

When comparing the current sector of employment with the first sector of employment<sup>2</sup>, there was a decline in proportions in employment in both the private and the public sector and an increase in self employment with 45% of graduates employed in both the private and public sector and 8% self-employed. However, there are clear differences within fields of study and racial groups. White graduates showed a movement from the public to the private sector; (57.5% to 59%) and a significant increase in the self-employment (3.6% to 12%). On the other hand, the proportion of African graduates in public sector employment increased from 76.7% to 82% with an increase in self-employment from 0.3% to 2.4%. The proportion of Asians increased from 47% and 51.2% to 43.9% for both sectors (public and private) with an increase from 1.8% to 12.1% in self-employment, and the proportions of Coloureds increased moderately from 56.6% to 57% in the public sector, went down from 42.2% to 39.1% in the private sector, and showed an increase from 1.2% to 3.7% in self-employment (compare Figure 3.4 below with Figure 1.4 in chapter 1).

**Figure 3.4: Sector of current job by race**



The movement from public sector employment to private sector employment and self-employment was different for graduates in different fields of study. All race groups increased their proportions in self-employment, this was especially so in the medical sciences, and law. Within racial groups, the proportions of white graduates in the public sector decreased in all fields of study associated with an increase in the private sector. It was only in humanities and arts, agriculture, and economic and management

<sup>2</sup> First sector of employment refers here to the sector where the first job was held, and current sector of employment refers to the sector of employment for the job held at the time of responding to the survey.

sciences that there was a decrease in both sectors, which was accompanied by an increase in self-employment. For African graduates, the proportions in public sector employment increased while those in private sector employment decreased in all fields except natural sciences, which showed an increase in the private sector and a decrease in public sector. While there were no self-employed African law graduates in the first job category, the proportion was 8% in the current job category. The proportion of Asian and Coloured graduates showed almost half of the study fields with decreased proportions in private sector employment with another half decreasing their proportions in the public sector (compare Table 3.5 and Table 3.6 below).

It is not clear what the growth in self-employment can be attributed to, especially as this study could not establish what kinds of self-employment graduates move into. However, it is clear that after some employment experience is gained, self-employment is seen as viable.

**Table 3.5: First job sector, by race and field of study**

Field of study	Asian			African			Coloured			White		
	Public	Private	Self-employ	Public	Private	Self-employ	Public	Private	Self-employ	Public	Private	Self-employ
Natural science	60.0	40.0		79.5	20.5		47.8	47.8	4.3	47.1	52.3	0.6
Engineering	37.5	62.5		33.3	66.7			100.0		31.3	63.7	5.0
Agriculture	100.0			86.7	13.3		81.8	18.2		36.6	49.3	14.1
Medical science	55.1	42.9	2.0	65.7	31.4	2.9	64.9	33.8	1.4	62.7	34.9	2.4
Humanities & arts	62.1	34.5	3.4	82.6	17.4		81.8	18.2		44.0	52.5	3.5
Education	100.0			89.4	10.6		42.9	57.1		72.7	22.7	4.5
Law	9.1	90.9		51.2	48.8		37.9	62.1		43.3	55.2	1.5
EMS	23.3	74.4	2.3	54.1	44.7	1.2	56.6	42.2	1.2	18.5	78.7	2.8
Total	47.0	51.2	1.8	76.7	23.0	0.3	56.6	42.2	1.2	39.0	57.5	3.6

**Table 3.6: Current job sector, by race and field of study**

Field of study	Asian			African			Coloured			White		
	Public	Private	Self employ	Public	Private	Self employ	Public	Private	Self employ	Public sector	Private sector	Self employ
Natural science	50.0	44.4	5.6	70.6	29.4		54.5	40.9	4.5	35.9	56.9	7.2
Engineering	28.6	71.4		62.5	37.5			100.0		19.6	69.8	10.6
Agriculture		100.0		100.0						26.8	47.9	25.4
Medical science	40.0	40.0	20.0	68.6	14.3	17.1	50.0	41.7	8.3	35.2	46.9	17.9
Humanities & arts	70.4	22.2	7.4	86.5	11.9	1.6	62.9	35.7	1.4	38.2	50.8	11.0
Education	80.0		20.0	96.1	3.9		100.0			61.9	22.2	15.9
Law	18.2	45.5	36.4	64.9	27.0	8.1	41.7	33.3	25.0	24.6	59.4	15.9
EMS	34.9	60.5	4.7	64.0	34.9	1.2	46.7	53.3		16.4	74.5	9.1
Total	43.9	43.9	12.1	82.0	15.7	2.4	57.1	39.1	3.7	29.0	59.0	12.0

### **3.5 CONCLUSION**

Graduates have an advantage in the labour market and can afford to be mobile. This mobility is due to a number of factors, notably a search for better prospects, be it a better job or higher income. Lower levels of mobility reported by graduates in this study can be partly attributed to the fact that they achieve better outcomes in terms of their occupational attainment matching studies and expectations. It also partly reflects the difficulties experienced by other segments of graduates in the labour market with some still experiencing under-employment.

Job mobility confirms the findings in chapter 2; that graduates tend to choose under-employment rather than unemployment. In their search for employment, they are thus likely to accept a lower level job, then continue with their search for a suitable job. Job mobility tends to improve job matching with field of study. However, while more than half of graduates have professional jobs, it is of concern that some graduates hold administrative jobs, while some are still underemployed.

There is clearly limited mobility between sectors for different race groups. Africans and Coloureds appear to be concentrated in the public sector (and doing well in this sector) rather than in the private sector, whereas whites and Asians appear to have better prospects in the private sector. Asians and whites are also more likely to move to self-employment, compared to Africans and Coloureds.

# CHAPTER 4 PLANS TO MOVE ABROAD

## 4.1 INTRODUCTION

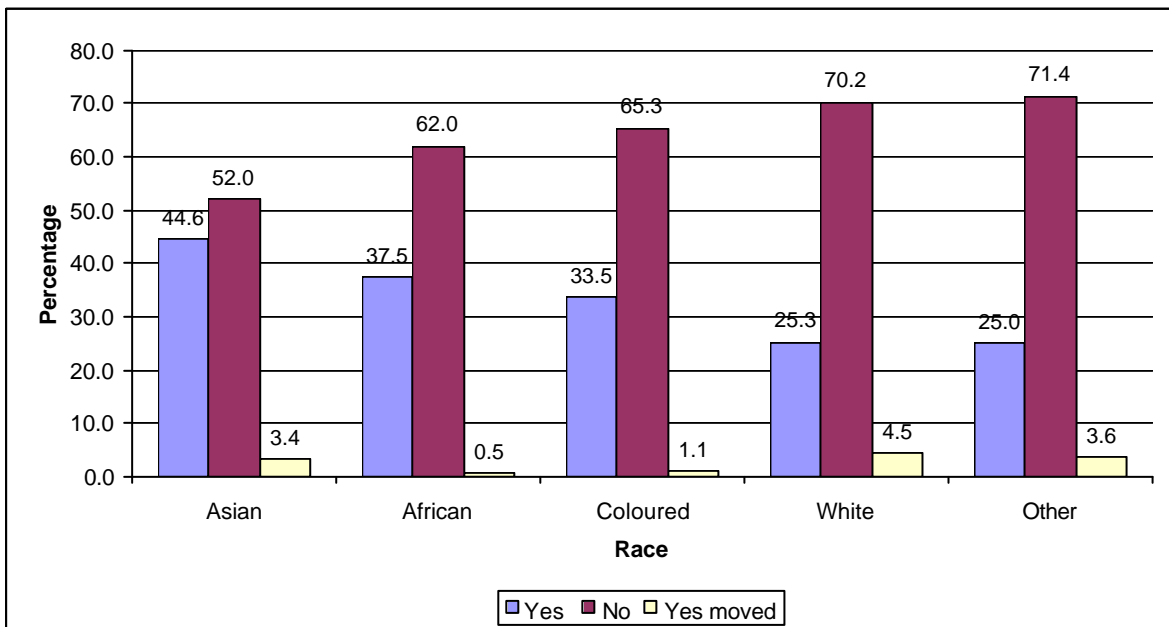
People with higher education are relatively mobile compared to those with less education. This mobility is not only limited to the labour market within the country. While the conditions of the local labour market (inside the country in this case) could be expected to have a great influence on the decision to move abroad, some graduates still decide to move irrespective to these conditions. Labour flows across international labour markets are central to the understanding of demand for and supply of labour.

In South Africa the loss of skilled people to more developed countries is of major concern. Without a study of the differences in labour market conditions abroad compared to in South Africa it is difficult to make any conclusion on whether this mobility is due to better labour conditions abroad.

## 4.2 MOVING ABROAD

According to this survey, 30.6% of graduates indicated that they planned to move abroad, while 3% indicated that they had already done so. Asians (44.6%) and Africans (37.5%) had the higher proportions of those intending to move abroad, whereas higher proportions of white graduates (4.5%) had already moved abroad (Figure 4.1: Table 4.1).

Figure 4.1: Graduates who plan to move abroad



It was largely in the fields of education (38.1%) and humanities and arts (33.1%) that higher proportions of graduates indicated that they intended moving abroad. Graduates from these fields have few labour market prospects in the South Africa, due (in the case of humanities and arts) to the general nature of their study field, and in the case of teachers, a previous oversupply in certain subjects. They could therefore be expected to want to move to other labour markets in search of better prospects. Given the drive by countries like the United States of America and the United Kingdom to recruit teachers and nurses from this country, a perception might be created that the labour market is better in these countries than in South Africa. This could partly explain the higher proportion of those in education indicating that they intended moving abroad. Medical sciences (8%) and agriculture (5.5%) had the higher proportions of those who had already moved abroad (Table 4.1).

**Table 4.1: Graduates planning to or already moved abroad**

Field of study	Plan to move abroad		Have moved
	Yes	No	
Natural sciences	28.4	67.9	3.7
Engineering	31.7	66.8	1.5
Agriculture	22.0	72.5	5.5
Medical sciences	31.6	60.0	8.4
Humanities and arts	33.1	64.6	2.3
Education	38.1	60.7	1.2
Law	27.1	71.6	1.3
EMS*	26.5	70.8	2.7
Total	30.6	66.3	3.0

\*EMS: Economic and Management sciences

### 4.3 REASONS FOR MOVING ABROAD

More than half of the graduates who intend moving abroad plan to do so for a short period of time, as they intend returning to South Africa. Those who intend to return, plan to go abroad to work temporarily (35.7%), to study (16.4%), and to study and work (15.6%). Within the various fields of study, most graduates intend to return after temporarily working abroad. A disturbing finding is the higher proportion of those in engineering (30%) and medical sciences (28.6%) who intend to work abroad permanently. This is especially so in light of the brain drain already experienced in these occupations and indications of shortages of these professionals in the country. This indicates that the mobility of these graduates is influenced by factors other than lack of employment prospects in the local labour market (Table 4.2).



**Table 4.2: Reasons for moving**

Field of study	Working abroad permanently	Stay abroad permanently for reasons other than work	Work temp abroad then return to SA	Study abroad then return to SA	Study and work abroad then return to SA	Other	Total
Natural sciences	20.7	8.0	46.0	12.6	8.0	4.6	100.0
Engineering	30.0	12.9	42.9	4.3	5.7	4.3	100.0
Agriculture	11.1	3.7	44.4	11.1	25.9	3.7	100.0
Medical sciences	28.2	9.1	40.9	2.7	13.6	5.5	100.0
Humanities & arts	15.3	6.4	30.8	21.0	22.4	4.1	100.0
Education	11.5	2.1	17.7	45.8	20.8	2.1	100.0
Law	28.6		31.0	21.4	11.9	7.1	100.0
EMS*	24.3	10.7	42.4	7.3	9.6	5.6	100.0
Total	20.4	7.4	35.7	16.4	15.6	4.5	100.0

\*EMS: Economic and Management sciences

Most of those who were intending to move abroad and return(43.2%), had anticipated that they would not stay abroad for more than five years (43.2%). Only 8% planned to stay for more than five years.

**Table 4.3: Period before returning**

Field of study	One year or less	More than one year but up to five years	More than five years	Do not know
Natural sciences	11.0	46.3	3.7	39.0
Engineering	6.7	48.3	10.0	35.0
Agriculture	15.4	46.2	7.7	30.8
Medical sciences	8.2	46.4	13.4	32.0
Humanities and arts	19.9	39.9	8.0	32.2
Education	22.0	42.9	8.8	26.4
Law	13.9	44.4		41.7
EMS*	13.5	42.9	12.2	31.4
Total	15.3	43.2	8.9	32.6

\*EMS: Economic and Management sciences

## 4.4 CONCLUSION

A small proportion (3%) of graduates indicated that they have already moved abroad and a further 30.6% indicated that they plan to move abroad. The good news is that most of the latter group intend to come back to South Africa. Most graduates move abroad to work or to study and intend to come back after gaining some experience and knowledge. While this is a temporary loss for the country, especially in light of deep concerns about skills shortages, it will be beneficial later when they return. The proportion (27.8%) who indicated that they intend going abroad permanently, is, however a cause for concern. Engineering (42.9%) and medical sciences (37.3%) had higher proportions of those intending to work or stay abroad permanently. It cannot be

argued that graduates from these fields have few labour market prospects in South Africa. Thus it can be assumed that they intend moving for reasons other than labour market prospects. Media reports have indicated that people in medical professions are moving abroad because of dissatisfaction with working conditions in local hospitals.

## CHAPTER 5 FURTHER STUDIES

### 5.1 INTRODUCTION

Individuals invest in education for a number of reasons, among which are a desire to increase labour market skills, productivity, and earnings. The reason for investing in additional years of education varies for different individuals and is influenced by a number of factors. The most common reason is based on the monetary benefits expected versus the cost of education. For other graduates some studying further is a way of delaying unemployment, and thus provides a link between the academic and the professional world. For still others, it is a supplement to the first degree which may not have prepared them for a profession, hence lowering the expected benefits. Graduates may also remain in full-time study because they believe they might have made a wrong choice of first degree. It follows that the relationship between the first degree of study and the field of further study may vary.

### 5.2 STUDYING FURTHER

A large proportion of graduates (71%) studied further after obtaining their first degree. The main reason given by graduates in all fields for continuing their studies was to improve their career prospects (40.4%), and to enhance their career (27.4%). (Table 5.1).

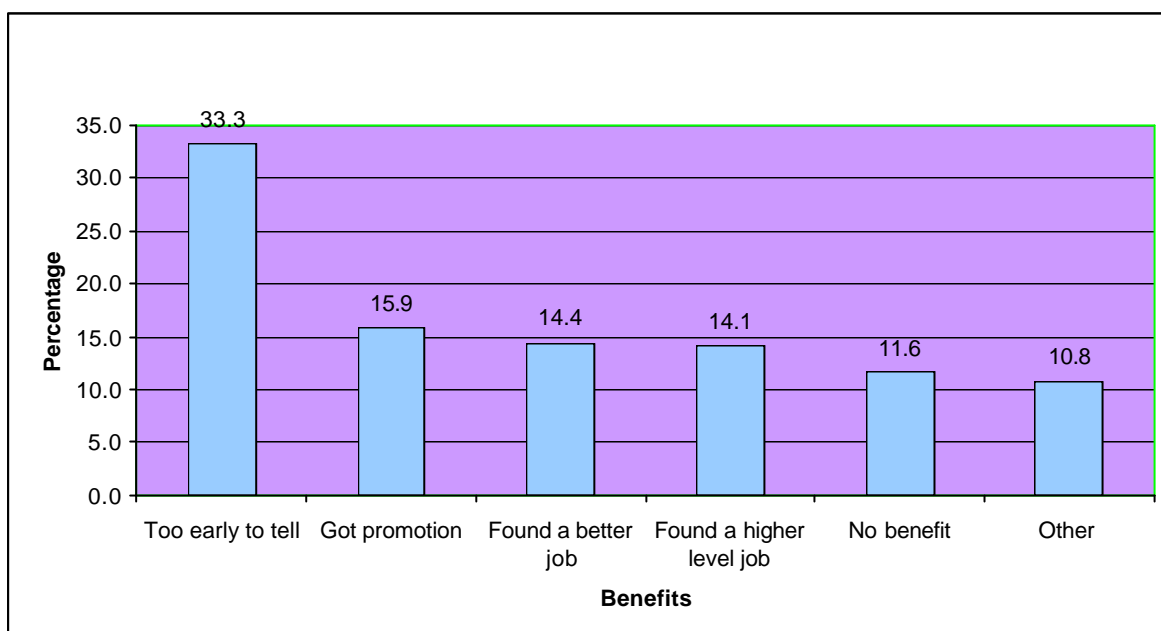
**Table 5.1: Reasons for studying further, by field of study**

Reasons for studying further	Field of study							
	Natural sciences	Engineering	Agriculture	Medical sciences	Humanities & arts	Education	Law	EMS*
To enhance career	22.8%	31.0%	18.8%	44.6%	23.4%	26.4%	25.4%	30.1%
To improve career prospects	39.3%	48.4%	47.9%	33.8%	35.3%	48.5%	47.4%	42.5%
Necessity for profession	9.1%	0.8%	10.4%	3.4%	17.1%	3.7%	7.9%	15.0%
For personal interest	10.5%	14.3%	14.6%	16.9%	9.8%	8.0%	7.0%	7.0%
Studied something else because there were no suitable jobs	6.4%	4.0%	4.2%	0.7%	6.7%	8.6%	1.8%	2.2%
Studied further because there were no suitable jobs	11.9%	1.6%	4.2%	0.7%	7.7%	4.9%	10.5%	3.3%

\*EMS: Economic and Management sciences

Most respondents indicated that further studies were beneficial with only 11% of graduates indicating that studying further did not benefit them at all. However, for most graduates, continuing their studies improved their job and career prospects (Figure 5.1.).

**Figure 5.1: Benefits of continuing with studies**



### 5.3 RELATION BETWEEN PREVIOUS AND FURTHER STUDIES

Graduates were asked if they would choose the same or different course of study, if they were to start again. Interestingly, 48.6% said they would choose a different course of study, while 49% indicated that they would do the same course again. Only 1.6% indicated they would not enter higher education at all. Thus, while most graduates realise the value and importance of higher education, they appear to make less informed decisions on their choice of study. This varied for different study fields. While all fields had graduates who indicated that they would choose a different course of study, most of these were in the humanities and arts (63%) and education (69.7%) (Table 5.2).

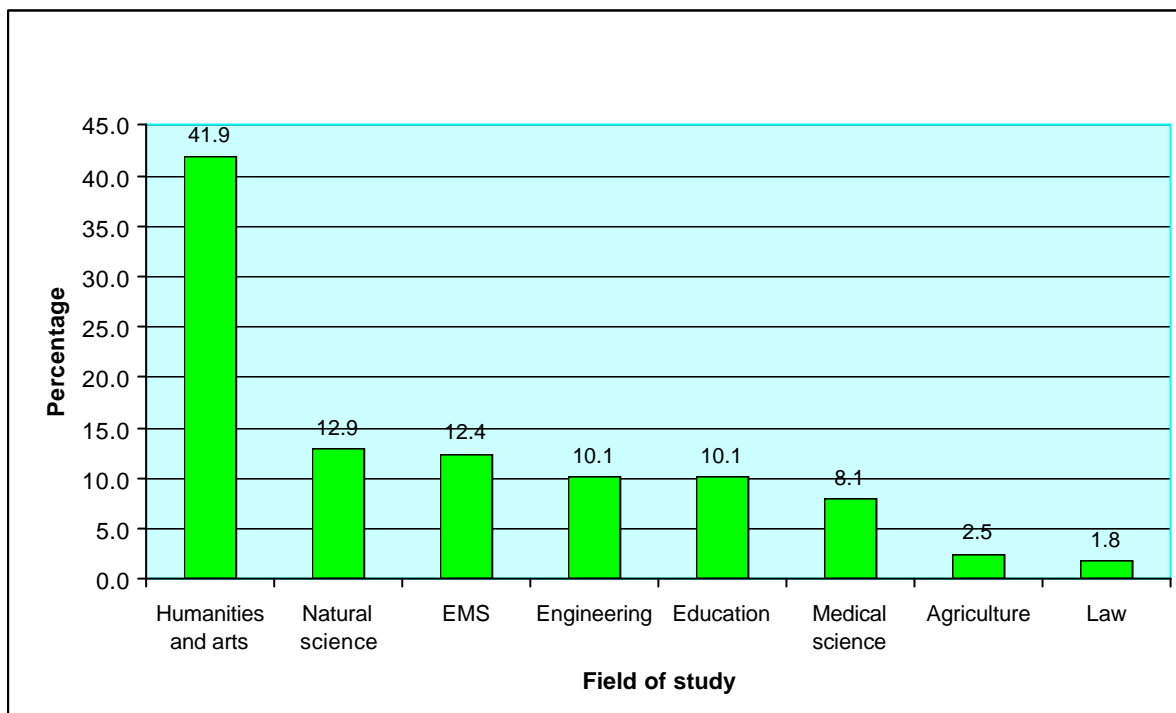
**Table 5.2: Hypothetical re-enrolment, by field of study**

Field of study	Same course	Different course	Not enter higher education	Total
Natural sciences	54.5	43.2	2.3	100.0
Engineering	63.4	36.1	0.5	100.0
Agriculture	55.1	42.7	2.2	100.0
Medical sciences	57.4	42.6		100.0
Humanities and arts	35.0	63.0	2.0	100.0
Education	27.5	69.7	2.8	100.0
Law	55.6	42.4	2.0	100.0
EMS*	66.8	32.1	1.0	100.0
Total	49.8	48.6	1.6	100.0

\*EMS: Economic and Management sciences

A survey of the actual situation revealed that 22.3% of those who studied further after obtaining the first degree changed their study field. Humanities and arts had the highest proportion of those who changed fields when studying further (41.9%) (Figure 5.2).

**Figure 5.2: Further study field not related to first study field**



The majority of those who changed their study field did so because they wanted to improve their chances in the labour market (39.4%). Interestingly 14.6% did so because their interest had changed and 13.4% because it was necessary for the job they wanted to do (Table 5.3). One could assume that if they had known their interest beforehand and had more information about the jobs they wanted to do, they would have started their higher education in the relevant fields. To some extent, this reflects the lack of preparedness of many students before they enter higher education.

**Table 5.3: Reason for changing field of study**

	No	%
Dissatisfied with career progress	35	8.8
To improve employment chances in the labour market	156	39.4
To obtain degree related to work	44	11.1
To improve promotion prospects	25	6.3
Interest have changed	58	14.6
Field was no longer in demand	25	6.3
It was necessary for the job you wanted to do	53	13.4
Total	396	100

Differences within fields of study confirm the lack of preparedness. Of those who were dissatisfied with their career progress, most were graduates in humanities and arts study fields (34.3%). This indicates that before entering higher education, many have insufficient knowledge and information about their own interests, what course of study to pursue, and what the benefits and prospects of that field of study might be.

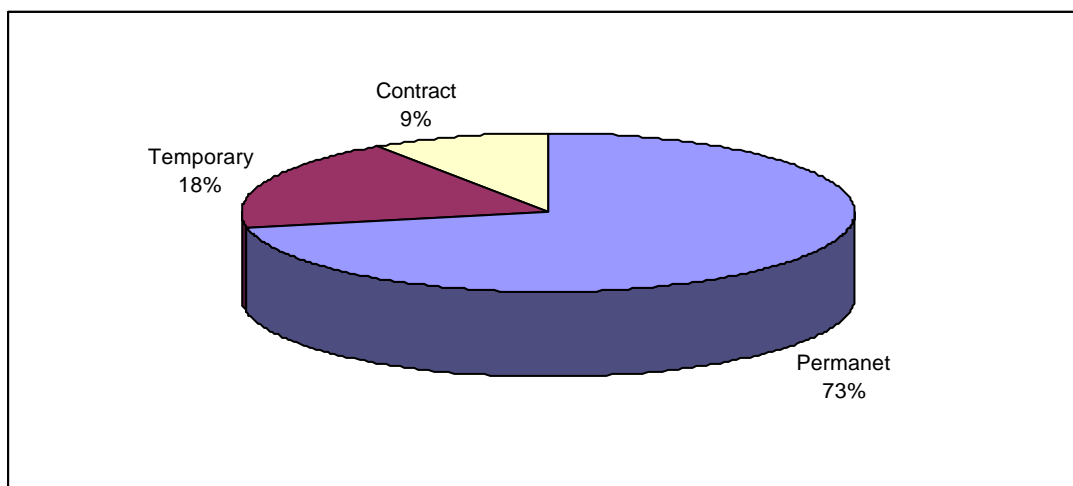
**Table 5.4: Reasons for changing field of study, by field of study**

Reason for changing field of study	Natural sciences	Engineering	Agriculture	Medical sciences	Humanities and arts	Education	Law	EMS*
Dissatisfied with career progress	11.4	11.4		5.7	34.3	20.0	2.9	14.3
To improve chances in the labour market	8.4	13.0	5.2	9.1	44.2	13.0	1.3	5.8
To obtain degree related to work	15.9	6.8	2.3	11.4	38.6	4.5	2.3	18.2
To improve promotion prospects	16.7	25.0	4.2	12.5	20.8	8.3		12.5
Interest have changed	15.5	10.3		10.3	39.7	6.9	3.4	13.8
Field was no longer in demand	20.0	4.0			48.0	24.0		4.0
It was necessary for the job you wanted to do	20.8	5.7	1.9	3.8	47.2			20.8

\*EMS: Economic and Management sciences

Interestingly, most graduates continued studying while they are in full time employment. This suggests that they realise the value and importance of continuous involvement and investment in education even when employed. The majority of those studying further (73%) in fact had permanent jobs (Figure 5.3).

**Figure 5.3: Type of employment while continuing with studies**



## 5.4 BENEFITS OF HIGHER EDUCATION

Most of those who have been through higher education certainly seem to not regret that decision. The value of higher education is recognised by most as only 1% of graduates indicated that given a second chance they would not enter higher education at all. Evaluating the benefits of entering higher education, most graduates had indicated that it had benefited them to a large extent on issues relating to the progression to the employment and their careers.

**Table 5.5: Benefits of entering higher education**

<b>Benefits</b>	<b>Great extent</b>	<b>Some extent</b>	<b>Small extent</b>	<b>Not at all</b>	<b>Total</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Enhanced long term prospects	66,2	20,4	7,8	5,6	100
Improved work quality	65,4	24,2	6,0	4,5	100
Easier to find a job	64,4	19,3	7,6	8,7	100
Improve long term career prospects	62,1	21,8	9,6	6,6	100

## 5.5 CONCLUSION

For many graduates, post-graduate studies provide a link between their first degree and employment. This is especially so for graduates in fields which do not prepare them for an occupation, i.e. humanities and arts. They thus complement their first degree and to some extent specialize at post-graduate level. However, even for those whose degrees are occupation-orientated, further studies seem to be necessary and are pursued for enhancement of career. Further studies also provide fresh opportunities for those who might have made wrong decisions when they entered higher education for the first time. This is reflected by those who decide to study further in a field not related to their first degree either because their interest has changed or because they realize there are fewer labour market opportunities in their first field of study. While this might be a reflection of individual circumstances, it also points to lack of preparedness for most people before they enter higher education. This results in misallocation and waste of resources, as students often spend three to four years in higher education studying something for which they will have little use for in their career life.

## CHAPTER 6 CONCLUSION

### Labour market

The outlook for people with higher education qualifications is not bleak. Their rate of unemployment is low compared to the overall national unemployment rate, and when they are unemployed it is usually for only a short time. Nevertheless, not all graduates enjoy prosperity. One disquieting finding is that graduates of different race groups clearly experience disproportionate advantages.

Firstly, the field of study is an important determinant of employability. Graduates from the humanities and arts study fields, clearly have lower employment prospects. This field is largely general and does not necessarily prepare graduates for a profession. It had higher proportions of those who took longer to find employment. The unemployment rates for these graduates were higher compared to other fields of study. Graduates from this field were more likely to be in jobs where they felt underemployed, which were unrelated to their studies and were temporary.

The impact of field of study is evident in prospects for different segments of the population of graduates. This is particularly true for African graduates, many of whom hold degrees in those study fields with lower employment prospects. However, there are other signs that African graduates are disadvantaged in the labour market. In study fields with lower employment prospects, they had had higher rates of unemployment, and took longer to find employment than their counterparts in other race groups within the same fields of study. When they did find employment, they were more likely to be underemployed.

A disturbing feature of the graduate labour market in South Africa is the obvious divide that exists between the public and the private sector. This is reflected in employment by race within these sectors. African graduates are largely employed in the public sector, while white graduates tend to find work in the private sector. The seemingly limited mobility between the two sectors is a cause for concern. White graduates move from public sector employment to private sector employment and self-employment, while African and coloured graduates largely move from private sector employment to public sector employment. This segmentation results in different race groups experiencing different economic outcomes in the labour market. Hence the



unemployment rate of African graduates is higher compared to that of whites, coloured and Asians, and their absorption into the labour market is slower.

This reveals the importance of the public sector in the employment of African professionals. Not only is the public sector the largest employer of African and coloured graduates, but graduates from these race groups earn higher wages than those in the private sector of the same race groups (Woolard, 2002). This poses a major challenge to the public sector in view of the restructuring and rationalisation taking place within this sector. The public sector has a potential to play a significant role in redressing the inequalities of the past and achieving rapid and sustained income redistribution.

## **Higher education**

Higher education output is clearly still driven by social demands for education. As a result little attention is paid to the needs of the labour market. There is little or no guidance given to students as they enter higher education. It is not clear how and why students decide which fields to study. In the absence of labour market information on the likely prospects of different fields of study, it could be assumed that these decisions are arbitrary. The study fields with the least stringent requirements fall within humanities and arts and are therefore more easily accessible. Hence the crowding in these fields. This is especially so for those who are entering higher education for the first time, do not have traditional entry qualifications, and have a history of previous under-achievement. Members of this group find themselves later having to change fields of study as the realities of opportunities and constraints in the labour market become clear. Many do this only after spending 3-4 years completing their first degree. Those who cannot afford to continue with their studies are faced with the harsh realities of unemployment and underemployment.

One of the goals of higher education is to promote equity, access, and fairness of opportunity. This expectation of higher education is largely driven by the positive correlation between education and economic outcome. Education can afford individuals an equal opportunity to participate in the economy and in society. It therefore has a crucial role to play in redressing inequalities of the past and in the fight against poverty. As a result increased access to higher education has been the focus of much attention. However, while participation has increased for Africans, as Cooper (2000) stated, it has largely been skewed. Most Africans are still graduating in non-professional fields.

## APPENDIX A THE SURVEY

The survey was conducted on graduates from South African universities who obtained their qualifications between 1990 and 1998. The sample was drawn from what was then called the Register of Graduates, a database maintained by the HSRC. The Register is a database of all people who graduate at South African universities. It is maintained and updated yearly and graduates are as far as possible followed up to ensure that their particulars are up to date.

### PROFILE OF RESPONDENTS

Overall there were 2672 respondents in this survey and their profiles are presented in the following tables. They are shown in terms of race, gender, field of study, and institution attended (categorised as historically black universities [HBUs] and historically white universities [HWUs]).

#### Racial distribution within field of study

FIELD OF STUDY	RACE										Total N
	African		Asian		Coloured		White		Other		
	N	%	N	%	N	%	N	%	N	%	
Natural sciences	44	16.4	24	9	23	8.6	173	64.6	4	1.5	268
Engineering	9	4.3	8	3.8	4	1.9	187	89.5	1	0.5	209
Agriculture	16	17.4	1	1.1			75	81.5			92
Medical sciences	37	13.5	51	18.5	12	4.4	172	62.5	3	1.1	275
Humanities and arts	344	41.9	29	3.5	81	9.9	363	44.2	4	0.5	821
Education	163	64.4	7	2.8	13	5.1	69	27.3	1	0.4	253
Law	56	35.7	11	7	15	9.6	71	45.2	4	2.5	157
Economic and management sciences	106	17.8	44	7.4	31	5.2	404	67.7	12	2	597
Total	775		175		179		1514		29		2672

#### Gender distribution within field of study

Field of study	Female		Male	
	N	%	N	%
Natural sciences	130	48.5	138	51.5
Engineering	30	14.4	179	85.6
Agriculture	39	42.4	53	57.6
Medical sciences	200	72.7	75	27.3
Humanities and arts	503	61.3	318	38.7
Education	141	55.7	112	44.3
Law	61	38.9	96	61.1
Economic and management sciences	274	45.9	323	54.1
Total	1378	51.6	1294	48.4

### Field of study and institution

FIELD OF STUDY	Universities					
	HBUs		HWUs		Total	
	N	%	N	%	N	%
Natural sciences	61	6,6	207	11,9	268	10,0
Engineering	5	0,5	204	11,7	209	7,8
Agriculture	16	1,7	76	4,4	92	3,4
Medical sciences	84	9,1	191	10,9	275	10,3
Humanities and arts	357	38,6	464	26,6	821	30,7
Education	178	19,2	75	4,3	253	9,5
Law	77	8,3	80	4,6	157	5,9
Economic and management sciences	148	16,0	449	25,7	597	22,3
Total	926	100	1746	100	2672	100

### Racial distribution in institutions

Institution	Race										
	Asian		African		Coloured		White		Other		
	N	%	N	%	N	%	N	%	N	%	
HBUs	105	11.3	679	73.3	127	13.7	11	1.2	4	0.4	926
HWUs	70	4	96	5.5	52	3	1503	86.1	25	1.4	1746
Total	175	6.5	775	29	179	6.7	1514	56.7	29	1.1	2672

### Racial distribution across fields of study at institutions

	Asian		African				Coloured				White					
	HBUs		HWUs		HBUs		HWUs		HBUs		HWUs		HBUs		HWUs	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
	Natural sciences	14	13.3	10	14.3	35	5.2	9	9.4	11	8.7	12	23.1			173
Engineering	4	3.8	4	5.7	1	0.1	8	8.3			4	7.7			187	12.4
Agriculture			1	1.4	16	2.4									75	5.0
Medical sciences	33	31.4	18	25.7	35	5.2	2	2.1	9	7.1	3	5.8	6	54.5	166	11.0
Humanities and arts	12	11.4	17	24.3	283	41.7	61	63.5	57	44.9	24	46.2	5	45.5	358	23.8
Education	7	6.7			158	23.3	5	5.2	12	9.4	1	1.9			69	4.6
Law	10	9.5	1	1.4	53	7.8	3	3.1	13	10.2	2	3.8			71	4.7
Economic & management sciences	25	9.5	19	27.1	98	14.4	8	8.3	25	19.7	6	11.5			404	26.9
Total	105	100	70	100	679	100	96	100	127	100	52	100	11	100	1503	100

## APPENDIX B CLASSIFICATION OF UNIVERSITIES

<b>HISTORICALLY WHITE UNIVERSITIES</b>	<b>HISTORICALLY BLACK UNIVERSITIES</b>
Potchefstroom University for CHE	Medical University of South Africa (MEDUNSA)
Rand Afrikaans University	University of Durban-Westville
Rhodes University	University of Fort Hare
University of Cape Town	University of the North
University of Natal	University of the North West
University of the Orange Free State	University of Transkei (no data available for 1992-1995)
University of Port Elizabeth	University of Venda
University of Pretoria	University of the Western Cape
University of South Africa	University of Zululand
University of Stellenbosch	Vista University
University of the Witwatersrand	

### FIELDS OF STUDY

#### NATURAL SCIENCES

BSc

Physics

Mathematics

Computer science

Chemistry

Biology

Natural science technology

Geology

Astronomy

#### ENGINEERING

Engineering - general

Engineering - agriculture

Quantity surveying

Architecture

Town and regional planning

Land surveying

Draughtsmanship

Technical inspection

Chemical technology

#### AGRICULTURE

Agriculture - general

Forestry

Soil conservation  
Food technology  
Home economics  
Veterinary science

## **MEDICAL SCIENCE**

Medicine and surgery  
Dentistry  
Dietetics  
Hygiene  
Speech therapy  
Nursing  
Physiotherapy  
Pharmacy  
Optometry  
Medical technology  
Medical research

## **HUMANITIES AND ARTS**

Literature and philosophy  
Fine art  
Library and information science  
Social work  
Theology  
Human sciences (not elsewhere classified)  
Military science

## **EDUCATION**

Education  
Physical education

## **ECONOMIC AND MANAGEMENT SCIENCES**

Administration, public administration  
Economics  
Management, business administration  
Human resource management  
Economics and management (not elsewhere classified)

## **LAW**