

CHAPTER 3

What are the returns of tertiary education and who benefits?

Nicola Branson, Murray Leibbrandt and Tia Linda Zuze

Introduction

This chapter presents the key empirical findings and implications from a longer report investigating who the recipients were of tertiary education in South Africa between 2000 and 2007. Two objectives guided the study. The first was to clarify the relationship between the length of stay in education and access to the job market based on South African household survey data. The second was to contribute to what is known about what influences participation in HEIs among young South Africans who have successfully completed secondary school.

The first issue was explored by asking the question: ‘Are there strong returns to tertiary study and have these returns changed over the period 2000–2007?’ We used national household survey data to answer this question by comparing both employment rates and earnings among graduates and non-graduates. We found consistently strong returns to tertiary education in the earnings received by the employed. Tertiary education also dramatically increased the probability of being employed. These findings are important because of conflicting reports in policy circles about the usefulness of tertiary education. Claims of rising graduate unemployment have been taken to imply low and falling returns to tertiary education. While graduate unemployment has been rising off a low base, the returns to tertiary training remain high relative to only have a matric qualification.

These high returns to tertiary training provide strong inducement for young South Africans to proceed to some tertiary training after completing their matric. This is, however, clearly a constrained choice. Many matriculants take subjects at school and achieve marks that make them ineligible for entrance into universities. These young people face limited options for further education. Added to this, tertiary studies are expensive and financial considerations sometimes completely remove any option of further study beyond matric.

Given this reality, we ask: ‘Who goes into tertiary education and how has this changed since 2000?’ We do this by using national household data to offer a descriptive profile of changing levels of education in the adult population from 2000 to 2007. Our particular

focus is on seeing the percentage of 25–35-year-olds acquiring matric and then the percentage of these matriculants who proceed to tertiary education.

We found that there have been increases in the absolute numbers of students enrolled in tertiary institutions, but these increases are only in line with population growth. Nor were changes found in age, gender and racial breakdowns. There has therefore been little demographic transformation in higher education. However, there has been a shift in the type of tertiary training that young South Africans have been acquiring. Colleges have held a constant share, but universities have increased their share relative to universities of technology.

Owing to data constraints, respondents' matric subjects or symbols could not be included in the analysis of national data. Thus, we were not able to disentangle eligibility for university education from decisions to participate. We turned to a rich source of data to improve on what was known at the national level. The Cape Area Panel Study (CAPS) (Lam *et al.* 2008) observed close to 5 000 14–22-year-old young adults in 2002 and tracked their progress through three additional waves of data collection from 2003 to 2006. Of importance here was the question: 'Who goes into tertiary education in Cape Town: evidence from the Cape Area Panel Study of Youth (CAPS)?' For young African adults, ability alone proved insufficient to bridge the gap between secondary school and tertiary studies. Unfavourable school and home environments overshadow individual ability. This is not the case for the white and coloured population groups, but for all young adults educational attainment and outcomes are still heavily dependent on financial resources. The unequal home, community and educational circumstances of the African population place them at a distinct disadvantage long before they enter the labour market.

The move from national level analysis to a focus on the Cape Town metropolitan area is naturally not without cost. The major price exacted is the loss of national representation. We address this head-on by comparing the national picture to the Western Cape picture and then to the descriptive picture in CAPS. The descriptive snapshot of the tertiary training from CAPS data is shown to be similar to the provincial data.

The following sections present the main findings of the study. We encourage readers to consult the main report for further details on the empirical approaches used throughout the study.

Returns to tertiary study in South Africa between 2000 and 2007

This section investigates the economic benefits of tertiary education. The national Labour Force Surveys (LFSs) (StatsSA[a] 2000–2007) are used to investigate changes in returns to tertiary education between 2000 and 2007. Returns to tertiary education refer to the economic gain an individual receives from investing in their education beyond secondary schooling, mostly through higher wages. High returns to tertiary study in the form of high earnings for those with tertiary qualifications signal to matriculants that the long-run benefits from further study outweigh the time, financial costs and foregone experience

associated with tertiary study. In this chapter special attention will be paid to the 25–29 age group, as they provide a sense of the labour market that is particularly relevant to those emerging from tertiary education.

The analysis makes use of annual data from the nationally representative September Labour Force Surveys (LFS) between 2000 and 2007 (StatsSA[a] 2000–2007). The LFS is a biannual survey¹ with a strong focus on the labour market and therefore includes detailed information on access to formal and informal employment, earnings, hours of employment and levels of education.

Returns to tertiary education: increased employment opportunities

Individuals with matric or tertiary-level education are significantly more likely to be in formal employment in all years; while matric and tertiary qualifications do not distinguish the self-employed from the unemployed. Matriculants are between 30% and 60% more likely to be formally employed than individuals with less than matric, and individuals who have completed some level of tertiary study are between two and three times more likely to be formally employed. Some level of tertiary qualification therefore nearly doubles the advantage of finding employment compared to a matric certificate.

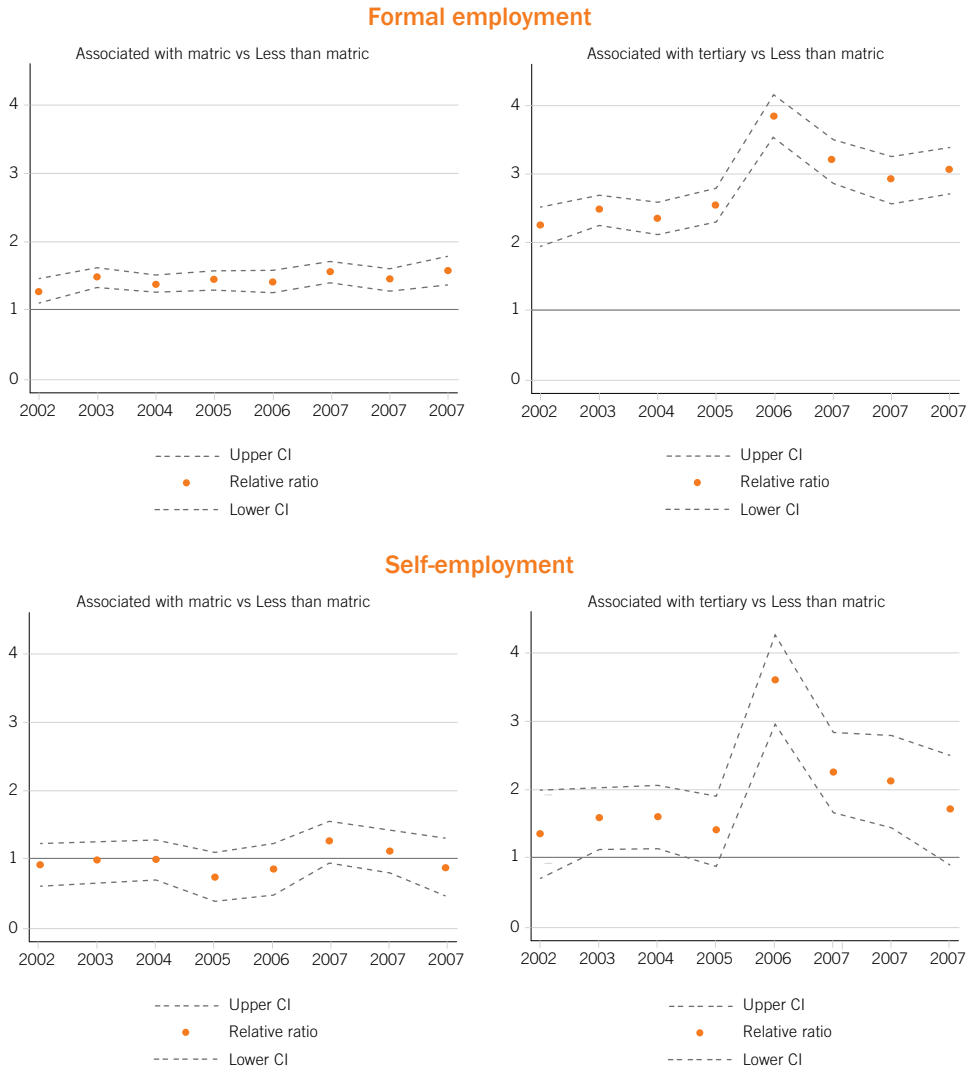
Figure 3.1 presents these results graphically. It is clear from the graph that the ability to find employment with a tertiary qualification is well above the opportunities created by a National Senior Certificate (matric). There appear to have been marginal increases in the return of finding formal employment as a result of completing matric and tertiary education over the eight-year period, especially for tertiary scholars. In 2000, individuals with a tertiary education were twice as likely to be formally employed compared to individuals with less than a matric. By 2007, this had increased to around three times as likely. Completing matric had a fairly constant effect on the probability of finding formal employment between 2001 and 2006.

Returns to tertiary education: increased earnings for the employed

We estimate the determinants of log monthly earnings using an ordinary least squares regression model. Our variable of interest is level of education, categorised as degree, diploma or certificate, matric only and incomplete schooling. We assess the effect a matric, diploma/certificate or degree qualification has on earnings in comparison to having incomplete schooling (i.e. not completing matric).

Table 3.1 presents the rate of return to matric, a diploma/certificate and degree qualification respectively. Individuals who complete matric have earnings which, at the mean, are between 40% and 70% higher than individuals with less schooling. The return to obtaining a diploma/certificate is even higher at between 170% and 220%, while the average individual with a degree is rewarded with between 250% and 400% higher earnings than their counterparts who did not complete matric. There is thus an incremental increase in rate of return for HE levels. Western Cape and Gauteng have the highest returns in each year (not shown here).

Figure 3.1
Changes in the odds of employment variable to qualification



Source: SALDRU

* Multinomial Logit (formal employment, self-employment, unemployment) controlling for: population group, gender, marital statuses, province and a quadratic age included

Note: Matric and tertiary point estimates (dots) with 95% confidence intervals (dashed lines) presented

Table 3.1
Returns to schooling (2000–2007)

	2000	2001	2002	2003	2004	2005	2006	2007
Returns (ref: less than matric)								
Matric only	0.51*** (0.05)	0.68*** (0.04)	0.57*** (0.04)	0.57*** (0.04)	0.65*** (0.04)	0.52*** (0.06)	0.57*** (0.04)	0.42*** (0.05)
Diploma/certificate	1.8*** (0.07)	1.86*** (0.05)	2.22*** (0.06)	1.83*** (0.07)	2.06*** (0.07)	1.69*** (0.11)	2.06*** (0.06)	2.1*** (0.07)
Degree	3.22*** (0.11)	2.9*** (0.09)	3.14*** (0.08)	2.46*** (0.13)	3.53*** (0.09)	4.26*** (0.15)	3.53*** (0.12)	3.76*** (0.12)

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes:

- Table presents coefficients β transformed to $\exp(\beta)-1$ from an OLS model of the determinants of log earnings.
- Standard errors in parenthesis.
- Sample restricted to 25–29-year-olds who are either employed full-time or unemployed (broad definition). The self-employed are excluded from the analysis. Controls included but not shown are age, age squared, population group, gender, provincial and union indicators. Reference group is African males from the Western Cape who do not belong to a union.

These returns are quantified in rands in Table 3.2, which presents the estimated average earnings 25-year-old, non-unionised African employees from the Western Cape would receive given their education level. In 2000, the model estimates that males with incomplete schooling earned on average R660 per month, while matriculants earned around R1 100. Individuals with a diploma or certificate earned R1 810 and those with degrees earned close to R2 850.

Table 3.2
Estimated average earnings in rands for 25-year-old, non-unionised Africans from the Western Cape (2000–2007)

		2000	2001	2002	2003	2004	2005	2006	2007
Male	less than matric	658.32	746.78	748.49	855.45	999.56	1097.87	1124.92	1275.96
	matric only	1009.50	1197.10	1096.03	1266.63	1519.11	1633.23	1679.67	1853.86
	diploma/certificate	1812.95	2054.50	2372.27	2753.02	2998.68	3031.90	3141.44	3611.75
	degree	2847.32	2672.99	2951.53	2798.94	4071.12	5586.37	5217.35	6322.68
Female	less than matric	472.87	530.69	551.55	624.47	752.17	769.23	909.05	927.61
	matric only	725.12	850.69	807.64	924.63	1143.13	1144.33	1357.34	1347.74
	diploma/certificate	1302.24	1459.98	1748.07	2009.67	2256.50	2124.32	2538.60	2625.71
	degree	2045.23	1899.50	2174.91	2043.19	3063.51	3914.13	4216.14	4596.53

Note: Estimated monthly earnings calculated from the model in Table 3.1 for 25-year-old, non-unionised African wage earners from the Western Cape.

Differences in the return to highest education level increase over time. For matric, the return appears to have remained fairly stable over time, while the return to a diploma or certificate qualification and a degree increased marginally. In 2000, the average individual with a degree earned a salary 320% higher than individuals with less than matric. For the group in Table 3.2, this translates into a R2 200 difference for males and a R1 500 difference for females. By 2007, this had increased to a difference of over 370%; which translates to a difference of R5 000 for males and R3 500 for females. For those with diploma or certificate qualifications the rate of return was 180% in 2000 and had increased to 210% in 2007.

Participation in tertiary education

Given the high and rising rate of return to tertiary qualification evident in the previous analysis, we now turn to assess who attains a tertiary education. According to the General Household Surveys (GHS) (StatsSA[a] 2000–2007), as shown in Table 3.3 below, the number of graduates in South Africa increased between 2002 and 2005, and decreased thereafter. However, the observed growth in the number of graduates is in line with growth in the pool of matriculants. Comparing average characteristics of graduates versus non-graduates reveals persistent differences in characteristics over the period. Graduates are significantly older, have a higher percentage of females, are more likely to be married and have a higher socio-economic status. While the distribution across population group among the non-graduates reflects the population group shares evident in the national population, whites are over-represented in the graduate population. Comparing average characteristics across time, there is a consistent increase in the share of non-white graduates, shifting towards a more equitable distribution.

The multivariate modelling of Table 3.4 shows that Indians and whites are much more likely to have a tertiary qualification than Africans. Whites are around two-and-a-half times as likely to complete a tertiary qualification as Africans, while Indians are around twice as likely. There is no consistent change over time. In addition, women appear marginally more likely to complete a tertiary qualification in most years.

Geographic location does not appear to consistently predict the odds of a tertiary qualification, with one exception. On average, individuals living in Mpumalanga are less likely to complete a tertiary qualification than those in the Western Cape and the divide increases over time.

Choice of HEI

Table 3.5 presents aggregate numbers from the GHS data on enrolment in tertiary institutions for those over 18 years old. The second row presents the percentage of the population over 18 who are currently enrolled in a university, university of technology (UT) or college (hereafter collectively referred to as 'tertiary institutions'). We see a relatively limited increase in the number enrolled in college; while university enrolment has increased the most, with university of technology enrolment numbers decreasing.

Table 3.3
Weighted mean characteristics of 25–35-year-olds (2002–2007)

	2002		2003		2004		2005		2006		2007	
	Tertiary	No tertiary	Tertiary	No tertiary	Tertiary	No tertiary	Tertiary	No tertiary	Tertiary	No tertiary	Tertiary	No tertiary
Age	30.056	29.385 ***	30.085	29.357 ***	30.299	29.425 ***	30.037	29.597 ***	30.174	29.525 ***	29.98	29.565 **
Female	0.552	0.513 *	0.562	0.517 *	0.551	0.493 **	0.527	0.513	0.545	0.499 *	0.483	0.491
African	0.566	0.728 ***	0.572	0.731 ***	0.55	0.713 ***	0.611	0.727 ***	0.577	0.73 ***	0.587	0.751 ***
Coloured	0.054	0.075 *	0.065	0.079	0.053	0.082 ***	0.069	0.089	0.059	0.09 *	0.073	0.085
Indian	0.054	0.041	0.047	0.041	0.062	0.047	0.052	0.044	0.057	0.042	0.06	0.046
White	0.327	0.156 ***	0.316	0.149 ***	0.335	0.158 ***	0.268	0.14 ***	0.306	0.138 ***	0.28	0.119 ***
Married	0.549	0.404 ***	0.547	0.395 ***	0.552	0.402 ***	0.504	0.431 **	0.551	0.394 ***	0.51	0.398 ***
Standardised SES score	1.043	0.427 ***	1.074	0.425 ***	1.11	0.395 ***	0.785	0.256 ***	1.259	0.487 ***	1.12	0.444 ***
Aggregate numbers	785962	2231289	792258	2410388	880614	2679018	907439	2544627	877069	2724696	820586	2666438
% of population 25–35	26.0%	74.0%	24.7%	75.3%	24.7%	75.3%	26.3%	73.7%	24.4%	75.6%	23.5%	76.5%
Upper confidence interval	28.1%	71.9%	27.0%	73.0%	27.1%	72.9%	29.1%	70.9%	29.5%	70.5%	29.0%	71.0%
Lower confidence interval	24.0%	76.0%	22.5%	77.5%	22.4%	77.6%	23.5%	76.5%	19.2%	80.8%	18.0%	82.0%

* p < 0.1, ** p < 0.05, *** p < 0.01

Notes:

• Tertiary includes any post-matric qualification.

• Sample restricted to 25–35-year-olds not currently attending classes who have at least a matric.

Table 3.4

Chances of obtaining a post-matric qualification (estimated odds ratios 2002–2007)

	2002	2003	2004	2005	2006	2007
Demographic: Age	1.03 (0.3)	1.16 (0.43)	1.06 (0.38)	1.15 (0.42)	3.35*** (1.41)	1.15 (0.48)
Age squared	1 (0)	1 (0.01)	1 (0.01)	1 (0.01)	0.98*** (0.01)	1 (0.01)
Female	1.21*** (0.08)	1.15* (0.09)	1.32*** (0.11)	1.07 (0.09)	1.26** (0.12)	0.96 (0.09)
Coloured	0.93 (0.18)	0.85 (0.21)	0.87 (0.17)	0.88 (0.2)	0.88 (0.23)	0.82 (0.19)
Indian	1.70*** (0.34)	1.48* (0.34)	1.93*** (0.43)	1.70** (0.43)	2.20*** (0.52)	2.02*** (0.52)
White	2.63*** (0.27)	2.45*** (0.31)	2.70*** (0.33)	2.17*** (0.32)	2.73*** (0.45)	2.75*** (0.6)
Geographic: Eastern Cape	1.18 (0.21)	0.95 (0.2)	1.16 (0.26)	0.91 (0.21)	1 (0.24)	0.66 (0.23)
Northern Cape	1.15 (0.3)	0.97 (0.24)	0.88 (0.24)	0.63* (0.16)	0.57* (0.18)	0.87 (0.22)
Free State	0.98 (0.2)	0.67* (0.15)	1.06 (0.23)	0.63* (0.16)	0.88 (0.26)	0.74 (0.19)
KwaZulu-Natal	0.91 (0.17)	0.8 (0.16)	0.96 (0.19)	0.62** (0.14)	0.81 (0.2)	0.56** (0.14)
North West	0.65** (0.13)	0.50*** (0.11)	0.66* (0.15)	0.67 (0.17)	1.05 (0.34)	0.65* (0.17)
Gauteng	1.08 (0.17)	0.8 (0.16)	1.49** (0.28)	1.26 (0.28)	1.59** (0.38)	0.81 (0.2)
Mpumalanga	0.64** (0.13)	0.49*** (0.11)	0.62** (0.15)	0.56** (0.14)	0.43*** (0.13)	0.75 (0.19)
Limpopo	1.50** (0.27)	1.15 (0.24)	1.95*** (0.41)	1.15 (0.27)	1.34 (0.37)	0.95 (0.24)
Observations	5 564	5 552	5 775	5 423	5 502	5 715
Pseudo R-squared	0.0424	0.0374	0.0573	0.0366	0.0615	0.0346

* p < 0.1, ** p < 0.05, *** p < 0.01

Notes:

- Odds of having a post-matric qualification presented with standard errors in parenthesis.
- Sample restricted to 25–35-year-olds not currently attending classes who have at least a matric.

Table 3.5

Tertiary headcount estimates – evidence from GHS data

	2002	2003	2004	2005	2006	2007
Total tertiary population	794 710	860 924	793 097	878 748	779 282	931 798
% of >18 population	2.96%	3.12%	2.90%	3.16%	2.77%	3.26%
College	232 670	240 567	217 744	246 985	228 562	273 520
Technikon	228 660	226 990	184 714	171 461	132 104	143 288
University	333 381	393 367	390 639	460 302	418 616	514 990

Note: Sample includes all individuals over 18 currently attending college, UT or university. It excludes individuals enrolled in ABET/literacy classes, other adult educational classes or any other classes. Weighted numbers presented

Table 3.6 presents the share of individuals over 18 years of age currently enrolled by tertiary institution type. In 2002, the enrolment shares between university, UT and college were 41%, 29% and 30% respectively. By 2007 this had shifted to 54%, 15% and 31%. If we compare the enrolment numbers across population groups, we see that the increase in enrolment rates is driven mainly by increases in African and coloured enrolment, with white enrolment remaining fairly stable and Indian enrolment decreasing. Increases in African and coloured enrolment numbers are once again only symbolic of population growth. The population group shares remain extremely consistent throughout the period at 69% African, 6% coloured, 4% Indian and 21% white. Average age and female share remain fairly stable over the period.

Table 3.6
Percentage summary characteristics of the tertiary population – evidence from the GHS data

	2002	2003	2004	2005	2006	2007
University	0.41	0.45	0.49	0.52	0.53	0.54
University of Technology	0.29	0.26	0.23	0.20	0.17	0.15
College	0.30	0.29	0.28	0.29	0.30	0.31
Age	26.57	27.53	26.43	26.58	25.78	26.25
Female	0.51	0.51	0.48	0.51	0.49	0.50
African	0.69	0.68	0.69	0.69	0.68	0.69
Coloured	0.06	0.06	0.06	0.08	0.06	0.10
Indian	0.05	0.05	0.06	0.04	0.04	0.03
White	0.21	0.21	0.19	0.20	0.22	0.18
Married	0.23	0.28	0.24	0.23	0.20	0.22
Standardised SES score	0.92	1.01	0.93	0.75	1.05	1.00
Bursary	0.14	0.16	0.15	0.18	0.17	0.15
Sample Size	1 736	1 796	1 622	1 527	1 334	1 560

Note: Weighted mean characteristics for sample over 18 currently attending college, university or UT.

The socioeconomic status (SES) score,² a proxy for wealth, is well above the population average in the tertiary population. In most years, the average individual enrolled in a tertiary institution has an SES score of around one standard deviation above the population mean. The percentage of the tertiary population assisted by bursaries remains fairly stable at between 14% and 18% over the period, with small increases between 2002 and 2005.

Controlling for characteristics including SES, Figure 3.2 shows that whites have greater odds of attending university over college than Africans in all years. In addition, this difference in the odds between Africans and whites appears to have increased over the period. In 2002, whites are just over twice as likely to be enrolled in university rather than college compared to Africans; by 2007 the difference has increased to over three-and-a-half times. No other significant population group differences are observed in the choices of tertiary institutions. Taking into account other factors, coloureds are as likely as Africans to attend university over college, and there is no significant difference in the odds of attending university of technology over college between population groups.

Comparing tertiary institution choice across gender, we see that females are less likely to attend either university or UT than college when compared to males. The differences between participation at UTs and colleges are statistically significant, and this gap appears to have widened marginally over the period. In 2002, females were 29% less likely to attend a UT over a college than males. By 2007, this had increased to 37%.

Access to different tertiary institutions is constrained by financial resources and whether the individual meets entry requirements. Universities generally have the highest fees and entrance requirements. This plays out strongly in our model. Over and above other factors, increased SES leads to much higher probabilities of participating at either a university or a UT over a college.

Access to bursaries is an even stronger factor in choice of tertiary institution. Similarly, individuals who receive bursaries are between 200% and 350% more likely to attend a university over a college, controlling for demographic characteristics, marital status and SES level. Similarly, individuals with bursaries are between 100% and 300% more likely to attend a UT over a college. Between 2002 and 2007, the influence of bursaries on the choice of tertiary institution appears to have diminished, especially in the choice between a UT and a college.

Who goes into tertiary education in the Western Cape and how has this changed since 2000?

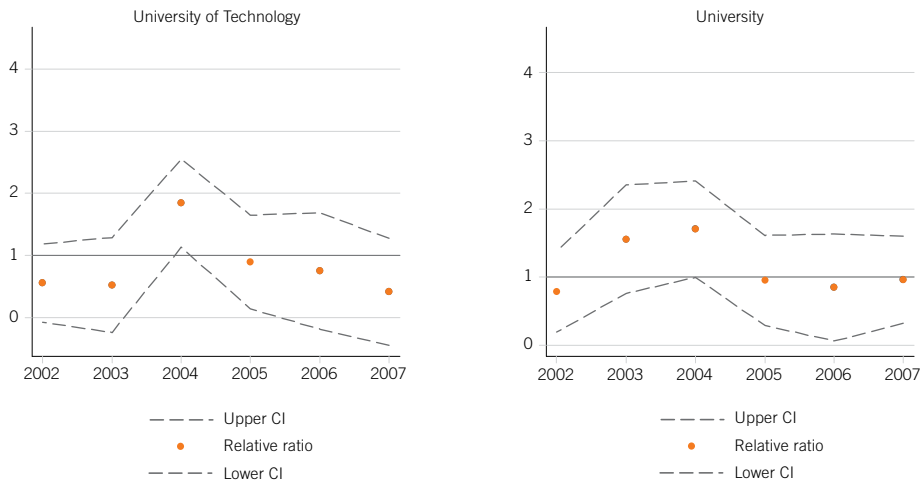
Table 3.7 compares the average characteristics of the 25–35-year-old graduate population to the population of non-graduates in the Western Cape. As in the national table, there are, on average, increases in the number of graduates between 2002 and 2007. Once again, as a proportion of the population, the share of individuals with tertiary qualifications has not increased and could possibly even be said to have decreased. In 2002, 31% percent of 25–35-year-old matriculants who had completed their education had some level of tertiary qualification. In 2007, it was 28%.

The most noticeable difference between the trends in the Western Cape in comparison to national trends is that between 2002 and 2007 there was no shift in the population shares towards a more equitable representation within the tertiary population. In fact, the population group shares among the graduate population remained fairly stable at 18% for Africans, 29% for coloureds, and 53% for whites/Indians (combined).

Table 3.7 presents a summary of variables for the currently enrolled population (those over 18). Interestingly, the Western Cape distribution was similar to the national distribution in 2007. There are some small shifts; most notably the small increase in the share of college enrolment at the expense of UT enrolment. The year 2006 is a clear outlier.

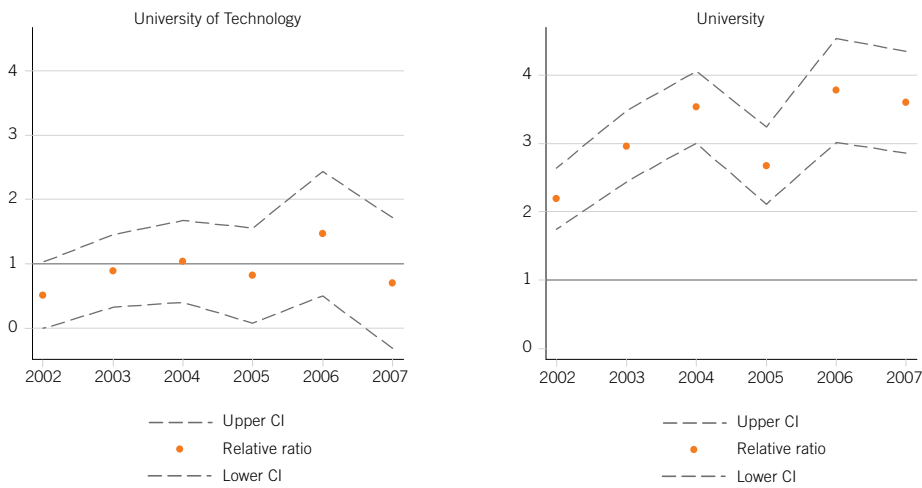
Figure 3.2
Tertiary participation by population group

Increased odds of UT and university attendance over college associated with being Coloured compared to African



* Controlling for: population group, gender, a quadratic in age, marital status, a standardised SAS measure and whether a bursary recipient

Increased odds of UT and university attendance over college associated with being White compared to African



* Controlling for: population group, gender, a quadratic in age, marital status, a standardised SAS measure and whether a bursary recipient

Table 3.7
Mean characteristics of graduates versus non-graduates in the Western Cape – evidence from the GHS data

	2002		2003		2004		2005		2006		2007	
	Tertiary	No Tertiary	Tertiary	No Tertiary	Tertiary	No Tertiary	Tertiary	No Tertiary	Tertiary	No Tertiary	Tertiary	No Tertiary
Age	30.423	29.564 ***	30.267	29.389 **	30.374	29.666 *	29.998	29.454	30.112	29.538	29.432	29.763
Female	0.567	0.526	0.58	0.52	0.583	0.498	0.47	0.549	0.577	0.517	0.527	0.533
African	0.111	0.271 ***	0.144	0.248 ***	0.186	0.237	0.204	0.343 **	0.181	0.323 **	0.188	0.33 **
Coloured	0.294	0.463 ***	0.305	0.545 ***	0.235	0.496 ***	0.324	0.468 **	0.292	0.465 **	0.233	0.5 ***
White/Indian	0.595	0.266 ***	0.551	0.207 ***	0.579	0.267 ***	0.472	0.19 ***	0.527	0.212 ***	0.579	0.17 ***
Married	0.651	0.517 ***	0.612	0.527 *	0.558	0.537	0.529	0.532	0.565	0.455	0.616	0.466
Standardised SES score	1.079	0.59 ***	1.065	0.573 ***	1.068	0.63 ***	1.441	0.67 ***	1.47	1.036 **	1.45	0.779 ***
Aggregate numbers	99 455	221 179	103 494	248 475	85 161	273 158	101 546	269 024	100 628	310 063	113 585	280 343

* p < 0.1, ** p < 0.05, *** p < 0.01

Notes:

- Weighted pooled LHS and GHS data used.
- Tertiary includes any post-matric qualification. Sample restricted to 25–35-year-olds not currently attending classes who obtained at least a matric in the Western Cape.

Table 3.8

Summary characteristics for the current tertiary population in the Western Cape – evidence from the GHS data

	2002	2003	2004	2005	2006	2007
University	0.56	0.53	0.56	0.55	0.66	0.52
University of Technology	0.22	0.24	0.21	0.22	0.09	0.14
College	0.22	0.23	0.23	0.24	0.25	0.34
Age	24.69	25.56	25.23	24.92	24.77	24.11
Female	0.52	0.50	0.47	0.45	0.44	0.49
African	0.16	0.20	0.19	0.21	0.19	0.20
Coloured	0.33	0.28	0.30	0.39	0.33	0.40
Indian/White	0.51	0.53	0.51	0.40	0.49	0.41
Married	0.20	0.22	0.18	0.19	0.20	0.14
Standardised SES score	6.59	6.76	6.72	6.92	6.73	6.75
Bursary	0.14	0.13	0.16	0.12	0.24	0.15
Sample size	415	357	333	356	276	285
Bursary sample size	202	172	180	163	130	167
SES score sample size	411	357	333	163	134	158

Note: Weighted mean characteristics for sample over 18 in the Western Cape currently attending college, university or UT.

While the share of African students remains fairly stable, the share of coloured students increased over the period at the expense of the white/Indian share. The share of females currently enrolled in tertiary institutions decreased marginally over the period. Finally, tertiary scholars in the Western Cape come from households that are, on average, around 6.7 standard deviations above the average SES level for the country. They do, however, have rates of access to bursary assistance similar to the levels observed in the national sample.

The role of individual, household and school characteristics in determining whether matriculants go on to tertiary education: evidence from the Cape Areas Panel Study

The analysis in this section pursues the question of which matriculants chose or are able to pursue tertiary education after completion of matric using the Cape Area Panel Study (CAPS) (Kahn *et al.* 2009). Individual ability, socioeconomic context and matriculation results are all influential in the decision.

A measure of ability which is independent of school and home background is constructed. This measure of individual ability is significant in explaining educational attainment over and above socio-economic context. This part of the analysis therefore confirms that even individuals living within the same household are able to advance to different levels of educational attainment due to different levels of individual ability.

Despite these results, however, one cannot conclude that ability plays a role in educational achievement and decisions for all segments of the population. For the African population, individual ability is not able to play a significant role in educational attainment over and

above socio-economic context. Unfavourable school and home environments overshadow individual ability. This is not the case for the white and coloured population, where the results suggest ability plays a small role in educational achievement; however educational attainment and outcomes are still largely dependent on financial resources. In comparison, however, the unequal circumstances of the African population place them at a distinct disadvantage long before they enter the labour market.

The CAPS data also includes matriculation results. The average matric score for respondents with matric as their highest level of education is 3.91, which represents an F average if all subjects are taken on the higher grade. The average value for the tertiary enrolled group is 5.29, a D average. Comparing matric scores across tertiary type, those in universities have scores well above those in UTs and colleges. The average score for university-enrolled scholars is 6.09, which represents a C if all subjects are taken on higher grade. The average for UT and college students is between a D and an E. These differences in matric scores across institution type signal that individual choice of institution is constrained by matriculation results.

Conclusion and future challenges

We began this chapter by asking whether tertiary education has expanded employment opportunities among young South Africans and if access to tertiary education increased the amount earned by employed youth. Using nationally representative household data from 2000 to 2007, our analysis established clear positive links between further study and access to the labour market. More notable was exactly how beneficial different levels of schooling proved to be. Having a matric qualification increased the likelihood of formal employment by as much as 60% compared to having less than a matric qualification. The difference in employment potential between the youth cohort that had gone beyond matric and obtained a tertiary qualification compared to the group with less than a matric certificate was even more dramatic. Tertiary graduates were up to three times more likely to be formally employed. There were thus strong returns to tertiary education relative to matric.

There are immediate policy implications to these findings. The fact that distinctions in professional success in the labour market surface as early as at the matric stage draws attention to drop-out decisions among South African learners. Until age 16, educational participation is broadly similar and high among different groups of South Africans. Failure to complete secondary school is however substantial, especially among Africans and coloureds. One of the reasons that has been put forward for this tendency to leave school is an apparent increase in job market prospects. However, the evidence from this report clearly shows that remaining in school and matriculating and then, if possible, going on to tertiary training would vastly improve a young person's employment prospects. Clearly a host of complex factors are causing some learners to drop out so close to the end of secondary schooling. These reasons need to be investigated systematically.

The wage benefits related to tertiary schooling appear to provide strong support for efforts to increase access to tertiary education. The reality, however, is that although aspirations

to obtain a tertiary qualification are high, there are numerous constraints to participation. Eligibility for tertiary education remains a very serious obstacle for school leavers. Our analysis of CAPS confirmed that matric scores were an essential component of participation in tertiary study. Also, among African students in the Western Cape, inherent potential alone was no guarantee for academic success against the backdrop of socioeconomic disadvantage. The handful of students that qualify may find that effective participation in further study is contingent on their individual circumstances.

To understand this relationship more clearly we developed a separate discussion around institutional choice and the composition of the tertiary population. The results are quite sobering. Improved access for traditionally disadvantaged groups remained very limited during the reporting period. Young white and Indian South Africans were still the most likely to benefit from a tertiary education and traditional constraints to educational access (such as financial barriers) remained important. The tertiary population remained more affluent than the general population. However, access to bursaries tended to increase the probability of attending a university or a UT over a college.

The optimistic policy interpretation is that by removing financial obstacles for those that qualify for further study, the most important hurdle to success at the tertiary level would be removed. However barriers to access and completion are not limited to resource limitations. Many African matriculants are not taking the subjects or achieving the marks to allow them to proceed to university. Such blunt facts precede the more subtle discussions of whether the quality of a matric equips learners for the demands of tertiary education. They relate directly to whether the relevant subjects required by tertiary institutions are actually available to learners and the lack of information that secondary school learners seem to have about the transition from school to higher education. In South Africa's highly differentiated schooling system, many school leavers do not have ready access to necessary courses or to advice on subject choice and the implications of their choices at the time that they are making these choices. Later on they do not have adequate information about the often complicated admission procedures stipulated by tertiary institutions.

Much of the evidence in this report points to profound inequalities in gaining access to and benefiting from higher education. In some cases these trends appear to be stagnant or even worsening over time. A striking disparity existed between men and women in terms of wage returns for investment in schooling, with women at a clear disadvantage. Women also continue to lag behind men in terms of formal employment. This pattern remained unchanged across time. It is encouraging that women are actively participating in HE. However, female students tended to participate in college programmes and to be under-represented at universities and UTs. The absence of women in a broader array of tertiary programmes may limit prospects later in their careers. Other trends pointed to very little change across time. Although the actual numbers of students enrolled in tertiary study increased during the reporting period, this matched patterns of population growth. Therefore, in real terms, participation and completion rates actually remained constant. Still, other trends pointed to a worsening of inequality. Although participation in universities has increased, our study showed that white candidates were more likely than African candidates to attend university rather than college, after controlling for other

background factors. The gap appeared to be increasing with time. What has consistently been demonstrated in this study is the potential to enrich the human capital base in South Africa if serious attention is paid to key areas. If young South Africans are to be gainfully employed, then policy innovations need to focus on improving the quality of public education prior to the tertiary level as well supporting the admission process for further study. Finally, attention needs to be given to providing a supportive environment at tertiary institutions to ease the transition into the labour market thereafter.

Endnotes

- 1 Since 2008 the survey has been administered quarterly to allow research into seasonal employment fluctuations.
- 2 In each GHS information about household asset ownership, housing quality and access to water and electricity are available. From these variables, we derive a measure of socioeconomic status to include in our model. The measure is normalised and therefore the average value for the population is zero.

References

- Lam D, Ardington C, Branson N, Case A, Leibbrandt M, Menendez A, Seekings J & Sparks M (2008) *The Cape Area Panel Study: Overview and Technical Documentation of Waves 1-2-3-4*. University of Cape Town, October 2008
- StatsSA(a) (Statistics South Africa) (2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007) *Labour Force Survey*. Pretoria: Statistics South Africa
- StatsSA(b) (2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007) *General Household Survey*. Pretoria: Statistics South Africa
- Kahn R, Ardington C & Leibbrandt M (2009) Does individual ability play a role in educational attainment over and above household, school and other socio-economic circumstances? Forthcoming working paper. South African Labour and Development Research Unit, University of Cape Town