

Schooling inequality, higher education and the labour market: evidence from a graduate tracer study in the Eastern Cape, South Africa

Michael Rogan

Neil Aggett Labour Studies Unit, Rhodes University

HSRC Seminar

March 31, 2016



LABOUR MARKET
INTELLIGENCE PARTNERSHIP



Pathways through University and into the Labour Market

Report on a graduate tracer study
from the Eastern Cape

2015

LMIP REPORT 18

2015

LMIP WORKING PAPER 2

Schooling inequality, higher education and the labour market: Evidence from a graduate tracer study in the Eastern Cape, South Africa

M Rogan and J Reynolds

Links:

- [http://www.lmip.org.za/sites/default/files/documentfiles/LMIP%20Report%2018%20Eastern%20Cape%20WEB 0.pdf](http://www.lmip.org.za/sites/default/files/documentfiles/LMIP%20Report%2018%20Eastern%20Cape%20WEB%200.pdf)
- <https://www.ru.ac.za/media/rhodesuniversity/content/iser/documents/LMIP%20Working%20Paper%202.pdf>

South African context:

- One of the world's most unequal in terms of schooling achievements
- Diverse but unequal schooling system feeds a largely public university system
- Universities still reflect, to some extent, the characteristics of their historical positions in the apartheid higher education system = Historically Disadvantaged Institutions (HDIs) vs. Historically Advantaged Institutions (HAIs)



Some stylised facts:

- SA has a relatively **low tertiary gross enrolment ratio** of (about 16 percent of 20-24 year olds)
- ‘NEETs’
 - ‘700,000 youths who officially qualify for admission to higher education are currently ‘not in employment, education, or training’
- HE outcomes (e.g. graduation rates and completion times) are still **highly unequal** across institution types and racial groups



Policy:

National Development Plan:

- Increase of gross enrolments from 950,000 in 2010 to 1,6 million in 2030, a 70% increase
- University science and mathematics entrants to increase three-fold by 2030
- Increase graduation rates to 25% (of total enrolment)
- Envisages an increase in higher education enrolments from 17.9% in 2012 to 25% by 2030



Rationale:

Study trajectory:

- 1) Government's intention to shift the degree balance towards SET and Commerce
- 2) Related to a skills shortage in key sectors which impact on economic growth
- 3) Transformation?
- 4) Fairly rigid schooling system in which important decisions are made very early (Grade 9) and often with little support



Rationale (continued...):

Graduate unemployment:

- 1) Tremendous waste of human resources
- 2) More information needed on which graduates face a higher risk of unemployment
- 3) Need to identify the risks of unemployment from HDIs, in particular
- 4) Linked with an over-supply of certain skills- e.g. general degrees?

NB: Government identifies the goals of promoting SET subjects and reducing graduate unemployment as directly linked



Objectives:

1) Study trajectory:

- Linked with 'pre-higher education' factors?
- Or changing preferences?

2) Graduate unemployment:

- Linked with study choices?
- Or linked with 'non-HE' factors such as social networks, schooling disadvantages, institutional signalling, information asymmetries, or discrimination



Literature: study trajectories

- Wide disparity between learner preferences or ambitions and actual higher education enrolments (Cosser and colleagues)
- Mismatch between intentions and outcomes differs both by race and field of study (particularly for SET intentions)
- Poor academic performance during the last year of schooling = gap between programme intentions and enrolment
- However, programme preferences also change considerably after enrolment



Literature: graduate unemployment

- Higher for Humanities and Arts graduates (but contested)
- Gendered and racial differences in the risk of unemployment among graduates
- Higher rates of unemployment among HDIs (e.g. van Broekhuizen 2013):
 - 1) Field of study?
 - 2) A problem of matching? (Altman 2007)
 - 3) A 'signalling' problem? (Pauw et al. 2006)
 - 4) Poor social networks in the private sector (Kraak 2010)



Eastern Cape context:

- Historically the poorest province in the country
- Higher education in the Eastern Cape is a microcosm of the country as a whole

Rhodes University (HAI): Formerly 'Whites only' university, high research output, world class infrastructure, students come from a middle-class and high income background

University of Fort Hare (HDI): Formerly a 'Black' university, low research output, students come from a poor background



Methods and data:

- Tracer study of the 2010 and 2011 cohorts from the University of Fort Hare (HDI) and Rhodes University (HAI) who graduated with a Bachelor's degree
- Stratified (by subjects and institution) probability sample of 1,211 graduates representing the total population of 4,927 graduates
- Response rates of 39% and 47% per cent, respectively
- Fieldwork = online survey and telephonic interviews



Table 1 Type of school attended (%)

	Rhodes University	University of Fort Hare	Total
Public-elite	49.88 (2.41)	33.68 (1.92)	40.35 (1.52)
Public- low cost	14.77 (1.79)	52.66 (2.02)	37.05 (1.50)
Private elite	29.60 (2.17)	3.72 (0.73)	14.38 (1.06)
Private low cost	5.09 (1.06)	9.17 (1.17)	7.49 (0.82)
Home schooling	0.17 (0.17)	0.16 (0.16)	0.17 (0.12)
Farm school	0.49 (0.35)	0.61 (0.30)	0.56 (0.23)
Total	100.00	100.00	100.00

Notes: The data are weighted. Standard errors are in brackets.

Findings: study trajectories

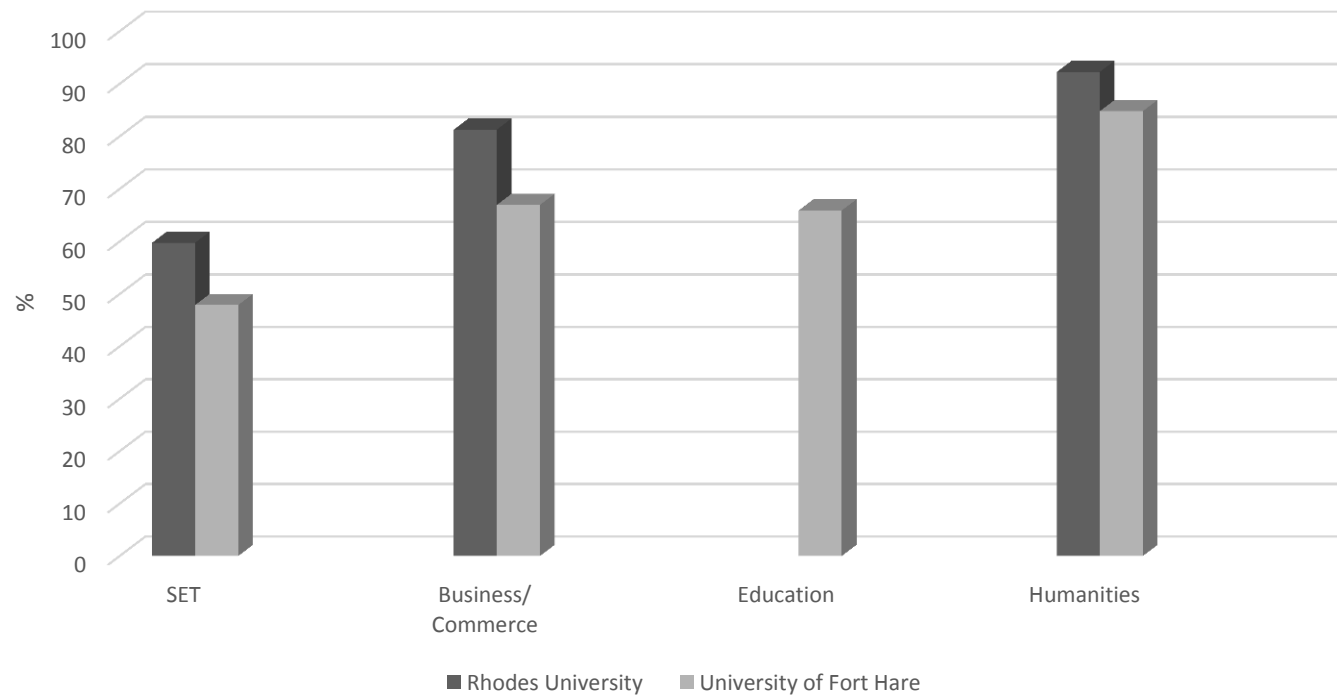
Table 2: Field of study, by university and population group

	Rhodes University				Total
	Black African	Coloured	Indian or Asian	White	
SET	21.72 (3.70)	1.92 (1.96)	40.66 (10.24)	19.16 (2.21)	20.60 (1.91)
Business/ Commerce	34.98 (4.41)	19.23 (11.91)	23.08 (7.67)	21.08 (2.37)	26.05 (2.18)
Education	1.69 (0.97)	3.85 (2.82)	0.00 (0.00)	0.44 (0.22)	0.95 (0.37)
Humanities	41.61 (4.19)	75.00 (12.06)	36.26 (10.10)	59.32 (2.86)	52.40 (2.38)
Total	100.00	100.00	100.00	100.00	100.00
	University of Fort Hare				Total
	Black African	Coloured	Indian or Asian	White	
SET	18.54 (1.47)	8.20 (5.87)	0.00 (0.00)	0.00 (0.00)	17.43 (1.38)
Business/ Commerce	24.45 (1.58)	26.23 (12.73)	46.15 (29.15)	39.06 (8.18)	25.23 (1.54)
Education	9.27 (1.40)	11.48 (7.80)	0.00 (0.00)	25.00 (8.08)	9.97 (1.36)
Humanities	47.73 (1.94)	54.10 (13.76)	53.85 (29.15)	35.94 (9.40)	47.37 (1.88)
Total	100.00	100.00	100.00	100.00	100.00

Notes: The data are weighted. Standard errors are in brackets.



Figure 1: Graduation in intended field of study, by first choice field of study



Notes: The data are weighted.

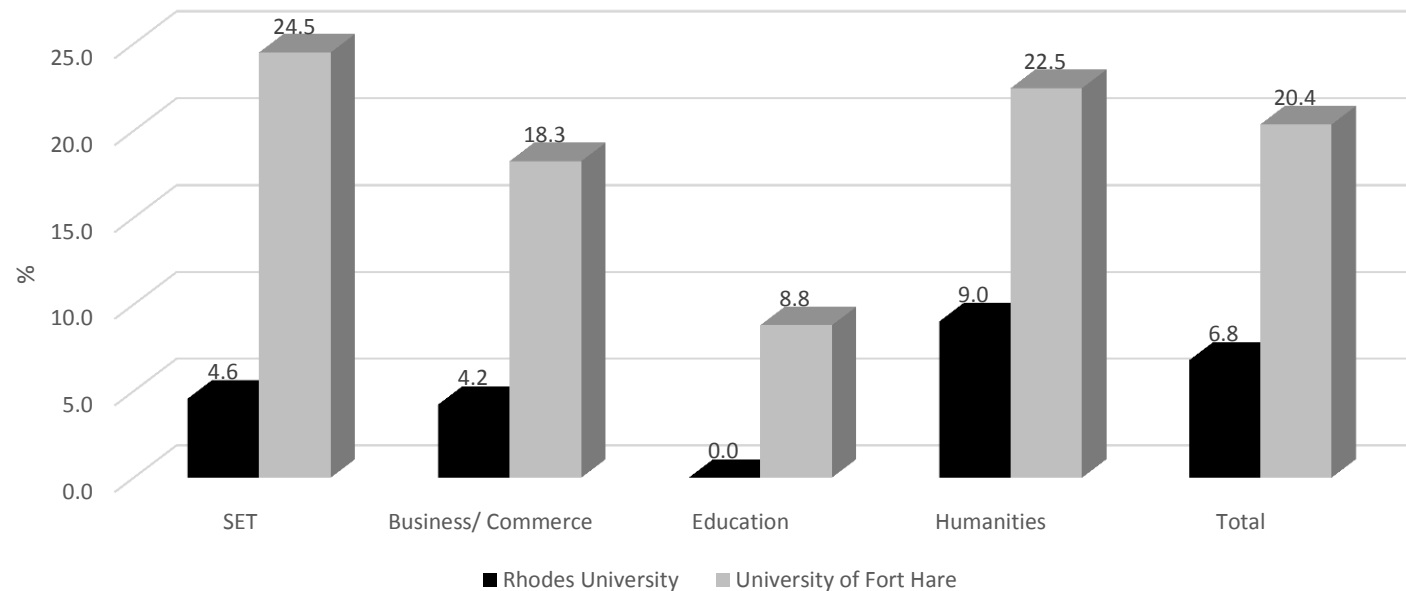
Table 3: Reasons for not completing intended course of study

	Rhodes University	University of Fort Hare	Total
Lack of jobs in SA	2.79 (1.13)	7.36 (1.43)	5.74 (1.01)
No scholarship	5.79 (1.74)	14.24 (2.07)	11.25 (1.49)
Marks not good enough	23.29 (3.13)	31.64 (2.55)	28.68 (2.00)
No places available	9.81 (2.25)	24.32 (2.41)	19.19 (1.78)
Started but couldn't continue	13.37 (2.42)	5.42 (1.32)	8.23 (1.21)
Lost interest	48.11 (3.62)	20.47 (2.14)	30.25 (1.97)

Notes: The data are weighted. Standard errors are in brackets.

Findings: graduate unemployment

Figure 2: Broad unemployment rates (as of March 1st), by field of study



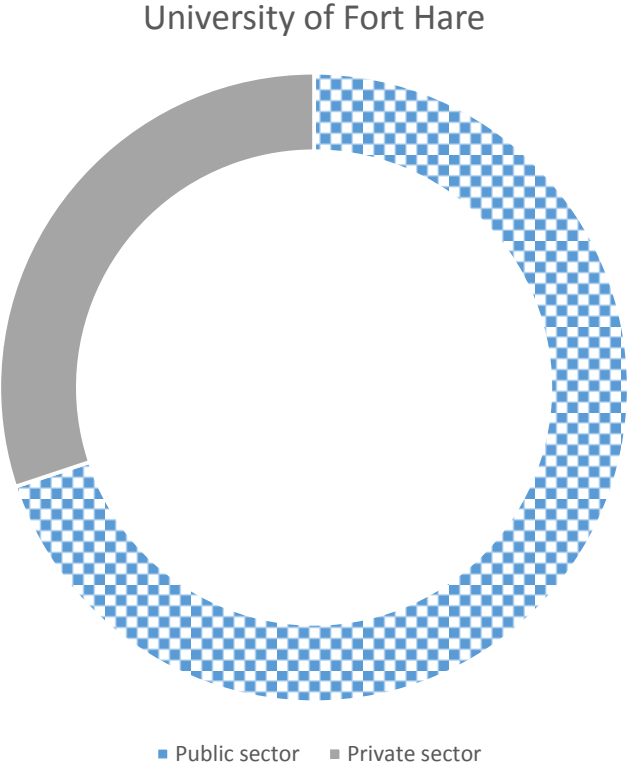
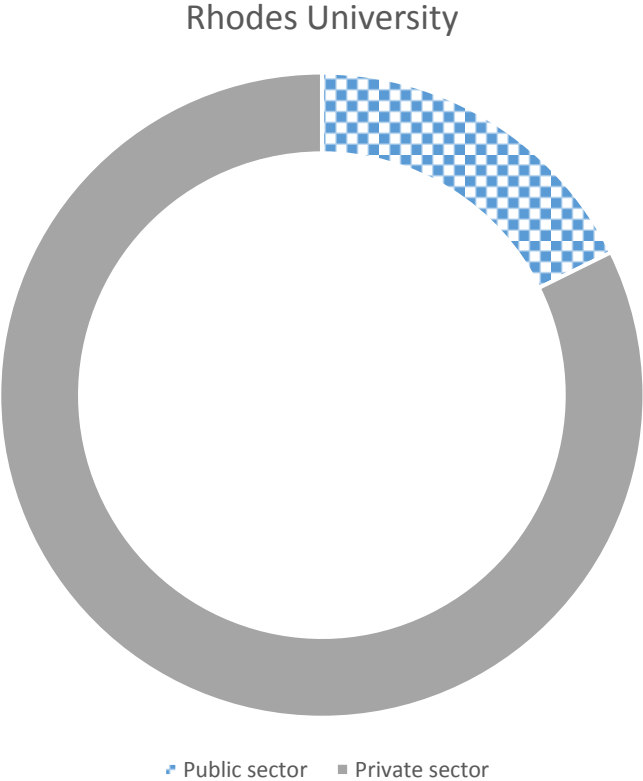
Notes: The data are weighted.



Table 4: Means of finding employment (among employees- i.e. not the self-employed)

Rhodes University					
	SET	Business/ Commerce	Education	Humanities	Total
Employment agency	13.16 (4.06)	12.73 (3.58)	0.00 (0.00)	7.25 (1.87)	9.84 (1.61)
Relatives	6.04 (2.66)	5.15 (2.12)	0.00 (0.00)	7.75 (1.92)	6.59 (1.27)
Linked to bursary	1.55 (1.54)	4.43 (2.27)	0.00 (0.00)	2.10 (1.04)	2.63 (0.89)
Social media	4.96 (2.46)	15.08 (3.97)	21.05 (18.05)	11.82 (2.32)	11.56 (1.74)
Personal contacts	21.02 (4.56)	27.07 (4.56)	27.63 (18.35)	34.12 (3.41)	29.56 (2.38)
Newspaper	8.76 (3.91)	9.78 (3.44)	60.53 (18.99)	11.08 (2.24)	10.86 (1.71)
Campus recruitment	3.77 (2.17)	8.69 (2.90)	6.58 (6.66)	5.23 (1.61)	5.95 (1.24)
University of Fort Hare					
Employment agency	0.00 (0.00)	4.50 (1.57)	0.00 (0.00)	1.62 (0.80)	1.92 (0.56)
Department of Labour	10.03 (3.18)	6.16 (1.89)	11.90 (5.62)	8.82 (1.80)	8.68 (1.28)
Relatives	1.21 (1.20)	3.08 (1.36)	1.82 (1.81)	3.42 (1.22)	2.79 (0.73)
Linked to bursary	12.11 (3.44)	4.92 (1.70)	21.56 (6.59)	15.48 (2.32)	12.91 (1.52)
Social media	5.84 (2.54)	7.84 (2.09)	0.00 (0.00)	4.36 (1.29)	4.99 (0.91)
Personal contacts	8.39 (2.86)	13.84 (2.66)	7.84 (3.82)	11.78 (2.15)	11.32 (1.37)
Newspaper	36.62 (5.04)	40.69 (3.87)	20.55 (6.08)	37.50 (3.13)	36.23 (2.10)
Campus recruitment	8.82 (2.99)	4.16 (1.55)	3.30 (3.23)	4.75 (1.34)	5.08 (0.96)

Figure 3: Sector of employment, by university



Estimations

Table 5: The correlates (logit estimations) of completing a first choice university degree

	Pooled		Rhodes		Forth Hare	
	(1)	(2)	(3)	(4)	(5)	(6)
UFH	0.007 (0.213)	0.928** (0.389)	---	---	---	---
Female	-0.162 (0.133)	0.191 (0.241)	0.0176 (0.227)	0.104 (0.274)	-0.263 (0.171)	0.805 (0.726)
Black	-0.340* (0.196)	0.230 (0.287)	-0.141 (0.243)	-0.035 (0.392)	-1.074*** (0.366)	-0.379 (0.515)
Matric						
Math or science higher grade	-0.191 (0.184)	-0.205 (0.183)	-0.418 (0.258)	-0.445* (0.259)	-0.100 (0.281)	-0.142 (0.287)
English higher grade	-0.072 (0.150)	-0.056 (0.151)	0.282 (0.325)	0.287 (0.330)	-0.217 (0.174)	-0.222 (0.174)
Math upper class pass	-0.003 (0.197)	-0.044 (0.198)	-0.475* (0.247)	-0.481* (0.247)	0.786** (0.330)	0.758** (0.334)
Science upper class pass	0.101 (0.254)	0.130 (0.254)	0.407 (0.308)	0.445 (0.313)	-0.302 (0.473)	-0.255 (0.487)
Low quintile school	-0.492*** (0.143)	-0.220 (0.301)	-0.462* (0.279)	0.021 (0.421)	-0.452*** (0.172)	-0.248 (0.255)
Ambitions						
SET_matric	-1.296*** (0.165)	-1.092*** (0.205)	-1.196*** (0.262)	-1.057*** (0.279)	-1.375*** (0.224)	-1.154*** (0.320)
Comm_matric	-0.560*** (0.159)	-0.315 (0.221)	-0.753*** (0.289)	-0.510 (0.319)	-0.528*** (0.197)	-0.198 (0.330)
Edu_matric	0.343 (0.443)	-0.750 (0.678)	-2.438** (1.035)	-3.178*** (1.183)	0.497 (0.485)	-0.132 (0.762)
Interactions						
Black*UFH		-1.142*** (0.423)				
Low quintile *SET_matric		-0.481 (0.333)		-0.772 (0.710)		-0.384 (0.438)
Low quintile *comm_matric		-0.547* (0.313)		-1.074 (0.669)		-0.521 (0.407)
Low quintile *edu_matric		1.329 (0.892)		---		0.728 (0.957)
Black*female		-0.492* (0.287)		-0.164 (0.478)		-1.109 (0.748)
_cons	5.546*** (1.394)	5.006*** (1.408)	6.277 (4.371)	1.787 (5.808)	5.886*** (1.671)	5.145*** (1.736)
N	1156	1156	445	444	711	711

Table 6: The correlates (logit) of unemployment among Rhodes and Fort Hare graduates

	Pooled		Rhodes		Fort Hare	
UFH	0.735** (0.342)	0.497 (0.809)				
Female	0.319* (0.188)	-1.239* (0.713)	0.102 (0.462)	-1.429 (1.377)	0.350* (0.206)	-0.148 (0.399)
Black	1.226*** (0.358)	0.862 (0.559)	1.576*** (0.383)	0.164 (1.381)	---	---
Matric						
Math or science higher grade	0.116 (0.268)	0.152 (0.282)	0.494 (0.452)	0.485 (0.535)	-0.048 (0.348)	-0.021 (0.350)
English higher grade	-0.100 (0.192)	-0.098 (0.196)	-0.857* (0.506)	-0.873 (0.560)	-0.008 (0.207)	-0.014 (0.209)
Low quintile school	0.276 (0.193)	0.735 (0.846)	-0.346 (0.677)	0.665 (1.409)	0.424* (0.217)	0.976* (0.471)
Field of study						
SET	0.256 (0.265)	0.952** (0.452)	0.0368 (0.944)	-0.042 (1.063)	0.408 (0.282)	1.435*** (0.507)
Humanities	0.425* (0.225)	1.180* (0.670)	0.995 (0.732)	1.270 (0.870)	0.345 (0.239)	1.166** (0.596)
Education	-0.513 (0.519)	0.940 (0.732)	---	---	-0.627 (0.528)	1.094 (0.754)
Interactions						
Black*UFH		-0.088 (0.809)				
Low quintile *Black		-0.854 (0.880)		-0.445 (1.492)		
Low quintile *UFH		1.059 (0.723)				
Black*Female		1.305* (0.692)		2.489** (1.076)		
Low quintile *Humanities		-1.186** (0.517)		-1.507 (1.619)		-1.116** (0.564)
Low quintile *SET		-1.130** (0.577)		0.209 (1.804)		-1.585*** (0.628)
Low quintile *Education		-2.442** (1.040)		---	---	-2.762*** (1.078)
Black*Humanities		0.033 (0.694)		0.140 (1.487)		
Female* Humanities		-0.007 (0.383)		0.127 (1.335)		-0.024 (0.419)
Female*Low quintile school		0.667* (0.403)		0.360 (1.387)		0.822* (0.446)
_cons	-1.299 (1.574)	-1.175 (1.646)	-9.262** (4.386)	-9.538** (4.885)	1.122 (1.672)	-0.719 (1.731)
N	1104	1104	429	429	667	667

Conclusions:

- Constrained study choices
- Disadvantages in schooling quality carrying over into the labour market (even for successful graduates)
- Two possible points of efficiencies/blockages
- Signalling vs. matching/social networking? (Altman 2006)
- Potential for Australian initiatives which are focussed on supporting learners in making decisions about further training and study (Stumpf et al. 2012)