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

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http://www.lmip.org.za/

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South African context:

- One of the <u>most unequal societies</u> in the world- continuing legacy of apartheid + high levels of <u>unemployment</u>

- One of the world's most <u>unequal</u> in terms of <u>schooling achievements</u>

- Diverse but unequal schooling system feeds a largely <u>public university</u> system

- Universities still reflect, to a large extent, the characteristics of their historical positions in the <u>apartheid higher education system</u> = Historically Disadvantaged Institutions (HDIs) vs. Historically Advantaged Institutions (HAIs)

Policy:

National Development Plan:

- Increase of gross enrolments from 950,000 in 2010 to 1,6 million in 2030, a 70% increase

- Increase graduation rates to 25% (of total enrolment)

- University science, engineering and technology (SET) entrants to increase three-fold by 2030

Rationale:

Study trajectory:

1) Government's intention to shift the degree balance towards SET and Commerce

2) Related to a <u>skills shortage</u> in key sectors which impact on economic growth

3) Transformation?

4) Fairly rigid transition phase in which important decisions are made very early (Grade 9) and often with little support

Rationale (continued…):

Graduate unemployment:

1) More information needed on which graduates face a higher risk of unemployment (Pockets of graduate unemployment)

2) Need to identify the risks of unemployment from HDIs, in particular

3) Tremendous waste of human resources

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

Literature: study trajectories

- Graduates often do not complete (or even enrol in) their <u>intended</u> degrees

- Big differences 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 <u>after</u> 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 <u>poorest province</u> 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 <u>high income</u> background

University of Fort Hare (HDI): Formerly a 'Black' university, low research output, poor infrastructure, 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

Findings: Study trajectories

Findings: study trajectories

Table 1: Field of study, by university and population group

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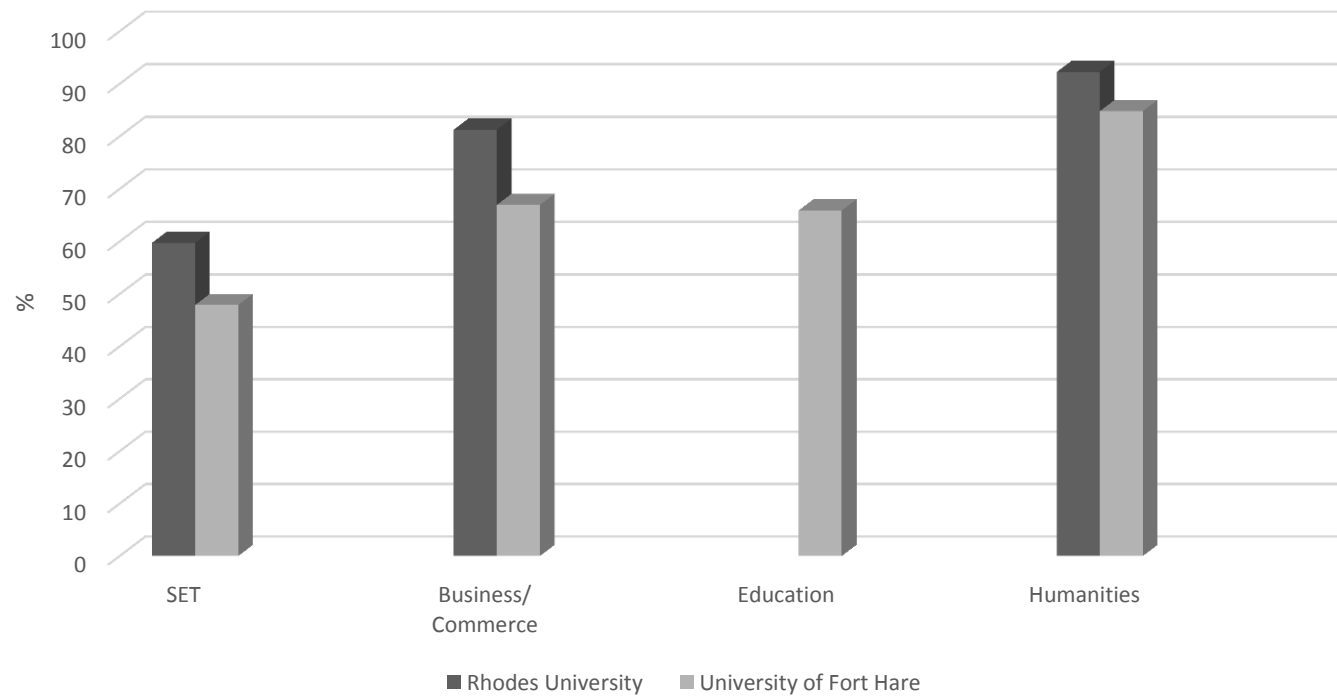
Notes: The data are weighted.

Table 2: Reasons for not completing intended course of study

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

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

RHODES UNIVERSITY
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Table 3: The correlates (logit estimations) of completing a first choice university degree

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

Findings: Graduate unemployment

Findings: graduate unemployment

Figure 2: Broad unemployment rates (as of March 1ˢᵗ), by field of study
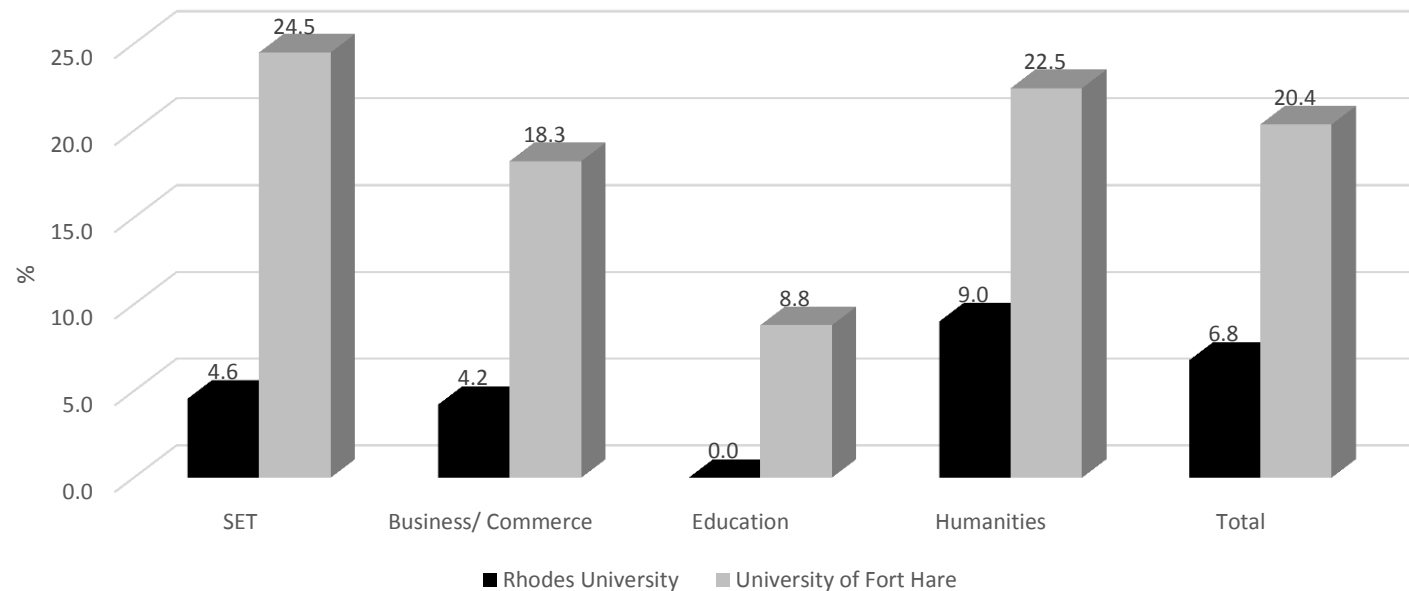
Notes: The data are weighted.

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

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

Table 5: The correlates (logit) of unemployment among Rhodes and Fort Hare graduates

	Pooled		Rhodes		Fort Hare	
UFH	0.735**	0.497				
	(0.342)	(0.809)				
Female	0.319*	-1.239*	0.102	-1.429	0.350*	-0.148
	(0.188)	(0.713)	(0.462)	(1.377)	(0.206)	(0.399)
Black	1.226***	0.862	1.576***	0.164	---	---
	(0.358)	(0.559)	(0.383)	(1.381)		
Matric						
Math or science higher grade	0.116	0.152	0.494	0.485	-0.048	-0.021
	(0.268)	(0.282)	(0.452)	(0.535)	(0.348)	(0.350)
English higher grade	-0.100	-0.098	-0.857*	-0.873	-0.008	-0.014
	(0.192)	(0.196)	(0.506)	(0.560)	(0.207)	(0.209)
Low quintile school	0.276	0.735	-0.346	0.665	0.424*	0.976*
	(0.193)	(0.846)	(0.677)	(1.409)	(0.217)	(0.471)
Field of study						
SET	0.256	0 .952**	0.0368	-0.042	0.408	1.435***
	(0.265)	(0.452)	(0.944)	(1.063)	(0.282)	(0.507)
Humanities	0.425*	1.180*	0.995	1.270	0.345	1.166**
	(0.225)	(0.670)	(0.732)	(0.870)	(0.239)	(0.596)
Education	-0.513	0.940	---	---	-0.627	1.094
	(0.519)	(0.732)			(0.528)	(0.754)
Interactions						
Black*UFH		-0.088				
		(0.809)				
Low quintile *Black		-0.854		-0.445		
		(0.880)		(1.492)		
Low quintile *UFH		1.059				
		(0.723)				
Black*Female		1.305*		2.489**		
		(0.692)		(1.076)		
Black*Humanities		0.033		0.140		
		(0.694)		(1.487)		
Female* Humanities		-0.007		0.127		-0.024
		(0.383)		(1.335)		(0.419)
Female*Low quintile school		0.667*		0.360		0.822*
		(0.403)		(1.387)		(0.446)
_cons	-1.299	-1.175 (1.646)	-9.262**	-9.538**	1.122	0.719
	(1.574)		(4.386)	(4.885)	(1.672)	(1.731)
N	1104	1104	429	429	667	667

Conclusions:

- Constrained study choices
- BUT study choice does not necessarily explain employment outcomes
- Disadvantages in schooling quality carrying over into the labour market (even for <u>successful graduates</u>)
- Signalling vs. matching/social networking? (Altman 2006)
- Different approaches needed (e.g. Rhodes vs. Fort Hare)
- Potential for Australian initiatives which are focussed on supporting learners in making decisions about further training and study (Stumpf et al. 2012)