Research Project Proposal

Name of Student:	Hitchcock, SC
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Department:	Department of Economics and Economic History
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Signed:

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1. Field of Research

Gender Economics

2. Provisional Title

Gender Bias in the Field of Economics: An Analysis of South African Academia

3. Research Context

Arrow (1971: 1) states that "the fact that different groups of workers, be they skilled or unskilled, black and white, or male and female, receive different wages, invites the explanation that the different groups must differ according to some characteristic valued on the market". Standard economic theory would first point to this as an attribution to productivity differences. Arrow (1971) adds that differences in productivity can be caused by a number of factors such the quantity and quality of education an individual receives, the size of one's family, and whether a household is headed by a man or a woman. This is reflected in Nussbaum (2003) which explains that aggregate growth measures cannot be seen as true reflections of quality of life as they fail to ask how those who are disadvantaged are doing. He adds that "women figure in the argument as people who are often unable to enjoy the fruits of a nation's general prosperity" (Nussbaum, 2003: 33). Such an outcome, by Arrow's (1971) logic may reflect different productivities, because particular groups, say blacks or women, have not had the opportunity to gain the same productive capabilities as those who are highly paid. Alternatively, the economics of discrimination suggests that these groups of workers are in fact perfect substitutes and thus different outcomes suggest that the market also values some personal characteristic other than productivity (Arrow, 1971). Taste-based or statistical discrimination is often debated as to which is a more appropriate depiction of this phenomenon. Taste-based discrimination theories explain how discriminatory actions against market participants are derived from individuals' tastes for discrimination in a market setting (Guryan and Charles, 2013). On the other hand, statistical discrimination theories demonstrate how imperfect information affects the way in which economic actors assess some characteristic of individuals (Guryan and Charles, 2013).

Kaas and Manger (2011) suggest that discrimination, be it racial, gender or religious, has a substantial bearing on labour market outcomes, affecting job opportunities, promotion decisions and wage rates. However, they note that the degree of discrimination in the labour force can be impacted by the supply of skilled workers. If there is a shortage of skilled labour then firms that discriminate "cannot survive the 'war for talents'" (Kaas and Manger, 2011: 14) and the market will push them out. However, if there is an excess supply of skilled labour the

opportunities for discrimination become stronger as there is more choice (Kaas and Manger, 2011).

The topic of gender discrimination has become increasingly prominent in recent times. With growing and increasingly vocal Women's Rights movements across the world, it is important to shine a light on those areas of the economy where women face particularly strong biases against them. Hays and Morrow (2013: 13) state that "much of the discrimination and inequality that women face when entering, maintaining, and progressing through the workforce is directly related to the hegemonic masculinity phenomenon". They emphasise that this hegemonic masculinity attempts to defend this discrimination with logic or justification and seeks to convince men and women that current outcomes are the norm. Hays and Morrow (2013) suggest that such defences of the status quo are more prevalent in occupations and fields of study. They emphasise that women face a particularly thick glass ceiling when rising through the ranks in male-dominated occupations. Such outcomes are not just morally reprehensible they are also economically inefficient, because society is deprived of the products of its most talented members.

Kahn (2014: 283) found that the early analyses of the persistent low level of representation and relative wage for women in the US workforce were attributed to causes such as "productivity characteristics, employer discrimination, and the disparate effects of the overall wage structure". Kassenböhmer and Sinning (2010) analysed differences in the wage distribution of the gender pay gap in the US from 1993 to 2006. They found that the overall wage gap has fallen over time; however, the gap at the bottom of the wage distribution has decreased at a more rapid rate than at the top. The decrease in the wage gap at the bottom of the distribution can be explained by the increase in the share of college-educated women joining the workforce (Kassenböhmer and Sinning, 2010; Breede *et al*., 2011).

Nonetheless, women in the US remain underrepresented in the fields of science, technology, engineering and maths (STEM) and tend to earn significantly less than their male counterparts, even when controlling for variables such as productivity, rank and children (Breede *et al*., 2011; Ceci *et al*., 2014).

Ceci *et al*. (2014), Dynan and Rouse (1997), Hale and Regev (2014), and Lundberg and Stearns (2019) found that female college students were particularly underrepresented in the STEM fields at both undergraduate and postgraduate levels. Several reasons have been put forth to justify this underrepresentation of women such as women being inherently less interested in these subjects or are unwilling or unable to obtain the necessary maths skills to do well (Dynan

and Rouse, 1997). Others believe that low female participation can be attributed to a lack of female role models in STEM subjects or that the classroom environment is unappealing to women (Ceci *et al*., 2014; Dynan and Rouse, 1997; Hale and Regev, 2014; Lundberg and Stearns, 2019).

If few women are studying in these fields the results should spill-over into the labour force. For economics, studies show that in Europe and the US academic economists are predominately male and that women tend to get promoted at a slower rate than their equally skilled male counterparts (McDowell *et al*., 1999; The Economist, 2017; Ceci *et al*., 2014; Nelson, 2016; Mixon and Treviño, 2005). There seems to be a persistent gender gap in promotion that cannot be fully attributed to differences in productivity emphasising the existence of a glass ceiling for women. Furthermore, the glass ceiling tends to become thicker as one moves up the academic ranks (The Economist, 2017; Nelson, 2016; CSWEP, 2018).

Discriminatory attitudes have also been said to be a deterrent for women pursuing economics as a profession. Nelson (2016: 1365) explains that "the [economics] discipline has been affected by not only a bias in perspective, but also a bias towards "hard"-seeming, masculine-associated definitions, assumptions and techniques". Gender stereotypes and negative attitudes pose a threat to the ability of women to perform and can be discouraging and have detrimental effects on the development of women's academic and professional careers (Ceci *et al*., 2014; Wu, 2017). It has been suggested that women tend to dislike the combative and belligerent culture prevalent within the economics profession. An example of this was reported by faculty members at Harvard when criticising former Harvard economics professor, Larry Summers, for consistently "humiliating faculty members in meetings, shutting down debate and dominating discussions" (Rimer, 2005: 1). Lundberg and Stearns (2019) suggest that similar behaviours are apparent in economics conferences or seminars which tend to be mostly hostile environments. Wu (2017) in an analysis of language used by professional economists on an anonymous blog, identified that male participants frequently refer to female economists in language that is degrading and sexual in nature.

A large amount of literature highlights that Economics in particular has a significant gender problem that needs to be rectified. This thesis will attempt to identify whether similar gender patterns occur also in South African higher education and whether gender imbalances in Economics differ from other STEM disciplines in SA in the same way as in the US. The literature on gender discrimination within the economics discipline in South Africa is relatively

small and therefore this research will make a significant contribution to the body of knowledge in gender economics.

4. Goals of the Research

This first goal is to investigate whether gender imbalances exist within South African academia at both a staff and a student level.

The second goal is to investigate whether Economics is as an outlier in comparison to other STEM subjects in SA, as is suggested in the international literature. Specific problematic areas and possible reasons for these discrepancies will be identified.

The rationale behind the research is to highlight the issue of gender bias and encourage universities to take a proactive approach to being more inclusive of women, particularly in the fields that are currently very male-dominated. It is not the intention of this to prove that Economics or economists intentionally discriminate against women, but rather to identify whether a problem exists in SA as elsewhere, if so, create awareness of this problem, and encourage debate regarding gender issues and how to make progress in addressing them.

5. Methods, Procedures, Techniques and Ethical consideration

The research has two main focuses both of which require quantitative and qualitative analysis. Firstly, data will be gathered pertaining to the gender composition of staff members in STEM departments at a sample of South African Universities. The research-intensive universities that will be included are Rhodes University, Stellenbosch University, the University of the Western Cape, the University of Cape Town, and the University of Pretoria. The sample could change if it proves difficult to obtain the necessary data from any of the universities. STEM departments will include Economics, Maths and Statistics, Information Systems and Computer Science, Science, Engineering, and Management.

The gender composition of staff members in each department will be analysed at each academic rank, including administrative staff. Gender compositions will be compared to historical data to identify whether there has been progress in the participation of women in these fields. Trend analysis will be used to reveal the extent and progress in reducing gender imbalances in STEM diciplines and whether Economics stands as an outlier in comparison to the other STEM subjects.

In addition to this statistical analysis the research will take a qualitative approach to identify the extent to which identified gender imbalances can be linked to gender bias or other factors.

Online questionnaires will be sent to a purposive sample of male and female staff members in the Economics departments of each of the universities. Questions will focus on personal opinions and experiences regarding gender within their department. The questionnaire will help identify whether gender discrimination or bias plays a role in the low proportion of women in Economics academia in South Africa, especially in the higher ranks. If the response rate to the questionnaires is poor, then follow up personal interviews with a smaller number of academics to discuss their opinions and experiences in semi-structured interviews. If this is the case, the sample will include the Head of Department and one male and one female academic within the Economics department at each of the universities.

The second section of the research will analyse the gender composition of students at each year of study in the departments of Economics, Maths and Statistics, Information Systems and Computer Science, Science, Engineering, and Management. This data will come from the same sample of universities analysed in the staff section. Depending on data availability, it will look at these statistics in an historical context, to identify progress in the participation of women in these subjects. Trend analysis will be used to identify patterns in the gender compositions of students. Again, it will examine Economics compared to other STEM subjects.

The qualitative side of this section will explore the reasons why students have chosen to pursue or not pursue Economics in their university careers. Here Rhodes University will be used as a case study. Questionnaires will be sent to students at Rhodes University who are taking Economics as a major as well as those who have or have not chosen to further their studies in postgraduate Economics. Course websites will be used for this purpose. The questionnaire will ask students about factors impacting on their decision to continue/not continue with Economics, including the gender of their lecturers and tutors and whether that impacted their decision to take/not take Economics. This will help in understanding whether the effect of role models matters in student decisions as the literature suggests.

The qualitative data will be based on questionnaires and so ethical clearance will be required from the Rhodes University Ethics Committee. As students will be included in the study permission will be obtained from the Registrar. Participation in the surveys will be voluntary and to protect the identity of participants, their names will be excluded.

6. Honours Research Results

Data for the Honours research study were obtained from the Council on Higher Education website, Rhodes and Stellenbosch University websites, the Economics Department at Rhodes University and departmental websites at selected South African universities.

6.1 Students

The statistical analysis of female participation at South African universities in this section is done at 3 levels. Firstly national data is analysed in terms of enrolments, graduates and course success rates. Secondly, selective data for Rhodes University and Stellenbosch University are examined which comprised of total student enrolments, as well as enrolments for the faculties of Commerce, Humanities and Science. Thirdly, female participation in the Economics Department at Rhodes is analysed. Data in the latter 2 sections are often snapshots of one or two years and are therefore not necessarily precise reflections of reality over longer periods.

6.1.1 National Statistics

An analysis of South African national student enrolment data for higher education institutions (HEIs) between 2011 and 2016 (*Appendix A*) shows that females average around 58 percent of total enrolments. These enrolment rates have also remained fairly constant over this five year period, as seen in Figure 1 below. Figure 2 presents the percentage share of female enrolments and degrees awarded nationally at both an undergraduate and postgraduate level. In 2011 females made up 59.0 percent of undergraduate degree enrolments and 56.6 percent of postgraduate enrolments. There was not much change in 2016 with the percentage of female enrolments being 59.9 percent for undergraduates and 56.6 percent for postgraduates. The statistics therefore show high participation rates for females in HEIs for both undergraduate and postgraduate enrolments. The female share of new graduates is slightly higher than enrolments, reflecting higher completion rates for females. Between 2011 and 2016 females made up an average of 60 percent of total graduates in South African HEIs. Females represent the majority of both undergraduate degrees and postgraduate qualifications awarded. The percentage share of females awarded undergraduate degrees increased by 3.6 percentage points from 58.3 percent in 2011 to 61.9 percent in 2016. The percentage share of females awarded postgraduate qualifications also increased slightly from 59.3 percent in 2011 to 59.5 percent in 2016.

These levels of female participation are high compared with international standards, as presented by Ceci *et al*. (2014). However, there is a slight falloff between female participation at postgraduate rather than undergraduate level, which is suggestive of some gender bias in continuing to postgraduate studies.

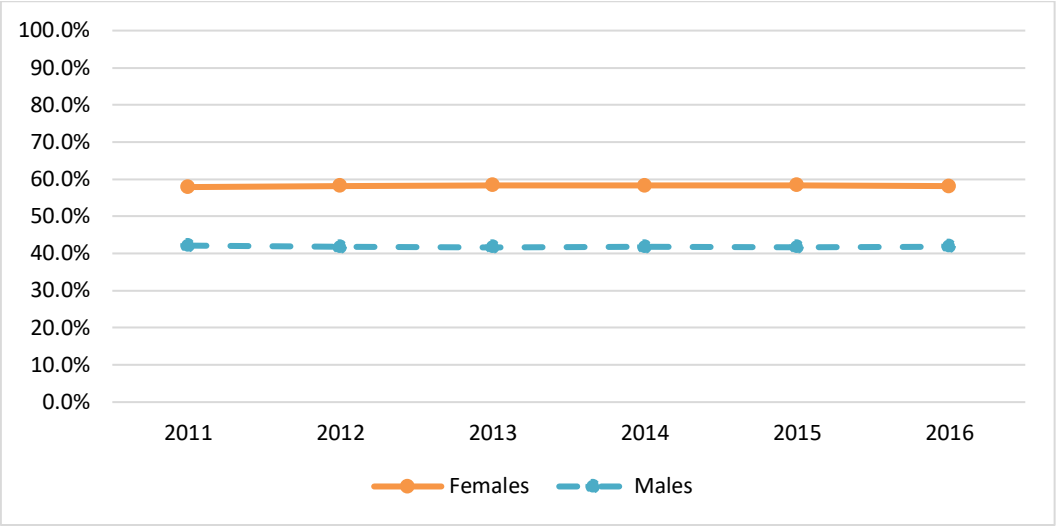

Figure 1. Total enrolments at South African HEIs. 2011-2016
Source: Council on Higher Education (2018: 3)

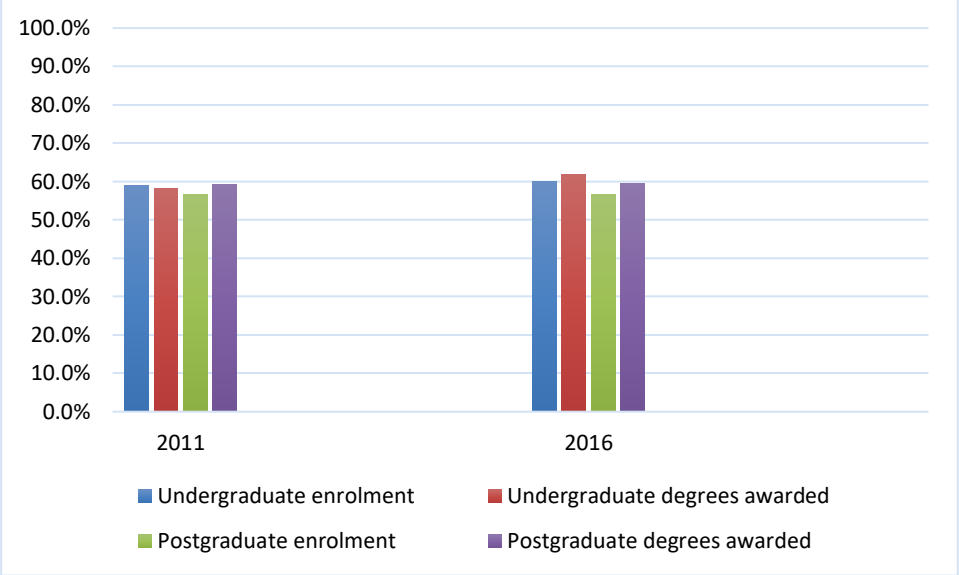

Figure 2. Female share of enrolment and degrees awarded at South African HEIs. 2011 & 2016.
Source: Council on Higher Education (2018: 18-21)

When the graduate statistics are broken down by fields of study (*Appendix B*), women have a high participation in Humanities, Business and Commerce (B&C), and also Science, Engineering and Technology (SET). Figure 3 shows the graduation statistics for females in each of these fields. Females make up 64.9 percent of the graduates in Humanities in 2011 and 66.1 percent in 2016. In line with the international evidence the percentage of female graduates in B&C, and SET is significantly lower than in Humanities. The percentage of female graduates in B&C was 56.2 percent in 2011 and 57.2 percent in 2016. Women made up 49.4 percent of SET graduates in 2011 and 50.7 percent in 2016.

The falloff in female participation in B&C and SET is in line with international evidence but is at higher levels than the international literature suggests. Ceci *et al*. (2014) found, for example,

that only 25 percent of GEEMP bachelor degree holders were female in the US. Although there is an increase in the percentage of female graduates in the B&C and SET fields in South Africa between 2011 and 2016, the increase is much smaller than for Humanities. Thus there is evidence of gender bias in South Africa, but at much higher levels of female participation than in other countries.

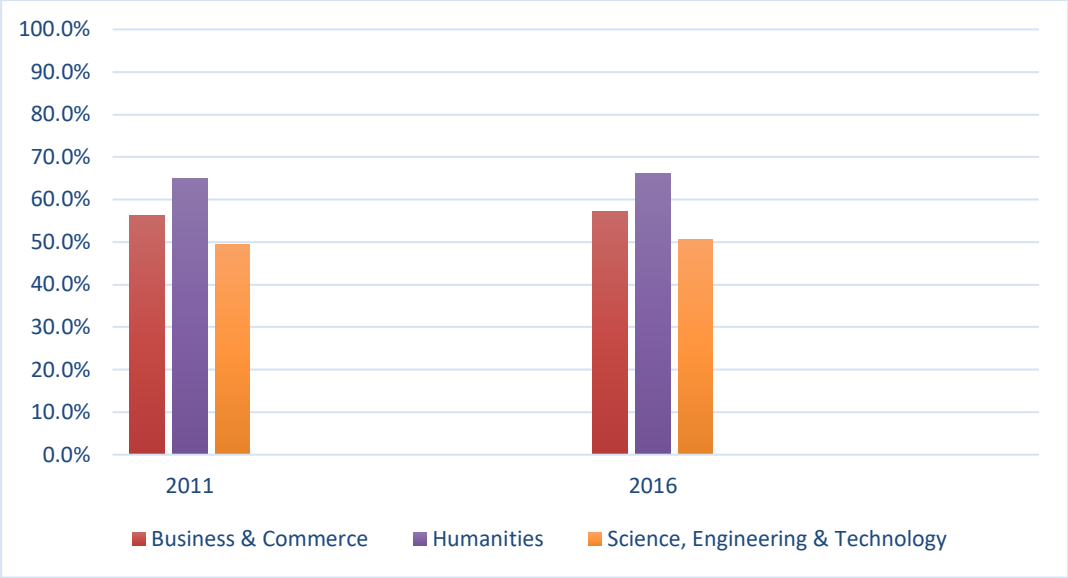

Figure 3. Female share of enrolments at South African HEIs by field of study. 2011 & 2016
Source: Council on Higher Education (2018: 26)

Not only is female participation in HEIs in South Africa high, course success rates tend also to be higher for females than for males at both an undergraduate and postgraduate level (*Appendix C*). The average success rate for females in undergraduate qualifications over the period 2011 to 2016 was 79.2 percent, whereas the average success rate for males was 74.3 percent. Success rates for postgraduate qualifications show similar outcomes over the same period, with the average success rates for females and males at the postgraduate level being 73.7 percent and 69.5 percent, respectively.

6.1.2 Rhodes University and Stellenbosch University
Total student enrolments for Rhodes University and Stellenbosch University seem to be in line with the national data for gender participation. Figure 4 depicts the percentage of females at Rhodes University as a whole and according to faculty. Between 2006 and 2018, females made up an average of 58.8 percent of total student enrolment at Rhodes. In 2018, 54.7 percent of students at Stellenbosch were female. Although this figure is slightly lower than the national data, women still make up the larger proportion of the university. Both Rhodes and Stellenbosch confirm the national pattern and international evidence of high female participation in Humanities and declining participation in Commerce and Science. The proportion of females in Humanities at Rhodes averaged 66.2 percent between 2006 and 2018 and is 72.2 percent in 2018 at Stellenbosch. However, the average percentage of females in Commerce and Science at Rhodes from 2006 to 2018 was 49.7 and 47.6 percent, respectively. The percentage of females in Commerce and Science at Stellenbosch in 2018 is 48.6 and 55.9 percent, respectively. Although these figures are higher than the US analyses by Ceci *et al*. (2014), the lower female participation rates in Commerce and Science suggests the presence of gender bias that is preventing or discouraging women from studying within these fields.

Furthermore, the proportion of females in these faculties tends to decrease when going from undergraduate to postgraduate studies. At Rhodes in 2018, the biggest difference between

undergraduate and postgraduate studies of the three faculties analysed is in the Commerce faculty, with a 6 percentage point fall in females from 57 percent at the undergraduate level to 51 percent in postgraduate studies. The proportion of females decreases by 4 percentage points in Science, from 49 to 45 percent, and by 2 percentage points in Humanities, from 65 to 63 percent. At Stellenbosch, the proportion of females decreases at the postgraduate level for Humanities and Science, but surprisingly increases for Commerce. Although the increase is by only 1 percentage point from 48.1 percent to 49.1 percent and is only for one year, it is unexpected given that there is a substantial decrease in postgraduate females in Humanities at Stellenbosch from 75.8 at undergraduate level to 64.6 percent at postgraduate level. The decrease in the proportion of females in Humanities at Stellenbosch is almost the same as the decrease in Science, which dropped by 11.9 percentage points from 59.3 to 47.4 percent.

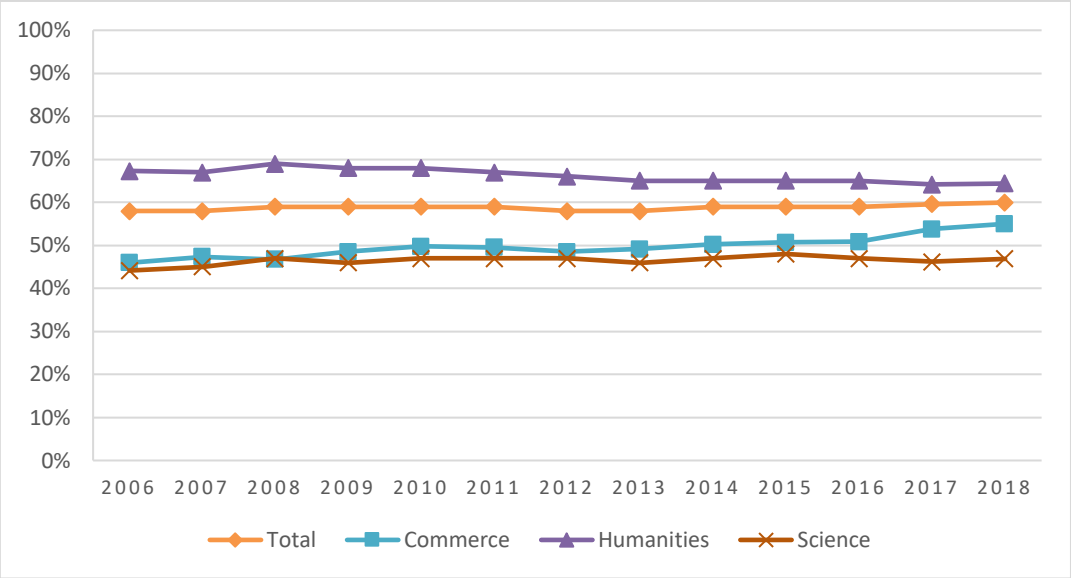

Figure 4. Share of female students at Rhodes University, Total and by faculty, 2006-2018
Source: Rhodes University, Statistical Digest (2006-2018).

The falloff in female participation in postgraduate study at Rhodes and Stellenbosch is greater than for South African HEIs as a whole. Investigating the reasons for this drop is beyond the scope of this study. However, Hale and Regev (2014) suggested in their analysis of US economics departments that one cause of the falloff in female participation in postgraduate study could be the lack of female role models in academic departments. The low share of female academics at Rhodes and in selected Economics Departments is demonstrated in Section 4.2 of this study.

6.1.3 The Economics Department at Rhodes University
The average proportion of females in the Economics Department at Rhodes between 2013 and 2018 is on par with the proportion of females in Commerce at Rhodes, but lower than the proportion of females enrolled at the university. Over this period the average percentage of females in Economics and Commerce was 51.6 percent, which is 7.2 percentage points lower than total female students.

There is a fall in the proportion of females in undergraduate and postgraduate studies in Economics but this is smaller than for the Commerce Faculty as a whole. In the Commerce Faculty, the percentage of females in 2013 decreased by 3.7 percentage points from 50.1 percent at the undergraduate level to 46.4 percent at the postgraduate level. In 2018, there was a 6 percentage point decrease from 56.7 percent at the undergraduate level to 50.7 percent at the

postgraduate level. For Economics the comparable changes were 1.3 percentage points in 2013, from 49.5 to 48.2 percent, and 2.7 percentage points in 2018, from 54.5 to 51.8 percent.

Furthermore, the percentage of females in Economics tends to decrease when progressing through undergraduate studies, as seen in Table 1. Between 2013 and 2018, the average percentage proportion of females in Economics 1 was 53.4 percent, which decreases by 0.8 percentage points to 52.6 percent in Economics 2, and a further 5.3 percentage points to 47.3 percent in Economics 3. A possible explanation for this may be that students from other faculties, such as Humanities, Education, Law, and Science often take Economics 1 and 2 for credits but do not proceed to take Economics 3 as a major. But it is unclear why this would be different for females and males.

The pattern of female progression to postgraduate studies in Economics at Rhodes is unclear given the limited period studied. Between 2013 and 2018, the average proportion of females in Honours was 49.1 percent, which is slightly higher than the average female share in Economics 3. What is interesting, though, is that there is an increase in the average percentage share of females going from Honours to Masters by Thesis, but a significant decline when going from Honours to Masters in Financial Markets. The average proportion of females in the Masters by Thesis classes was 51.5 percent, compared to 36.7 percent for Masters in Financial Markets.

The average percentage share of females over this same period is also significantly low (39.6 percent) for PhD studies in Economics. Furthermore, there were significant increases in this percentage share from 2016 to 2018, with 2018 in particular an outlier at 62.5 percent female. However, it is too soon to make any conclusions on whether this is a pattern that will continue or whether it is just a particularly good year for females in Economics at Rhodes.

Stellenbosch does not report student numbers by Department until postgraduate level, so it is not possible to compare their overall female participation in Economics with that of Rhodes. However, as discussed above, in 2018 female participation in Commerce rose from 48.1 percent of undergraduates to 49.1 percent of postgraduates. There is a striking difference for Economics, where only 35.9 percent of postgraduate students at Stellenbosch were female.

Table 1. The Percentage Share of Females in Economics at Rhodes per Class, 2013 – 2018.

Economics Students (RU)	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**Average**
Economics 1	50,5%	53,4%	54,0%	52,7%	54,3%	55,2%	53,4%
Economics 2	48,9%	50,4%	50,2%	55,2%	55,6%	55,2%	52,6%
Economics 3	48,3%	40,2%	41,4%	50,3%	52,5%	51,3%	47,3%
Undergraduate	**49,5%**	**50,1%**	**50,7%**	**53,2%**	**54,6%**	**54,5%**	52,1%
Honours	51,2%	45,2%	44,2%	50,0%	58,3%	45,9%	49,1%
Masters by Thesis	44,4%	50,0%	40,0%	52,4%	52,9%	69,2%	51,5%
Masters in Financial Markets	52,2%	31,8%	26,7%	32,0%	29,2%	48,1%	36,7%
PhD	0.0%	28,6%	25,0%	37,5%	44,4%	62,5%	39,6%
Postgraduate	**48,2%**	**41,6%**	**38,9%**	**44,9%**	**47,7%**	**51,8%**	45,5%
%Females in Economics	**49,5%**	**49,5%**	**49,8%**	**52,6%**	**54,1%**	**54,3%**	51,6%

6.2 Academic staff

This section analyses gender breakdown of academic staff at South African HEIs, Rhodes University and a sample of Economics departments in South Africa. The importance of this is

not just to look for gender discrimination, but also because of the importance of the lack of female role models identified in the literature (Dynan and Rouse, 1997; Hale and Regev, 2014) as a contributor to lower female participation in postgraduate study in particular fields of study.

6.2.1 Higher education institutions nationally

While there does not seem to be much evidence of serious gender bias at a student level nationally in South Africa in terms of overall student numbers, staff statistics paint a very different picture. National data between 2011 and 2016 on staff members at HEIs indicates that women make up the majority of administrative staff, while men are the majority of academic staff and senior management positions. The proportion of female administrative staff in South African HEIs over this period averages 61.2 percent, whereas women made up only 48.1 percent of academic staff and 43.0 percent of senior management. The percentage of females in academic staff and senior management increased only slightly over this period (*Appendix D)*. Slow progress could be partly because academic staff turnover rates tend to be relatively low. However, the data show that at a national level, there are indications of gender bias as you move up the seniority ranks for staff members.

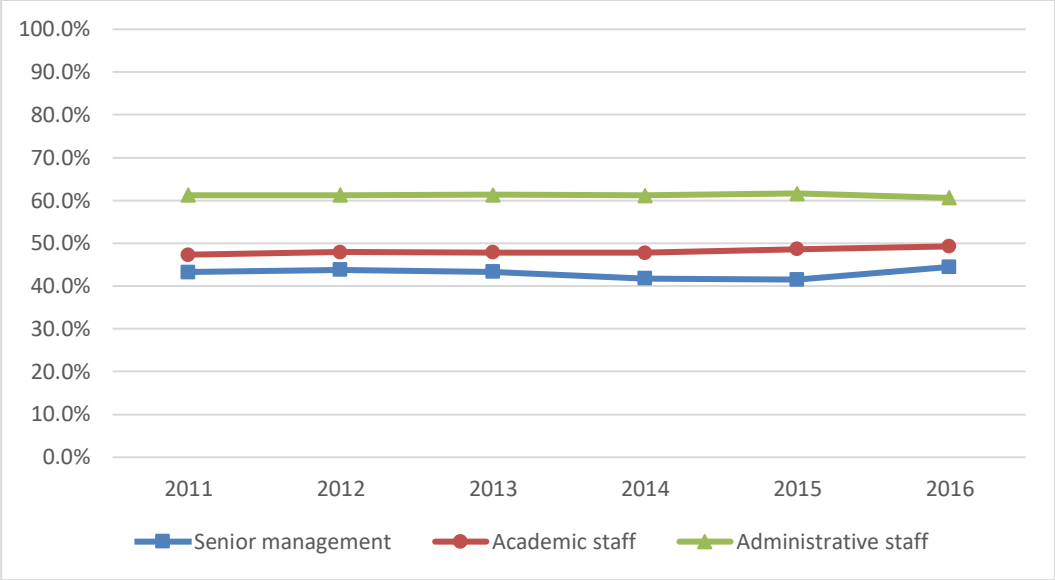

Figure 4. Share of female staff at South African HEIs by type of work
Source: Council on Higher Education (2018: 45-53)

6.2.2 Sample of universities

An analysis of the rank of academic staff members at Rhodes University over the period 2006 to 2016 showed similar signs of gender bias. The average percentage representation of women was only greater than men at a junior lecturer level. The positions of lecturer, senior lecturer, associate professor and full professor were majority male and the percentage of females reduces significantly at each higher level (*Appendix E*). The average percentage of females at junior lecturer level for this period was 62 percent. At lecturer and senior lecturer level, females made up 48 and 47 percent, respectively. The proportion of females then falls significantly at associate professor (26 percent) and full professor (17 percent). This is suggestive of a thick glass ceiling towards the higher ranks of associate or full professor across the university as a whole.

Furthermore, the percentages of females at each level show no signs of structural improvement, instead fluctuating irregularly each year, with the biggest fluctuations at junior lecturer level and slightly less drastic fluctuations as one moves up to full professor level. For example,

females comprised 58 percent of junior lecturers in 2006, 38 percent in 2008, 71 percent in 2010 and 50 percent in 2015. In contrast, females remained at either 15 or 17 percent of full professors between 2006 and 2016, with a slight increase to just above 20 percent in 2014 and 2015. These fluctuations suggest high turnover amongst female staff at lower levels.

6.2.3 Sample of Economics departments

University websites were used to provide a snapshot of the current proportion of female staff members, both academic and administrative, in the Economics departments of five South African universities. The universities analysed were Rhodes University, Stellenbosch University, the University of the Western Cape (UWC), the University of Cape Town (UCT), and the University of Pretoria (UP).

The findings reveal that four of the five had low female representation, especially amongst more senior members of academic staff (Appendix E). UWC was the only Economics department that was majority female, with females representing 62.5 percent of their academic staff and 72.7 percent of total staff. However, it should be noted that the Economics department of UWC is particularly small, comprising of only 11 staff members, 3 of whom are administrative. Moreover, most of the female members of staff were at lecturer level and there is a falloff of females at more senior levels with no females at associate or full professor level.

The Economics departments of Rhodes, Stellenbosch, UP, and UCT are all very male dominated. Females make up 37.5 percent of academic staff and 38.9 percent of total staff at Rhodes. Furthermore, the majority of female academic staff are lecturers, whereas most of the male academic staff are senior lecturers or associate and full professors. At Stellenbosch, females are only 35.1 percent of academic staff and 42.9 percent of total staff. Again, males dominate the higher ranks, making up 66.7 percent of senior lecturers and associate professors, and 77.8 percent of full professors. Males also hold the majority share of junior lecturers and all of Stellenbosch's administrative staff are female. UP and UCT have even lower female representation in their Economics departments. Females make up only 21.7 percent of academic staff and 30.8 percent of total staff at UP. At UCT, only 23.9 percent of academic staff and 32.1 percent of total staff are female. Furthermore, 6 out of 7 full professors at UP, and 21 out of 24 at UCT are male. The significantly low representation of female full professors in these HEIs seems to be in line with the US literature highlighted by The Economist (2017) and emphasises that women face a thicker glass ceiling towards the top of academic ranks.

6.4 Discussion and Concluding Remarks

This study provided a statistical analysis of the percentage proportion of females at South African HEIs at both a student and staff level. Relevant data were collected to analyse these proportions at a national level and at a sample of South African universities for comparative purposes. The results show that there tends to be high levels of female participation at a student level in the faculties of Humanities, Commerce and Science, particularly when compared to international standards. However, in line with the international literature, there is still significantly lower female participation in Commerce and Science, compared to that of Humanities. Moreover the percentage of female students tends to decrease when progressing from undergraduate to postgraduate studies across all three Faculties, suggesting some form of gender bias in this progression. This seems to be true both at a national level and at the universities of Rhodes and Stellenbosch.

For Economics at Rhodes, the proportion of female students tends to be similar to the proportion of females in Commerce, but is significantly lower than the proportion of females enrolled at the university overall. The proportion of females also tends to decrease at each

year of study. The decreasing proportion of females in each year could be suggestive of some bias that discourages women from continuing their studies in Economics, possibly a lack of female role models within the discipline. The specific reasoning behind this decline in female participation is beyond the scope of this study but the results indicate that there is a problem of gender-based discrimination in the Economics discipline.

The analysis of staff statistics revealed problematic gender biases throughout the ranks of academic staff both at a national level and in a sample of economics departments at South African universities. The majority of administrative staff across South African universities are female. In terms of academic staff, females tend to hold the positions of junior lecturers or lecturers, while men are the majority of senior lecturers, associate professors and full professors. The percentage of females decreases at each higher level. The significantly low proportion of females towards the higher ranks is suggestive of a thick glass ceiling for women in Economics when it comes to promotion. In line with the international literature, it would appear that women in South Africa tend to face similar gender biases within the Economics profession. It should also be noted that the low representation of female associate and full professors could be linked to the low female representation of females in Economics PhD studies as seen in the student analysis. Having a PhD is usually a requirement for holding a professorship in South African universities. However, the question then becomes, why are so few women progressing to doctoral studies in Economics?

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