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Gender Wage Discrimination in South Africa within the Affirmative Action Framework

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Abstract

The issue of gender wage discrimination and women empowerment has gained a greater deal of international attention. However, gender-based discrimination persists worldwide, depriving women of their basic rights and opportunities. Affirmative action policies have been adopted by many countries around the world as a means to address these inequalities in employment and education while promoting diversity, and redressing historical wrongdoings. Despite some progress made worldwide, however, gender wage disparities remain particularly high in South Africa. Hence, the question remains about whether these affirmative action measures have yet to achieve their intended effects. This study investigates the trends in gender wage disparities by occupation before and after the introduction of affirmative action measures. By conducting an empirical analysis within the South African context, we examine gender wage discrimination within the Affirmative Action Framework by employing a Blinder-Oaxaca decomposition model for the years 1997 and 2015, the period for which data are available. The results of the kernel density function, OLS regression and Blinder-Oaxaca decomposition analyses show that the current gender wage gap present between males and females at different occupational levels in South Africa has declined. This surprising result should, however, not entirely be interpreted as a decline in discrimination per se, but also an increase in the productive characteristics of females over time. Although we cannot pin it down to the affirmative action policy entirely, there are some signs to suggest that the affirmative action policy might have played a role in narrowing the gender wage gap by increasing the productive characteristics of women in specific ways.

Keywords: Gender discrimination; Pay gap; Affirmative action; Labour market disparities
JEL Classification: J16, J31, J71

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1. Introduction

Historical prejudice and discrimination against designated groups (black people, coloureds or Indians, women, and people with disabilities and those of Chinese descent) created barriers that, to this day, prevent them from fully participating and accessing opportunities and resources. In response, policymakers in South Africa turned to both anti-discrimination and compensatory affirmative action policies in order to correct existing inequalities. It was specifically introduced to redress the gender as well as racial imbalances of the apartheid in the country. The goal of affirmative action in South Africa was to make sure that those formerly disadvantaged, also referred to as designated groups in Section 1 of the Employment Equity Act No. 55 of 1998 (South African Government, 1998), enjoyed the same benefits and opportunities guaranteed in the post-apartheid Constitution.

A substantial number of studies have investigated the trends in wage discrimination in post-apartheid South Africa, by focusing particularly on the divide across gender or racial groups, or even in some cases across both of these groups (see, for example, Burger & Jafta, 2006; Ntuli, 2009; Goga, 2008; Shepherd, 2008; Burger & Jafta, 2010; Casale & Posel, 2011; Bhorat & Goga, 2013; Fredericks & Yu, 2017). While these studies have shed some light on gender inequality, very few have sought to investigate the gender wage gap by occupation.

Thus our study contributes to the existing literature in two ways. Firstly, it provides unique results by segregating the analysis into four occupational categories namely: managerial, professional, technical and clerks. Notably, we classify the first three occupations (managerial, professional and technical) as skilled whereas the last one (clerks) is regarded as semi-skilled. The reason for focusing on these occupations is that there is evidence to suggest that the wage gap among skilled and semi-skilled is typically high (Ncube, 2012). Secondly, it employs the Post-Apartheid Labour Market Series (PALMS) dataset which has previously only been used by few South African studies (Burger, Jafta & von Fintel, 2016).

This study investigates the trends in gender wage disparities by occupation before and after the enactment of affirmative action measures in South Africa. The aim of this paper is to examine gender wage discrimination within the affirmative action framework by employing the Blinder-Oaxaca decomposition model for 1997 and 2015 (see, for example, Shepherd, 2008; Burger & Jafta, 2010; Fredericks & Yu, 2017).

The structure of the paper will be as follows: Section 2 offers a review of the empirical literature. Section 3 explains the methodology used. Section 4 gives detail on the dataset used. Section 5 provides the empirical results. Finally, Section 6 concludes.

2. Literature Review

Since the inception of democracy in 1994, efforts have been made to redress gender inequality emanating from the past apartheid policies. A substantial number of studies have investigated the extent to which progress has been made by analysing trends on different dimensions of gender inequality in the labour market- namely employment, wage and occupational discrimination in post-apartheid South Africa (see, for example, Goga, 2008; Bhorat & Goga, 2013; Shepherd, 2008; Fredericks & Yu, 2017; Casale & Posel, 2011; Ntuli, 2009; Burger & Jafta, 2006; Burger & Jafta, 2010). The section below provides an overview of the findings from these studies.

Using the Oaxaca-Blinder decomposition and survey data (October Household Surveys from 1996 to 1999 and September Labour Force Surveys from 2000 to 2006), Shepherd (2008) empirically assessed African gender discrimination in the post-apartheid South Africa labour market. The estimates of Oaxaca-Blinder decomposition show that the African gender wage gap declined not as a result of a decrease in discrimination, but rather due to increasing return to productive characteristics of women in certain occupations as well as higher returns to education and employment in the public sector. Moreover, using Juhn, Murphy and Pierce (1991, 1993) decomposition, Shepherd (2008) found that the African gender wage gap is wider at the bottom of income distribution than at the top. Therefore, Shepherd (2008) concluded that there is a sticky floor for Africa woman in the South African labour market.

Fredericks and Yu (2017) used the Labour Force Surveys in 1997-2015 and Oaxaca-Blinder decomposition technique to study gender employment discrimination, 20 years into democracy. They found that the unexplained component-differential in employment due to gender discrimination- was high, implying that gender employment discrimination remains high post-apartheid South Africa. A similar finding has been reported by Burger and Jafta (2010) using Oaxaca and Blinder decomposition and a comparable dataset in South Africa. Reaching similar conclusions, other studies suggest that the gender gap has increased in post-apartheid South Africa (Ntuli, 2009; Shepherd, 2008; Bhorat & Goga, 2013).

Some studies have sought to interrogate the impact of post-apartheid labour market legislature-employment equity and affirmative action- in reducing the gender and racial discrimination in South Africa. A recent study in this regard is one by Fredericks and Yu (2017), which investigated the effect of affirmative action on employment discrimination. The study found that employment discrimination against Africans and females remain a serious issue in South Africa. Therefore, their finding suggests that affirmative action policies have had no impact on reducing racial and gender employment discrimination.

Bhorat and Goga (2013) also reported findings which lend credence to those of Fredericks and Yu (2017) and Burger and Jafta (2006) — affirmative action policies have had no impact on the gender wage gap of Africans.

In contrast to the above studies that found that affirmative action has had no impact in reducing gender inequality in the labour market, a recent study by Burger, Jafta and von Fintel (2016) found that employment equity legislation has, however, had an impact in reducing gender inequality since 2003.

3. Methodology

Following a number of studies in the empirical literature (see, for example, Shepherd, 2008; Burger & Jafta, 2010; Fredericks & Yu, 2017), we employ the Oaxaca-Blinder decomposition to assess the gender wage gap within the affirmative action framework in South Africa. This technique decomposes wage differentials into two distinct components – an explained and unexplained component. The explained component is a part of wage differentials that are attributed to differences in productive characteristics of two groups, for example, years of education and work experience. The unexplained component is a part that remains after controlling for differences in productive characteristics. Hence it is a residual part that cannot be accounted for by such differences in wage determinants (Jann, 2008). This "unexplained" proportion is typically interpreted as a measure of labour market discrimination.

Prior to using the Blinder-Oaxaca decomposition model, we run separate log earning functions for both gender groups based on individual observable productive characteristics which can be expressed as follows:

$$lnW_m = X_m b_m \quad (1.1)$$
$$lnW_f = X_f b_f \quad (1.2)$$

Where W_m and W_f are the average log earnings of both males and females, respectively. b_m and b_f are the vector of coefficients to be estimated. X_m and X_f are the observed productive characteristics of both groups (such as years of schooling, work experience, etc.).

The gender wage discrepancies between males and females can then be estimated by comparing the mean outcome differences between both groups. That is:

$$R = E(lnW_m) - E(lnW_f) \quad (2)$$

Where $E(lnW)$ represents the expected value of the log earnings functions for both males and females, given their individual characteristics. Similarly, the difference between group wages, or the gender earnings gap, can then be defined more explicitly as:

$$lnW_m - lnW_f = X_m b_m - X_f b_f \quad (3)$$

Notably, both earnings equations are linear regressions with $E(lnW) = lnW$ and $E(\varepsilon) = 0$. If the two b vectors differ between groups, then males and females are compensated differently despite having the same characteristics. If we rearrange the above equation, we can express the decomposed gender wage gap as follows:

$$lnW_m - lnW_f = (X_m - X_f)b_m + (b_m - b_f)X_f \quad (4)$$

The first term is regarded as the "explained" component where differences in wage earnings are attributed to differences in productive characteristics between both groups, while the second term is regarded as the "unexplained" component, where differences in wage earnings are attributed to labour market discrimination because the two groups share the same wage determining characteristics. The former is commonly referred to as the "endowment effect" and the latter the "coefficient effect".

4. Dataset

This study utilizes the PALMS dataset that consists of different cross-sectional microeconomic surveys conducted by Statistics South Africa (StatsSA) and Southern Africa Labour and Development Research Unit (SALDRU) at the University of Cape Town. The StatsSA surveys consist of 59 household surveys which include the October Household Surveys (OHS) from 1994-1999, the biannual Labour Force Surveys from 2000-2007 and the Quarterly Labour Force Surveys from 2008-2017, while the SALDRU consist of the 1993 Project for Statistics on Living Standard and Development Survey. Consistent with local studies (see, for example, Fredericks & Yu, 2017), we focus our empirical analysis on the years 1997 and 2015 due to the fact that in the OHS 1995-1996 survey data, employees were

not asked to declare whether they worked in the formal or informal sector. On the other hand, we choose to examine the year 2015 as this contains the most recent and up-to-date dataset.

Following a number of studies in the empirical literature (see, for example, Burger & Jafta, 2006; Armstrong & Steenkamp, 2008; Shepherd, 2008), we exclude several categories of workers from the empirical analysis as affirmative action policies are unlikely to have any significant impact on these workers, specifically those that are self-employed, employers, informal sector employees, agricultural employees and domestic workers. The main justification behind this is that such policies are likely to have the biggest impact within the formal working sector.

As mentioned previously, we use the log of earnings as our dependent variable (all earnings are adjusted to their real December 2016 equivalents, and are given as monthly amounts) and several control variables which are reported in Table 1. More specifically, we control for age, age squared, level of education, race dummies, province dummies, occupational dummies and a union dummy. The choice of these variables is informed by the existing empirical literature[1].

TABLE 1: VARIABLES USED IN THE STUDY

Variables	Type	Description
Dependent Variable		
Log of earnings	Continuous	Log of earnings
Explanatory variables		
Age	Continuous	Age of an individual
Age2	Continuous	Age squared
Yreduc	Continuous	Years of education
African omitted		
Coloured	Dummy	1=Coloured, 0=Otherwise
Indian	Dummy	1=Indian, 0=Otherwise
White	Dummy	1=White, 0=Otherwise
Married omitted		
Widow	Dummy	1=Widow, 0=Otherwise
Divorced	Dummy	1=Divorced, 0=Otherwise
Never married	Dummy	1=Never Marr, 0=Otherwise
Agriculture omitted		
Mining	Dummy	1=Mining, 0=Otherwise
Manufacturing	Dummy	1=Manufacturing, 0=Otherwise
Utilities	Dummy	1=Utilities, 0=Otherwise
Construction	Dummy	1=Construction, 0=Otherwise
Trade	Dummy	1=Trade, 0=Otherwise
Transport	Dummy	1=Transport, 0=Otherwise
Finance	Dummy	1=Finance,0=Otherwise
Service	Dummy	1=Service,0=Otherwise
Western Cape omitted		
Eastern Cape	Dummy	1=Eastern Cape, 0=Otherwise
Northern Cape	Dummy	1=Northern Cape, 0=Otherwise
Free state	Dummy	1=Free state, 0=Otherwise

[1] Note that with regards to the different racial groups, the African population is regarded as the worst-off in terms of their socio-economic context in comparison to Whites, Coloureds and Indians. Africans face higher levels of unemployment, poverty and inequality in South Africa.

Kwazulu-Natal	Dummy	1=Kwazulu-Natal, 0=Otherwise
Gauteng	Dummy	1=Gauteng,0=Otherwise
Mpumalanga	Dummy	1=Mpumalanga, 0=Otherwise
Limpopo	Dummy	1=Limpopo, 0=Otherwise
Union member omitted		
Not a union member	Dummy	1=Not union member, 0=Otherwise

5. Empirical Results

This section employs three econometric techniques namely: kernel density, Ordinary Least Squares (OLS) and the Blinder-Oaxaca decomposition method. It commences with a kernel density estimation which estimates the distribution of log earnings by occupation for both gender groups across the two time periods. The OLS model estimates the log of wages (for the full sample, males and females) as a function of numerous explanatory variables, for the year 1997 and 2015, in order to determine which variables are significant predictors of an individual's earnings. Finally, the Blinder-Oaxaca technique provides useful insight into the "explained" and "unexplained" components.

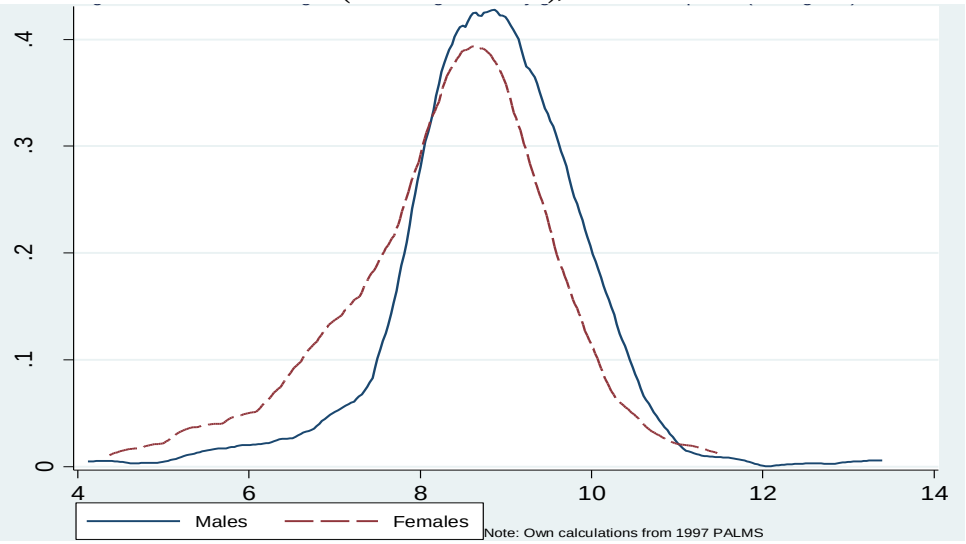
5.1. Descriptive Statistics

Table A.1 (included in the Appendix) reports summary statistics of the selected variables used in this paper for the period 1997 and 2015. What really stands out is that the labour market remains more favourable towards males as compared to females. Moreover, the average wage is substantially higher for males in comparison to their counterparts in both years. Interestingly, in 1997, the mean years of schooling are greater for males than females. However, in 2015 this was not the case, as females obtained an average of 11.3 years of education and males 10.9 years of education. Disaggregation by industries reveals a significant variation in the distribution of male and female workers. The most noticeable differences are in the manufacturing sector (21% of males, 16% of females); transport sector (8% of males, 2% of females); construction sector (11% of males, 1% of females) and trade sector (26% of females, 18% of males). Regarding the provincial share for both genders, the proportion of workers residing in Gauteng was most dominant. The pattern appears to be mostly consistent across time.

5.2. Kernel Density Estimation

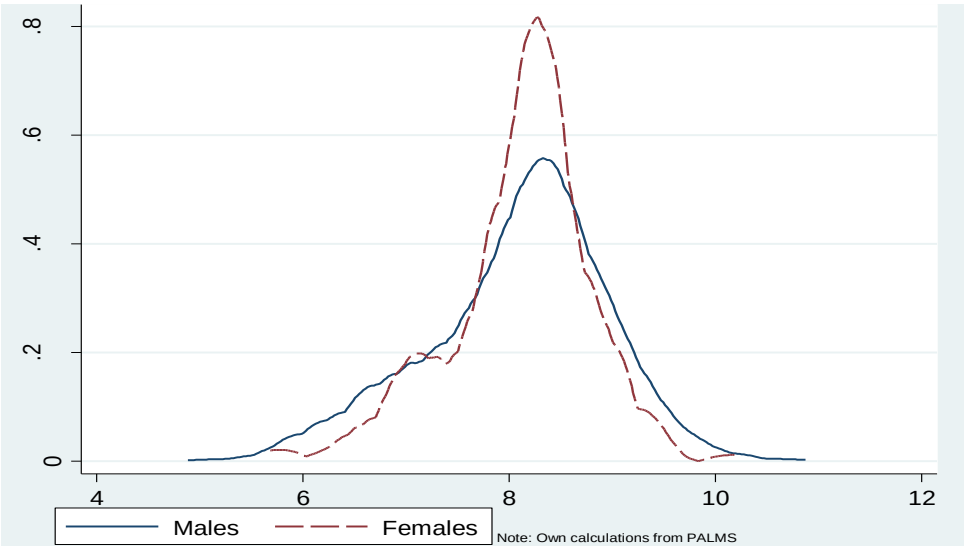
Figures 1 and 2 describe the distribution of log real earnings in 1997 by gender and occupation (i.e. managerial and clerks). From Figure 1, we see that in comparison to the male managerial earnings function, the female managerial earnings function is biased downward in the tail of the distribution. This implies that, on average, female managers earned less than their male counterparts in 1997. On the other hand, Figure 2 displays a significant density biased towards females as they primarily dominate the clerk industry.

FIGURE 1: DISTRIBUTION OF LOG EARNINGS BY GENDER AND OCCUPATION (MANAGERIAL), 1997



Note: Own calculations from 1997 PALMS

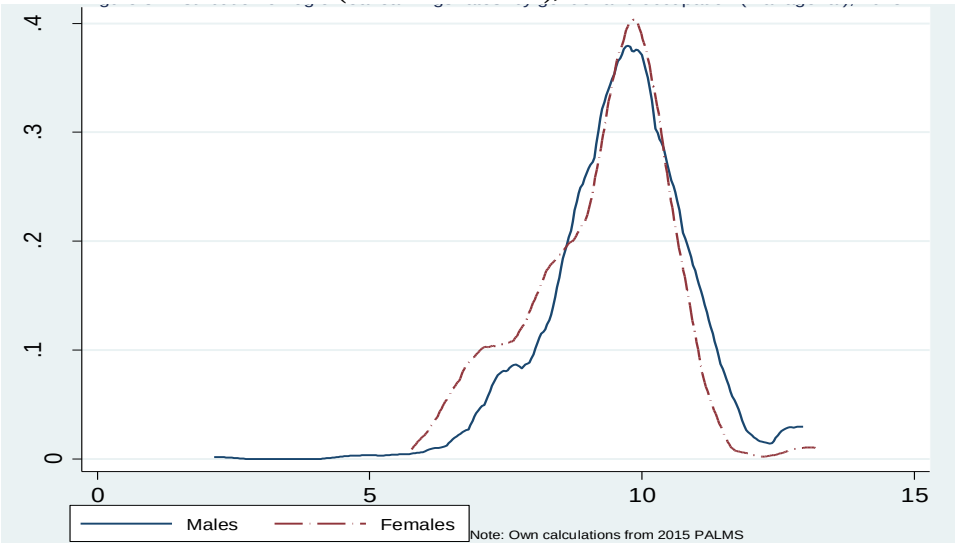
FIGURE 2: DISTRIBUTION OF LOG EARNINGS BY GENDER AND OCCUPATION (CLERK), 1997



Note: Own calculations from 1997 PALMS

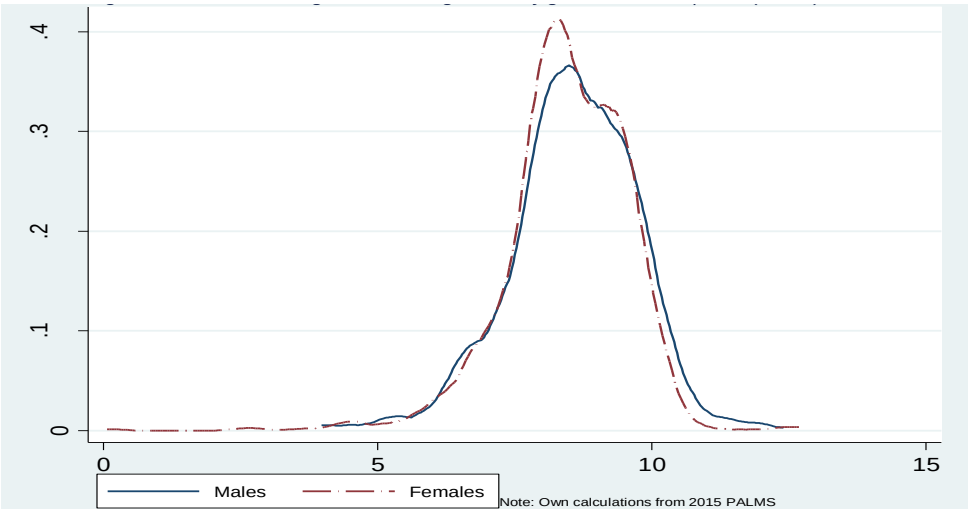
Figures 3 and 4 present the distribution of log real earnings in 2015 by gender and occupation (i.e. managerial and clerk). What stands out from these figures is that affirmative action seemed to have had some sort of capacity to modify the distribution of earnings between males and females during this period. For example, Figure 3 shows a great deal of overlap between male and female earning distribution, although, the female distribution is still mildly skewed to the left. Moreover, Figure 3 seems to suggest that both male and female managers have received higher real earnings in 2015 as compared to 1997. When comparing Figure 4 and Figure 2, the distributions of male earnings now appear very similar to that of females. Furthermore, the distribution of both the male and female real earnings appears to have increased slightly over time, however, it still remains somewhat skewed to the left.

FIGURE 3: DISTRIBUTION OF LOG EARNINGS BY GENDER AND OCCUPATION (MANAGERIAL), 2015



Note: Own calculations from 2015 PALMS

FIGURE 4: DISTRIBUTION OF LOG EARNINGS BY GENDER AND OCCUPATION (CLERK), 2015



Note: Own calculations from 2015 PALMS

5.3. OLS Results

Tables 2 presents the OLS estimation results of the wage functions in 1997. It explicitly accounts for heterogeneity between males and females by disaggregating the results according to gender. Most covariates are generally significant and in line with our expectations (for example, age, age-squared, years of education, whether the individual is a member of a trade union, some race dummies such as Indian and White and industry dummies such as agriculture, hunting, forestry, mining and quarrying, manufacturing, utilities, construction, trade, transport, finance, services, etc.), except for marital status dummies which appear to be mostly insignificant. Perhaps unsurprisingly, in most industries (i.e. agriculture, hunting, forestry, etc.) males on average command higher wages than their female counterparts. Likewise, males located in urban areas receive significantly higher wages than urban females.

The 2015 OLS estimates generally support the 1997 estimates, with a few exceptions. The estimated coefficient of the gender variable (an important variable in this analysis) remains negative and significant, confirming that females on average earn less than men. The effects of other variables (for example, occupational dummies, location dummies, whether an individual is a member of a trade union, etc.) are similar in sign, statistical significance and interpretation to the estimates shown in Table 2. The exceptions are industry dummies (trade, transport, finance, services and domestic workers) which become insignificant – hence, not important in explaining the wage gap. Likewise, some of the race dummies, such as Coloured, change direction and level of significance. This suggests that while the wage gap between Blacks and other race groups has not normalised yet, it is gradually improving – the affirmative action policy has partially helped in the way of narrowing this gap.

TABLE 2: OLS ESTIMATES OF THE EFFECT OF AA ON THE GENDER WAGE GAP IN SA, 1997

	Full sample			Male sample			Female sample		
Earnings	Coef.	SE	T-stat	Coef.	SE	T-stats	Coef.	SE	T-stats
Gender	-0,324	0,015	***						
Age	0,038	0,003	***	0,042	0,004	***	0,029	0,005	***
Age-SQ	-0,000	-0,000	***	-0,000	-0,000	***	-0,000	-0,000	***
Education	0,048	0,002	***	0,045	0,003	***	0,049	0,003	***
Widow/widower	0,009	0,034		-0,133	0,078		0,077	0,040	
Divorced or separated	0,036	0,033		0,010	0,061		0,080	0,040	*
Never married	-0,062	0,016	***	-0,142	0,022	***	0,023	0,024	
Mining and quarrying	0,681	0,036	***	0,739	0,040	***	0,730	0,116	***
Manufacturing	0,631	0,026	***	0,706	0,032	***	0,586	0,046	***
Utilities	0,894	0,135	***	0,999	0,152	***	0,649	0,288	*
Construction	0,587	0,032	***	0,623	0,036	***	0,657	0,097	***
Trade	0,480	0,027	***	0,528	0,034	***	0,430	0,046	***
Transport	0,615	0,035	***	0,677	0,040	***	0,591	0,085	***
Finance	0,646	0,035	***	0,685	0,044	***	0,663	0,059	***
Services	0,429	0,043	***	0,501	0,061	***	0,377	0,065	***
Domestic Services	-0,443	0,042	***	-0,245	0,057	***	-0,519	0,072	***
Eastern Cape	-0,174	0,031	***	-0,176	0,041	***	-0,174	0,048	***
Northern Cape	-0,170	0,029	***	-0,096	0,037	**	-0,289	0,045	***
Free State	-0,195	0,030	***	-0,120	0,039	***	-0,288	0,046	***
KwaZulu-Natal	0,053	0,029		0,074	0,038		0,008	0,045	
North West	0,008	0,031		-0,004	0,039		0,014	0,048	
Gauteng	0,138	0,027	***	0,110	0,035	***	0,164	0,042	***
Mpumalanga	0,040	0,031		0,041	0,039		0,032	0,049	
Limpopo	0,022	0,034		0,015	0,045		0,011	0,052	
Non-urban (Rural)	-0,228	0,017	***	-0,182	0,022	***	-0,280	0,025	***
Trade union (Non-member)	-0,279	0,016	***	-0,223	0,020	***	-0,369	0,026	***
Coloured	0,079	0,023	***	0,105	0,030	***	0,035	0,036	
Indian	0,274	0,041	***	0,293	0,051	***	0,238	0,070	***
White	0,629	0,029	***	0,693	0,037	***	0,520	0,049	***
Professionals	0,028	0,058		0,005	0,068		0,081	0,109	

Technical and associate professional	-0,064	0,048		-0,008	0,060		-0,147	0,080	
Clerks	-0,240	0,041	***	-0,260	0,056	***	-0,257	0,066	***
Service workers and shop and market	-0,454	0,040	***	-0,457	0,050	***	-0,441	0,067	***
Skilled agricultural and fishery workers	-0,362	0,049	***	-0,328	0,058	***	-0,466	0,094	***
Craft and related trades workers	-0,338	0,038	***	-0,301	0,044	***	-0,453	0,072	
Plant and machine operators	-0,317	0,038	***	-0,309	0,045	***	-0,331	0,082	***
Elementary Occupation	-0,492	0,037	***	-0,483	0,044	***	-0,509	0,066	***
Cons	6,989	0,086	***	6,823	0,113	***	6,965	***	***

* Significant at 10%; ** significant at 5%; *** significant at 1%.
Standard errors, adjusted for clustering at the individual level, are given in parentheses

TABLE 3: OLS ESTIMATES OF THE EFFECT OF AA ON THE GENDER WAGE GAP IN SA, 2015

	Full sample			Male sample			Female sample		
Earnings	Coef.	SE	T-stat	Coef.	SE	T-stats	Coef.	SE	T-stats
Gender	-0,143	0,029	***						
Age	0,022	0,008	**	0,018	0,011		0,026	0,011	*
Age-SQ	-0,000	-0,000	*	-0,000	-0,000		-0,000	-0,000	
Education	0,040	0,006	***	0,031	0,008	***	0,054	0,008	***
Widow/widower	0,011	0,081		0,048	0,182		0,043	0,089	
Divorced or separated	0,014	0,073		-0,074	0,124		0,098	0,088	
Never married	-0,058	0,029	*	-0,120	0,044	**	0,012	0,039	
Mining and quarrying	0,600	0,106	***	0,659	0,137	***	0,556	0,217	**
Manufacturing	0,131	0,079		0,249	0,111	*	-0,019	0,113	
Utilities	0,409	0,207	*	0,499	0,253	*	0,311	0,400	
Construction	0,151	0,087		0,236	0,116	*	0,038	0,152	
Trade	0,068	0,077		0,176	0,111		-0,088	0,108	
Transport	0,008	0,092		0,078	0,125		-0,069	0,141	
Finance	0,044	0,078		0,137	0,113		-0,066	0,109	
Services	-0,110	0,081		0,068	0,126		-0,287	0,109	**
Domestic Services	-0,168	0,172		-0,023	0,198		-1,071	0,558	
Eastern Cape	-0,380	0,055	***	-0,484	0,081	***	-0,278	0,075	***
Northern Cape	-0,210	0,083	**	-0,189	0,124		-0,216	0,110	*
Free State	-0,304	0,065	***	-0,340	0,096	***	-0,262	0,088	**
KwaZulu-Natal	-0,293	0,055	***	-0,348	0,080	***	-0,231	0,076	***
North West	-0,039	0,075		-0,024	0,104		-0,058	0,107	
Gauteng	-0,005	0,043		-0,016	0,062		-0,004	0,059	
Mpumalanga	-0,069	0,062		-0,062	0,087		-0,094	0,088	
Limpopo	-0,185	0,072	**	-0,185	0,104		-0,196	0,097	*
Non-urban (Rural)	-0,152	0,044	***	-0,086	0,062		-0,212	0,061	***
Trade union (Non-member)	-0,203	0,031	***	-0,207	0,042	***	-0,191	0,045	***
Coloured	-0,103	0,047	*	-0,136	0,070		-0,070	0,063	
Indian	0,120	0,072		0,150	0,100		0,066	0,105	
White	0,265	0,045	***	0,313	0,066	***	0,233	0,062	***

Professionals	0,120	0,084		0,016	0,119		0,252	0,119	*
Technical and associate professional	-0,856	0,066	***	-0,893	0,094	***	-0,771	0,093	***
Clerks	-0,962	0,060	***	-0,970	0,097	***	-0,879	0,081	***
Service workers and shop and market	-1,227	0,061	***	-1,317	0,085	***	-1,058	0,089	***
Skilled agricultural and fishery workers	-1,413	0,227	***	-1,345	0,333	***	-1,513	0,309	***
Craft and related trades workers	-1,191	0,066	***	-1,234	0,084	***	-1,189	0,127	***
Plant and machine operators	-1,249	0,068	***	-1,286	0,087	***	-1,219	0,130	***
Elementary Occupation	-1,413	0,062	***	-1,477	0,086	***	-1,302	0,091	***
Cons	8,730	0,204	***	8,937	0,291	***	8,334	0,289	***

* Significant at 10%; ** significant at 5%; *** significant at 1%.
Standard errors, adjusted for clustering at the individual level, are given in parentheses

5.4. Oaxaca-Blinder Decomposition

While the OLS estimates shed some light on the determinants of earnings for males and females, it does not fully explain the driving factors behind the wage gap. For this reason, the Oaxaca-Blinder decomposition was estimated which decomposes the gender wage gap into a component that is attributed to differences in productive characteristics between males and females and one that is attributed to gender discrimination. In contrast to previous studies that have assessed the wage gap across the entire labour force (Shepherd, 2008; Bhorat & Goga, 2013), we disaggregate the labour force into four different occupations and then estimate the Oaxaca-Blinder decomposition.

Table 4 presents the results of Oaxaca-Blinder decomposition by gender and occupations for the year 1997. Column 2 of Table 4 contains the full sample estimates, while the other columns include the different occupations as listed in the preceding tables. The full sample estimates reveal that males earn substantially more than their female counterparts, consistent with both the graphical analysis (kernel density) and OLS estimates. More specifically, the estimated difference in earnings between males and females is in the region of 0.59. Perhaps unsurprisingly, the unexplained component of the wage gap appears to be much larger (0.38) compared to the explained component (0.21), implying serious 'wage discrimination' towards women in South Africa.

Disaggregating the sample by occupation yields some illuminating results (see column 3, 4, 5 and 6). It confirms the estimates derived from the full sample. Specifically, it reveals that males are consistently better off in that they command higher earnings than their female counterparts, regardless of the occupation. It also shows that the unexplained component is significantly larger than the explained component, consistent with the full sample results. This finding suggests that the discrepancies in earnings between males and females might be due to wage discrimination of females or other related factors not accounted for in the model. This finding is collaborated by many studies in this field (see, for example, Majchrowska et al., 2015). Unsurprisingly, the highest share of the unexplained component emerges in the first occupation (legislators, senior officials and managerial) and third occupation (technical and associate professionals). It is interesting to observe that in some occupations (professionals and clerks) the explained component enters with a negative sign, implying that females in these occupations have better labour market features than their male counterparts.

Table 5 presents the results of the Oaxaca-Blinder decomposition of the real earnings gap between males and females by occupation for the year 2015 (15 years after the enactment of affirmative action policies). Notably, the estimated differences in earnings between males and females for the full sample fell significantly from 0.59 in 1997 to 0.29 in 2015, implying that the affirmative action policy may have been successful. However, when we look at the estimated coefficients of males and females, we can see that this is not entirely the case because males continue to earn more than their female counterparts. Moreover, the unexplained component (0.23) of the wage gap appears to be larger than the explained component (0.06), illustrating the continued existence of discrimination in the labour market.

If we analyse the results by occupation, again we can see that males are consistently better off than their female counterparts. This finding suggests that discrepancies in earnings between males and females persist, regardless of affirmative action policy measures. Moreover, the unexplained component is significantly higher than the explained component, confirming the full sample results. In addition, the estimated coefficient of the unexplained component is highest in the first occupational category. The findings from Table 5 suggest that there has been a partial reduction in the gender wage gap which is due to a decline in discrimination and an increase in the productive characteristics of females over time. Although we cannot pin it down to the affirmative action policy entirely, there are some signs to suggest that the affirmative action policy might have played a role in narrowing the gender wage gap, hence the decline in the estimated differences in earnings between males and females in 2015.

TABLE 4: BLINDER-OAXACA DECOMPOSITION ESTIMATES OF THE EFFECTS OF AA ON WAGE GAP, 1997

	Full Sample			Managerial			Professional			Technical			Clerk		
logRE	Coef.	SE.	t-stat	Coef.	SE	t-stat	Coef.	SE	t-stat	Coef.	SE	t-stat	Coef.	SE	t-stat
Overall															
Group-males	8,01	0,01	***	8,84	0,05	***	9,00	0,07	***	8,85	0,05	***	8,47	0,04	***
Group-females	7,42	0,01	***	8,30	0,09	***	8,79	0,12	***	8,36	0,07	***	8,26	0,03	***
Difference	0,59	0,02	***	0,54	0,10	***	0,21	0,14		0,50	0,08	***	0,21	0,05	***
Explained	0,21	0,01	***	0,17	0,06	*	-0,05	0,11		0,06	0,06		-0,02	0,04	
Unexplained	0,38	0,02	***	0,37	0,09	***	0,25	0,12	*	0,44	0,08	***	0,23	0,05	***

* Significant at 10%; ** significant at 5%; *** significant at 1%.
Standard errors, adjusted for clustering at the individual level, are given in parentheses

TABLE 5: BLINDER-OAXACA DECOMPOSITION ESTIMATES OF THE EFFECTS OF AA ON WAGE GAP, 2015

	Full Sample			Managerial			Professional			Technical			Clerk		
logRE	Coef.	SE.	t-stat	Coef.	SE	t-stat	Coef.	SE	t-stat	Coef.	SE	t-stat	Coef.	SE	t-stat
Overall															
Group-males	8,56	0,02	***	9,75	0,05	***	9,89	0,08	***	8,89	0,08	***	8,59	0,06	***
Group-females	8,27	0,02	***	9,30	0,07	***	9,77	0,09	***	8,57	0,07	***	8,42	0,04	***
Difference	0,29	0,03	***	0,45	0,09	***	0,12	0,12		0,32	0,11	***	0,17	0,08	*
Explained	0,06	0,02	***	-0,04	0,04		-0,10	0,06		0,09	0,06		-0,06	0,04	
Unexplained	0,23	0,03	***	0,49	0,09	***	0,20	0,13		0,23	0,11	*	0,23	0,08	***

* Significant at 10%; ** significant at 5%; *** significant at 1%.
Standard errors, adjusted for clustering at the individual level, are given in parentheses

6. Conclusion

This paper investigates the impact of affirmative action policies on the gender wage gap in South Africa by making use of the PALMS dataset for the years 1997 and 2015. The paper extends on notable work by Shepherd, (2008) and Bhorat and Goga, (2013) by analysing the impact of affirmative action policies on gender earnings inequality in South Africa at various levels of occupations. The empirical analysis commenced with a kernel density function, OLS regression and Blinder-Oaxaca decomposition to examine the gender wage gap within the affirmative action framework in South Africa. The results of the kernel density function, OLS regression and Blinder-Oaxaca decomposition accentuate the current gender wage gap present between males and females at different levels of occupations.

By applying the Oaxaca Blinder decomposition by occupational level, more sectorial insight is provided into the significant role that discrimination plays within gender earnings inequality in South Africa. The results based on the Oaxaca Blinder decomposition for both 1997 and 2015 reveal that males are consistently better off in that they command higher earnings than their female counterparts, regardless of the occupation. The results for both sample years also show that the unexplained component is significantly larger than the explained component for all levels of occupations, consistent with findings from Frederick and Yu (2017) and Burger and Jafta (2010). This finding suggests that the disparity in earnings between males and females could be due to wage discrimination of females or other related factors not accounted for in the model. Notably, this paper does not delve into the effects of gender for various racial groups. Given the importance of racial decomposition in a South African context, further research could be dedicated to decompose gender by different racial groups.

Overall, the results of this study confirm the ever-lingering presence of discrimination in gender earnings inequality in South Africa by occupational level. Current affirmative action policies have not been entirely effective in addressing the issue of gender inequality. There is a resilience of gender earnings inequality, especially on certain occupational levels, driven by discrimination and other non-productive factors. This may highlight the need for adjustments and structural reforms in current affirmative action policies to be broken down at different occupational levels in order to focus on the collective reduction of the ever lingering gender inequality and discrimination within South Africa.

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Appendix A

TABLE A1: DESCRIPTIVE ANALYSIS OF THE VARIABLES USED IN THE REGRESSION

	1997		2015	
Dependent Variable	Males	Females	Males	Females
Log of earnings	8.006189	7.425482	8.551087	8.260251
Explanatory variables				
Age	38.07294	37.0328	38.49385	38.60201
Coloured	0.1850835	0.2077357	0.106717	0.138624
Indian	0.0458788	0.0333882	0.046143	0.038207
White	0.1335582	0.1168587	0.150543	0.158217
Widow	0.0109795	0.0777099	0.012293	0.045065
Divorced	0.0199984	0.0695979	0.023873	0.046045
Never married	0.2893106	0.3691512	0.384465	0.461915
Mining	0.0863662	0.0075711	0.07643	0.017389
Manufacturing	0.2173877	0.1660764	0.185284	0.128582
Utilities	0.0035986	0.0012212	0.005345	0.001959
Construction	0.1139282	0.0120894	0.114556	0.022777
Trade	0.1843461	0.25693	0.201675	0.270145
Transport	0.0834219	0.0224692	0.068235	0.032329
Finance	0.0792508	0.07852	0.209692	0.214058
Service	0.0255173	0.0435951	0.060396	0.185893
Eastern Cape	0.063446	0.0731249	0.072332	0.084987
Northern Cape	0.056623	0.0517282	0.032781	0.033554
Free state	0.0897185	0.0905243	0.051488	0.052168
Kwazulu-Natal	0.1505764	0.1632965	0.128986	0.127112
North West	0.101247	0.0820597	0.068413	0.048004
Gauteng	0.2098659	0.2000941	0.354534	0.342885
Mpumalanga	0.0913654	0.0781801	0.074648	0.061964
Limpopo	0.0574073	0.0697155	0.059327	0.06025
Education yrs	7.91407	7.792537	10.96888	11.31125
Number of observations	64,396	75,619	69,575	82,869