The effect of Affirmative Action on the reduction of employment discrimination, 1997-2015

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ERSA working paper 681

May 2017

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May 12, 2017

Abstract

This study examines the effect of Affirmative Action on the reduction of employment discrimination by race and gender, more than 20 years since the economic transition. The empirical part of the paper employs a sample that represents the labour force (excluding informal sector workers, agricultural workers, domestic workers, self-employed and employers) aged between 15 and 65 years. The study estimates probit models to examine labour force participation, employment and occupational attainment likelihoods, followed by the Oaxaca-Blinder decomposition, using labour survey data in 1997-2015. The decomposition results show that the unexplained component of the White-African employment probability gap reveals a slight downward trend in absolute terms in 2002-2011 but in relative terms it still accounts for more than 50% of the gap. On the other hand, the unexplained component is most dominant in the male-female employment gap decomposition. These results suggest that employment discrimination against Africans and females remains serious.

Keywords: Affirmative Action, labour market discrimination, employment discrimination, Oaxaca-Blinder Decomposition, South Africa

JEL Classification: J00

1 Introduction

The South African labour market was subject to various types of discrimination during the apartheid era. The legislations enacted during this period was detrimental to certain groups of the population, such as Africans, females and the disabled. To correct for these imbalances, legislations have been amended, abolished or introduced since 1994 to alleviate the three main types of within-the-labour-market discrimination, namely employment discrimination, wage discrimination and occupational discrimination.

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Discrimination in the South African labour market remains a key area of research; however, many existing local studies examined wage discrimination as opposed to employment discrimination or occupational discrimination. Hence, this study fills the research gap by examining the effect of Affirmative Action on the reduction of employment discrimination 20 years since the transition. The only two existing studies on employment discrimination are quite outdated as the analysis was only conducted up to 2006, and occupational discrimination was only briefly examined. In other words, there are hardly any local studies that investigated what happened during the second decade post-apartheid. Hence, this study aims to extend the existing studies by examining the extent of employment discrimination by race and gender until 2015. The rest of the study is structured as follows: Section 2 gives a brief overview of the South African legislation and reviews the recent local studies on labour market discrimination; Section 3 discusses the methodology and data, before Section 4 presents the empirical findings. Section 5 concludes the study.

2 Literature review

2.1 South African labour market legislation

Various legislations during the apartheid era (amongst others, the Ordinance 17 of 1907, the Group Areas Act 41 of 1950 and the Industrial Conciliation Act 28 of 1956) were enacted to deny Africans access to highly-skilled and highly-paid work, and prevent them from finding employment in the urban areas (Venter, Levy, Conradie & Holtzhausen 2009: 39). To address these inequalities, new legislations have been enacted since 1994, such as the Labour Relations Act 66 of 1995 (LRA), the Basic Conditions of Employment Act 75 of 1997 (BCEA) and the Employment Equity Act 55 of 1998 (EEA).

The LRA aims to promote sectoral collective bargaining, simplify dispute resolution procedures and codify dismissal procedures. It also entrenches the constitutional right to strike and enhances organisation rights for trade unions. Bargaining Councils (BCs) and the Commission for Conciliation, Mediation and Arbitration (CCMA) are established to improve bilateral negotiations between trade unions and employers' organisations (Bhorat, Lundall & Rospabe 2002: 43). The primary aim of the BCEA is to cover the conditions of employment for employees, thereby giving effect to and regulating the right to fair labour practices. This is done "by establishing and enforcing basic conditions of employment and by regulating the variation of basic conditions of employment" (Republic of South Africa, 1997: 6). The act seeks to improve the working conditions of vulnerable employees by addressing hours of work, overtime pay, contracts of employment, annual and sick leave as well as termination of employment. The BCEA was revised in 2002 to make provisions for the improvement of minimum wages and working conditions of 11 vulnerable sectors, including domestic workers and farm workers (Bhorat et al. 2002: 43; Finnemore 2009: 187).

The EEA addresses labour market discrimination as well as correct gender and racial imbalance resulting from apartheid policies. Since removing discriminatory laws alone will not be sufficient to overcome disparities in the labour market, positive measures are recommended to promote the previously advantaged groups (i.e. females, non-whites, disabled). In particular, the EEA ensures that an employer hiring more than 50 workers or whose income exceeds the amount specified in the act is required to prepare and implement a plan to achieve employment equity, with numeric goals for the hiring and advancement of designated groups as well as narrowing of excessive earnings differentials between occupational groups (Republic of South Africa 1998; Bhorat at el. 2002: 43; Clarke 2004: 563).

2.2   Review of past empirical studies

The studies conducted by Burger and Jafta (2006 & 2010) were the rare ones that thoroughly investigated employment discrimination in South Africa. Their 2006 study conducted the Oaxaca-Blinder decomposition to determine the extent of employment discrimination by race. Using the 1995-1999 October Household Survey (OHS) and 2000-2004 Labour Force Survey (LFS) data, they found that the White-African employment probability gap increased significantly between 1995 and 2000, before stabilising in 2001-2004. No clear evidence of any strong downward trend of the unexplained component was found. The authors also derived the differential in the probability of the labour force (LF) attaining highly-skilled employment by race, and found an increasing occupational attainment probability gap between Whites and Africans. This gap was driven in part by an increase in the unexplained component. The authors concluded that Affirmative Action has not been successful in significantly reducing employment and highly-skilled occupational attainment probability gaps by race.

The second study by Burger and Jafta (2010) extended their 2006 study by examining the extent of employment and wage discrimination by race and gender in 1995-2006. The authors focused on Whites and Africans with at least incomplete secondary education. The employment probability gap between White and African males increased from 0.32 in 1997 to 0.38 in 2003, before declining to 0.28 in 2006. The unexplained component remained fairly constant at 0.04 in 1997-2003 before dropping to 0.01 in 2006. This decline could be attributed to the implementation of Affirmative Action policies in 2003, however, the reduction in the employment probability gap caused by improving the skills of Africans had a stronger influence. The difference in employment probabilities between African and White women was higher when compared to what happened between African and White men. In particular, the unexplained component for the former was much larger

In the case of gender discrimination by race, Burger and Jafta (2010) found that for Africans men were approximately 15 percentage points more likely to find employment than women, and about half of this difference was explained by differences in characteristics. They found that the unexplained component of the male-female employment probability gap increased between 2000 and 2006

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for both Africans and Whites. They concluded that Affirmative Action did not rapidly reduce employment discrimination by race and gender.

There are an abundance of studies examining wage discrimination, and they can be categorised into three groups: firstly, Winter (1999), Grun (2004 & 2009). Ntuli (2007), Shephered (2008) and Muller (2009) as well as Bhorat and Goga (2012) examined wage discrimination by gender; with the exception of Muller (2009), the general conclusion of these studies is that there is no significant decline in the male-female mean log real wage gap in the 1990s and 2000s; secondly, Burger and Jafta (2006 & 2010) examined wage discrimination by race and found that the White-African mean real wage gap showed no clear downward trend over time, in particular, the 2010 study showed a continuous increase in the unexplained component. Lastly, studies like Armstrong and Steenkamp (2008) and Ntuli and Kwenda (2014) examined wage discrimination by trade union membership while Chamberlain and Van der Berg (2002) as well as Burger and Van der Berg (2011) re-examined wage discrimination by race and gender after taking differences in quality of education into consideration, but since they fall beyond the scope of this study, their results will not be discussed here.

To conclude Section 2, the majority of local studies on labour market discrimination focused on wage discrimination instead of employment discrimination. In other words, there is a clear research gap on employment discrimination, which this study aims to fill.

3 Methodology and data

3.1 Methodology: Oaxaca-Blinder decomposition

In this study, initially labour force participation and employment likelihood by race and gender over the years is interpreted in the descriptive analysis. Thereafter, multivariate econometric analysis and Oaxaca-Blinder decomposition are conducted to determine if employment discrimination by race and gender has been reduced since the economic transition.

The Oaxaca-Blinder decomposition technique enables the division of the mean wage gap into a component attributed to differences in productive characteristics between groups (i.e. explained component) and a component attributed to possible discrimination (i.e. unexplained component). As a starting point to better describe the Oaxaca-Blinder decomposition, a wage earnings function is estimated. It is important to note that the log of wages is frequently specified as being dependent on a set of distinct characteristics. The wage earnings function is given as:

$$\ln W = X\beta + \varepsilon \tag{1}$$

Where W represents the average wage, X stands for the average productive characteristics and β is the vector of coefficients demonstrating the markets valuation of the productive characteristics X, such as years of education, province,

age and marital status. Where w and b stands for the White and African population groups respectively, the difference between Whites and Africans in their average log of wages can be stated as:

$$\ln \bar{W}_w - \ln \bar{W}_b = \bar{X}_w \beta_w - \bar{X}_b \beta_b \tag{2}$$

The equation can be rewritten as:

$$\ln \bar{W}_w - \ln \bar{W}_b = (\bar{X}_w - \bar{X}_b)\beta^* + \bar{X}_w(\beta_w - \beta^*) + \bar{X}_b(\beta^* - \beta_b) \tag{3}$$

Where β^* represents the vector of coefficients that would remain when no discrimination is present. The mean wage gap can now be split into three different categories. The first category is the wage differential that comes from the difference in the average productive characteristics between the White and African population, $(\bar{X}_w - \bar{X}_b)\beta^*$. The second category is the difference between what White employees are being paid and what they would earn in a labour market without discrimination, $\bar{X}_w(\beta_w - \beta^*)$. The last category represents the difference between what African employees would earn in a labour market without discrimination and what they are actually being paid, $\bar{X}_b(\beta^* - \beta_b)$. The last two categories are combined and referred to as the unexplained component of the wage gap, and reflects the White advantage and the African disadvantage (Burger & Jafta 2006: 9-11; Shepherd 2008: 12-13). If it is assumed that $\beta^* = \beta_w$, i.e. the vector of coefficients in the non-discriminating scenario is equivalent to the White wage structure, then the equation above becomes:

$$\ln \bar{W}_w - \ln \bar{W}_b = (\bar{X}_w - \bar{X}_b)\beta^* + \bar{X}_b(\beta_w - \beta_b) \tag{4}$$

Burger and Jafta (2006: 11) extended the Oaxaca-Blinder decomposition to binary econometric models such as probit models, as they were also interested in employment and occupational discrimination. They followed Gomulka and Stern (1990: 174-175) by expressing equation (3) as:

$$\bar{L}_w - \bar{L}_b = [\bar{L}(X_w \beta^*) - \bar{L}(X_b \beta^*)] + [\bar{L}(X_w \beta_w) - \bar{L}(X_w \beta^*)] + [\bar{L}(X_b \beta^*) - \bar{L}(X_b \beta_b)] \tag{5}$$

Where L_i is a probit function. This function determines the probability of some labour market outcome. The average of the values of the function is indicated by $\bar{L}_i$ and given as: $\frac{1}{n} \sum_{i=1}^{n} L(X_i \beta)$

Burger and Jafta (2006: 11-12) note two complications in empirically estimating equations (3) and (5). The first difficulty is the data restrictions and the immeasurability of certain productive characteristics, for example school quality and ability. This implies that empirical studies reluctantly omit some of the explanatory variables. If these explanatory variables are omitted it could result in an overestimation of labour market discrimination. The unexplained component of the wage gap is often referred to as the "upper limit to discrimination" (Burger and Jafta 2006: 11; Shepherd 2008: 13-14). It is also possible for the unexplained component to be downwardly biased if one were to consider pre-labour market discrimination. In this case, part of the explained component

of the wage gap could be due to pre-labour market discrimination, such as the human capital investment decision (Burger and Jafta 2006: 11). It should be noted that within this study the unexplained component is restricted to discrimination that took place after the person entered the job market.

The second complication in empirically estimating the equations mentioned above is selection bias. This is a serious problem because inconsistent estimates of the regression coefficients could result from regular single equation techniques. There are however procedures that can be used to remedy this problem. In the case of the wage gap, the Heckman procedure can be used and in the case of the employment gap and occupation selection, the Heckprobit procedure can be used. Both the Heckman and Heckprobit procedures begin by estimating a model of selection into the relevant sample. The explanation is done for the Heckman procedure, which is very similar to the Heckprobit procedure. The two step model selection equation is given as:

$$I_i^* = Z_i \gamma + u_i$$

Where I_i^* stands for the employment status of the individual. If the individual is employed $I_i^* > 0$ and if the individual is unemployed $I_i^* \leq 0$. This can be modelled by using a probit specification. An artificial regressor, which is the Inverse Mills ratio, may be added to the wage equation to consistently estimate the β's

from the wage regression specified previously. The artificial regressor is given as:

$$\lambda_i = \frac{\phi(Z_i \gamma)}{\Phi(Z_i \gamma)}$$

Where $\phi(.)$ stands for the normal probability density function and $\Phi(.)$ represents the normal cumulative distribution function. By estimating:

$$\ln W_i = X_i \beta + \eta \lambda_i + \varepsilon_i$$

The next step is to subtract the Inverse Mills ratio from each side of the equation. This is done to allow the racial gap in wages offered to be decomposed into different components. As stated previously, the Heckprobit works in a similar way, it allows consistent valuation of dichotomous outcomes (Burger & Jafta 2006: 12-13). Burger and Jafta (2006: 18) did not take the issue of sample selection bias into consideration in their empirical study, because including selection equations resulted in very unstable racial gaps in wages (This is also the approached adopted by Hinks (2002) and Shepherd (2008)). Hence, for the same reason this study would also not consider the issue of sample selection bias.

3.2 Data

The data from the 1997-1999 OHS, 2000-2007 September LFS and 2008-2015 fourth quarter QLFS conducted by Statistics South Africa (Stats SA) would be used. The total sample of the data used includes individuals aged 15-65 years

at the time of the survey. As the primary aim of this study is to examine the effect of Affirmative Action policies, unless stated otherwise, self-employed, employers, informal sector employees, agricultural employees and domestic workers are excluded as the aforementioned policies are unlikely to have a large impact on these workers (Burger and Jafta 2006: 18). This is the approach adopted by the existing local studies on employment and wage discrimination (e.g. Burger and Jafta 2006 & 2010; Armstrong and Steenkamp 2008; Shepherd 2008). Also, unless stated otherwise, OHS 1995-1996 data is not included for the analysis because the employees were not asked to declare whether they worked in the formal sector or informal sector in these two surveys (Essop and Yu 2008: 7-8).

4 Empirical findings

4.1 Descriptive analysis

Figures 1(a) and 1(b) present the labour force participation rates and unemployment rates by race and gender respectively in 1995-2015 by including the full working-age population. The LFPR increased rapidly in the OHSs for all racial groups considered (especially Africans), after which a slight downward trend was observed between 2000 and 2004. A slight upward trend was observed between 2005 and 2008, with the LFPR peaking at 57.1% for Africans. The LFPR was relatively steady in 2009-2014. Also, the Whites and Africans were associated with the highest and lowest LFPR respectively, during the period under study. Similar trends could be observed for the two genders (Figure 1(b)), but it can be seen that males were more likely to participate in the labour market than females during the whole period.

The sharp increase in the LFPR in the OHS years may have contributed in some way towards the upward trend of the unemployment rates during the same period (refer to Figures 2(a) and 2(b)), as the extent of job creation was not rapid enough to absorb the net labour force entrants during the 1990s. In general, an upward trend was observed between 1996 and 2003, before a downward trend took place between 2003 and 2008. In 2008 the unemployment rate reached a low of 18.7 per cent, 24.9 per cent and 25.4 per cent for the male, female and African population groups respectively. A slight upward trend was observed between 2009 and 2013. It can also be seen that the unemployment rate was higher for females compared to males during the whole 21-year period under study, while the White unemployment rate was much lower (hovering around 5%) when compared to Africans and Coloureds.

Figures 3(a) and 3(b) present the probability of each racial and gender group finding employment in the formal non-agricultural sector. In Figure 3(a), it can be seen that this probability was the highest for the Whites, hovering between 90% and 95%. This probability ranged between 73% and 82% for the Coloureds. For the Africans, it is interesting to note a downward trend first took place in 1997-2002, followed by an upward trend in 2002-2008 (this probability peaked at 66.3% in 2008), before stabilising in 2009-2015. In contrast, Figure 3(b) shows

that the employment probability was always higher for the males. Interestingly, the male-female probability gap narrowed from 14.8 percentage points in 1997 to 7.0 percentage points in 2015.

Figures 4(a) and 4(b) show the probability of the labour force finding employment in highly-skilled occupations (i.e. managers; professionals; technicians and associate professionals) in the formal non-agricultural sector. As far as the results by race are concerned, it is clear from Figure 4(a) that this probability was much higher for Whites (approximately 55%) compared to Africans and Coloureds (about 20%). On the other hand, it is interesting that this probability was about 10 percentage points higher for females during the whole period under study, as evidenced in Figure 4(b). In 2015, this probability was 29.2% for females but 20.2% for males.

Table A.1 in the Appendix presents the characteristics of the employed by race and gender in selected surveys. The proportion of male employees declined for all race groups; this reduction was the greatest for the Africans (the male share declined from 70.2 per cent in 1997 to 59.6 per cent in 2015), yet the male share remained the highest for this group. Regarding the provincial share of employed in each race group, the Gauteng share was most dominant for Africans and Whites, but the Western Cape share was the highest for Coloureds. Furthermore, the mean years of educational attainment showed an upward trend over the years, but the Whites were significantly more educated (by about 3 years). Also, the White workers were associated with having fewer children present in the household.

When examining the characteristics of employed by gender, first of all, the African share was significantly lower but the White share was significantly higher for the females. Nonetheless, the African share increased steadily over the years for both gender groups. Next, the proportion of female workers reporting to be household head was much lower (about 30%) when compared to male workers (about 70%). Also, for both gender, the proportion of workers residing in Gauteng was most dominant (30%). Furthermore, the workers were more educated throughout the years in both gender groups, but the females were significantly more educated by one year.

The composition of highly-skilled employed by race and gender is presented in Table A.2 in the Appendix. The male share was significantly higher in the case of Whites. Also, for Africans and Whites, most of them worked in Gauteng, but for Coloureds, a higher proportion of them worked in Western Cape. The workers from all three races were more educated on average over the years, but the Whites' mean years were significantly higher. Finally, looking at the characteristics of highly-skilled workers by gender, it is encouraging that the African share increased between 1997 and 2015 for both genders, but the African share has always been significantly higher for females. Also, the majority of workers resided in Gauteng and Western Cape for both genders. Lastly, the highly-skilled workers became more educated on average over the years, but the females were slightly more educated on average.

4.2 Multivariate analysis and Oaxaca-Blinder decomposition

While not the main focus of this study, the probit regressions on participation likelihood are shown in Table A.3 and A.4 of the Appendix. The probits on employment likelihood is what follows next in this section. This section also includes the Oaxaca-Blinder decompositions for the employment probits and highly-skilled employment probits for 1997-2015.

4.2.1 The employment probability gap

Table 1 presents the probit regressions on employment likelihood by race for the four selected surveys under study. The reference groups are females residing in Eastern Cape with no education. First of all, males were significantly more likely to be employed for Africans, but a declining trend on the marginal effect was observed (dropping from 15.4 percentage points in 1997 to 5.1 percentages points in 2015). With regard to the Coloured population group, in 1997 males were significantly more likely to be employed compared to females. When comparing the African and Coloured population groups, African males are associated with a higher probability of finding employment when compared to females than Coloured males (15.4 percentage points compared to 3.5 percentage points in 1997; 5.1 percentage points compared to 2.9 percentage points in 2015). This implies that African females are at a higher disadvantage than Coloured females. Looking at the education spline variables, in general, as educational attainment increased there was a significant increase in employment likelihood for the African and Coloured population groups. The table also shows that in general, being married and the head of household significantly increases the likelihood of being employed for all race groups. Finally, the increase of the number of children in a household significantly reduced the likelihood of being employed for the Africans.

The probit regressions on employment likelihood by gender for selected surveys are captured in Table 2. Africans residing in the Eastern Cape Province with no education are the reference groups. Coloured, Indian and White males were significantly more likely to be employed than African males, with the marginal effects being the highest for White males (14.2 percentage points for Whites, compared to 6.8 and 9.5 percentage points for Coloureds and Indians respectively). The marginal effects increased significantly between 1997 and 2003, before declining in 2009 and 2015. The same trend is observed for females. When comparing the male and female population groups the differences in employment probabilities between Coloured, Indian and White females when compared to Black females is higher than in the case of males i.e. differences in employment probabilities seems more present in the case of females. For all survey periods considered, males residing in the Western Cape, KwaZulu-Natal, North West and Mpumalanga provinces were significantly more likely to be employed, while this only took place for females residing in Mpumalanga. Also, being married and the head of household significantly increased the likelihood of

being employed for both genders. Lastly, the number of children in a household had a significant negative effect on employment likelihood for both genders.

Figure 5 and Table A.5 in the Appendix show the White-African employment probability gap increased between 1997 and 2002 from 0.31 to 0.41, before a steady downward trend took place in 2002-2014. This gap was the lowest at 0.25 in 2014. The Oaxaca-Blinder decomposition results show that the unexplained component of the employment probability gap revealed a downward trend in absolute terms in 2002-2011 (dropping from 0.21 to 0.11), before increasing to 0.13 in 2015. On the other hand, there was a downward trend taking place to the explained component in 2006-2013 (reducing from 0.21 to 0.12). Table A.4 shows the unexplained component as proportion of the employment probability gap: this proportion increased slightly from 47.4% in 1997 to 49.8% in 2015, despite showing small fluctuations during the period under study (this proportion was the lowest at 40.4% in 2007). The fact that the share of the unexplained component showed no clear downward trend over time implies that Affirmative Action may not be highly successful in reducing discrimination, thereby confirming the findings of Burger and Jafta (2006 and 2010)

The White-Coloured employment probability gap (See Figure 6) increased between 1997 and 2005 (from 0.14 to 0.20) after which it declined to 0.16 in 2015. The unexplained component in absolute terms fluctuated over the years, and increased slightly from 0.09 in 1997 to 0.11 in 2015. Also, the unexplained component as proportion of the total employment probability gap decreased slightly from 69% in 1997 to 65.9% in 2015 (see Table A.5).

Looking at Figure 7, the male-female employment probability gap hovered around 0.15 in 1997-2006, before declining abruptly from 0.16 in 2006 to 0.06 in 2009. It stabilised at the 0.06-0.08 range in 2010-2015. It is also clear that the unexplained component was most dominant throughout the years. In fact, the unexplained component accounted for more than half of this gap in all years under study, except 2001 and 2004 (see Table A.5). These results suggest that employment discrimination against females remained serious. Note that the unexplained component was greater when compared to the findings by Burger and Jafta (2010), but keep in mind that the latter study excluded those with less than incomplete secondary education.[1]

The above three decompositions are re-examined after adding the omitted workers (informal sector employees, agricultural employees, domestic workers, self-employed and employers) back into the sample[2], and the results are shown in Figures A.1 to A.3 in the Appendix. Once again, the results indicate no discernible downward trend of the unexplained component over time when it comes to the decomposition of the average White-African (Figure A.1) and White-Coloured (Figure A.2) employment probability gaps, and employment discrimination against Africans and Coloureds remained serious. However, when

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[1] Upon analysing the labour data, it was found that the proportion of labour force with less than incomplete secondary education was as low as 9% in 2015 but as high as 25% in 1998.

[2] It became possible to include OHS 1995 and 1996 data for the analysis by adding the omitted workers back – refer to the discussion at the end of Section 3.2 with regard to the formal/informal sector workers.

it comes to the male-female employment probability gap decomposition, after adding the omitted workers back, the explained component became more dominant (meaning the females possessed relatively weaker characteristics) while the unexplained component diminished drastically (Figure A.3 versus Figure 7), implying no clear indication of employment discrimination against female jobseekers. These results could be attributed to the inclusion of domestic workers for the analysis[3] – females accounted for about 95% of domestic workers over the years, while domestic workers were associated with significantly lower educational attainment (about 7 years on average, compared to at least 10 years of education of employed in the other broad occupation categories).

4.2.2 Occupational attainment differential

The probit regressions on the likelihood of formal sector employees involved in highly-skilled occupations by race in selected surveys are presented in Table 3. Firstly, males were significantly less likely to be employed in highly-skilled occupations than females in all four surveys under study in the case of African workers, after controlling for other characteristics. Coloured males were significantly less likely to be employed in highly-skilled occupations than Coloured females for 1997 and 2015. When looking at African males and Coloured males in 1997 for Africans, males were 10 percentage points less likely to be employed in highly-skilled occupations than females and for Coloureds, males were 8.1 percentage points less likely to be employed in highly-skilled occupations than females. This implies that in the case of highly-skilled occupations, African females had a higher advantage over African males than Coloured females had over Coloured males. This result however, became the opposite case in 2015. In general, the likelihood of employment in highly-skilled occupations increased as educational attainment increased. In particular, the Degree spline variable was statistically significant except for Whites in 2009. It is interesting that after controlling for the differences in characteristics, Africans in Western Cape were significantly less likely to find highly-skilled work in all four surveys.

Table 4 shows the results of the probit regressions on the likelihood of formal sector workers involved in highly-skilled occupations by gender for the same four selected surveys. Coloured, Indian and White males were significantly more likely to be employed in these occupations than African males, with the marginal effect being the greatest for Whites (nearly doubling from 11.53% in 1997 to 22.68% in 2015). With regard to females, Whites were significantly more likely to work in highly-skilled occupations in 2003, 2009 and 2015, while this happened to the Coloureds and Indians in 2009 and 2015. When making a comparison between males and females, in general the marginal effects are greater for males than in the case of females. Therefore, in the case of highly-skilled occupations, the results imply that African males are more disadvantaged than

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[3] When examining the omitted workers (who were added back for the analysis relating to Figures A.1-A.6), it was found that females accounted for about 40% of informal sector employees, 33% of agricultural employees, 95% of domestic workers, and 45% of self-employed and employers during the period under study.

African females. Generally, an increase in educational attainment is associated with a significant increase in the likelihood of being employed in highly-skilled occupations, except for the primary education spline variable. The results on the provincial dummies were somewhat mixed, while female married household heads were significantly more likely to be employed in highly-skilled occupations in 1997 and 2015.

In Figures 8, 9 and 10, the differential in the likelihood of attaining a highly-skilled occupation is decomposed for Whites and Africans, Whites and Coloureds, and males and females respectively. Figure 8 shows an increasing occupational attainment probability gap between Whites and Africans (increasing from 0.29 in 1997 to 0.40 in 2015). This gap was driven partially by an increase in the unexplained component (it more than doubled from 0.07 in 1997 to 0.17 in 2015, whereas the explained component only increased slightly from 0.22 to 0.23), which is in line with the results found in Burger and Jafta (2006). In fact, the share of the unexplained component to the total employment probability gap increased from 25.1% in 1997 to 41.7% in 2015, as shown in Table A.5 in the Appendix. This result is quite worrying, as it implies that discrimination against Africans on highly-skilled employment (compared to Whites) has become more serious over the years.

Similarly, Figure 9 indicates that the total gap of the White-Coloured highly-skilled occupational employment likelihood increased 1997 (0.30) and 2015 (0.39). Despite the fact that the unexplained component doubled from 0.04 to 0.08, its share only accounted for 14.0% and 21.7% of the total gap in 1997 and 2015 respectively This implies that discrimination against Coloureds seeking highly-skilled occupations was relatively less serious than Africans (when compared to Whites).

In Figure 10, the results on the decomposition of the total male-female highly-skilled employment likelihood gap show no clear trend over time. As stated previously, employment discrimination against females was quite serious (Figure 7), but if the analysis is restricted to finding highly-skilled employment, the results (Figure 10) do not suggest that females were seriously discriminated against. On the contrary, the empirical findings rather imply that the females were more likely to find highly-skilled work as they possessed stronger characteristics, as indicated by the greater share of the explained component (see Table A.5). The unexplained component was also negative during all years under study[4].

The above three decompositions are re-examined upon adding the omitted workers back into the sample, and the results are presented in Figures A.4 to A.6 in the Appendix. Once again, the results indicate that discrimination against Africans became more serious over time (Figure A.4) while discrimination against Coloureds was relatively less serious (Figure A.5) compared to whites, in connection with highly-skilled occupational attainment likelihood by race. However, after adding the omitted workers back, the male-female highly-

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[4]These results need to be interpreted by keeping in mind about the five groups of workers being excluded from the analysis (see Section 3.2). For instance, about 80% of domestic workers were females, whilst approximately 55% of employers and self-employed were females.

skilled occupational attainment probability gap became extremely small, there was no discernible trend on both the explained and explained components, and there was no longer any strong indication that females were associated with a greater likelihood of finding highly-skilled work after controlling for differences in characteristics across the two gender groups (Figure A.6 compared to Figure 10).

5   Conclusion

This study examined the impact of Affirmative Action on employment discrimination (by gender and race) since the advent of democracy. The data used in this study represents the labour force between 15 and 65 years, and self-employed, employers as well as informal sector, domestic and agricultural employees were excluded from the analysis, unless stated otherwise. The study first estimated probit models describing the labour force participation, employment and occupational attainment, followed by the Oaxaca-Blinder decomposition, using the 1997-2015 labour survey data of Stats SA.

The results off the probit regressions on employment likelihood of the labour force by race show that African males were significantly more likely to be employed than females. A declining trend on the marginal effects was observed throughout the period. This suggests that the African male advantage is becoming less significant. The decomposition results on the average male-female employment probability gap shows that the unexplained component accounted for more than half of this gap in all years under study, except 2001 and 2004.

In contrast, the probit regression on the highly-skilled employment likelihood of the labour force by race show that African males were significantly less likely to be employed in highly-skilled occupations than females. The female advantage however decreased throughout the period (in 1997 African males were 10 percentage points less likely to be employed in highly-skilled occupations than females compared to 3.4 percentage points in 2015). The decomposition results on the average male-female occupational attainment differential suggests that females were not seriously discriminated against. In this case the explained component had a greater share than the unexplained component, indicating that females were more likely to find highly-skilled work as they possessed stronger characteristics.

Furthermore, the probit regressions on the employment likelihood of the labour force by gender indicates that Coloured, Indian and White males were significantly more likely to be employed than African males, with the marginal effects being highest for White males. The same trend is observed for females. When comparing the male and female population groups, the differences in employment probabilities between Coloured, Indian and White females when compared to Black females is higher than in the case of males i.e. differences in employment probabilities seems more present in the case of females. The decomposition results show that there was a downward trend in the White-African employment probability gap between 2002 and 2011. The unexplained

component, despite showing a downward trend during the same period, still accounted for nearly half of the total gap. This implies that Affirmative Action was not successful in drastically reducing employment discrimination against Africans in the South African labour market.

Finally, the probit regression on the highly-skilled employment likelihood of the labour force by gender displays that Coloured, Indian and White males were significantly more likely to be employed in these occupations than African males, with the marginal effect being the greatest for Whites. With regard to females, Whites were significantly more likely to work in highly-skilled occupations in 2003, 2009 and 2015, while this happened to the Coloureds and Indians in 2009 and 2015. When making a comparison between males and females, it is observed that in general the marginal effects are greatest for males than in the case of females. Therefore, in the case of highly-skilled occupations, it is implied that African males are more disadvantaged than African females. In terms of the decomposition results, there was an increasing occupational attainment gap between Whites and Africans which was partially driven by an increase in the unexplained component. This result is quite worrying, as it implies that discrimination against Africans on highly-skilled employment (compared to Whites) has become more serious over the years.

These findings are in line with a recent statement made by the Chairperson of the Employment Equity Commission (EEC), Tabea Kabinda, in which she said that Affirmative Action in South Africa is extremely slow. Whilst she also stated that historical stereotypes still existed, meaning White men still remain in the most powerful employment positions (Giokos & Mtyala 2016), one positive finding emerged from this study: females were associated with a greater likelihood of finding employment in highly-skilled occupations, and this result was mainly attributed by their stronger endowment of characteristics.

To conclude, while reducing employment discrimination by gender and race via Affirmative Action remains important (i.e. reducing the unexplained component), great attention should still be given to improve the education and skills level of the workseekers of the previously disadvantaged groups (i.e. reducing the explained component), before there would be more speedy improvement of their employment prospects.

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Table 1: Probit regressions on employment likelihood of labour force by population group, selected surveys

	Marginal effects											
	1997			2003			2009			2015		
	African	**Coloured**	**White**	**African**	**Coloured**	**White**	**African**	**Coloured**	**White**	**African**	**Coloured**	**White**
Male	0.1543***	0.0349***	0.0019	0.0920***	0.0240	-0.0098	0.0628***	-0.0012	-0.0018	0.0508***	0.0294	-0.0121
Age	0.0283***	0.0171***	0.0029	0.0360***	0.0287***	0.0074***	0.0190***	0.0330***	0.0052*	0.0263***	0.0184***	0.0029
Age squared	-0.0003***	-0.0002***	-0.0000	-0.0003***	-0.0003***	-0.0001***	-0.0001***	-0.0004***	-0.0001*	-0.0002***	-0.0001	0.0000
Primary	-0.0027	-0.0052	-0.0129*	0.0006	0.0025	0.0438	0.0100**	-0.0157	0.0006	-0.0191***	0.0087	-0.0120
Secondary	0.0253***	0.0150***	0.0101*	0.0088**	0.0025	0.0058	0.0053	-0.0056	0.0116	0.0189***	-0.0123	0.0370***
Matric	0.0593***	0.0450**	0.0148	0.1176***	0.1212***	0.0296*	0.0985***	0.1707***	0.0191	0.0903***	0.1376***	0.0397
Matric + Cert/Dip	0.1963***	0.0955*	0.0210	0.1072**	0.0314	0.0200	0.1395***	0.0897	0.0342*	0.0122	0.0228	0.0060
Degree	0.0321	-0.0089	-0.0025	0.1324***	0.0236	0.0157	0.0490**	0.0103	0.0053	0.0921***	0.0887	0.0118
Western Cape	0.1523***	0.1446***	-0.0376	0.0775**	0.1483***	-0.0014	0.0069	0.1341***	-0.0490**	0.0436**	0.0857***	-0.0423
Northern Cape	0.1254***	0.0083	-0.0398	0.0942***	0.0009	0.0237**	0.0643**	0.0390	0.0190	0.0160	-0.0058	-0.0207
Free State	0.1269***	0.0695**	-0.0948	0.0801***	-0.0437	0.0161	0.0200	0.0237	-0.0458	-0.0413**	-0.1125	-0.0377
KwaZulu-Natal	0.1122***	-0.0304	-0.0541	0.0886***	-0.0201	-0.0138	0.1412***	0.1305**	0.0124	0.1127***	0.1781**	0.0418
Northwest	0.1418***	0.0158	-0.0951	0.0932***	0.1871***	0.0234**	0.0079	0.1103**	-0.0221	0.0687***	0.1113	-0.0024
Gauteng	0.0870***	-0.0274	-0.0435	0.0323*	-0.0025	0.0243**	-0.0270	0.0362	-0.0278	-0.0504***	-0.1101***	-0.0649***
Mpumalanga	0.0866***	0.0171	-0.0845	0.1271***	0.1302**	0.0007	0.0080	0.1508**	-0.0586*	0.0259	-0.1811	-0.0100
Limpopo	0.0136	N/A[2]	-0.1535	-0.0065	N/A[2]	0.0111	0.0019	-0.0207	-0.0867*	0.0528***	0.1712	-0.0159
Head	0.2359***	0.0798***	0.0349***	0.3301***	0.1376***	0.0505***	0.1767***	0.1161***	0.0357***	0.2041***	0.0524**	0.0501***
Married	0.1230***	0.0643***	0.0125	0.1623***	0.1443***	0.0131	0.1035***	0.0886***	0.0496***	0.1013***	0.0748***	0.0225
Children	-0.0074***	-0.0079**	-0.0029	-0.0264***	-0.0178***	-0.0009	-0.0158***	-0.0108*	-0.0037	-0.0204***	0.0063	0.0273***
Sample size	17 640	4 776	3 076	17 829	3 981	3 008	15 841	3 140	2 074	15 200	2 158	1 540
Chi-squared	3 093.95	3 56.94	98.62	3 325.21	459.64	132.47	1 912.78	389.91	91.16	2 081.31	264.66	125.92
Pseudo R[2]	0.1956	0.1308	0.1027	0.2446	0.1786	0.1270	0.1524	0.1563	0.1357	0.1434	0.1520	0.2052
Observed Prob.	0.6454	0.8207	0.9554	0.5425	0.7568	0.9348	0.6328	0.7562	0.9367	0.6441	0.7467	0.9116
Predicted Prob.	0.6837	0.8553	0.9688	0.5583	0.8005	0.9556	0.6599	0.7957	0.9584	0.6696	0.7864	0.9496

Source: Own calculations using OHS 1997, LFS 2003 September, QLFS 2009Q4 and QLFS 2015Q4 data.

*** Significant at 1%   ** Significant at 5%   * Significant at 10%

[1] Primary dummy is omitted because of perfect collinearity.

[2] Limpopo dummy is omitted because of perfect collinearity.

Table 2: Probit regressions on employment likelihood of labour force by gender, selected surveys

	Marginal effects							
	1997		2003		2009		2015	
	Male	Female	Male	Female	Male	Female	Male	Female
Coloured	0.0681***	0.2372***	0.1586***	0.3055***	0.1070***	0.1694***	0.0786***	0.1361***
Indian	0.0947***	0.2403***	0.1460***	0.2682***	0.0829***	0.1795***	0.1144***	0.1625***
White	0.1422***	0.3145***	0.2245***	0.3851***	0.1884***	0.2468***	0.1511***	0.2291***
Age	0.0131***	0.0237***	0.0264***	0.0265***	0.0143***	0.0287***	0.0174***	0.0300***
Age squared	-0.0002***	-0.0001***	-0.0003***	-0.0001**	-0.0001***	-0.0002***	-0.0002***	-0.0002***
Primary	-0.0040*	0.0023	-0.0016	-0.0007	0.0013	0.0110	-0.0176***	-0.0140*
Secondary	0.0063***	0.0387***	-0.0024	0.0228***	-0.0021	0.0103*	0.0096**	0.0242***
Matric	0.0494***	0.0585***	0.0957***	0.1366***	0.0810***	0.1282***	0.0711***	0.1246***
Matric + Cert/Dip	0.0599**	0.2395***	0.0355	0.1422***	0.1200***	0.1146***	-0.0191	0.0492
Degree	0.0268	-0.0351	0.0694**	0.1084***	0.0066	0.0660**	0.0636***	0.0860***
Western Cape	0.1181***	0.1216***	0.0906***	0.1271***	0.0353*	0.0169	0.0724***	0.0349
Northern Cape	0.0675***	-0.0163	0.0624***	-0.0553	0.0306	0.0274	0.0334	-0.0393
Free State	0.0697***	0.0763***	0.0734***	0.0489*	0.0550***	-0.0321	-0.0045	-0.0897***
KwaZulu-Natal	0.0525***	0.0830***	0.0551***	0.0887***	0.1106***	0.1365***	0.1010***	0.0912***
Northwest	0.0797***	0.0810***	0.0834***	0.0630**	0.0502**	-0.0442	0.1008***	-0.0085
Gauteng	0.0473***	0.0390**	0.0295*	0.0531**	0.0058	-0.0429**	-0.0113	-0.1067***
Mpumalanga	0.0658***	-0.0071	0.1019***	0.1062***	0.0373*	-0.0294	0.0579***	-0.0227
Limpopo	0.0015	0.0069	0.0088	0.0338	0.0412*	-0.0455*	0.0681***	0.0145
Head	0.1690***	0.1160***	0.3045***	0.2048***	0.1693***	0.1119***	0.1884***	0.1451***
Married	0.1196***	0.0322***	0.1703***	0.0854***	0.1149***	0.0640***	0.1286***	0.0612***
Children	-0.0041**	-0.0142***	-0.0191***	-0.0270***	-0.0161***	-0.0123***	-0.0145***	-0.0162***
Sample size	15 373	11 101	14 502	11 148	11 765	9 843	10 444	8 947
Chi-squared	1930.86	1797.25	2434.25	1881.75	1351.15	1368.90	1 401.69	1 380.79
Pseudo R²	0.2282	0.2399	0.2767	0.2934	0.1740	0.2094	0.1616	0.1876
Observed Prob.	0.7892	0.6415	0.6893	0.5557	0.7181	0.6548	0.7188	0.6493
Predicted Prob.	0.8574	0.7032	0.7549	0.6046	0.7648	0.7094	0.7590	0.6929

Source: Own calculations using OHS 1997, LFS 2003 September, QLFS 2009Q4 and QLFS 2015Q4 data.

*** Significant at 1%   ** Significant at 5%   * Significant at 10%

Table 3: Probit regressions on likelihood of employed involved in highly-skilled occupations by population group, selected surveys

	Marginal effects											
	1997			2003			2009			2015		
	African	**Coloured**	**White**	**African**	**Coloured**	**White**	**African**	**Coloured**	**White**	**African**	**Coloured**	**White**
Male	-0.0996***	-0.0805***	-0.0692**	-0.0536***	-0.0172	0.0664*	-0.0341***	-0.0229	0.0605	-0.0340***	-0.0495**	0.0399
Age	0.0107***	0.0198***	0.0150**	0.0146***	0.0133***	0.0168*	0.0054*	0.0126*	0.0030	-0.0022	0.0087	-0.0134
Age squared	-0.0001**	-0.0002***	-0.0001	-0.0001***	-0.0001*	-0.0002*	0.0000	-0.0001	0.0000	0.0001***	-0.0001	0.0002
Primary	0.0105***	0.0021	-0.0678*	0.0071	0.0291*	N/A[1]	0.0071	-0.0100	0.0522	0.0104	-0.0159	N/A[1]
Secondary	0.0360***	0.0423***	0.0444	0.0431***	0.0383***	0.1926***	0.0393***	0.0703***	0.0200	0.0331***	0.0327***	0.2964***
Matric	0.1383***	0.1106***	0.1342***	0.0441***	0.0658***	-0.0309	0.1039***	0.0997***	0.1254**	0.0901***	0.0755***	-0.0266
Matric + Cert/Dip	0.3588***	0.0536	-0.0008	0.1778***	-0.0602**	0.1645**	0.1346***	0.0480	0.1686***	0.1483***	0.1189*	-0.0223
Degree	0.0261*	0.1945***	0.1842***	0.0795***	0.2251***	0.1751***	0.0983***	0.1586***	0.0481	0.0811***	0.1392***	0.2310***
Western Cape	-0.0381**	-0.0068	0.0489	-0.0568***	-0.0502**	0.0452	-0.0432**	-0.0217	0.0348	-0.0433***	-0.0499	0.0436
Northern Cape	-0.0250	-0.0743***	-0.0809	0.0302	-0.0252	-0.1159*	-0.0358*	-0.0513	-0.1074*	-0.0470***	-0.0363	-0.2323**
Free State	-0.0211	0.0417	-0.1362**	-0.0003	0.0252	-0.0074	-0.0276*	-0.1052	0.0321	-0.0323**	0.0749	-0.0595
KwaZulu-Natal	-0.0366***	-0.0891***	0.0352	-0.0055	-0.0113	0.0502	0.0091	-0.0672	-0.0110	0.0019	0.1458*	0.0231
Northwest	-0.0206	0.0029	-0.0984	-0.0209	0.0488	-0.0512	-0.0168	-0.0314	0.0603	-0.0300**	0.0130	-0.0762
Gauteng	-0.0460***	-0.0006	-0.0003	-0.0219*	0.0111	0.0699	-0.0295**	-0.0643	-0.0731	-0.0049	0.0049	0.0838
Mpumalanga	-0.0416***	-0.0878*	-0.0513	-0.0277**	-0.0080	-0.0196	-0.0177	-0.1210**	-0.0179	-0.0251*	N/A[2]	-0.1280
Limpopo	0.0213	N/A[3]	-0.0091	-0.0170	-0.0791***	-0.1578**	0.0071	0.3784	0.0291	-0.0163	0.0136	0.0185
Head	0.0151	0.0392*	0.1164***	-0.0036	0.0179	0.0468	-0.0096	0.0152	-0.0382	0.0033	0.0177	0.0969**
Married	0.0187**	0.0284	0.0207	0.0060	0.0311**	0.0460	0.0196**	0.0235	0.0410**	0.0138*	0.0440**	0.0912**
Children	0.0059**	-0.0035	-0.0081	-0.0009	-0.0041	-0.0331**	0.0016	0.0032	0.0605	-0.0011	-0.0252***	0.0381*
Sample size	11 243	3 946	2 932	9 949	2 988	2 790	9 880	2 355	1 942	9 728	1 578	1 417
Chi-squared	2 439.93	563.37	340.26	1 611.34	418.25	350.71	1 696.88	390.82	232.68	2 201.86	316.40	230.72
Pseudo R²	0.3192	0.2439	0.1228	0.4215	0.3300	0.1933	0.3336	0.2389	0.1798	0.3773	0.3785	0.2222
Observed Prob.	0.2130	0.2052	0.5044	0.1760	0.1580	0.5142	0.1897	0.2267	0.5606	0.1757	0.1845	0.5733
Predicted Prob.	0.1535	0.1616	0.5111	0.0842	0.0836	0.5240	0.1190	0.1731	0.5890	0.0950	0.1117	0.6079

Source: Own calculations using OHS 1997, LFS 2003 September, QLFS 2009Q4 and QLFS 2015Q4 data.

*** Significant at 1%   ** Significant at 5%   * Significant at 10%

[1] Primary dummy is omitted because of perfect collinearity.

[2] Mpumalanga dummy is omitted because of perfect collinearity.

[3] Limpopo dummy is omitted because of perfect collinearity.

Table 4: Probit regressions on likelihood of employed involved in highly-skilled occupations by gender, selected surveys

	Marginal effects							
	1997		2003		2009		2015	
	Male	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
Coloured	0.0495***	0.0069	0.0794***	0.0299	0.0772***	0.0884***	0.0578***	0.0905***
Indian	0.1248***	-0.0343	0.1766***	0.0473	0.1555***	0.1528***	0.1668***	0.1774***
White	0.1153***	0.0181	0.1773***	0.0552**	0.2245***	0.0950***	0.2268***	0.1348***
Age	0.0155***	0.0116**	0.0124***	0.0224***	0.0080**	0.0062	-0.0055*	0.0090*
Age squared	-0.0001***	-0.0001	-0.0001***	-0.0002***	-0.0001	0.0000	0.0001***	0.0000
Primary	0.0085**	0.0080	0.0088	0.0023	0.0091	0.0044	0.0019	0.0081
Secondary	0.0372***	0.0855***	0.0482***	0.1017***	0.0377***	0.0813***	0.0332***	0.0657***
Matric	0.1608***	0.1111***	0.0683***	0.0330	0.1092***	0.1231***	0.0999***	0.1260***
Matric + Cert/Dip	0.1345***	0.2618***	0.0928**	0.3256***	0.1785***	0.1397***	0.1229***	0.1817***
Degree	0.0820***	0.1031***	0.1101***	0.1328***	0.0969***	0.1636***	0.1038***	0.1396***
Western Cape	0.0213	-0.0625*	-0.0237	-0.0922***	-0.0106	-0.0457	-0.0188	-0.0854***
Northern Cape	-0.0487**	-0.0967***	-0.0145	-0.0827*	-0.0229	-0.0764**	-0.0665***	-0.0896***
Free State	0.0010	-0.1343***	-0.0028	-0.0293	-0.0643***	-0.0472	-0.0267	-0.0578*
KwaZulu-Natal	-0.0065	-0.0500	-0.0126	-0.0173	-0.0182	0.0025	-0.0028	-0.0067
Northwest	0.0062	-0.1118***	-0.0245	-0.0348	-0.0187	-0.0317	-0.0437*	-0.0293
Gauteng	0.0112	-0.1197***	0.0149	-0.0380	-0.0279	-0.0146	0.0271	-0.0293
Mpumalanga	-0.0062	-0.1002***	-0.0055	-0.1055***	-0.0251	-0.0481	-0.0422**	-0.0314
Limpopo	0.0606**	0.0166	0.0093	-0.0670	0.0129	0.0202	0.0189	-0.0563**
Head	0.0172	0.0787***	0.0199	0.0533	0.0032	0.0041	0.0273**	0.0464***
Married	0.0212	0.0379**	-0.0030	0.0580	0.0195	0.0308	0.0067	0.0722***
Children	0.0026	0.0045	-0.0036	0.0099	0.0073	0.0073	0.0035	-0.0015
Sample size	12 104	6 885	10 079	6 311	8 338	6 319	7 422	5 721
Chi-squared	2176.97	1292.44	1615.73	1159.60	1 369.00	1 089.54	1 637.55	1 339.52
Pseudo R²	0.2838	0.2409	0.3849	0.3580	0.3517	0.2868	0.4179	0.3429
Observed Prob.	0.2402	0.3709	0.2112	0.3222	0.2260	0.3230	0.2019	0.2919
Predicted Prob.	0.1811	0.3406	0.1195	0.2544	0.1554	0.2733	0.1168	0.2227

Source: Own calculations using OHS 1997, LFS 2003 September, QLFS 2009Q4 and QLFS 2015Q4 data.

*** Significant at 1%   ** Significant at 5%   * Significant at 10%

Table A.1: Characteristics of employed, selected surveys

	African	Coloured	White	Male	Female	African	Coloured	White	Male	Female
	1997					**2003**				
Male	0.7017	0.6025*	0.5776#	1.0000	0.0000	0.6764	0.5687*	0.5353#	1.0000	0.0000
African	1.0000	0.0000	0.0000	0.6229	0.5034^	1.0000	0.0000	0.0000	0.6492	0.5254^
Coloured	0.0000	1.0000	0.0000	0.1323	0.1660^	0.0000	1.0000	0.0000	0.1292	0.1658^
Indian	0.0000	0.0000	0.0000	0.0432	0.0504^	0.0000	0.0000	0.0000	0.0455	0.0502^
White	0.0000	0.0000	1.0000	0.2016	0.2803^	0.0000	0.0000	1.0000	0.1761	0.2586^
Married	0.6070	0.5542*	0.7310#	0.6913	0.5124^	0.5582	0.6201*	0.7223#	0.6547	0.5238^
Head	0.5957	0.4116*	0.5271#	0.7119	0.2260^	0.6932	0.4695*	0.5188#	0.7920	0.3149^
Western Cape	0.0456	0.6829*	0.1729#	0.1571	0.1826^	0.0486	0.6916*	0.1745#	0.1535	0.1848^
Eastern Cape	0.0847	0.0956*	0.0696#	0.0740	0.0904^	0.0881	0.0988*	0.0727#	0.0764	0.0947^
Northern Cape	0.0114	0.0760*	0.0228#	0.0242	0.0203^	0.0109	0.0723*	0.0183#	0.0231	0.0169^
Free State	0.0955	0.0162*	0.0704#	0.0792	0.0642^	0.0925	0.0143*	0.0827#	0.0827	0.0626^
Kwazulu-Natal	0.1735	0.0312*	0.1314#	0.1630	0.1837^	0.1988	0.0292*	0.1014#	0.1742	0.1805^
North West	0.1157	0.0052*	0.0411#	0.0875	0.0602^	0.1060	0.0055*	0.0411#	0.0864	0.0514^
Gauteng	0.3052	0.0873*	0.4103#	0.2906	0.2931^	0.2816	0.0847*	0.4402#	0.2819	0.2912^
Mpumalanga	0.0794	0.0053*	0.0561#	0.0688	0.0439^	0.0850	0.0032*	0.0493#	0.0688	0.0523^
Limpopo	0.0890	0.0003*	0.0255#	0.0556	0.0615^	0.0885	0.0004*	0.0198#	0.0531	0.0656^
Age	37.0201	33.8003*	37.0670	37.0330	35.3747^	37.1177	34.2951*	37.1483	36.8998	36.1582^
Education years	8.7198	8.9690*	12.2144#	9.1965	10.5783^	9.3217	9.5093*	12.5777#	9.6492	10.9560^
Number of children in the household	1.7886	1.6822*	0.9452#	1.5128	1.6239^	1.1906	1.5468*	0.7715#	1.0368	1.3231^
Number of elderly in the household	0.2296	0.2514*	0.1661#	0.1983	0.2651^	0.1258	0.1944*	0.1320#	0.1232	0.1714^
Number of male 15-59 years in the household	1.5785	1.6239*	1.2439#	1.6901	1.1721^	1.3019	1.4748*	1.1056#	1.4644	0.9974^
Number of female 15-59 years in the household	1.5233	1.7169*	1.2974#	1.2990	1.9166^	1.1074	1.5279*	1.1757#	0.9217	1.6557^
	2009					**2015**				
Male	0.6262	0.5585*	0.5182#	1.0000	0.0000	0.5959	0.5546*	0.5323#	1.0000	0.0000
African	1.0000	0.0000	0.0000	0.6983	0.6241^	1.0000	0.0000	0.0000	0.7308	0.6914^
Coloured	0.0000	1.0000	0.0000	0.1203	0.1424^	0.0000	1.0000	0.0000	0.1124	0.1260^
Indian	0.0000	0.0000	0.0000	0.0394	0.0360^	0.0000	0.0000	0.0000	0.0354	0.0337^
White	0.0000	0.0000	1.0000	0.1419	0.1975^	0.0000	0.0000	1.0000	0.1214	0.1488^
Married	0.4840	0.5855*	0.7088#	0.5748	0.4873^	0.4696	0.5659*	0.7217#	0.5614	0.4686^
Head	0.5994	0.4430*	0.5024#	0.7225	0.3095^	0.5859	0.4228*	0.5211#	0.7116	0.3330^
Western Cape	0.0600	0.7017*	0.1724#	0.1517	0.1724^	0.0728	0.6953*	0.2011#	0.1551	0.1706^
Eastern Cape	0.0877	0.0770*	0.0720#	0.0744	0.0913^	0.0860	0.0977*	0.0550#	0.0736	0.0909^
Northern Cape	0.0149	0.0661*	0.0215#	0.0209	0.0237^	0.0133	0.0677*	0.0170#	0.0206	0.0186^
Free State	0.0618	0.0074*	0.0648#	0.0545	0.0506^	0.0586	0.0164*	0.0467#	0.0512	0.0485^
Kwazulu-Natal	0.1913	0.0223*	0.0922#	0.1619	0.1805^	0.1775	0.0207*	0.0650#	0.1472	0.1657^
North West	0.0776	0.0073*	0.0511#	0.0701	0.0484^	0.0792	0.0082*	0.0556#	0.0751	0.0522^
Gauteng	0.3420	0.1043*	0.4598#	0.3384	0.3164^	0.3343	0.0888*	0.4774#	0.3330	0.3182^
Mpumalanga	0.0796	0.0120*	0.0487#	0.0657	0.0590^	0.0866	0.0007*	0.0573#	0.0751	0.0648^
Limpopo	0.0852	0.0019*	0.0174#	0.0625	0.0577^	0.0916	0.0045*	0.0250#	0.0691	0.0705^
Age	36.8014	36.1788*	40.3980#	37.4032	37.1161^	37.3775	37.7183*	41.5567#	37.8687	38.1261^
Education years	10.2424	10.3528*	12.7832#	10.3497	11.3467^	10.7672	10.6181*	13.0870#	10.7754	11.6038^
Number of children in the household	1.2225	1.4062*	0.7080#	0.9996	1.3713^	1.1247	1.2646**	0.7392#	0.9616	1.2530^
Number of elderly in the household	0.1408	0.2093*	0.2000#	0.1449	0.1922^	0.1413	0.2371*	0.2817#	0.1524	0.2061^
Number of male 15-59 years in the household	1.3876	1.4688*	1.1185#	1.5811	1.0188^	1.2584	1.4457*	1.0702#	1.5122	0.9058
Number of female 15-59 years in the household	1.2221	1.5766*	1.1630#	0.9541	1.7303^	1.1743	1.4513*	1.1202#	0.9003	1.6277^

Source: Own calculations using OHS 1997, LFS 2003 September, QLFS 2009Q4 and QLFS 2015Q4 data.

* The Coloured mean is statistically different from the African mean at $\alpha = 5\%$;   # The White mean is statistically different from the African mean at $\alpha = 5\%$;   ^ The female mean is statistically different from the male mean at $\alpha = 5\%$

Table A.2: Characteristics of highly-skilled employed, selected surveys

	African	Coloured	White	Male	Female	African	Coloured	White	Male	Female
			1997					**2003**		
Male	0.5178	0.5148	0.5866#	1.0000	0.0000	0.4661	0.5158*	0.5721#	1.0000	0.0000
African	1.0000	0.0000	0.0000	0.4076	0.4673^	1.0000	0.0000	0.0000	0.3727	0.4735^
Coloured	0.0000	1.0000	0.0000	0.0966	0.1121^	0.0000	1.0000	0.0000	0.0877	0.0913^
Indian	0.0000	0.0000	0.0000	0.0660	0.0475^	0.0000	0.0000	0.0000	0.0818	0.0555^
White	0.0000	0.0000	1.0000	0.4298	0.3731^	0.0000	0.0000	1.0000	0.4578	0.3797^
Married	0.5969	0.6407*	0.7700#	0.7692	0.5666^	0.5733	0.7396*	0.7530#	0.7286	0.6113^
Head	0.5359	0.4596*	0.5862#	0.7849	0.2479^	0.6255	0.5514*	0.5700#	0.8303	0.3246^
Western Cape	0.0349	0.6346*	0.1973#	0.1654	0.1586^	0.0185	0.5744*	0.1883#	0.1459	0.1344^
Eastern Cape	0.1147	0.1120*	0.0660#	0.0708	0.1130^	0.1222	0.1026*	0.0636#	0.0687	0.1124^
Northern Cape	0.0091	0.0524*	0.0188#	0.0162	0.0185^	0.0084	0.0577*	0.0112#	0.0139	0.0130^
Free State	0.0852	0.0260*	0.0569#	0.0676	0.0569^	0.0683	0.0186*	0.0755#	0.0624	0.0631
Kwazulu-Natal	0.1608	0.0236*	0.1357#	0.1551	0.1848^	0.2050	0.0500*	0.1059#	0.1674	0.1773^
North West	0.0949	0.0048*	0.0297#	0.0570	0.0504^	0.0854	0.0143*	0.0306#	0.0474	0.0530^
Gauteng	0.2851	0.1427*	0.4209#	0.3402	0.2970^	0.3026	0.1768*	0.4714#	0.3910	0.3414^
Mpumalanga	0.0635	0.0039*	0.0473#	0.0559	0.0376^	0.0637	0.0049*	0.0412#	0.0521	0.0384^
Limpopo	0.1517	0.0000*	0.0274#	0.0719	0.0832^	0.1260	0.0008*	0.0124#	0.0512	0.0669^
Age	36.8869	35.0910*	38.9753#	38.2649	36.5947^	38.1676	36.4524*	37.8500#	37.8609	37.4687^
Education years	11.8139	11.2927*	12.7493#	12.0557	12.2889^	12.8419	12.2682*	13.3206#	12.9211	13.0688^
Number of children in the household	1.8409	1.4909*	0.9033#	1.3201	1.4612^	1.3266	1.3686*	0.7336#	0.9372	1.1832^
Number of elderly in the household	0.2506	0.2246*	0.1670#	0.1775	0.2594^	0.1374	0.2050*	0.1076#	0.1166	0.1505^
Number of male 15-59 years in the household	1.3932	1.3775*	1.1874#	1.5131	1.0747^	1.2015	1.2249*	1.0597#	1.3725	0.9083^
Number of female 15-59 years in the household	1.6319	1.6470*	1.2512#	1.2525	1.7659^	1.2890	1.3130*	1.1170#	0.9910	1.4694^
			2009					**2015**		
Male	0.4767	0.5292*	0.5425#	1.0000	0.0000	0.4479	0.4479	0.5589#	1.0000	0.0000
African	1.0000	0.0000	0.0000	0.4462	0.5132^	1.0000	0.0000	0.0000	0.4779	0.5685^
Coloured	0.0000	1.0000	0.0000	0.1144	0.1066^	0.0000	1.0000	0.0000	0.0829	0.0986^
Indian	0.0000	0.0000	0.0000	0.0715	0.0550^	0.0000	0.0000	0.0000	0.0779	0.0576^
White	0.0000	0.0000	1.0000	0.3679	0.3251^	0.0000	0.0000	1.0000	0.3613	0.2753^
Married	0.5466	0.6737*	0.7074#	0.6764	0.5709^	0.5583	0.6841*	0.7614#	0.7052	0.5907^
Head	0.5873	0.4942*	0.5575#	0.7978	0.3068^	0.5803	0.4800*	0.5789	0.8182	0.3253^
Western Cape	0.0371	0.6723*	0.1847#	0.1633	0.1523^	0.0493	0.6218*	0.2179#	0.1522	0.1550^
Eastern Cape	0.1090	0.0837*	0.0594#	0.0721	0.0961^	0.0958	0.0936*	0.0438#	0.0583	0.0904^
Northern Cape	0.0108	0.0591*	0.0211#	0.0207	0.0172^	0.0074	0.0526*	0.0098#	0.0110	0.0125^
Free State	0.0520	0.0050*	0.0445#	0.0380	0.0440^	0.0443	0.0379*	0.0428#	0.0389	0.0415^
Kwazulu-Natal	0.1963	0.0315*	0.0926#	0.1507	0.1651^	0.1599	0.0510*	0.0673#	0.1206	0.1470^
North West	0.0687	0.0041*	0.0450#	0.0506	0.0474^	0.0493	0.0122*	0.0442#	0.0386	0.0478^
Gauteng	0.3383	0.1289*	0.5066#	0.3919	0.3707^	0.4139	0.1221*	0.5161#	0.4635	0.3886^
Mpumalanga	0.0782	0.0093*	0.0326#	0.0531	0.0485^	0.0742	0.0000*	0.0381#	0.0488	0.0575^
Limpopo	0.1097	0.0060*	0.0134#	0.0596	0.0585^	0.1058	0.0087*	0.0199#	0.0681	0.0598^
Age	38.4607	38.2369*	41.3779#	39.3154	39.3116	39.7508	39.8380*	42.2196#	40.5380	40.4121^
Education years	12.8996	12.2934*	13.5021#	12.9832	13.1351^	13.5022	13.0830*	13.8809#	13.5393	13.6237^
Number of children in the household	1.2143	1.2728*	0.7259#	0.9314	1.1340^	1.0982	0.9280*	0.7842#	0.9158	1.0148^
Number of elderly in the household	0.1452	0.1953*	0.1882#	0.1566	0.1834^	0.1473	0.2326*	0.2544#	0.1810	0.2120^
Number of male 15-59 years in the household	1.2177	1.4122*	1.0863#	1.4284	0.9520^	1.0890	1.1896*	1.0434#	1.3751	0.8211^
Number of female 15-59 years in the household	1.3374	1.4945*	1.1339#	1.0126	1.5647^	1.2573	1.3335*	1.0623#	0.9395	1.4480^

Source: Own calculations using OHS 1997, LFS 2003 September, QLFS 2009Q4 and QLFS 2015Q4 data.

* The Coloured mean is statistically different from the African mean at $\alpha = 5\%$ *# The White mean is statistically different from the African mean at $\alpha = 5\%$*   *^ The female mean is statistically different from the male mean at $\alpha = 5\%$*

Table A.3: Probit regressions on labour force participation likelihood of working-age population by race, selected surveys

	Marginal effects											
	1997			2003			2009			2015		
	African	Coloured	White	African	Coloured	White	African	Coloured	White	African	Coloured	White
Male	0.1921***	0.2211***	0.1553***	0.1775***	0.1713***	0.1306***	0.2216***	0.1972***	0.1619***	0.1771***	0.1866***	0.1218***
Age	0.0863***	0.0923***	0.0933***	0.0968***	0.0924***	0.0983***	0.1077***	0.0909***	0.1179***	0.1168***	0.1007***	0.1008***
Age squared	-0.0011***	-0.0013***	-0.0013***	-0.0012***	-0.0013***	-0.0013***	-0.0014***	-0.0012***	-0.0015***	-0.0015***	-0.0013***	-0.0013***
Primary	0.0158***	0.0025	-0.0049	0.0229***	-0.0002	0.0996***	0.0138***	0.0044	0.0841*	0.0091***	0.0098	-0.0320
Secondary	0.0060***	0.0244***	0.0350**	0.0139***	0.0178***	0.0196	0.0322***	0.0340***	-0.0052	0.0279***	0.0225***	0.0662***
Matric	0.1859***	0.1301***	0.1830***	0.1691***	0.2185***	0.1581***	0.1654***	0.1506***	0.1975***	0.1495***	0.1262***	0.0643
Matric + Cert/Dip	0.3043***	0.1116	0.0889**	0.2735***	0.1968**	0.1723***	0.2418***	0.0094	0.0053	0.1437***	0.2334***	0.1076**
Degree	-0.0070	0.0062	0.0088	0.0162	-0.0867	-0.0185	0.0101	0.0446	0.0685***	0.0363*	-0.0427	0.0271
Western Cape	0.2649***	0.1345***	-0.0362	0.2847***	0.0665**	-0.0870**	0.2769***	0.0390	-0.1575***	0.2281***	0.0752***	-0.1297**
Northern Cape	0.2243***	-0.0070	0.0526	0.1684***	-0.0851**	-0.1254**	0.1693***	-0.0796**	-0.1902***	0.0838***	-0.0557	-0.1163
Free State	0.1817***	-0.0810*	0.0507	0.1498***	-0.0593	-0.0722*	0.1485***	-0.0150	-0.1062**	0.1782***	0.0121	-0.2040***
KwaZulu-Natal	0.1113***	0.0659	0.0805*	0.1114***	-0.0237	-0.0080	0.0349***	-0.1673***	-0.1546***	-0.0039	-0.1074	-0.1549**
Northwest	0.1522***	-0.1622***	-0.0400	0.0537***	-0.2354**	-0.1576***	0.0567***	-0.0984	-0.1709***	0.0362**	-0.2331**	-0.1556***
Gauteng	0.2717***	0.1293***	0.0479	0.1839***	-0.0295	0.0109	0.2292***	0.0506	-0.1091**	0.2438***	0.1242***	-0.0737
Mpumalanga	0.1665***	0.0388	0.0349	0.0916***	-0.1566	0.0406	0.1311***	0.0109	-0.1483***	0.1213***	N/A[1]	-0.0629
Limpopo	0.0190**	-0.4777***	0.0144	-0.0453***	-0.1813	-0.0328	-0.0135	0.2549**	-0.1079	-0.0471***	-0.2657**	-0.0057
Head	0.16615***	0.2264***	0.2962***	0.1748***	0.2334***	0.2497***	0.1774***	0.1928***	0.1862***	0.1591***	0.1513***	0.2414***
Married	0.0537***	0.0150	0.0253	0.0455***	0.0485**	0.0140	0.0249***	0.0307	0.0308	0.0619	0.0043	0.1255***
Children	-0.0108***	-0.0230***	-0.0104	-0.0304***	-0.0192***	-0.0367***	-0.0282***	-0.0122**	-0.0267*	-0.0175***	-0.0060	-0.0362**
Elderly	-0.0064	0.0059	0.0553***	-0.0337***	0.0124	0.0733***	0.0027	-0.0119	0.0829***	-0.0273***	0.0291	0.0642***
Male 15 to 59	-0.0045**	0.0039	0.0142	-0.0007	0.0019	0.0100	0.0025	-0.0007	0.0345**	0.0067*	0.0038	-0.0129
Female 15 to 59	0.0158***	0.0503***	0.0417***	0.0105***	0.0277***	0.0305**	0.0245***	0.0445***	0.0623***	0.0155***	0.0361***	0.0347*
Sample size	57 534	9 556	5 635	41 325	6 851	4 944	37 981	5 558	3 290	31 301	3 780	2 439
Chi-squared	12 855.86	1 660.13	1 392.45	7 749.14	1 013.26	1 118.94	8 070.47	1 074.65	877.22	8 401.62	863.93	684.52
Pseudo R²	0.2924	0.2227	0.2894	0.2993	0.2673	0.3172	0.3249	0.2507	0.3311	0.3311	0.2607	0.3142
Observed Prob.	0.3442	0.5321	0.5734	0.4397	0.6011	0.6353	0.4693	0.6096	0.6287	0.5008	0.5966	0.6266
Predicted Prob.	0.2838	0.5340	0.5944	0.4136	0.6318	0.6800	0.4492	0.6364	0.6682	0.4870	0.6204	0.6669

Source: Own calculations using OHS 1997, LFS 2003 September, QLFS 2009Q4 and QLFS 2015Q4 data.

*** Significant at 1%   ** Significant at 5%   * Significant at 10%

[1] Mpumalanga dummy is omitted because of perfect collinearity.

Table A.4: Probit regressions on labour force participation likelihood of working-age population by gender, selected surveys

	Marginal effects							
	1997		2003		2009		2015	
	Male	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
Coloured	0.1649***	0.1640***	0.0747***	0.1277***	0.0686***	0.0791***	0.0685***	0.0551***
Indian	0.1426***	0.0133	0.0761***	-0.0799***	0.0281	-0.1400***	-0.0071	-0.1248***
White	0.0503***	0.0173	-0.0268	-0.0445***	-0.0342	-0.0362*	-0.0053	-0.0626***
Age	0.1035***	0.0789***	0.1065***	0.0911***	0.1126***	0.0982***	0.1195***	0.1029***
Age squared	-0.0014***	-0.0010***	-0.0014***	-0.0012***	-0.0015***	-0.0012***	-0.0016***	-0.0013***
Primary	0.0107***	0.0155***	0.0101***	0.0280***	0.0141***	0.0112***	0.0123***	0.0046
Secondary	-0.0018	0.0127***	0.0037	0.0169***	0.0227***	0.0384***	0.0186***	0.0370***
Matric	0.1804***	0.1838***	0.1575***	0.1819***	0.1285***	0.1913***	0.1156***	0.1562***
Matric + Cert/Dip	0.1651***	0.2172***	0.1304***	0.3038***	0.0873**	0.1383***	0.0845**	0.1832***
Degree	-0.0250	-0.0090	0.0027	-0.0289	0.0156	0.0547***	0.0059	0.0280
Western Cape	0.2231***	0.1208***	0.2017***	0.1103***	0.1680***	0.1523***	0.1727***	0.1410***
Northern Cape	0.1606***	0.0660***	0.1156***	0.0112	0.0978***	0.0795***	0.0519**	0.0491**
Free State	0.1625***	0.1339***	0.1195***	0.0921***	0.1213***	0.1063***	0.1466***	0.1304***
KwaZulu-Natal	0.1243***	0.0782***	0.0889***	0.0843***	0.0099	0.0129	-0.0135	-0.0223
Northwest	0.1673***	0.0669***	0.0778***	-0.0350**	0.0820***	-0.0305*	0.0569***	-0.0331
Gauteng	0.2375***	0.2023***	0.1480***	0.1453***	0.1898***	0.1554***	0.2098***	0.1905***
Mpumalanga	0.1856***	0.1004***	0.0917***	0.0500***	0.1193***	0.0682***	0.1305***	0.0654***
Limpopo	0.0104	0.0129	-0.0728***	-0.0435***	-0.0057	-0.0576***	-0.0234	-0.0893***
Head	0.1858***	0.0544***	0.1980***	0.0679***	0.1615***	0.0654***	0.1471***	0.0848***
Married	0.2042***	-0.0701***	0.1606***	-0.0788***	0.1547***	-0.0844***	0.1946***	-0.0405***
Children	-0.0149***	-0.0118***	-0.0284***	-0.0289***	-0.0249***	-0.0277***	-0.0103***	-0.0214***
Elderly	-0.0252***	-0.0035	-0.0316***	-0.0325***	-0.0251***	0.0055	-0.0309***	0.0068
Male 15 to 59	0.0026	0.0047**	0.0031	0.0102***	0.0012	0.0140***	0.0104**	0.0063
Female 15 to 59	0.0006	0.0135	-0.0040	0.0058	0.0028	0.0229***	-0.0059	0.0112**
Sample size	33 321	41 431	26 018	28 587	21 943	25 999	18 167	20 306
Chi-squared	10 192.47	6 500.65	6 127.45	4 376.02	5 448.27	4 807.53	5 533.79	4 578.04
Pseudo R²	0.3371	0.2289	0.3555	0.2463	0.3624	0.2688	0.3713	0.2694
Observed Prob.	0.5009	0.2969	0.5724	0.3939	0.5922	0.4121	0.5951	0.4508
Predicted Prob.	0.4967	0.2380	0.6023	0.3520	0.6287	0.3713	0.6326	0.4205

Source: Own calculations using OHS 1997, LFS 2003 September, QLFS 2009Q4 and QLFS 2015Q4 data.

*** Significant at 1%   ** Significant at 5%   * Significant at 10%

Table A.5: Decomposition of average White-African, White-Coloured and male-female employment probability gap

	White-African gap				White-Coloured gap				Male-Female gap			
	Absolute		Relative (%)		Absolute		Relative (%)		Absolute		Relative (%)	
	Explained	Unexplained	Explained	Unexplained	Explained	Unexplained	Explained	Unexplained	Explained	Unexplained	Explained	Unexplained
1997	0.1630	0.1470	52.6%	47.4%	0.0418	0.0930	31.0%	69.0%	0.0377	0.1099	25.5%	74.5%
1998	0.1684	0.1804	48.3%	51.7%	0.0431	0.0859	33.4%	66.6%	0.0427	0.0958	30.8%	69.2%
1999	0.1504	0.1805	45.4%	54.6%	0.0686	0.0574	54.4%	45.6%	0.0639	0.0741	46.3%	53.7%
2000	0.1927	0.1686	53.3%	46.7%	0.0656	0.0759	46.4%	53.6%	0.0753	0.0825	47.7%	52.3%
2001	0.1934	0.2148	47.4%	52.6%	0.0613	0.1194	33.9%	66.1%	0.0790	0.0692	53.3%	46.7%
2002	0.1997	0.2110	48.6%	51.4%	0.0973	0.0943	50.8%	49.2%	0.0705	0.0958	42.4%	57.6%
2003	0.1832	0.2090	46.7%	53.3%	0.0937	0.0842	52.7%	47.3%	0.0662	0.0674	49.6%	50.4%
2004	0.1954	0.1644	54.3%	45.7%	0.0934	0.0894	51.1%	48.9%	0.0659	0.0620	51.5%	48.5%
2005	0.2029	0.1750	53.7%	46.3%	0.0890	0.1118	44.3%	55.7%	0.0629	0.0969	39.4%	60.6%
2006	0.2045	0.1610	55.9%	44.1%	0.0927	0.0786	54.1%	45.9%	0.0730	0.0833	46.7%	53.3%
2007	0.1894	0.1285	59.6%	40.4%	0.1045	0.0868	54.6%	45.4%	0.0521	0.0562	48.1%	51.9%
2008	0.1696	0.1288	56.8%	43.2%	0.1104	0.0598	64.9%	35.1%	0.0248	0.0850	22.6%	77.4%
2009	0.1588	0.1451	52.2%	47.8%	0.1084	0.0721	60.1%	39.9%	0.0188	0.0445	29.7%	70.3%
2010	0.1608	0.1335	54.6%	45.4%	0.1257	0.0511	71.1%	28.9%	0.0272	0.0523	34.2%	65.8%
2011	0.1528	0.1142	57.2%	42.8%	0.0850	0.0772	52.4%	47.6%	0.0185	0.0527	26.0%	74.0%
2012	0.1397	0.1478	48.6%	51.4%	0.1309	0.0713	64.7%	35.3%	0.0289	0.0477	37.8%	62.2%
2013	0.1238	0.1359	47.7%	52.3%	0.0792	0.0941	45.7%	54.3%	0.0218	0.0459	32.2%	67.8%
2014	0.1294	0.1237	51.1%	48.9%	0.1223	0.0499	71.0%	29.0%	0.0180	0.0478	27.4%	72.6%
2015	0.1343	0.1333	50.2%	49.8%	0.0562	0.1088	34.1%	65.9%	0.0287	0.0409	41.2%	58.8%

Source: Own calculations using OHS 1997-1999, LFS 2000-2007 and QLFS 2008-2015 data

*** Significant at 1%   ** Significant at 5%   * Significant at 10%

Table A.6: Decomposition of average White-African, White-Coloured and male-female highly-skilled occupational attainment differential

	White-African gap				White-Coloured gap				Male-Female gap			
	Absolute		Relative (%)		Absolute		Relative (%)		Absolute		Relative (%)	
	Explained	Unexplained	Explained	Unexplained	Explained	Unexplained	Explained	Unexplained	Explained	Unexplained	Explained	Unexplained
1997	0.2183	0.0731	74.9%	25.1%	0.2573	0.0419	86.0%	14.0%	-0.0493	-0.0814	37.7%	62.3%
1998	0.2054	0.1225	62.6%	37.4%	0.2290	0.0911	71.5%	28.5%	-0.0680	-0.0176	79.4%	20.6%
1999	0.2020	0.1054	65.7%	34.3%	0.2787	0.0375	88.1%	11.9%	-0.0625	-0.0319	66.2%	33.8%
2000	0.2705	0.0578	82.4%	17.6%	0.2541	0.0927	73.3%	26.7%	-0.0741	-0.0347	68.1%	31.9%
2001	0.1906	0.1223	60.9%	39.1%	0.2375	0.0825	74.2%	25.8%	-0.0819	-0.0258	76.0%	24.0%
2002	0.2270	0.1094	67.5%	32.5%	0.2857	0.0738	79.5%	20.5%	-0.0731	-0.0395	64.9%	35.1%
2003	0.2145	0.1234	63.5%	36.5%	0.3251	0.0308	91.3%	8.7%	-0.0750	-0.0360	67.6%	32.4%
2004	0.1826	0.1709	51.7%	48.3%	0.2806	0.0661	80.9%	19.1%	-0.0791	-0.0210	79.0%	21.0%
2005	0.1874	0.1275	59.5%	40.5%	0.2383	0.0631	79.1%	20.9%	-0.0665	-0.0298	69.0%	31.0%
2006	0.2044	0.1163	63.7%	36.3%	0.2371	0.0617	79.3%	20.7%	-0.0622	-0.0305	67.1%	32.9%
2007	0.2508	0.1386	64.4%	35.6%	0.2995	0.1027	74.5%	25.5%	-0.0561	-0.0728	43.5%	56.5%
2008	0.2452	0.1662	59.6%	40.4%	0.2901	0.0680	81.0%	19.0%	-0.0838	-0.0213	79.7%	20.3%
2009	0.2276	0.1425	61.5%	38.5%	0.2322	0.1009	69.7%	30.3%	-0.0793	-0.0176	81.8%	18.2%
2010	0.2411	0.1666	59.1%	40.9%	0.2682	0.0869	75.5%	24.5%	-0.0522	-0.0498	51.2%	48.8%
2011	0.2129	0.1551	57.9%	42.1%	0.2608	0.0364	87.8%	12.2%	-0.0777	-0.0150	83.9%	16.1%
2012	0.1870	0.2174	46.2%	53.8%	0.2482	0.0998	71.3%	28.7%	-0.0485	-0.0400	54.8%	45.2%
2013	0.1870	0.1877	49.9%	50.1%	0.2822	0.0598	82.5%	17.5%	-0.0569	-0.0268	68.0%	32.0%
2014	0.1902	0.1936	49.6%	50.4%	0.2253	0.1327	62.9%	37.1%	-0.0528	-0.0209	71.7%	28.3%
2015	0.2314	0.1654	58.3%	41.7%	0.3043	0.0839	78.4%	21.6%	-0.0564	-0.0336	62.7%	37.3%

Source: Own calculations using OHS 1997-1999, LFS 2000-2007 and QLFS 2008-2015 data

*** Significant at 1%   ** Significant at 5%   * Significant at 10%

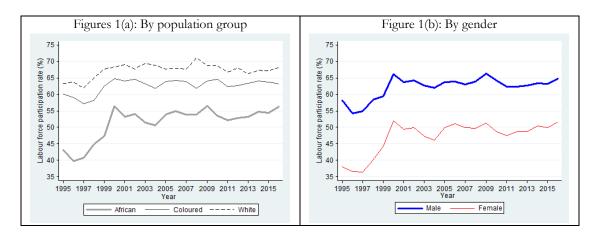**Figure 1: Labour force participation rates by population group and gender, 1995-2015**

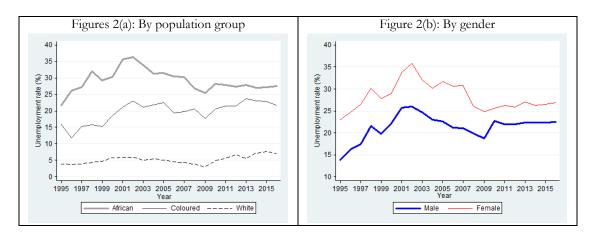**Figure 2: Unemployment rates by population group and gender, 1995-2015**

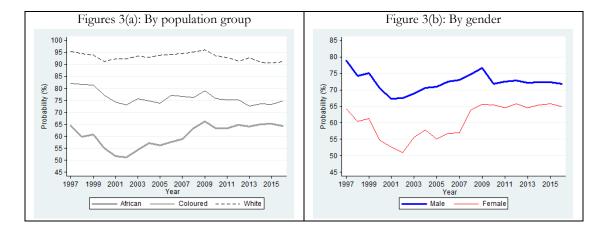**Figure 3: Probability of finding employment in formal non-agricultural sector, 1997-2015**

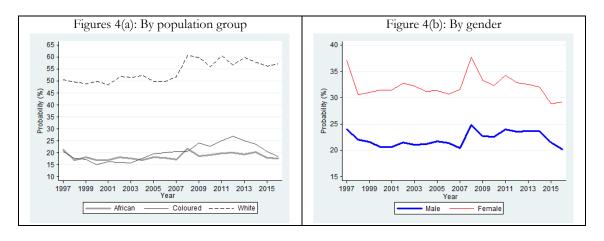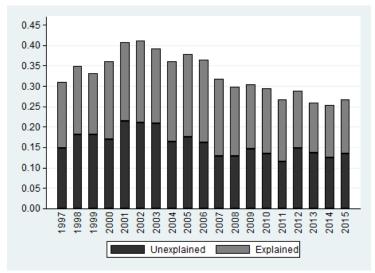**Figure 4: Probability of finding employment in highly-skilled occupations, 1997-2015**

Figures 4(a): By population group	Figure 4(b): By gender

Figure 5: Decomposition of average White-African employment probability gap

Source: Own calculations using OHS 1997-1999, LFS 2000-2007 and QLFS 2008-2015 data

Figure 6: Decomposition of average White-Coloured employment probability gap

Source: Own calculations using OHS 1997-1999, LFS 2000-2007 and QLFS 2008-2015 data

Figure 7: Decomposition of average male-female employment probability gap

Source: Own calculations using OHS 1997-1999, LFS 2000-2007 and QLFS 2008-2015 data
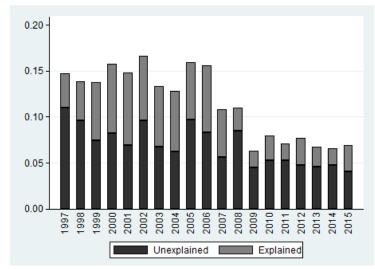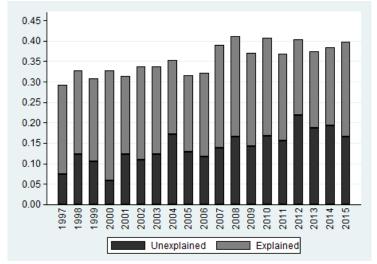
Figure 8: Decomposition of average White-African highly-skilled occupational attainment differential

Source: Own calculations using OHS 1997-1999, LFS 2000-2007 and QLFS 2008-2015 data

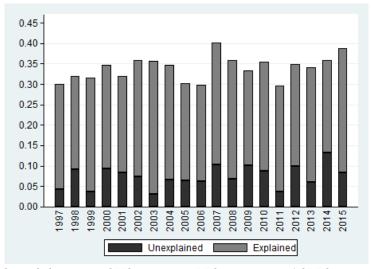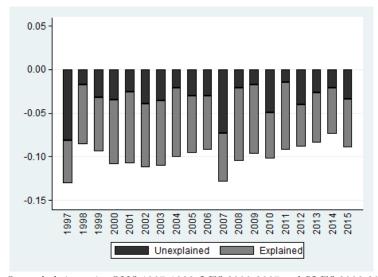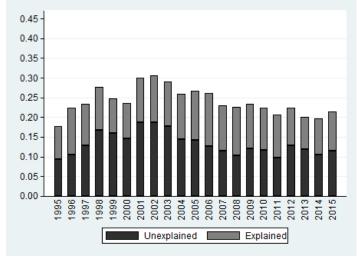**Figure 9: Decomposition of average White-Coloured highly-skilled occupational attainment differential**

Source: Own calculations using OHS 1997-1999, LFS 2000-2007 and QLFS 2008-2015 data

Figure 10: Decomposition of average male-female highly-skilled occupational attainment differential
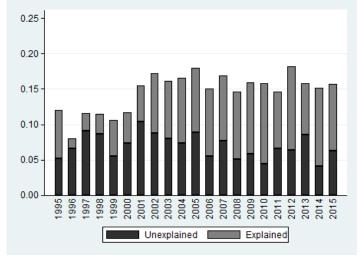
Appendix

Figure A.1: Decomposition of average White-African employment probability gap, adding the omitted workers

Figure A.2: Decomposition of average White-Coloured employment probability gap, adding the omitted workers

Figure A.3: Decomposition of average male-female employment probability gap, adding the omitted workers

Source: Own calculations using OHS 1995-1999, LFS 2000-2007 and QLFS 2008-2015 data
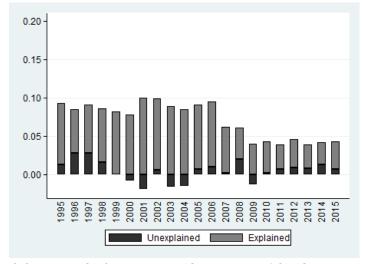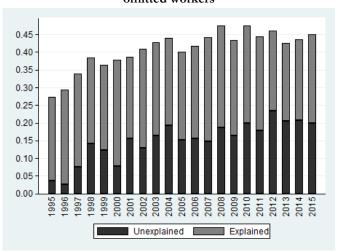
Figure A.4: Decomposition of average White-African highly-skilled occupational attainment differential, adding the omitted workers

Source: Own calculations using OHS 1995-1999, LFS 2000-2007 and QLFS 2008-2015 data

Figure A.5: Decomposition of average White-Coloured highly-skilled occupational attainment differential, adding the omitted workers

Source: Own calculations using OHS 1995-1999, LFS 2000-2007 and QLFS 2008-2015 data
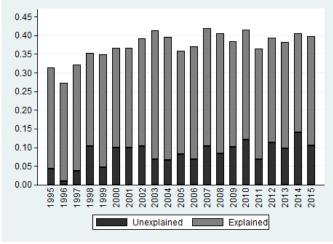
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Figure A.6: Decomposition of average male-female highly-skilled occupational attainment differential, adding the omitted workers

Source: Own calculations using OHS 1995-1999, LFS 2000-2007 and QLFS 2008-2015 data