

Affirmative action in South Africa: an empirical assessment of the impact on labour market outcomes

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Abstract

This paper set out to investigate the impact of affirmative action in South Africa on labour market outcomes for the period 1997 to 2006. From our empirical analysis we observe that race and gender both played an important role in determining labour market outcomes – although the former is much more important than the latter – and that there is very little evidence to suggest that these effects are disappearing over time. The effect of affirmative action policies in reducing the employment or wage gaps have been marginal at best, and were much less significant in bringing about changes in labour market outcomes than improved access to education for Africans, the remaining educational quality differential and the employment effects of accelerated economic growth.

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By Rulof Burger and Rachel Jafta

1. Introduction

The year 2009 marked 10 years since South Africa's affirmative action (AA) legislation of 1998 took effect. It is thus opportune to take stock, not only of the institutional and legislative context of affirmative action, but also of the impact that it has had over time.

It is not our purpose to revisit the *rationale* for or antecedents of affirmative action in South Africa in this paper. These aspects are well-documented elsewhere (see, for example, Seekings and Natrass 2005; Thomas 2002; Kennedy-Dubourdiou 2006; Rabe 2001; and Black *et al.* 2009).

Our express aim is to assess empirically the impact of affirmative action on labour market outcomes. It is, of course, still useful to locate such an analysis in the proper context. To this end, we outline the legislative and institutional context of affirmative action in South Africa.

In the empirical section we use the Labour Force Survey data sets from 1997 (just before the implementation of AA) to 2006. We employ the Oaxaca-Blinder decomposition technique to investigate the impact of AA on labour market outcomes. We report the results in Section 4. Section 5 concludes.

2. Affirmative action in South Africa: a brief historical overview

Much of the liberation struggle in South Africa was focussed on ending the discrimination against and exclusion of the majority of South Africans from many spheres of life, including the economy. It was therefore to be expected that attempts to reverse the legacy of such discrimination would be on the agenda of a democratically elected government.

Second on the list of ANC¹ policy objectives adopted at their National Conference in May 1992 was the question of addressing inequality:

“to overcome the legacy of inequality and injustice created by colonialism and apartheid in a swift, progressive and principled way”.²

The new South African Constitution (Republic of South Africa 1996) duly made provision for policy and legislation to be formulated to allow efforts to redress the inequalities of the past. This provision is an exception to the Constitution’s otherwise staunch commitment to equality.

Even before the establishment of any formal affirmative action or empowerment strategies, some voluntary redress initiatives were undertaken in the private sector. These efforts were, however, fragmented, of a very diverse nature, and not nearly of the magnitude that would be required to satisfy the expectations of a majority population denied access to many aspects of the South African economy for years.

In the mid-1990s, two processes – the work of the Labour Market Commission and the Green Paper on Employment – gave focus and direction to the debate, eventually leading to the emergence of the first building block in what was to become the Black Economic Empowerment architecture: the Employment Equity Act (Act 55 of 1998).

The Presidential Labour Market Commission was established upon an Act passed by Parliament on September 14, 1995, with terms of reference which included, *inter alia*, the proposal of mechanisms to redress discrimination in the labour market. In particular, the Commission considered “a policy framework for Affirmative Action in employment with due regard (to) the objectives of employment creation, fair remuneration, productivity enhancement and macroeconomic stability” as stated in their report, entitled *Restructuring the South African Labour Market* (Labour Market Commission 1996: xiv). This report defined **employment equity** as a broad term intended to describe the labour market as both *non-discriminatory* and *socially equitable* [italics in original]. Along the same lines of thinking, equal opportunity means “non-discrimination.” The report, however, maintained that social equity in the

¹ The African National Congress, now the ruling party in South Africa.

² Available at <http://www.info.gov.za/speeches/1994/230994009.htm>.

labour market would require that extra-market factors that perpetuate unequal opportunities be taken into account.

The Green Paper on Employment Equity (Department of Labour 1996: 36-39)³ proposed that employer organisations embark on an organisational audit, develop equity plans and fulfil certain obligations towards stakeholders in this process. These duties were formalised in the Employment Equity Act and are discussed below.

3. The institutional and legislative setting for affirmative action policies in South Africa

3.1 The first formalisation of affirmative action: the Employment Equity Act (Act 55 of 1998)

3.1.1 The aims of the EE Act

The Employment Equity Act aims for equality by imposing the duty to

- (i) eliminate unfair discrimination⁴ (i.e. in current employment and remuneration practices) and
- (ii) take positive or affirmative measures to attract, develop and retain individuals from previously disadvantaged groups. These groups are designated in the Act as “Blacks (including African, Coloured (mixed race) and Indians), women and people with disabilities”.

The concept of affirmative action thus envisages that remedial action be taken, while the first duty requires cessation of discriminating practices that led to the inequalities in the first place.

The notion of equity in the Act is so often misunderstood that it is worth quoting at length to convey the government’s intentions clearly:

“equality can involve a formal notion of treating everyone who is in a similar position the same. This can perpetuate unfairness when those who hold similar positions, e.g. all senior managers, have different needs and circumstances that impact on their ability to perform effectively. The Constitution requires employers to move beyond formal equality to substantive equality by acknowledging the differences between

³ This Green Paper formed the basis for the affirmative action legislation contained in the Employment Equity Act of 1998 (as amended). The core elements of the Green Paper were included in the Act.

⁴ To further strengthen the legislative framework in pursuit of this objective, government promulgated the Promotion of Equality and the Prevention of Unfair Discrimination Act (Act 4 of 2000).

employees and treating them differently on the basis of these differences. This is necessary to ensure that all employees are treated fairly. Equity therefore invokes the requirement of 'fair' treatment in order to achieve substantive equality as an outcome in the workplace. Equal treatment and equal opportunity, like equality, subjects everyone to the same rules without distinction. *Equity requires changing the rules so that their application is fair.* (Republic of South Africa 2009: 7; emphasis added).

3.1.2 What employers are required to do

The EE Act stipulates the actions that designated employers⁵ must take to fulfil their duties under the Act.

First, employers must consult with their employees and representative trade unions, after which an audit of employment policies and practices in the workplace must be undertaken. Analysis of the information garnered in the audit is meant to assist in developing demographic profiles of the work force, identifying barriers to the employment or advancement of designated groups. Under-representation of designated groups in all categories of work must also be identified.

With this information in hand, the employer is now in a position to prepare employment equity plans in which numerical targets are set and measures to identify and eliminate discriminatory barriers and promote workplace diversity are designed. The plan also has to have a definite timeline for the implementation of measures committed to, as well as a fixed duration, for example over a period of five years.

Employers are required to report progress on the implementation of their employment equity plans to the Department of Labour. Data from these reports are captured in the Employment Equity Registry and used by the Commission for Employment Equity (a body created under the terms of the EE Act) to compile annual reports on progress with respect to employment equity. These reports are in the public domain.

⁵ Designated employers fall into two categories for the purpose of reporting: those with less than 150 employees who have to file employment equity reports with the Department of Labour every two years, and those with more than 150 employees who have to file reports annually (Bezuidenhoud *et al.* 2008 22).

The Department of Labour has the right (under the terms of the EE Act) to send inspectors to visit the designated employers to compare the situation on site against the reports filed. Sanctions for non-compliance include fines, as well as the practice of 'name-and-shame' in recent years. The latter practice is problematic. A recent comprehensive report tracking progress on the implementation of the EE Act (Bezuidenhoud *et al.* 2008: 19-22) highlighted two aspects of the monitoring functions that cast serious doubts on the accuracy of the data used by the Commission for Employment Equity to compile their reports. First, the Department of Labour does not have sufficient skilled inspectors to ensure consistency in monitoring, and secondly, the qualitative part of the survey revealed that the figures captured in the Employment Equity Registry on several occasions differed significantly from the ones in the original reports submitted by employers. The researchers doing the assessment recommended that reliance be placed instead on Labour Force Survey data, published by Statistics South Africa, when assessments of the impact of employment equity provisions are conducted (Bezuidenhoud *et al.* 2008).

3.2 Employment equity in a comprehensive Broad-based Black Economic Empowerment (BEE) strategy

In March 2003 the Department of Trade and Industry (DTI) published its draft 'broad-based black economic empowerment' policy document, outlining the concept of a scorecard to measure empowerment progress. On January 7 2004 the Broad-based Black Economic Empowerment Act 53 of 2003 was assented to. This act has as its purpose the "economic empowerment of all black people⁶, including women, workers, youth, people with disabilities and people living in rural areas". The Act requires that the Minister of Trade and Industry develop and publish Codes of Good Practice, aimed at setting guidelines for the process of BEE in the whole economy. To measure compliance with BEE requirements, the Department of Trade and Industry uses a balanced scorecard, consisting of three broad components. The scorecard will be used for government procurement, public-private partnerships, sale of state-owned enterprises, when licenses are applied for, and for any other relevant economic activity (Tucker 2003:1). That is, for any of these dealings with government, a company's BEE status will be taken into account.

⁶ Note that in this Act, White women, who are included in the Employment Equity Act as previously disadvantaged on gender basis, are now excluded.

For about 20 months after the release of the comprehensive BEE strategy, business, labour and the government held meetings at Nedlac⁷ discussing what should or should not count for points, what the weightings should be for the different categories, and many other aspects of the scorecard. This occurred in the absence of the Codes. At the same time, sectoral BEE charters were developed for particular sections of the economy, e.g. mining, the financial sector, agriculture, tourism and the information and communications technology sector.

Towards the end of December 2006, the Department of Trade and Industry finally launched the finalised Codes of Good Practice, which were then approved by Cabinet. The Codes were published in the Government Gazette on February 9 2007. The full Codes will apply to firms with turnover exceeding R35 million, while a reduced version of the Codes will apply to smaller enterprises⁸ with a turnover of between R5 million and R35 million. Micro and survivalist enterprises are exempted from complying with the Codes. This section makes up 88% of the number of companies in South Africa and contributes 33% to Gross Domestic Product (Empowerdex 2006: 2). The new version of the Codes was meant to simplify the BEE requirements. First of all, there were concessions since the last draft in that the Codes were reduced to eight instead of 10 and the indicators of empowerment were trimmed from 45 to 25. For the first time, the government attached a time frame to the application of the Codes: the codes would apply for the next 10 years, after which they would be subject to review by the Minister of Trade and Industry (Bravura Consulting 2007). An interesting new addition in the final Codes was the Gender Recognition Adjustment which aimed at being an added incentive for firms to advance black women. It makes provision for the punishment of firms who score poorly on the empowerment of black women by reducing their score on other measures, while rewarding firms who do well on the advancement of women by giving them bonus points (Bravura Consulting 2007: 2; Empowerdex 2006: 8). The final Codes also introduced interim targets together with the final targets that were due to be reached after ten years.

3.3 The generic scorecard: Broad-based BEE components and elements

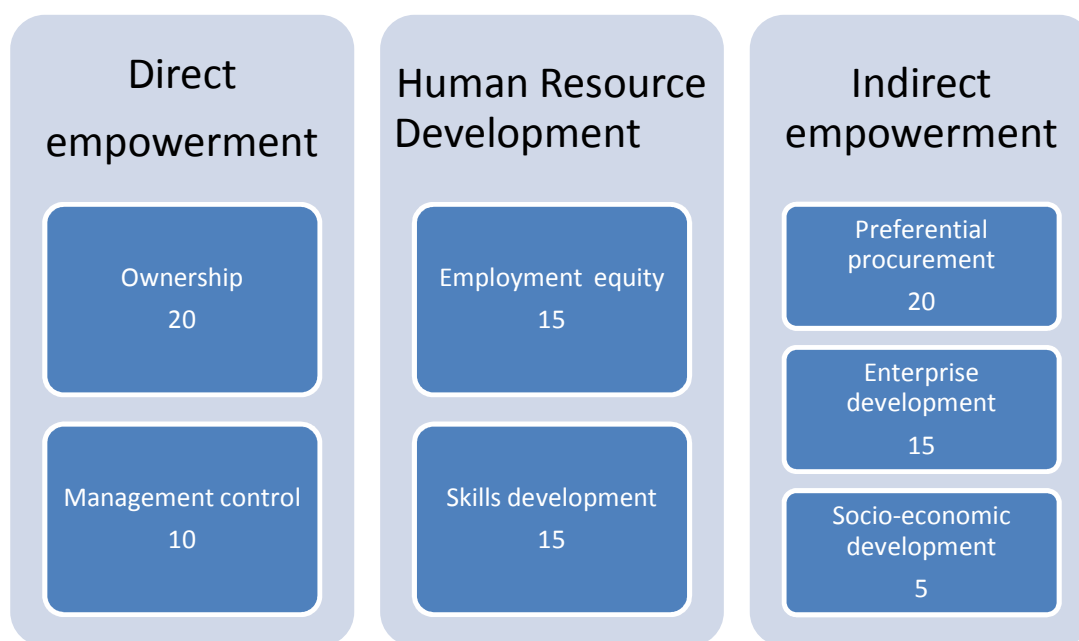
⁷ The National Economic Development and Labour Council, a forum where new legislation is debated amongst representatives from government, business, labour and the community.

⁸ Termed qualifying small enterprises.

Figure 0 illustrates the components and elements of broad-based BEE as contained in the final Codes.

The three core components of BEE comprise direct empowerment through ownership and control of businesses and assets; human resource development; and indirect empowerment by means of preferential procurement, enterprise development, profit- and contract-sharing by black enterprises, local content requirements, etc.

Figure 0: Components and elements, and weighting, of broad-based BEE



3.3.1 Direct empowerment

Direct empowerment specifically focuses on (i) ownership (i.e. equity ownership by previously disadvantaged people, including black women and disabled persons), and (ii) management, which measures the percentage of black persons in executive management, on the board of directors and in board committees. Ownership carries a weighting of 20% on the scorecard, while the weighting for management is 10% (Mason and Watson, 2005:2).

3.3.2 Human resource development

The human resource development category weighs 30% in the scorecard and consists of a skills development and an employment equity component. The DTI's balanced scorecard counts the percentage of black people in the organisation's total work force and allocates 15% to this factor.

Skills development

The second aspect of human resource development is skills development, in which the scorecard measures skills development expenditure as a percentage of total payroll. The skills development component weighs a further 15% on the balanced scorecard (Dekker 2004:10). Legislation also governs the pursuit of the skills development objective: the Skills Development Act of 1998, and the Skills Development Levies Act (1999), oblige all employers to commit to the training and education of employees and to contribute 1% of their payroll to the relevant Sectoral Education and Training Authority.

3.3.3 Indirect empowerment

The first category of indirect empowerment is preferential procurement, aimed at enabling black enterprises to grow, while the second category, enterprise development, comprises investment in black-owned or black-empowered enterprises⁹ and joint ventures with black-owned or black-empowered enterprises, contributing a weighting of 15% to the balanced scorecard (Mason and Watson 2005:3). Preferential procurement is worth a weight of 20%. The last element in this component is socio-economic development, which carries a weight of 5%. This element comprises measures of the extent to which firms contribute to socio-economic development of designated groups and Sector Specific initiatives, i.e. initiatives aligned to negotiated charters for specific sectors (Balshaw and Goldberg 2008: 139).

The Final Codes of Good Practice were gazetted and became effective in August 2008 (KPMG 2009: 1).

⁹ An enterprise is defined as black-owned if it owns 50.1% of the equity, while a black-empowered enterprise is one where at least 25.1% of equity is in black hands (Dekker 2004: 9).

4. Empirical analysis of the impact of affirmative action on labour market outcomes

The preceding section considered various institutional and legislative aspects of the affirmative action initiatives implemented since 1994. If successful, these should have granted the designated groups improved access to employment in general and highly skilled jobs in particular, as well as narrowing the racial and gender wage gaps. In order to assess the effect of these policies we will now look at how labour market outcomes have changed since their enactment.

Such an empirical analysis is bound to be fraught with difficulties. A comparison of employment rates or average wages across time is by no means a controlled experiment, and identifying the exact effect of affirmative action without being able to observe the counterfactual will always be a matter of some degree of conjecture. The newly enacted affirmative action legislation coincided with a number of other changes in the South African economic landscape, such as a large and sudden increase in labour force participation, the easing of restrictions on international trade and the start of the longest economic upswing in South Africa's post-war history. This notwithstanding, it is worth observing the extent to which these policies were successful in their stated aim of "promoting equal opportunity and fair treatment in employment ... [and redressing] the disadvantages in employment experienced by designated groups, to ensure their equitable representation in all occupational categories and levels in the workforce" (Republic of South Africa 1998).

Towards this end we will now attempt to assess empirically the trends in racial and gender discrimination in labour market outcomes. This section will start by briefly reviewing the data that will be used for this analysis, before describing a few post-apartheid labour market trends. This is followed by a brief explanation of the Oaxaca-Blinder decomposition – a technique developed to measure the extent of labour market discrimination – and a discussion of the results of this decomposition to South African labour market variables.

4.1 Data issues

The employment, occupational attainment and wage trends for South African workers of different races and genders will be explored using data from the household surveys conducted by Statistics South Africa annually since 1994 (as the October Household Surveys, or OHS) and bi-annually since 2000 (as the March and

September rounds of the Labour Force Survey or LFS). In order to avoid the effects of seasonal fluctuations, our empirical analysis will only use the September rounds of the LFS.

The questionnaires and sampling methodology used for the OHSs were frequently changed – especially during the first few years of its implementation – in order to improve the quality of the data obtained, which complicates the comparability of the results over time. Since the surveys have been much more consistent during the later years of the OHS and particularly after switching to the LFSs, we start our analysis in 1997, the year before the first affirmative action law was passed. In tracing the effect of affirmative action policies our interest lies primarily with formal sector employees, rather than with trends amongst either the self-employed or informal economy workers. We also omit the highest earning 0.02% of workers (those earning more than R200,000 per month in 2000 prices), since they can cause large year-to-year fluctuations in the data and often appear to reflect coding errors rather than representing high-income earners (Burger and Yu 2006). When investigating wage trends or changes in occupational attainment, we will therefore restrict our sample to formal sector, non-agricultural employees earning below R200,000 per month.

Even after restricting the sample in this way, the data can still sometimes show larger than expected fluctuations between successive surveys, which may reflect survey-specific differences rather than actual changes in the labour market. In order to prevent us from drawing false inferences based on the choice of a specific survey year, the comparisons in Section 4.2 pool data from the surveys directly preceding and following the year under consideration, whereas the results from the Oaxaca-Blinder decomposition in Section 4.4 are shown for all the years between 1997 and 2006.

4.2 Post-apartheid labour market trends

The South African population is often classified into four demographic groups: “African” (which made up approximately 76% of the South African population of working age in 1997), “Coloured” (9%), “Indian/Asian” (3%) and “White” (12%). The first three groups are sometimes jointly referred to as “Black”. Table 1 reports the (broadly defined) unemployment rates for men and women in each of these demographic groups, for 1997 and 2006. Clearly, there exist large racial and gender disparities in the probability of finding work in South Africa. For all the years in our

sample Africans had the highest unemployment rate, followed by Coloureds, Indians and Whites. For each of the demographic groups and every year in the sample, women also had a higher probability of being unemployed than men.

Table 1: Unemployment rate (broad definition), by race and gender: 1997* and 2006*

| | 1997 | 2006 | Increase |
|-----------------------|-------|-------|----------|
| All workers | 36.0% | 37.2% | 1.3% |
| African men | 36.7% | 35.3% | -1.3% |
| Coloured men | 17.3% | 24.7% | 7.3% |
| Indian men | 12.7% | 13.3% | 0.7% |
| White men | 4.7% | 6.7% | 2.0% |
| African women | 53.7% | 51.3% | -2.3% |
| Coloured women | 26.3% | 34.0% | 7.7% |
| Indian women | 20.7% | 23.3% | 2.7% |
| White women | 7.7% | 9.3% | 1.7% |

Source: Authors' own calculation from 1995, 1996 and 1997 OHSs and September rounds of 2005, 2006 and 2007 LFSs (Statistics South Africa, various years)

*Averages for 1997 and 2006 are calculated using data from 1995-1998 and 2005-2007 survey years, respectively.

The years between 1997 and 2006 were characterised by a slight increase in the overall unemployment rate, but the various demographic groups experienced very different changes in their respective unemployment probabilities. African men and women both saw a slight decrease in their unemployment rates, whereas these probabilities increased markedly for Coloured men and women. White and Indian men and women all had a slightly higher chance of being employed in 2006 than in 1997.

The shares of workers who were classified as being employed in a highly skilled occupation¹⁰ in 1997 and 2006 are reported in Table 2. The proportions of the total workforce in highly skilled occupations were relatively stable over the period as a whole, but again this hides the very diverse experiences of the different races and genders. African and Coloured women were both slightly less likely to be in a highly skilled occupation in 2006 than in 1997; African, Coloured and White men, as well as Indian women all saw a small increase in this probability; and Indian men and White women both experienced a large increase in the likelihood of having a highly skilled job. The last observation is particularly interesting given that Indian men and White

¹⁰ Highly skilled occupations are defined according to the ISCO-88 classification, and include legislators, senior officials and managers; professionals; and technicians and associate professionals.

women had the highest levels of educational attainment amongst all of the demographic groups designated¹¹ as beneficiaries of affirmative action. One interpretation of this trend is that affirmative action helped those designated groups who least required it.

Table 2: Share of workers employed in highly skilled occupations, by race and gender: 1997 and 2006

| | 1997 | 2006 | Increase |
|-----------------------|-------|-------|----------|
| All workers | 28.1% | 28.6% | 0.4% |
| African men | 15.0% | 16.0% | 1.0% |
| Coloured men | 18.0% | 20.3% | 2.3% |
| Indian men | 36.0% | 43.0% | 7.0% |
| White men | 51.0% | 54.0% | 3.0% |
| African women | 32.7% | 30.0% | -2.7% |
| Coloured women | 26.7% | 24.7% | -2.0% |
| Indian women | 37.3% | 39.7% | 2.3% |
| White women | 45.3% | 53.0% | 7.7% |

Source: Authors' own calculation from 1995, 1996 and 1997 OHSs and September rounds of 2005, 2006 and 2007 LFSs (Statistics South Africa, various years)

^{*}Averages for 1997 and 2006 are calculated using data from 1995-1998 and 2005-2007 survey years, respectively.

Finally, Table 3 shows that except for the large differences in employment and occupational outcomes, workers from different demographic groups can also expect to earn very different wages. African men and women earn less on average than Coloured men and women, who in turn receive lower wages than Indian men and women, followed by the White men and women. Within each of these races, women earn less than men, but this gender wage gap is generally smaller than the racial wage differentials. In 2006 the average South African worker earned only 0.5% more than was the case in 1997 (after adjusting for inflation). Apart from African men, who represent the largest single group and who experienced a real wage decrease of 3.3% during this period, all other groups actually received larger than average pay increases over this period. This increase was relatively small for African and Coloured women, somewhat larger for Coloured men, and much larger for Indian and White men and women. The fact that White women and Indian men were the only two groups to experience more rapid pay increase than White men is consistent with the pattern that emerged for occupational attainment in Table 2.

¹¹ The Broad-based Black Economic Empowerment Act of 2003, however, does not include White women as beneficiaries.

Table 3: Average^{*} real hourly wage, by race and gender: 1997^{} and 2006^{**}**

| | 1997 | 2006 | % growth rate |
|----------------|-------|-------|---------------|
| All workers | 11.66 | 11.71 | 0.5% |
| African men | 9.15 | 8.85 | -3.3% |
| Coloured men | 11.43 | 12.68 | 10.9% |
| Indian men | 16.28 | 20.98 | 28.8% |
| White men | 26.14 | 32.24 | 23.4% |
| African women | 8.61 | 8.88 | 3.0% |
| Coloured women | 10.18 | 10.88 | 6.9% |
| Indian women | 11.70 | 14.39 | 23.0% |
| White women | 19.56 | 24.53 | 25.4% |

Source: Authors' own calculation from 1995, 1996 and 1997 OHSs and September rounds of 2005, 2006 and 2007 LFSs (Statistics South Africa, various years)

^{*}Calculated using geometric rather than arithmetic means.

^{**}Averages for 1997 and 2006 are calculated using data from 1995-1998 and 2005-2007 survey years, respectively.

4.3 Measuring discrimination

The preceding section demonstrated that Black and White workers faced very different probabilities of finding work or being employed in a highly skilled capacity, and could expect to earn very different wages. This in itself does not necessarily prove that employers are guilty of racial discrimination, of course. The average Black and White worker enters the labour market with different observable (and presumably also unobservable) skill sets, and such differences could potentially explain much of the racial wage gap. In evaluating the effect of affirmative action policies we would like to distinguish between the part of the wage gap that is attributable to such differences in productive characteristics – and for which the appropriate solution would be policies aimed at redressing “pre-labour market” discrimination rather than affirmative action – and that which is left unexplained after controlling for these differences. Not controlling for observable skills would tend to overstate the extent of discrimination in the South African labour market, and could potentially also confound our attempts at identifying the change in discrimination over time.

White workers on average have higher levels of educational attainment and are more likely to live in urban areas, and both of these characteristics are generally associated with higher labour market earnings. Although differences in these characteristics can themselves be the product of pre-labour market discrimination (or affected by anticipated labour market discrimination), our interest lies primarily with the extent of discrimination that occurs once participants enter the labour market.

When analysing the racial earnings gap we would like to control for differences in the average set of personal characteristics, so that we can determine the difference between what a White and Black worker *with the same productive characteristics* can expect to earn in the South African labour market. Once we know this, it will be possible to decompose the total observed racial wage gap into two components: one which is due to the difference in average set of productive characteristics, and another which remains after controlling for such differences. If productivity differences can be completely controlled for, it follows that the latter component must be due to racial discrimination. Naturally, the same argument also holds when considering gender rather than racial discrimination.

A number of different approaches have been proposed to perform such a decomposition, the most popular of which is still that of Blinder (1973) and Oaxaca (1973). Under the assumption that the log of wages is a linear function of a set of observable individual and household characteristics, x_k , the log wage function can be estimated with the equation:

$$\ln w = \beta_0 + \sum_{k=1}^K x_k \beta_k + \varepsilon \quad [1]$$

where w denotes hourly wages, the β_k 's capture the effect of attribute x_k on the log of wages, and ε represents unobservable characteristics. In matrix notation:

$$\ln w = \mathbf{X}\boldsymbol{\beta} + \varepsilon \quad [1a]$$

Where vector \mathbf{X} includes a constant. If we now take the expected value of this equation over two groups, say Blacks and Whites (denoted by W and B respectively), we obtain the following expression for the expected wage gap:

$$E[\ln w_W] - E[\ln w_B] = E[\mathbf{X}_W]\boldsymbol{\beta}_W - E[\mathbf{X}_B]\boldsymbol{\beta}_B \quad [2]$$

where $E[\ln w_i]$ is the expected value of the log of wages for group i , $E[\mathbf{X}_i]$ is the expected values of the vector of productive characteristics for group i and $\boldsymbol{\beta}_i$ is the vector of coefficients representing the market's valuation of the characteristics in \mathbf{X}_i for group i . There are therefore two reasons why a typical Black worker could expect to earn a different wage than the typical White worker: they may possess different productive characteristics or the market could reward the same characteristics differently if possessed by members of different population groups. Equation (2) can be rewritten as:

$$E[\ln w_W] - E[\ln w_B] = (E[\mathbf{X}_W] - E[\mathbf{X}_B])\boldsymbol{\beta}^* + E[\mathbf{X}_W](\boldsymbol{\beta}_W - \boldsymbol{\beta}^*) + E[\mathbf{X}_B](\boldsymbol{\beta}^* - \boldsymbol{\beta}_B) \quad [3]$$

where $\boldsymbol{\beta}^*$ is the vector of coefficients that would prevail in the absence of discrimination.

The expected wage gap can now be seen to consist of three components: the difference in the expected levels of productive characteristics between Whites and Blacks, $(E[X_W] - E[X_B])\beta^*$, the difference between what the typical White worker is receiving and what she would receive in a non-discriminating labour market, $E[X_W](\beta_W - \beta^*)$, and the difference between the typical Black worker would be paid in the absence of discrimination and what she is actually paid, $E[X_B](\beta^* - \beta_B)$. The last two terms reflect White advantage and Black disadvantage respectively, and discrimination collectively.

In practice, determining the extent of discrimination is somewhat more complicated. Firstly, it is not clear what the wage structure would look like in the absence of discrimination. Internationally, it is often assumed that White workers are paid their marginal productivity, and that the wage gap is thus solely due to Black disadvantage. This implies that the White wage structure would prevail in a non-discriminating labour market so that $\beta^* = \beta_W$. In South Africa, where the advantaged group is also a minority, it is unlikely that firms could afford to equate the earnings of all workers at White levels without suffering a large loss in international competitiveness. According to the theoretical model by Neumark (1998) β^* can be obtained from a regression on the pooled sample of the two groups. This may well be a more realistic assumption in the South African context, and also offers the additional advantage of producing the smallest standard errors for the estimated components.

A second difficulty with measuring discrimination is that the unobservable characteristics of workers – such as motivation or the quality of education – are almost certainly important in determining wages, but cannot be easily controlled for. If these variables are correlated to the observable characteristics, then this could bias our estimates of β_i and invalidate our decomposition results. Labour economists often assume that such unobservable skills will be lower amongst the disadvantaged group (Holzer and Neumark 2000: 495) and that its omission will therefore result in an overestimation of labour market discrimination. Some studies therefore refer to the unexplained component of the expected wage gap as the “upper limit to discrimination”. If both the distribution of unobservable skills and the correlation between these skills and observable characteristics remained relatively stable over the period under consideration (as is likely to have been the case), then we should be able to interpret changes in the unexplained component as deriving mainly from

changes in discrimination. Given the problems in exactly identifying the extent of employer discrimination, we will refer to the two components as the “explained” component (that which can be explained with differences in characteristics) and the “unexplained” component (which is associated with differences in coefficients).

In order to simplify our discussion of the results, we will from here on restrict our attention to the White and African population groups only. Also, given that almost no White workers leave school before reaching secondary school, we will furthermore only consider workers with incomplete secondary education or more. In the following section we perform the Oaxaca-Blinder decomposition on both the employment and wage gaps. The employment decomposition controls for education, age and age squared, the number of children, the number of household members (apart from oneself) that were employed, marital status, household headship and province of residence, whereas the wage regression controls for education, experience and tenure (all as quadratic functions), union membership and province of residence.

4.4 Decomposition results

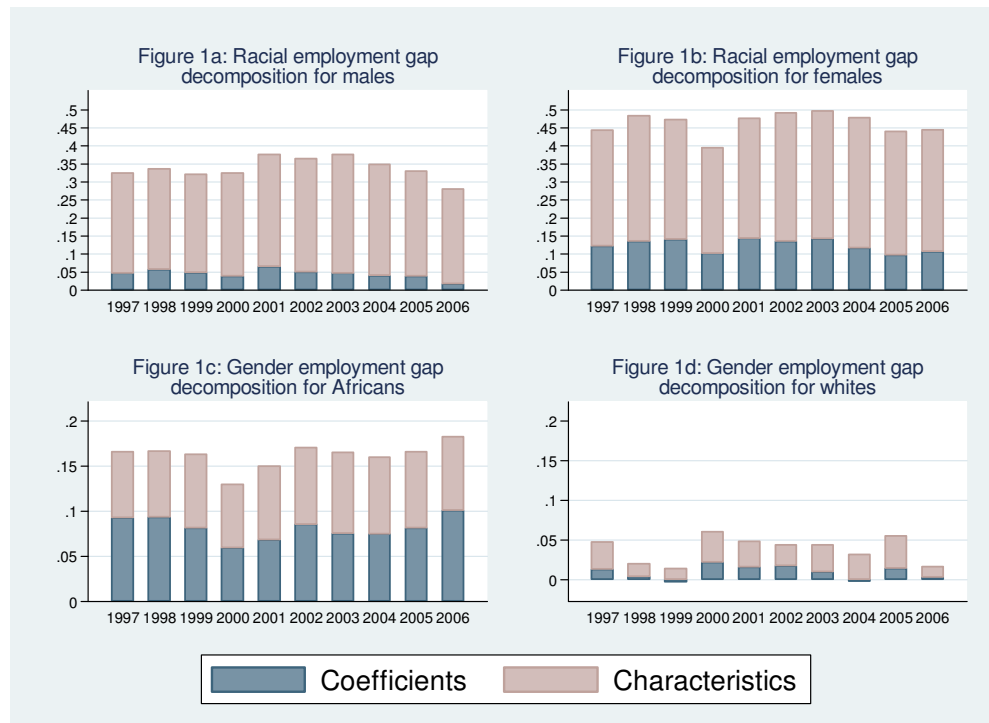
The Oaxaca-Blinder decomposition can now be used to further investigate what happened to the racial and gender differentials observed for employment and wages in Section 4.2. We are specifically interested in seeing whether the component that is unexplained by between-group differences in characteristics has decreased after the implementation of the affirmative action policies.

Figure 1 below displays the decomposition results for the racial and gender employment gaps. The racial employment gap represents the difference in the probabilities of finding work (conditional on participating in the labour market) between the average White and African workers, whereas the gender employment gap reflects the difference in employment probabilities between men and women. Figure 1a shows the racial employment gap between African and White men, and reveals that in 1997 the average White male labour force participant was 32% more likely to find work than his African counterpart. This difference is extraordinarily high, and is one of the most important reasons why a strong racial dimension can also be observed in income inequality and poverty statistics. The Oaxaca-Blinder decomposition suggests that most of this difference (28%) can be explained by differences in the characteristics of the average White and African labour force participant (labelled “Characteristics” below), compared to only 4% of the gap which

is left unexplained (“Coefficients”). This employment gap increased to 38% in 2003, before suddenly dropping to 28% by 2006. The initial increase corresponded to rising participation amongst African men over a period characterised by very slow employment growth, whereas the 2003-2006 period was marked by an acceleration in economic growth which finally led to employment growth trickling down to those with lower education levels. The unexplained part of the employment gap remained more or less constant at 4% from 1997 to 2003, before suddenly dropping to 1% in 2006. Although this effect could potentially be attributed to the more comprehensive set of affirmative action measures implemented in 2003, this effect was only half as important as the decrease in the employment gap that was achieved by a narrowing of the skills differences between African and White men, which decreased by 6% between 2003 and 2006.

Figure 1b shows the results for the racial employment gap decomposition for women. The difference in the employment probabilities for African and White women are somewhat higher than for men, and a much larger share of this gap is left unexplained after controlling for observable characteristics. The general time trends are much the same however, and although the unexplained part of the employment gap can be seen to decrease after 2003, this was less important in narrowing the racial employment gap than the decrease in the explained component.

Figure 1: Decomposition of average racial and gender employment gaps, by gender and race: 1997 to 2006



Source: Own calculations from October Household and Labour Force Surveys (Statistics South Africa, various years).

Figures 1c and 1d display gender employment gaps (that is, the difference in the probabilities of finding work between the typical male and female participant) for Africans and Whites respectively. It can be observed that gender is a much less important determinant – and by implication, a source of discrimination – of employment than race. African men are almost 15% more likely to find work than African women, and approximately half of this difference is attributable to the differences in skills sets for the average male and female. For Whites this gap is all but negligible. More importantly for our evaluation of the effect of affirmative action, however, neither of these gaps narrowed during the period under consideration.

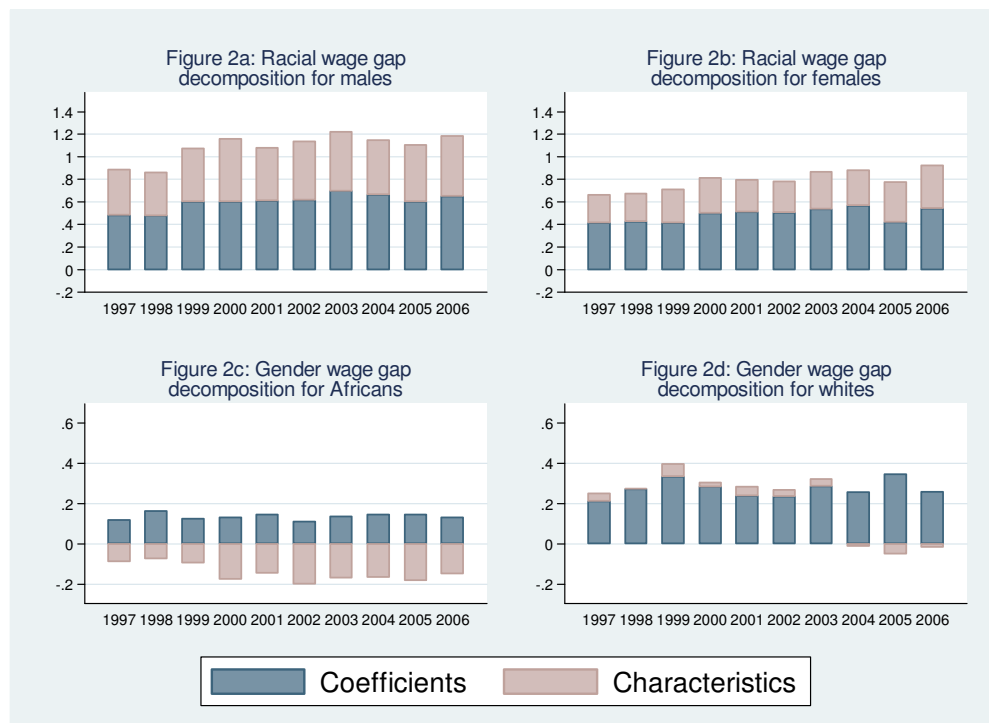
The same decomposition is also performed on the racial and gender wage gaps, and the results are plotted in Figure 2. Figures 2a and 2b show that the typical White worker could expect to earn approximately 90% more than the typical Black worker in 1997 if male, and 70% more if female. Instead of decreasing, the racial wage gap for both genders can be seen to have risen by 2000 (to about 120% for men and 90% for women) after which point it remained relatively stable.

Unlike the employment gap, the largest share of the wage gap cannot be explained by differences in the average levels of productive characteristics between the population groups. The explained share of the wage gap increased between 1997 and 2000, but started slowly decreasing thereafter, whereas the unexplained component continued rising throughout the whole period. It seems puzzling that the unexplained part, which is often interpreted as representing wage discrimination, would increase during a period of increasingly aggressive affirmative action policies.

In order to resolve this apparent paradox a “detailed decomposition” is performed, exploring the role of each separate productive characteristic, and using the technique suggested by Yun (2005) to handle categorical variables. This shows that the high unexplained component is mostly due to the much higher rewards earned by Whites for each additional year of education attained, and that this difference actually widened over the period as a whole. The most obvious interpretation of this result is that much of the wage gap which is unexplained by differences in observable productive characteristics could represent perceived differences in the quality of education received by Africans and Whites – a perception for which there is much empirical evidence (Van der Berg 2005) – rather than merely depicting racial discrimination. The fact that this factor increased in importance over time could either indicate a deterioration of the quality of schools attended by most black students, or merely that the labour market is attaching more weight to the existing quality differential.

The detailed decomposition also shows that the decline in the explained component after 2000 was mainly driven by a narrowing of the education differential between White and African male workers. This trend is likely to continue, as the younger, better educated African cohorts increase their representation in the labour force. A similar result is obtained for the racial wage gap amongst women, where differences in the levels and returns to education dominated the explained and unexplained components respectively.

Figure 2: Decomposition of average racial and gender wage gaps, by gender and race: 1997 to 2006



Source: Own calculations from October Household and Labour Force Surveys (Statistics South Africa, various years).

Turning now to the issue of gender discrimination amongst African workers, Figure 2c shows that we observe an explained wage component in favour of women but an unexplained component that benefits men. These two effects cancel out in most years, so that the total gender wage gap is very small and changes in sign from one year to the next. Amongst non-agricultural formal sector employees, women have higher levels of educational attainment, on average, and this explains the bulk of the negative explained component. The reasons why African women in the formal sector have more education than their male counterparts (whereas Figure 1c shows that this is not true for the labour participants in general) is because the average African woman is much less likely to be employed than the average African man. Since African women have a higher hurdle to cross before finding work this means that those who have work are a more select group out of the total population. The results therefore indicate that (conditional on being employed) African women may well suffer from gender discrimination, and that this hinders them from receiving the wage premium to which they are entitled given their higher values of productive characteristics. This corresponds to the more extensive study of gender discrimination in Shepherd (2007). Figure 2d indicates that White women also face

gender discrimination, despite having an almost identical endowment of productive characteristics to their male counterparts. These results notwithstanding, the magnitude of the unexplained gender wage gap is much lower than the unexplained racial wage gap, as was also the case for the employment decompositions. There is also little evidence that any of the unexplained wage gap components decreased as a result of affirmative action legislation.

5. Conclusion

Having located affirmative action in its legislative and institutional context, this paper set out to investigate the impact of affirmative action on labour market outcomes for the period 1997 to 2006.

From our empirical analysis we observe that race and gender both played an important role in determining labour market outcomes – although the former is much more important than the latter – and that there is very little evidence to suggest that these effects are disappearing over time. The effect of affirmative action policies in reducing the employment or wage gaps have been marginal at best, and were much less significant in bringing about changes in labour market outcomes than improved access to education for Africans, the remaining educational quality differential and the employment effects of accelerated economic growth. Burger and Jafta (2006) go beyond these decompositions of the *average* wage gap, and find that there occurred a small narrowing of the unexplained component at the very top of the wage distribution which may be the result of affirmative action legislation. This would suggest that affirmative action may have helped individuals from the designated groups who already found themselves higher up on the skills ladder, but that these effects were too small and concentrated on too few individuals to have had an impacted on the average previously disadvantaged individual.

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