

**Policy Brief**  
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**The role of educational attainment and quality schooling in reducing racial earnings inequality**

The removal of racially biased labour market policies and regulations has been a logical move given the discriminatory nature of South Africa's legislative past. Despite this official levelling of the playing field, the racial distribution of earnings remains unequal.

A recent working paper based on household survey data looks beyond racial classification to identify other measurable factors affecting individuals' earning potential. It confirms that education provides a competitive advantage given the skills shortage in the labour market, manifesting in positive and increasing wage returns on the quantity of education received.

Educational attainment is critical, but more pertinently the study finds school quality to be important too, firstly because quality skills lead to additional earnings rewards, and secondly because completing Matric in a quality school increases the chances of entering tertiary education, allowing learners eventually to compete for higher paying jobs.

Direct labour market interventions aimed at reducing racial income inequalities have their place, but they do not necessarily treat some of the root causes of the problem. In contrast, policies focused on quality schooling could have a direct, positive impact on the earnings distribution in the long run. In addition, they will complement an important concurrent policy objective aimed at narrowing the skills gap in the labour market to enhance the country's economic growth potential.

*This brief is based on a working paper by Gideon du Rand, Hendrik van Broekhuizen and Dieter von Fintel, which uses the 2008 National Income Dynamics Survey (NIDS), containing detailed information about household welfare and individual labour market characteristics. Importantly, the survey captured the results of an optional numeracy test completed by a subset of respondents, as well as information on their schools' historical Matric examination performance. The original paper can be found at: <http://www.ekon.sun.ac.za/wpapers/2011>*

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## **POLICY ISSUES**

The Employment Equity Act (1998) legislates for equality in the workplace by eliminating unfair discrimination, both in terms of opportunities and remuneration. It also provides scope for the institution of affirmative measures to attract, develop and retain individuals from previously disadvantaged groups. Although the removal of discriminatory policies and practices are vital, there may be other, non-labour market factors driving continued earnings inequality and it is important that these are understood when policies are formulated.

Formal qualifications provide a competitive advantage in a labour market where skills are in high demand. Black people are disproportionately affected by skills constraints because they are more likely to attend

lower quality schools leaving them unable to enter tertiary education due to obtaining insufficient Matric results. This in turn affects their long-term earnings potential.

The government recognises this constraint, and expenditure on public education indeed forms the largest single budgetary item. But when it comes to education, what the budget is spent on and how it is spent are just as important as the amount being spent. What kind of education has the biggest impact on earnings? Primary, secondary, tertiary, or all of the above? How important is the quality of education received? And does education alone equip people with the relevant marketable skills, or are there other factors at play?

## THE RESEARCH QUESTIONS

The study acknowledges that race and years of education have a significant impact on skills and earnings potential, but it also recognises that labour market outcomes are the result of more complex interactions.

Indeed, previous studies have tended to over-estimate the importance of the *amount* of education received, because they failed to take these complexities into account.

The NIDS survey provides rich data enabling us to highlight the proportional value added by different determinants of wage earnings. Specifically, the study estimates the relative return ascribable to these key components:

- Amount of education received
- Race
- Cognitive skills (using the survey numeracy test as proxy)
- School quality

A significant part of what we *observe* to be the effects of racial discrimination and the amount of education received may actually be attributed to cognitive skills and school quality. If we don't separately account for these last two factors, the value of education and estimates of racial discrimination are likely to be overstated. Analysing the earnings impact of quality schooling is particularly important from a policy perspective. If the root of the problem is in the school system, an exclusive focus on direct anti-discrimination measures inside the labour market will have only a limited effect.

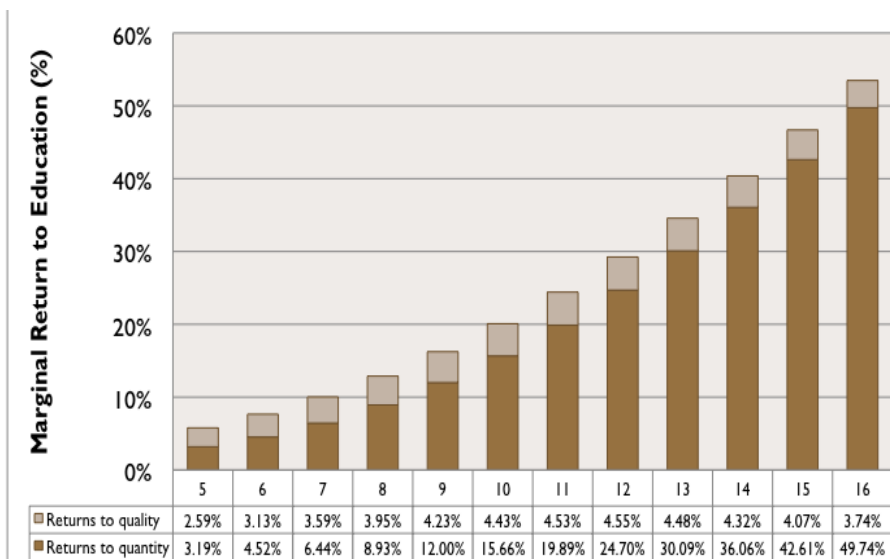
## KEY FINDINGS

### 1. Returns to years of education

For the black population, the marginal return to education (as measured in wage earnings) increases with each additional year of schooling completed. Completing the last year of primary school increases wage earnings by around 10% on average, whilst completing the last year of an undergraduate degree raises earnings by an average 45%.

Including measures of quality does not alter the overall trend relating to returns on education quantity. But quality plays an important role nevertheless. First, the analysis shows that there is a direct earnings return ascribable to quality. Second, marginal returns to education increase disproportionately from Year 12 onwards, underlining the benefits associated with completing tertiary education in particular. And school quality plays an implicit role here because learners who attend good schools are more likely to obtain the required Matric results that will allow them to enter tertiary education.

**Figure 1: Marginal returns (increase in earnings) to education: Black respondents**



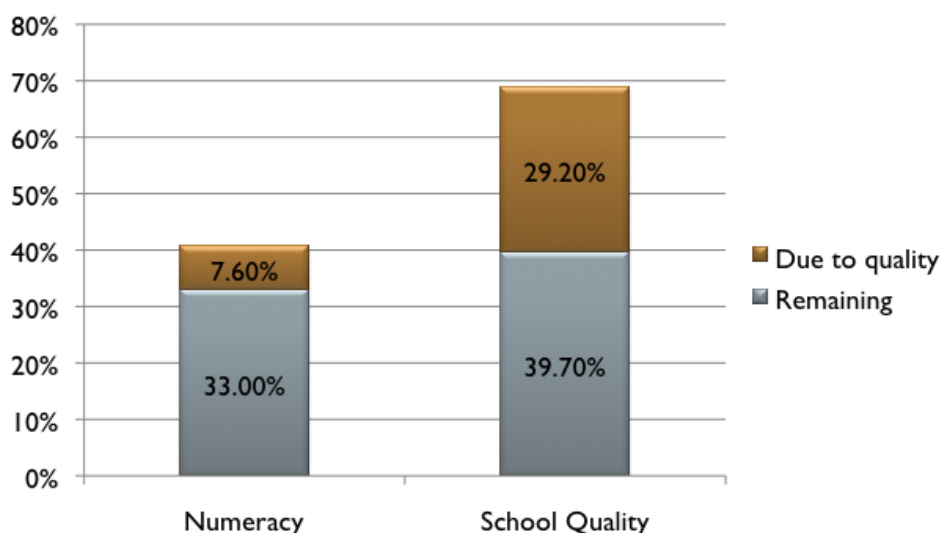
## 2. Numeracy skills, racial discrimination and school quality

The study used respondents’ scores in the survey numeracy test as a proxy for their individual skills or ability (which is partially determined by the quality of the schools they attended).

For black people, about 2.6 percentage points of increased earnings following the completion of primary school can be attributed to numeracy skills, increasing to about 4.5 percentage points for those who have completed Matric education.

This suggests that employers place a value on quality and cognitive skills when hiring, and not just on the applicant’s level of education.

**Figure 2: Components of black-white wage discrimination measures (after taking productive characteristics into account)**



*Note: Two different samples were used because numeracy and school quality data were not available for all respondents. This explains the two different overall wage differentials above.*

Even when we account for the increase in earnings ascribable to education, age and gender, white people still earned more than their black counterparts. The analysis shows that around 7.6 percentage points (19%) of this “unexplained” wage differential is accounted for by better numeracy skills on the part of white respondents.

Similarly, school quality (as measured by the Matric results of respondents’ former schools) accounts for about 29 percentage points (37%) of white respondents’ higher wages.

School quality and individual skills do not explain all of the difference between average black and white wages. But this doesn’t mean that quality isn’t important. The biggest income gains are seen for years of post-secondary education. This highlights the importance of ensuring that schools deliver better educational outcomes, with more people passing Matric equipped with sufficient skills to progress to higher education.

## DATA ISSUES

Respondents who took the numeracy test were generally better educated, more confident in their writing abilities and were more likely to search for jobs. Those who provided information about their school’s quality (Matric performance) also tended to be more educated, and they were younger on average.

This means that the samples of people included in the skills- and school quality analysis were not entirely random, which creates a risk that the observed returns to skills and school quality may partially be due to other factors (e.g. confidence). The analysis used various complex statistical techniques to remove this bias in order to isolate the true return on skills and school quality, and these results are presented above.

## POLICY IMPLICATIONS

### ▪ Educational attainment

Each additional year of education brings an increased return in terms of future earnings, but those who complete tertiary education benefit from the biggest gains. This underlines the importance of looking beyond increased enrolment and Matric pass rates when it comes to education policies. Improving the quality of schooling (especially in previously disadvantaged schools) is vital, because learners need good Matric results in order to enter tertiary education. This will enable learners eventually to compete for higher-paying jobs in increased numbers, which in turn will have a direct impact on racial earnings inequality.

### ▪ School quality and racial discrimination

Between 20% and 74% of the difference between average white and black wages can be attributed to differences in school quality. Even if estimates are conservative (accepting that the lower, 20% estimate is correct) the quality of education still plays a significant role. And black people are more likely to attend low quality schools.

It follows that a significant proportion of racial wage inequality is determined long before people enter the labour market. Addressing these inequalities requires a focus on improving the quality of education at all levels, ensuring that learners and students acquire marketable skills taught by qualified, efficient teachers in well-equipped schools managed by effective principals.

Such policies offer a long-run solution to the income disparities we observe today, because they address the core issues that cause earnings inequalities in the first place. And they offer the additional benefit of improving human resource quality in a country where economic growth is constrained by a scarcity of skills.

## FURTHER QUESTIONS

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