

# Human Capital Investment through Education: The way to an equitable middle class in South Africa

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## Motivation

In 1994 when Apartheid ended South Africa was left with the most unequal economic system in the world. As non-white South Africans gained rights, and new classes emerged it became clear that growth of the black middle class remained stagnant. Today, the impacts years of economic repression are still seen as South Africa remains one of the most unequal nations in the world. I was personally able to see this inequality firsthand when I studied aboard the spring of my sophomore year.

## Research Question

How would the introduction of education-based growth policies help stimulate economic growth and improve class mobility in South Africa?

This thesis hypothesizes that if South Africa passed policies that raised investment in education the growth rate of the black middle class would see an increase due to the improvement in class mobility.

## Theory

Impacts of increasing the quality of education are modeled through the saving rate of the Solow model in *Figure 1*. This increase will increase the output per worker in the long run, allowing South Africa to increase worker productivity. The increase of worker skill and productivity would create more workers able to fill higher paying jobs increasing income and creating an economic with economic mobility allowing for class growth.

## Conclusion

Those findings highlight general inequality and unequal schools found throughout South Africa confirming that the economic disparity found throughout South Africa can be linked back to lacking and inequitable education system. While showing that the intersection of race and education matters, confirming that race plays a vital role in the education an individual receives.

## Methods

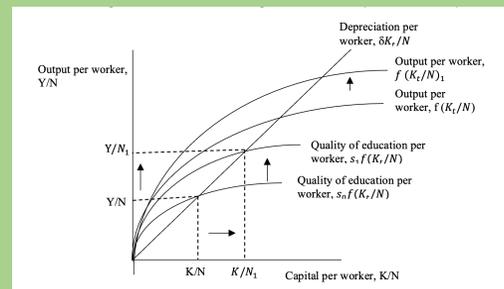
Using data from IPUMS International, 3 OLS regressions were estimated. The data itself consisted of 32,283,726 observations from 1996, 2001, 2007, and 2016.

$$Y_i = \beta_0 + \beta_1 \text{Years of School}_i + \beta_2 \text{Attendance}_i + \beta_4 \text{Rural Status}_i + \beta_5 \text{Race}_i + \beta_6 \text{Attainment}_{i, \# \text{black}} + \epsilon_i$$

The 3 dependent ( $Y_i$ ) variables estimated were

1. Total Income, measured by household income per month in South African Rand
  2. Poverty Rate, measured by the South African government definition stating households that make less than R890 per month fall below the poverty line
  3. "Middle Income", measured by taking total income and distributing into 3 categories, labeling the 2<sup>nd</sup> or middle category as middle income
- The key variable for this analysis is the interaction between educational attainment and being a black South African.

Figure 1: Effects of Increasing Education Quality on Human Capital



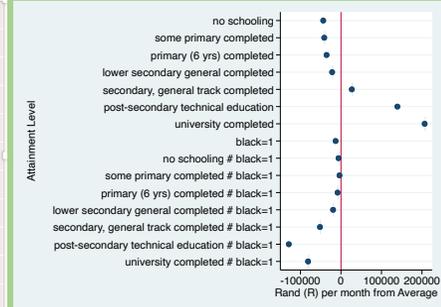
## Results

### Total Income

#### Impact of Race

VARIABLES	(1) baseline	(2) corrected for heteroskedasticity
Years of Schooling	.559,3*** (5.773)	.559,3*** (17.76)
School Attendance	-11,556** (79.55)	-11,556** (65.52)
Rural status	-5,092*** (77.11)	-5,092*** (55.40)
Race	-774,2*** (4.192)	-774,2*** (6.576)

#### Intersection of Race and Education

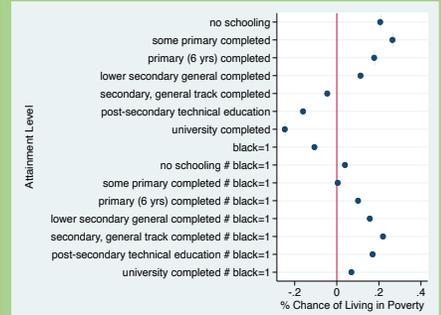


### Living at or Below the Poverty Line

#### Impact of Race

VARIABLES	(1) Baseline	(2) Corrected For Heteroskedasticity
Years of Schooling	0.00676*** (1.04e-05)	0.00676*** (7.13e-06)
School Attendance	0.140*** (0.000314)	0.140** (0.000324)
Rural status	0.0275*** (0.000304)	0.0275*** (0.000309)
Race	-0.000142*** (1.72e-05)	-0.000142*** (1.60e-05)

#### Intersection of Race and Education



### Middle Income

#### Impact of Race

VARIABLES	(1) baseline	(2) corrected for heteroskedasticity
Years of Schooling	0.00158*** (6.94e-06)	0.00158*** (5.30e-06)
School Attendance	0.0623*** (0.000217)	0.0623*** (0.000217)
Rural status	0.0295*** (0.000210)	0.0295*** (0.000217)
Race	0.00121*** (1.33e-05)	0.00121*** (8.26e-06)

#### Intersection of Race and Education

