Race Inequality in Education and Earnings in Brazil and South Africa

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Introduction

Brazil and South Africa share several similarities. Both are among the most unequal countries in the world as measured by the Gini coefficient (Leibrandt and Finn 2012); education is often cited as the main vehicle for alleviating such pervasive inequality. While inequality has decreased sharply over the last decade in Brazil and has remained stable in South Africa, inequality remains high in both countries (Leibrandt and Finn 2012). Importantly, despite markedly different racial and political histories, particularly with regard to slavery (Marx, 1998), Brazil and South Africa are among the largest multiracial societies in the world, with striking race inequalities in social and economic opportunities and outcomes (Lam 1999). South Africa experienced racial apartheid from 1940 to 1994, which has shaped much of the current race inequalities we find today. Brazil, on the other hand, sustained a myth of *racial democracy* for several decades, with studies suggesting that, differently from South Africa, the country has experienced *social apartheid* given its persistent levels of income inequality.

Education plays a key role in generating and alleviating income inequality. Brazil and South Africa have witnessed significant educational expansions in the last decades, with ever-large cohorts being incorporated into the educational system. Yet, despite overwhelming improvements in educational levels and opportunity during the past decades, it is unclear whether educational expansion has alleviated race inequalities in earnings for younger cohorts of Brazilians and South Africans. Importantly, both countries have also experienced significant changes on how race is understood and conceptualized in the last decades. Such increasing educational attainment, particularly among those in the low-end of the social-economic distribution and among non-whites, coupled with changes on how race is understood, may have important implications for the trends in earnings in each country. The goal of this paper is twofold. First, we examine educational opportunity by race. Second, we examine racial differences in educational attainment and earnings for different cohorts of Brazilian and South African males and females. Because of space limitations, we provide the results for males only in this extended abstract.

Race in Brazil

Brazil offers an attenuated race categorization in which black and white are two extremes of a continuum based on skin color, while *pardos*[1]—considered those of mixed race—constitute the middle category. The racial context of Brazil is complex and resembles a continuum of interactions based on skin color, which differs from dichotomous forms of racial stratification, such as the "one-drop rule" in the United States that generated a black-white split based on any trace of African ancestry (Bailey 2008; Telles 2004). This emphasis on skin color over racial identity is partly due to the multifaceted racial ancestry of most Brazilians. For much of the colonial period, white men outnumbered white women, yielding high levels of miscegenation between white men and nonwhite females (Telles 1994). A consequence of this emphasis on skin color is the high levels of racial group subjectivity. However, despite such a flexible racial system and a continuum, it has been well documented that whites have significant advantages over both *pardos* and blacks, particularly in educational and labor market outcomes (e.g., Hasenbalg 1979; Marteleto 2012; Silva 1985; Silva and Hasenbalg 1999). Blacks and *pardos* are disproportionately represented among the lower social classes: compared with whites, nonwhites experience less social mobility (Hasenbalg 1979), experience higher levels of racial segregation (Telles 1992, 2004), and have lower levels of education (Silva 1985; Silva and Hasenbalg 1999).

The recent debates about race, social stratification, and education in Brazil have revolved around policies of affirmative action in universities that have engaged the population at the national level (for reviews, see Bailey 2009; Telles 2004). Several Brazilian public universities have adopted race-targeted policies, and legislation is

[1] *Pardo* is the official category used by the Brazilian Institute of Geography and Statistics (IBGE) to identify those who are a mixture of white, black, and native Indian. *Pardos* has been identified as *mulatto* or *moreno* (Telles and Lim 1998).

currently before the national congress to mandate that all federal universities implement racial quotas. Such debate has placed racial inequality at the forefront of social life in Brazil, a new development in a context in which racial democracy has been an enduring myth for decades.

Race in South Africa

South Africa is comprised primarily of three racial categories: Black, White, and a heterogeneous Coloured category. White South Africans are largely descended from Dutch and English settlers who began to colonize the area during the 17th and 18th centuries respectively. The policies of these colonizers towards Africans were at times inconsistent but racial segregation and oppression was largely present during this time, long before formal apartheid began. Efforts to ameliorate tensions between groups of European colonizers during the 17th 18th and 19th century typically resulted in further oppression and mistreatment of Black South Africans (Marx, 1998). Gradually over this time the distinct 'Coloured' identity emerged. This group retained a position of greater privilege that Black South Africans, until the enactment of apartheid brought with it an increased discrimination for Coloured South Africans.

Nearly two decades after the end of apartheid, the racial context of South Africa continues to be impacted by the enduring effects of a long history of colonization by European settlers and the extreme policies of racial segregation and oppression of the apartheid era. (Marx, 1998; Anderson et al, 2001) One salient site of the enduring legacy of apartheid can be seen in the wage and labor market inequalities that exist among individuals who completed their schooling during apartheid. During apartheid, access to schooling and other educational resources was greatly limited for Blacks and Coloureds (Case and Deaton, 1999). This trend translates into extraordinarily high rates of unemployment among Black South Africans as well as large wage gaps between White and Black South Africans (Louw et al, 2007).

In the two decades since the end of apartheid the gaps in educational attainment between white and black South Africans have closed, but parity has not been reached. While white South Africans have average levels of educational attainment that are similar to other developed countries, rates of school completion among blacks and coloureds are much lower (Servaas Van der Berg, 2007). Additionally, it is unclear if the closing gaps in educational attainment have resulting in diminishing gaps in wages and unemployment rates (Lam, 1999).

Data and Analytical Sample

We use large nationally representative household surveys from each country. We use the 2010 General Household Survey for South Africa and the 2009 *Pesquisa Nacional por Amostra de Domicilios* (PNAD) for Brazil. The General Household Survey includes data on 95,918 individuals and the PNAD includes data on 399,387 individuals. Both datasets are collected annually by each country's Census Bureau and are largely comparable.

We use two analytic samples for each country. The first is composed of 25-59 year-old Brazilians and South Africans. That age range was selected because individuals over 25 and older are unlikely to change their educational attainment, and the earnings and labor force participation of individuals over 59 are likely to be complicated by retirement. We examine males and females separately due to differences in the nature of work decisions. We also examine cohorts separately, as we are interested in cohort change in the patterns of association between race and log earnings. Our analytic sample from South Africa includes 46,679 adults (21,436 males and 25,243 females). Our analytic sample from Brazil includes 221,976 adults (106,371 males and 115,605 females).

Our second analytical sample is composed of adolescents ages 14-17. This age range was selected because there is race variation in educational attainment starting at age 14 in both countries. Additionally, individuals 18 and older are often not living with their parents and thus constitute a qualitatively different group than the one in which we are primarily interested. Because we use household data, we are limited to an analytical sample of

adolescents who live with parents or grandparents for whom we can therefore include family social origin in the analysis, an important determinant of educational opportunity. We again examine males and females separately.

Methods

We first examine patterns in educational attainment by race and cohort in each country. We are particularly interested in whether the disadvantages in educational attainment associated with being black have changed for younger cohorts of Brazilians and South Africans. We then use a series of regressions to look at the associations between race and log of earnings, while controlling for covariates, including educational attainment. Each cohort of adults is examined in a separate regression. Each country is examined independently and then we compare the race patterns of earnings disadvantages associated across the countries and cohorts. We run pooled models to test for whether the changes in coefficients are statistically significant across cohorts.

Our main dependent variable is log of earnings. Of the 221,976 Brazilian adults, earnings data is present for 160,557 individuals (89,912 males and 70,645 females). Of the 46,679 South African adults earnings data is present for 29,945 individuals (13,937 males and 16,008 females). We plan to run our models with and without imputed data on income to test for the sensitivity of our results to missing data. In addition to addressing missing earnings data, it is also important to address the complex issue of labor force participation. The issue of unemployment becomes more complex when we compare trends in different countries in which the structures of the labor market differ and unemployment itself means different things. The models shown here include all adult males ages 25-59 regardless of employment status. We do not differentiate by employment status; rather, we treat the unemployed as zero earners. To address the issue of labor force participation we will employ propensity score matching. This will provide a more nuanced understanding of the links between race, education and earnings by accounting for individuals' differing propensities of being employed and reporting positive earnings.

Our main independent variable is race. Race is coded as two dummy variables representing black, mixed-race (*pardo*) and white in Brazil. In South Africa, we classified race as black, coloured and white. While both countries present an intermediate category between blacks and whites, we by no means suggest that *pardos* and coloureds share similar histories and inequalities. White is coded as 0 in both countries. Other independent variables included in the models are: urban versus rural, where rural is the omitted category. We also control for region of residence—Brazil's five main regions and South Africa's 9 provinces.

Preliminary Findings

Figure 1 shows race coefficients—representing black (versus white) and coloured (versus white) in South Africa; and black (versus white) and *pardo* (versus white) in Brazil—from regression models of adolescent educational attainment. The goal here is to provide an overview of the disadvantages in education associated with race early on in life, when we have data on family social origin. Despite the significant recent gains in education among black Brazilians and South Africans, Figure 1 shows that black adolescents are significantly disadvantaged in terms of their education when compared to white adolescents. Figure 2 provides a clear picture of the educational gains younger cohorts have made vis-à-vis older cohorts.

Figure 2 shows completed years of education by race for Brazilian (Panel A) and South African (Panel B) males in different cohorts. Panel A of Figure 2 shows that mean years of education among white South African males have remained constant throughout cohorts of adults, at around 12.7. However, there have been remarkable changes in the completed years of schooling among both coloured and black South Africans. While older cohorts of black males had an average of 5.8 years of schooling, younger cohorts of black males completed 10.5 years of schooling. The Figure also documents a similar trend of increasing schooling among coloured males—from 7.8 among those born in 1950-1955 to 10.6 among those born in 19805-1990. Despite the significant increases in schooling among both coloured and black males, the gap in schooling remains. The gap is of 2.5 years of schooling among those in the youngest cohort of adults.

Panel B of Figure 2 shows the patterns of educational attainment by race across cohorts. Brazil's trend is significantly different from the trend in South Africa. In Brazil we find significant gains in education across cohorts for all three groups. While there was a gap of one year of schooling between whites and non-whites in the older cohort, the gap has been slowly closing and has reached 0.5 year of schooling among those in the younger cohort.

In summary, in both countries disadvantages associated with being non-white remain. However, the gap between whites and non-whites is much larger in older cohorts than in younger ones. Given the pattern of increasing levels of education and declining racial gap in education, we ask: Is the shrinking gap in educational attainment between races also associated with a closing of the race gap in earnings?

Figure 3 attempts to answer that question by plotting the race coefficients in regressions of log of earnings. As we explained above, we run separate regressions for each cohort and country; therefore each point in Panels A and B of Figure 3 corresponds to the race coefficient (Panel A for South Africa and Panel B for Brazil) in each model. Panel A of Figure 3 shows that the coefficient representing the black-white disadvantage in log earnings was -1.04 for older cohorts of South African males; the same coefficient but for younger cohorts is -1.06. Despite a significant decline in the black-white gap in education, young cohorts of black South Africans still experience the same levels of earnings inequality older cohorts experience. The coefficient representing coloured versus white males has declined across cohorts, suggesting that coloured-white inequality in earnings has weakened, showing a parallel with the trend in schooling gains we described above.

Panel B of Figure 3 shows that the coefficient representing the black-white disadvantage in log earnings was -0.46 for older cohorts of Brazilian males; the coefficient for the younger cohort is -0.28. The cohort trend in the coefficients representing *pardos* resembles that of those representing blacks in Brazil. The coefficient representing *pardos* versus white males has declined across cohorts, suggesting that *pardo*-white inequality in earnings has weakened, a trend parallel to the schooling gains we described above. Despite these declines in the disadvantages in earnings associated with being black or *pardo* in Brazil, it is important to note that the white advantage still persists despite the gains in schooling of the younger cohorts.

Conclusions and Discussion

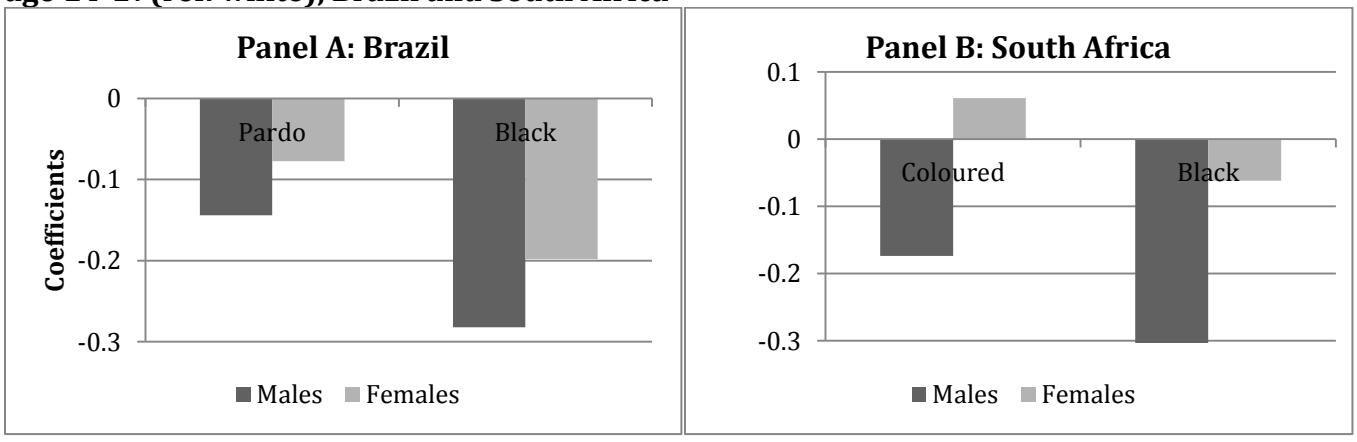
Brazil and South Africa are among the most unequal countries in the world and education is often cited as the main vehicle for alleviating such pervasive inequality. Race is another important mechanism producing inequality in both countries, despite their very different historical trajectories. The goal of this paper was to examine whether the recent gains in education by younger cohorts of non-whites have been translated into declining inequality in earnings.

Despite gains in education among both blacks and *pardos* in Brazil and among blacks and *coloureds* in South Africa, our findings show that inequalities in wages persist in both countries. Among South African males in the younger cohorts, the disadvantages in earnings associated with being black as opposed to white are significantly larger than the disadvantages in earnings associated with being coloured versus white. This suggests that, despite similar levels of schooling, black and coloured South Africans face very different experiences in the labor market. Young black South Africans still experience lower returns to education that are similar to those experienced by older cohorts. In Brazil on the other hand, blacks and *pardos* share similar disadvantages in earnings when compared to whites. While older-cohort black Brazilians faced higher disadvantages in earnings, the white-*pardo* and the white-black gaps are similar for the younger cohorts.
Our next step is to examine females to see whether similar patterns emerge.

Table 1. Trends in Educational Attainment and Earnings for Males, age 25-59

	Educational Distribution				Mean monthly Earnings (relative to Blacks with zero earnings)			Percentage Reporting zero earnings			
Years of Schooling	Black	Coloured/ Pardo	White	Total	Black	Coloured/ Pardo	White	Black	Coloured/ Pardo	White	Total
South Africa											
None	21.53	16.60	9.15	19.93	1.00	0.94	4.31	3.3	1.52	0.00	3.10
1-7 years	30.40	25.82	9.37	28.03	0.86	1.03	8.13	20.55	20.11	4.26	20.20
8-12 years	46.53	55.05	62.68	48.81	1.61	2.74	9.16	75.57	77.75	84.06	75.90
Some University	1.15	2.01	12.77	2.30	8.27	15.97	17.78	0.48	0.62	2.71	0.53
Uni. and higher	0.40	0.52	6.02	0.93	10.33	46.02	13.17	0.1	0.00	8.96	0.27
Total	100	100	100	100				100	100	100	100
N*	36,378	4,907	2,712	43,997				6,524	680	103	7,307
Racial Composition %*	82.68	11.15	6	100				89.28	9.31	1.41	100
Brazil											
None	18.19	18.48	20.05	19.2	1.00	1.05	2.46	29.12	19.47	15.67	18.53
1-4 years	26.88	29.94	24.21	27.01	0.51	0.47	0.69	30.49	34.18	29.93	32.34
5-8 years	26.79	26.56	23.81	25.27	0.61	0.57	0.82	25.87	30.52	31.31	30.57
9-11 years	26.09	23.06	27.56	25.41	0.83	0.80	1.13	13.81	15.03	20.91	17.23
Some University	1.67	1.66	3.3	2.43	1.12	1.02	1.31	0.2	0.75	1.99	1.2
Uni. and higher	0.38	0.3	1.07	0.67	3.44	3.70	5.11	0.52	0.04	0.19	0.13
Total	100	100	100	100				100	100	100	100
N*	14,576	94,048	84,133	192,757				396	3,994	2,478	6,868
Racial Composition %*	7.56	48.79	43.65	100				5.77	58.15	36.08	100

Figure 1. Predicted differences in years of education attributable to race for males and females age 14-17(ref: white), Brazil and South Africa



*These coefficients come from OLS regressions predicting years of education controlling for gender, age, urbanicity, region, family structure, household income, and household head education (parent or grandparent). The coefficients reported above are all significant at the .001 level except Coloured males in South Africa (p=0.03) and both Coloured females (p=0.4) and Black females (p=0.3)

Figure 2: Years of Education Completed, Brazil and South Africa, Males Ages 25-59, 2009/2010

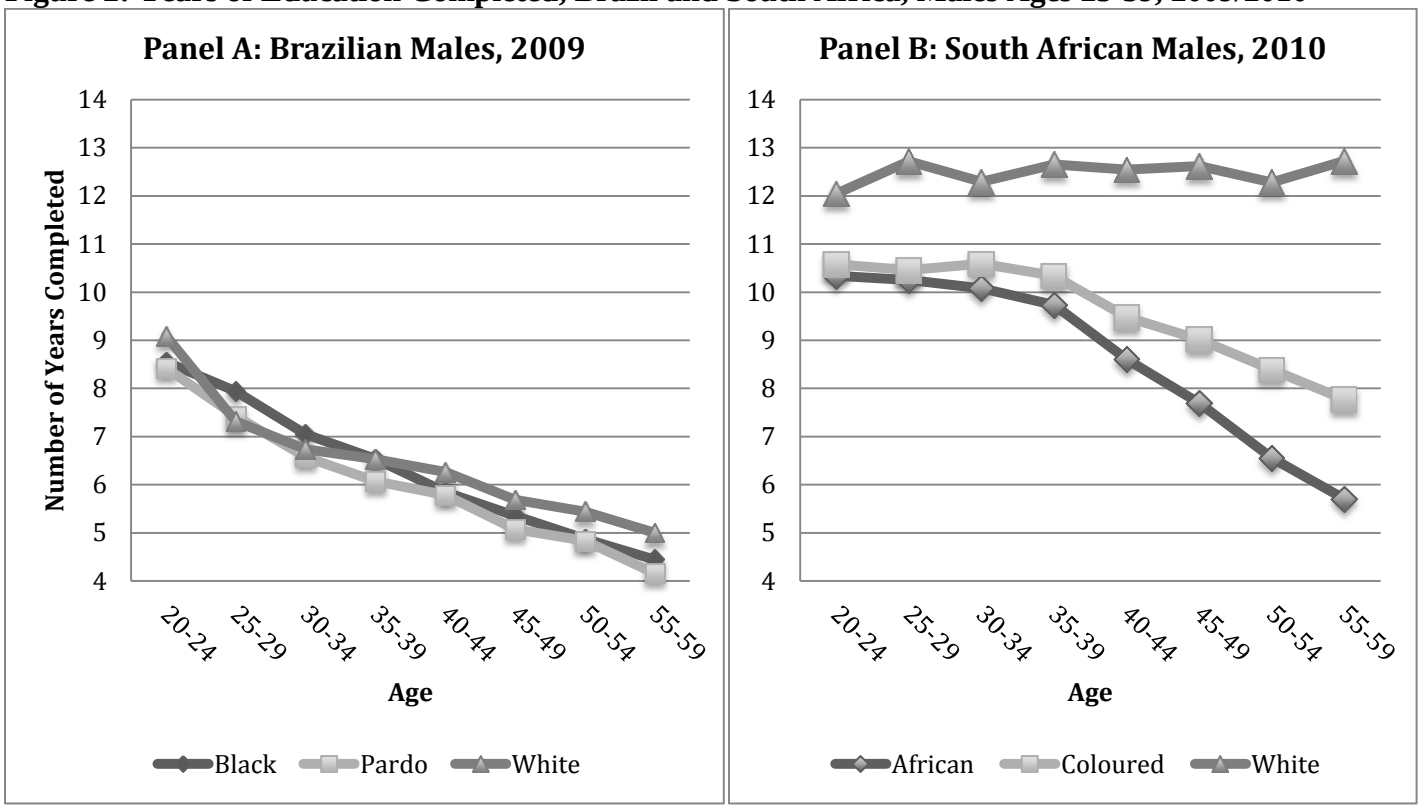


Figure 3: Race Coefficients for Log of Income Models, Brazil (2009) and South Africa (2010)