INEQUALITY AND POVERTY IN URUGUAY BY RACE: THE IMPACT OF FISCAL POLICIES

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COMMITMENT TO EQUITY

INEQUALITY AND POVERTY IN URUGUAY BY RACE: THE IMPACT OF FISCAL POLICIES[1]

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RESUMEN

En Uruguay, el sistema impositivo y el gasto social reducen la desigualdad y la pobreza (Bucheli et al. 2013). En este estudio analizamos el efecto de la política fiscal por raza teniendo en cuenta la clasificación entre blancos, afros e indígenas. La cuestión principal de nuestro trabajo es analizar si esta reducción en la desigualdad y de la pobreza benefician a un grupo racial sobre los demás o afecta a todos los grupos por igual.

Los tres grupos raciales tienen la misma probabilidad se sacados de la situación de extrema pobreza por el sistema de transferencias directas. Sin embargo la probabilidad de dejar la pobreza moderada es menor para los indígenas que para los otros grupos. Por lo tanto, el sistema de transferencias directas reduce la pobreza de los tres grupos pero no logra ponerlos en pie de igualdad.

Cuando analizamos el ingreso promedio las conclusiones cualitativas van en la misma dirección. Las brechas raciales se reducen levemente – liderado por las transferencias en especie- y no desaparecen.

ABSTRACT

In Uruguay the tax structure and social spending reduce inequality and poverty for the whole society (Bucheli et al. 2013). In this study we analyze the effect of fiscal policy by race considering whites, Afros and indigenous. The main question of our paper is whether the reduction of inequality and poverty benefit a racial group over the others or affect racial ethnic groups equally.

The three racial groups are equally likely to be taken off extreme poverty by the direct transfer system. However, the hazard of leaving moderate poverty is lower for indigenous than for the other two groups. So the direct transfer system reduces poverty of the three groups but does not achieve to put racial groups on an equal footing.

When analyzing the average income, the qualitative conclusions are on the same direction. Racial gap narrows slightly –led by in-kind transfers- and does not disappear.

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1. INTRODUCTION

Uruguay's population is mainly made up of people of Spanish and Italian descent who self-classify as white in the Population Census. The population size of minorities is very low in Uruguay: according to the last Census, less than 5% of people self-classify their main descent as afro whereas 2% indicate indigenous main descent. Previous studies about the afro-descent Uruguayan population show that there is a racial socio-economic gap in variables as poverty, income, housing conditions, educational level as well as labor market discrimination (Bucheli and Cabella, 2010; Bucheli and Porzecanski, 2011). Up to our knowledge, there are not studies about indigenous-descent.

Uruguay is a country with low levels of inequality and poverty compared to Latin America levels. Public policies contribute to the achievement of this performance: when comparing income before and after fiscal policy the Gini index and the extreme poverty rate decline 19.6% and 71%, respectively (Bucheli et al, 2013).

In this work we are interested in the study of the differentiated fiscal policy effect by race. The broad strategy of the analysis consists on comparing poverty rates and average income between white, Afro and indigenous main descent across different income concepts associated with the result of different policies.

The analysis is guided by the philosophy of inequality of opportunity. This approach distinguishes two sources of inequality: the part due to individual responsibility and the part due to circumstances beyond individual control. Under the inequality of opportunity ethic, the target of fiscal policy should be to diminish inequality due to circumstances (Romer 1998, 2001).

Thus, we may qualify a fiscal policy as successful in terms of opportunities if it equalizes the distribution of income of the different racial groups. In terms of poverty, a successful policy should equalize the poverty rates of all the racial groups. Therefore, fiscal policy should treat differently individuals under different circumstances in order to compensate the inequality of opportunities. We are aware that the set of circumstances is greater than the racial condition so inequality within the groups is not completely due to responsibility.

The structure of the paper is as follows. In section 2 we describe the data base, the income variables and the racial classification. In section 3 we present a brief description of welfare by racial groups using the disposable income definition. As usual done, we analyse the average differences between groups. But attention to the heterogeneity within the groups is important because the average differences may be driven by a particular sub-section of the minorities. Thus, we also study inequality within the groups as well as poverty rates. In section 4 we analyze the effects of direct taxes and transfers (in-cash plus food transfers). On one hand, we calculate the hazard rate of leaving the income class to which people belongs before fiscal policy. We use these rates to study the racial differences of the effect on poverty and mobility. On the other hand, we analyse whether the average gap between races declines or not. In section 5 we focus on the effect of health and educational transfers. Finally, we conclude in section 6.

2. DATA

We use the so-called CEQ database which informs the amount of taxes paid by the households, their received public benefits and five income variables. The unit of the data is the individual to which is assigned the per capita tax, benefit and income of the household. The CEQ database was built from the data provided by the Uruguay's household survey year 2009 (*Encuesta Continua de Hogares* or ECH) collected by the National Institute of Statistics (*Instituto Nacional de Estadística* or INE). It has 130058 observations.

The definitions of the income concepts are defined by Lustig and Higgins (2013) a detail of the procedures of the estimations for Uruguay can be found in Bucheli et al. (2012). In this section we present a brief review of the income concepts and a description of the population by race.

i. Taxes, public benefits and income variables

The market income includes gross labor earnings and capital income, auto-consumption, imputed rent form owner-occupied housing, private transfers and the contributory pensions paid by the social security system. The net market income is the market income minus direct taxes. Net market income plus direct transfers is the disposable income. Direct transfers include in-cash public transfers (noncontributory pensions, family allowances, unemployment insurance, disability and sickness allowances and maternal benefits) and food public transfers. Note that social security contributions are treated as savings.

Post-fiscal income is disposable income less indirect taxes. As the ECH reports disposable income by source, the legal schedules of direct taxes and contributions were used to estimate market and net market income. Only evasion due to labor informality was considered for these estimations. These calculations mean that direct taxes and contributions are entirely paid by workers.

As the ECH does not report spending, a matching survey technique was used to take advantage of the information provided by the Expenditure Survey collected by INE throughout November 2005 and October 2006. Indirect taxes were estimated using the legal schedule and assuming no evasion.

Final income is post fiscal income plus in-kind transfers related to education and health services. The benefits of educational and health services were estimated as the ratio spending/beneficiaries informed by the administrative registers. This cost was assigned to beneficiaries and the per capita transfer of the household was added to pos-fiscal income to compute the per capital final income of the households.

The educational transfers were calculated considering separately six programs. The per capita cost of each program was assigned to the student attending the corresponding program in a public institution (all he levels of public educational system are free in Uruguay). The highest transfers correspond to programs of the tertiary level of education and the lowest to programs of childcare and primary level.

Health benefits also comprise different programs and the estimation of the transfer considered three different situations. If the individual is covered by an institution of the mutual system, the benefit consists on the payment of the insurance premiums. If the individual is covered by a private insurance, part of the premium is subsidized. Because of the difference of the subsidy and the higher copayment in the insurance

system, the option for a private insurance is more likely among the richest. In turn, the poorest are more likely to choose a public institution because the copayments are much lower than the mutual system. Moreover, there are not copayments for the poorest. The per capita cost of each option was assigned to each individual according to his/her option. The highest transfer corresponds to public system and the lowest to insurance system.

Note that in-kind transfers are measured by their per capita budgetary cost so the comparison of final income with other concepts of income requires to scaling up earnings, pensions, etc. to their macroeconomic values. We need scale up income only in the analysis of inequality and progressivity because in the study of poverty we only analyze market and disposable income.

ii. Classification by race

The ECH asks individuals to identify their "racial descent" in five separate questions using the terms: Afro, Asian, white, indigenous and other. Besides, it uses the same terms to inquire about the "main racial descent". We choose to classify the population according to the self-perception of the main racial descent.

In Table 1 we report the information of our database and the Population Census carried out in 2011. In both data, most of the population declares to be white descent, 5% of the population report indigenous descent and 8 or 9% report Afro descent.

TABLE 1. RACIAL CLASSIFICATION BY SELF-REPORTED DESCENT. PERCENTAGES

	CEQ Database		Census	
	Allows multiple descent	Main racial descent	Allows multiple descent	Main racial descent
Total	113.6	100.0	107.7	100.0
Afro	9.3	3.4	8.0	4.7
White	98.9	95.5	93.1	89.9
Indigenous	5.1	1.0	5.0	2.4
Other	0.3	0.1	1.6	2.9

Source: *Censo de Población* 2011, INE (2011) and author's calculations based on *Encuesta Continua de Hogares*, INE (2009).

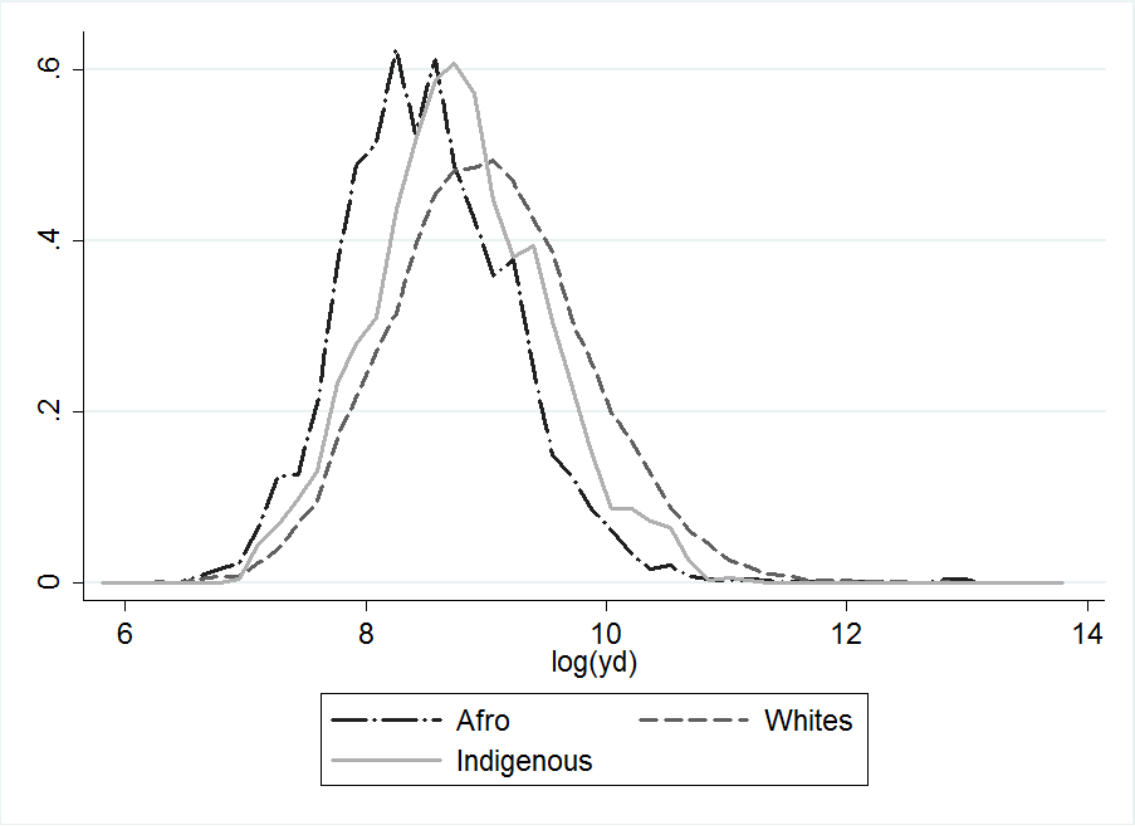
In our database, around 12% of the individuals declare multiple descent. When classified by the main descent, 3.4% of the individuals are Afro, 95.5% are white and 1.0% are indigenous.[2] The proportion of the minorities is higher in the Census, which registers that the main descent of 4.7% of the population is afro, 2.4% is indigenous and 2.4% corresponds to other race. We have not insights about the reasons of the differences between the Census and the ECH.

[2] Answers "Asian" or "other" were considered as "other".

3. AN OVERALL DESCRIPTION OF WELFARE BY GROUP

In average, disposable income of whites is 70% higher than Afros whereas income of indigenous is 30% higher than Afros. If we turn to the overall distributions, the same order is observed for all the positions. In Figure 1 we present the kernel density functions of the per capita disposable income of the household (in logs) for whites, afro and indigenous. The curve with the highest mass at the lowest income levels is the one of afros and its peak is situated at the left of the others'. The white's curve is situated at the right and registers the highest mass at the upper income levels. The overall picture shows that the whites are the most advantageous group whereas Afros are the most disadvantageous.

FIGURE 1. DENSITY FUNCTION OF (LOG) DISPOSABLE INCOME FOR RACE-GROUPS. URUGUAY, 2009.



Source: Authors' calculations based on *Encuesta Continua de Hogares, INE* (2009).

The analysis of the distributions allows to knowing the gap across the different positions. When comparing two groups, an increasing income gap across the distribution is an indicator of the presence of barriers of the minority group to reach the highest positions. In table 2 we report the ratio of income between white and afro and white and indigenous at different percentiles of the distribution. At the lowest tail, the percentiles for whites are around 35% and 17% greater than for afros and indigenous, respectively. For both races, these gaps increase along the distribution. But the increase is deeply higher for Afro than for indigenous: the percentile 90 is around 67% and 34% higher for whites than for Afros and indigenous, respectively.

TABLE 2. RATIO OF PERCENTILES OF THE INCOME DISTRIBUTION: WHITE/AFRO AND WHITE/INDIGENOUS

Percentile	White/Afro	White/Indigenous
10	1.348	1.170
20	1.511	1.223
50	1.565	1.252
80	1.653	1.285
90	1.668	1.339

Source: Author's calculations based on *CEQ database*

Let's turn to the Gini index presented in Table 3. Consistently with table 2, inequality within indigenous descent is lower than within whites. But the difference of the Gini index of whites and afros is not statistical significant. An analysis of the microdata allows to detecting that a little proportion of afro population does very well, and belongs to the top 10% of the income distribution. If we drop the richest population, the Gini index of the disposable income of whites is higher than Afros (p-value=0).

In table 3 we also present the poverty rates by group. The poverty lines are the international extreme threshold of US$ 2.5 PPP per day, the international moderate line of US$ 4 PPP per day and the national moderate poverty line[3].

If we focus on the lowest tail of each group, we find that Afros have the highest probability of being situated in the extreme poverty positions defined by a poverty line of US$ 2.5 PPP per day. At this extreme level of poverty, indigenous and whites have a similar poverty headcount ratio. As we move to less deep poverty conditions and let the poverty line increases, the situation of whites and indigenous begin to differ. In sum, the headcount ratio is higher for Afros than for the other groups for all the three considered poverty lines whereas indigenous are situated in a middle position.

TABLE 3. GINI INDEX AND POVERTY HEADCOUNT RATIO BY RACE IN PERCENTAGE AND DIFFERENCE BETWEEN RACES (DISPOSABLE INCOME). PERCENTAGES.

	Gini Index	US$ 2.5 PPP per day	US$ 4 PPP per day	National Poverty Line
All	45.7	1.5	6.7	22.7
Whites	46.0	1.4	6.4	21.8
Afros	43.9	3.7	14.7	48.2
Indigenous	40.5	1.5	9.4	31.6
Afros-Whites diff.	-2.1	2.3***	8.4***	26.5***
Indigenous-Whites diff.	-5.5***	0.2	3.0**	9.8***
Afros-Indigenous diff.	3.4	2.2***	5.3***	16.6***

Notes: Differences of Gini index and poverty rate in percentage points
*** p<0.01, ** p<0.05, * p<0.1
Source: Author's calculations based on *CEQ database*

[3] This threshold varies with geographical region and with the number of persons in the household. On average for all individuals, the line is equivalent to US$ 7.7 PPP per day in 2009.

In brief, indigenous descent is the most homogenous group and appears to be in disadvantage respect to whites. Afro descent populations face the deepest constraints except a very small sub-group who share the richest positions with whites.

4. EFFECTS OF DIRECT TAXES AND DIRECT TRANSFERS: FROM MARKET TO DISPOSABLE INCOME

i. Poverty and mobility

In table 4 we present the extreme and moderate poverty rate calculated with market and disposable income. Direct taxes and transfers have a strong effect on extreme poverty which decreases from 5.1% to 1.5%. Moderate poverty also declines, from 11.6% to 6.7%. All the groups benefit from these reductions.

TABLE 4. HEADCOUNT RATIO BY RACE. URUGUAY, 2009.

	Total	Whites	Afro	Indigenous
Poverty line: $2.5 PPP/day				
Income market	5.1%	4.8%	12.5%	6.2%
Disposable income	1.5%	1.4%	3.7%	1.5%
Poverty line: $4 PPP/day				
Income market	11.6%	11.0%	25.8%	15.4%
Disposable income	6.7%	6.4%	14.7%	9.4%

Source: Author's calculations based on *CEQ database*

If the likelihood of being taken off poverty is equal for all the groups, then the policy does not correct the initial disadvantages of the minorities. To perform this analysis, we calculate the hazard rates of climbing out of poverty and more generally, the hazard of leaving the before-policy socio-economic class.

We classify the population in five classes according to their per capita income: the extreme poor defined by a poverty line of US$ 2.5 PPP per day; the moderate but not extreme poor, whose income is higher than US$ 2.5 PPP but lower than US$ 4 PPP; the low-middle class whose income is ranged between US$ 4 and 10 PPP; the middle class, with and income between US$ 10 and 50 PPP and finally, the rich with income higher than US$ 50 PPP.

The classes are defined according to market and disposable income. An individual may belong to class i according to market income and to class j according to disposable income, where i and j may be equal or different. We denote these individuals by c^m_i and c^d_j. We are interested on estimating the hazard rate of moving from c^m_i to c^d_j where $i<j$ (upward mobility) and the hazard rate of moving from c^m_i to c^d_j where $j<i$ (downward mobility). If we order the sub-index from 1 to 5 where 1 denote the poor and 5 the rich, the hazard rate of upward mobility for each class is:

$$H_c^{up} = \frac{1}{n_c^m} \sum_{i=c+1}^{5} n_i^d \quad with\ c < 5 \qquad (1)$$

where n^m_c is the number of individuals of class c according to market income and n^d_c is the number of individuals of class c according to disposable income. The hazard rate of downward mobility is:

$$H_c^{down} = \frac{1}{n_c^m} \sum_{i=1}^{c-1} n_i^d \;\; with\; c > 1 \qquad (2)$$

In table 5 we present the hazard rates for each class and for the sum of individuals of classes 1 and 2 that is, the individuals below the moderate poverty line. The hazard that individuals leave extreme poverty is more than 70%, and the hazard of climbing out of class 2 is more than 50%. The three groups are equally likely to be taken off extreme poverty but the hazard of leaving class 2 is lower for indigenous than for the other two groups. In sum, the hazard rate of leaving poverty under a threshold of US$ 4 PPP per day is around 40% and the differences between groups may be neglected. Therefore, the direct taxes and transfers system does not contribute to the convergence of the groups in terms of poverty.

TABLE 5. HAZARD RATES OF LEAVING THE MARKET INCOME CLASS. PERCENTAGES.

	Whites		**Afro**		**Indigenous**	
Class defined by market income	**H^{up}**	**H^{down}**	**H^{up}**	**H^{down}**	**H^{up}**	**H^{down}**
y<2.5	71.6		70.4		75.3	
2.5<y<4	63.1	0.0	65.7	0.0	56.5	0.0
y<4	42.2		43.2		38.8	
4<= y < 10	5.9	0.1	4.5	0.2	6.7	0.0
10 <= y < 50	0.0	0.8	0.0	1.0	0.0	2.5
50 <= y		15.5		15.7		12.7

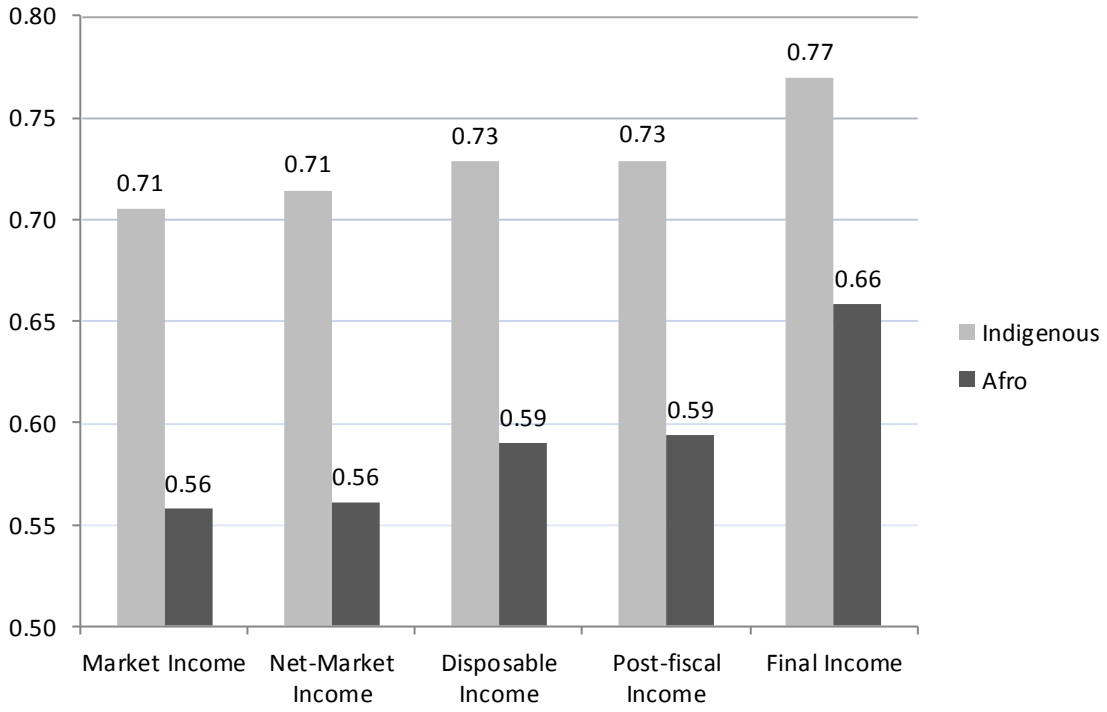
Source: Author's calculations based on *CEQ database*

Respect to low-middle class, the probability to go down because of fiscal policy is close to zero for all groups. Also the hazard of going up, that is to enter in middle-class, is very low: it ranks from 4.5% for afros to 6.7% for indigenous. Finally the hazard of leaving middle class and enter to the richest class is zero for all races. Note that going up from middle class is also unlikely.

ii. Average gaps

In Figure 2 we show the average income of afro and indigenous related to whites for all income concepts. In this section we are interested on the effect of direct taxes and transfers so we focus on market and disposable income. In both cases, the ratio are lower than 1. However the average gap between races decreases as a result of direct transfers. Income of afro related to whites growths from 0.56 to 0.59 when we pass from market to disposable income. In the case of indigenous, the ratio changes from 0.71 to 0.73.

FIGURE 2- PER CAPITA MEAN INCOME: VALUES RELATED TO THE PER CAPITA MEAN INCOME OF WHITES. URUGUAY, 2009.



Source: Author's calculations based on *CEQ database*.

As a synthetic measure of the inequality between groups we use the between-group component of the Theil index. Note that the contribution of the between component depends on the size of the groups and the minorities groups are a low proportion of the population. So it is not surprising that inequality driven by racial differences is low. As shown in Table 6, this component calculated with market income is 0.004 in absolute terms, that is, 1% of the Theil index. When introducing direct taxes and transfers, the component remains in the same level whereas inequality within groups declines. Thus, the results suggest that there is not a visible equalization of opportunities.

TABLE 6. THEIL INDEX BY RACIAL GROUP AND CONTRIBUTION OF THE BETWEEN-GROUP COMPONENT TO INEQUALITY

	Market income	Net market income	Disposable income	Post fiscal income	Final income
All	0.458	0.425	0.391	0.398	0.299
Whites	0.450	0.419	0.387	0.393	0.297
Afro	0.635	0.561	0.474	0.494	0.326
Indigenous	0.351	0.328	0.283	0.283	0.190
Between-groups	0.004	0.004	0.004	0.004	0.003
(%)	1.0	1.0	1.0	0.9	0.8
Within-groups	0.453	0.421	0.388	0.394	0.297
(%)	99.0	99.0	99.0	99.1	99.2

Source: Author's calculations based on *CEQ database*

5. THE EFFECT OF HEALTH AND EDUCATIONAL BENEFITS

Two different policies affect the passage from disposable income to final income: indirect taxes and in-kind benefits. As shown in Figure 2 and Table 6, the effect of indirect taxes in negligible. But in-kind transfers reduce the average gap between races more deeply than direct transfers. The afro/whites income ratio grows from 0.59 to 0.66 when we pass from pos-fiscal to final income; the indigenous/whites ratio increases from 0.73 to 0.77. We can even observe a little decrease of the between-group component of the Theil index (Table 6).

In our analysis, in-kind transfers are health and educational benefits. Both benefits contribute to the observed positive effect on closing the gaps between races. In order to analyze the effect of each program we add to post-fiscal income the per capita transfer of each program. In Table 7 we present these calculations for Afro and indigenous separately, normalized by the results for whites.

Health benefits close the racial gap, especially in the case of afro-descent: the ratio afro/whites increases from 0.59 to 0.63. This result is related to the health program chosen by individuals: afro-descents are more likely to be covered by public institutions. Note the relevance of the method used to input the amount of the transfer: it is based on the per capita cost and says nothing about quality.

TABLE 6. PER CAPITA MEAN INCOME OF AFRO AND INDIGENOUS DESCENT INCLUDING IN-KIND TRANSFERS RELATED TO THE PER CAPITA INCOME OF WHITES

Income concept	Afro	Indigenous
Post-fiscal income	0.59	0.73
Post-fiscal income +		
Health	0.63	0.75
Child care and primary education	0.62	0.74
Secondary education	0.60	0.73
Tertiary education	0.59	0.73
All education	0.62	0.75
Final income	0.66	0.77

Source: Author's calculations based on *CEQ database*

Childcare and primary education also contribute to close the racial gap, which is once again related to the different choice of public and private system[4]. But the educational effect declines with the level education.

In Table 8 we present the percentage of persons who attend educational institutions by age-groups (public or private). The attendance to primary school is almost universal for the whole population. The drop out starts in secondary level of education: its incidence is higher for minorities than for whites though the significance level of the indigenous-white gap in lower than the usual accepted levels. The same pattern is found for tertiary education.

[4] Eventually, part of the change gap may be due to the different demographic structure of the groups.

TABLE 8. ATTENDANCE TO EDUCATION BY AGE GROUPS AND RACE, PERCENTAGE.

Age-group	Total	Whites	Afro	Indigenous
6-12	98.7	98.6	99.4**	100**
13-17	83.6	84.0	76.7***	76.6
18-24	38.8	39.7	18.7***	20.6

Notes: Difference between afro and whites, and indigenous and whites: *** p<0.01, ** p<0.05, * p<0.1

Source: Author's calculations based on *CEQ database*

In sum, primary public education equalizes opportunities between races, though we are not taking in account eventual quality differences between public and private sector. But secondary and tertiary levels do not have this effect because the earlier drop-out of minorities.

6. CONCLUDING REMARKS

In this study we analyze the effects of fiscal policy on poverty and inequality by race in Uruguay.

Before fiscal policy, the Afro population has the highest poverty rate and the whites, the lowest. The hazard that individuals leave extreme poverty is more than 70%, and the hazard of climbing out of moderate poverty is more than 50%. The three racial groups are equally likely to be taken off extreme poverty though the hazard of leaving moderate poverty is lower for indigenous than for the other two groups. These results show that the direct transfer system does not contribute to the convergence of the groups in terms of poverty. Thus, though policy is successful in reducing poverty, the racial gap subsists when considering disposable income. In other words, direct transfers do not achieve to put racial groups on an equal footing.

When analyzing the average income, the qualitative conclusions are on the same direction. Racial gap narrows but does not disappear: the disposable income of afros is 59% of whites; for indigenous, this relation is 73%. However, the contribution of racial inequality to overall inequality measured by the Theil index is only 1%, in part due to the little size of minorities. The other reason of this little contribution is the high inequality within the racial groups. In particular, a little section of Afro population is very successful and belongs to the richest 10%.

In-kind transfers reduce the racial gap more deeply than direct transfers. Though this conclusion seems optimistic, two important problems emerge from the analysis.

First, Afros and indigenous receive higher health benefits than whites because the subsidy is higher for the beneficiaries of public than private services. Thus, this result is not accurate: the amount of the transfer is not adjusted by quality. An effort to consider this type of adjustment is very important for future research.

Second, Afros benefit from public primary school (with the mentioned concern about quality) but their drop out starts earlier than for whites and they cannot capture all the potential educational transfers. A relevant consequence of this fact it that the investment in human capital of Afro population is lower than

whites. Particularly, the graduation of tertiary education is very low. This phenomena should be a special focus of policy in order to equalize opportunities.

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Lustig, Nora and Sean Higgins. 2013. *Commitment to Equity Assessment (CEQ): Estimating the Incidence of Social Spending, Subsidies and Taxes. Handbook*. CEQ Working Paper No. 1, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue, September.

WORKING PAPER NO. 2

Lustig, Nora. 2012. *Commitment to Equity: Diagnostic Questionnaire*. CEQ Working Paper No. 2, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue, August.

WORKING PAPER NO. 3

[5] Updated December 2013.

Lustig, Nora and George Gray Molina, Sean Higgins, Miguel Jaramillo, Wilson Jiménez, Veronica Paz, Claudiney Pereira, Carola Pessino, John Scott, and Ernesto Yañez. 2012. *The Impact of Taxes and Social Spending on Inequality and Poverty in Argentina, Bolivia,Brazil, Mexico and Peru: A Synthesis of Results*. CEQ Working Paper No. 3, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue, August.

WORKING PAPER NO. 4

Lustig, Nora and Sean Higgins. 2012. *Fiscal Incidence, Fiscal Mobility and the Poor: A New Approach*. CEQ Working Paper No. 4, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue, September.

WORKING PAPER NO. 5

Lustig, Nora and Carola Pessino. 2013. *Social Spending and Income Redistribution in Argentina in the 2000s: the Rising Role of Noncontributory Pensions*. CEQ Working Paper No. 5, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue, REVISED August 2013.

WORKING PAPER NO. 6

Paz Arauco, Verónica, George Gray Molina, Wilson Jiménez Pozo, and Ernesto Yáñez Aguilar. 2012. *Explaining Low Redistributive Impact in Bolivia*. CEQ Working Paper No. 6, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue, October.

WORKING PAPER NO. 7

Higgins, Sean and Claudiney Pereira. 2013. *The Effects of Brazil's High Taxation and Social Spending on the Distribution of Household Income*. CEQ Working Paper No. 7, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue, REVISED May 2013.

WORKING PAPER NO. 8

Scott, John. 2013. *Redistributive Impact and Efficiency of Mexico's Fiscal System*. CEQ Working Paper No. 8, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue, REVISED July 2013.

WORKING PAPER NO. 9

Jaramillo Baanante, Miguel. 2013. *The Incidence of Social Spending and Taxes in Peru*. CEQ Working Paper No. 9, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue, REVISED May 2013.

WORKING PAPER NO. 10

Bucheli, Marisa and Nora Lustig, Máximo Rossi and Florencia Amábile. 2013. *Social Spending, Taxes, and Income Redistribution in Uruguay*. CEQ Working Paper No. 10, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue, REVISED July 2013.

WORKING PAPER NO. 11

Higgins, Sean and Nora Lustig, Julio Ramirez and Billy Swanson. 2013. *Social Spending, Taxes and Income Redistribution in Paraguay*. CEQ Working Paper No. 11, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue, November.

WORKING PAPER NO. 12

Alvaredo, Facundo and Juliana Londoño Vélez. 2013. *High Incomes and Personal Taxation in a Developing Economy: Colombia 1993-2010*. CEQ Working Paper No. 12, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue, March.

WORKING PAPER NO. 13

Lustig, Nora, and Carola Pessino and John Scott. 2013. *The Impact of Taxes and Social Spending on Inequality and Poverty in Argentina, Bolivia, Brazil, Mexico, Peru and Uruguay: An Overview*. CEQ Working Paper No. 13, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue, April.

WORKING PAPER NO. 14

Higgins, Sean and Nora Lustig. 2013. *Measuring Impoverishment: An Overlooked Dimension of Fiscal Incidence.* CEQ Working Paper No. 14, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue, April.

WORKING PAPER NO. 15

Tanzi, Vito. 2013. *Tax Reform in Latin America: A long term assessment.* CEQ Working Paper No. 15, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue, April.

WORKING PAPER NO. 16

Higgins, Sean and Nora Lustig, Whitney Ruble and Timothy Smeeding. 2013. *Comparing the Incidence of Taxes and Social Spending in Brazil and the United States*. CEQ Working Paper No. 16, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue, November.

WORKING PAPER NO. 17

López-Calva, Luis F., Nora Lustig, John Scott y Andrés Castañeda. 2013. *Gasto social, redistribución del ingreso y reducción de la pobreza en México: evolución y comparación con Argentina, Brasil y Uruguay*. CEQ Working Paper No. 17, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue, December.

WORKING PAPER NO. 18

Sauma, Juan Diego Trejos. 2013. *Gasto público social, impuestos, redistribución del ingreso y pobreza en Costa Rica.* CEQ Working Paper No. 18, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue, January.

WORKING PAPER NO. 19

Amábile, Florencia, Marisa Bucheli and Máximo Rossi. 2014. *Inequality and Poverty in Uruguay by Race: The Impact of Fiscal Policies*. CEQ Working Paper No. 19, Center for Inter-American Policy and Research and Department of Economics, Tulane University and Inter-American Dialogue, February.

http://www.commitmentoequity.org

WHAT IS CEQ?

Led by Nora Lustig (Tulane University) and Peter Hakim (Inter-American Dialogue), the Commitment to Equity (CEQ) project is designed to analyze the impact of taxes and social spending on inequality and poverty, and to provide a roadmap for governments, multilateral institutions, and nongovernmental organizations in their efforts to build more equitable societies. CEQ/Latin America is a joint project of the Inter-American Dialogue (IAD) and Tulane University's Center for Inter-American Policy and Research (CIPR) and Department of Economics. The project has received financial support from the Canadian International Development Agency (CIDA), the Development Bank of Latin America (CAF), the General Electric Foundation, the Inter-American Development Bank (IADB), the International Fund for Agricultural Development (IFAD), the Norwegian Ministry of Foreign Affairs, the United Nations Development Programme's Regional Bureau for Latin America and the Caribbean (UNDP/RBLAC), and the World Bank. http://commitmenttoequity.org

COMMITMENT TO EQUITY

The CEQ logo is a stylized graphical representation of a Lorenz curve for a fairly unequal distribution of income (the bottom part of the C, below the diagonal) and a concentration curve for a very progressive transfer (the top part of the C).