

RACIAL DEMOCRACY AND BLACK VITIMIZATION IN BRAZIL

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ABSTRACT

The understanding of the scenario of social inequalities in Brazil reveals the overrepresentation of the black population in lower education and income classes, as well as the concentration of high victimization rates on blacks, exposing the fragility of a conception of racial democracy. In this work, the research efforts were directed to identify, at the national level, the mechanisms of reproduction for the phenomenon of racial discrimination manifested by homicides and physical assault, as well as to verify how this situation is expressed according to the specific realities of each Brazilian Federative Unit. Combining the information from the PNAD (2009) to the mortality data of the SIM/DATASUS for the same period, the methodology of decomposition of Oaxaca-Blinder was applied. The obtained results reveal that a significant portion of the differential of victimization between blacks and non-blacks is due to racial discrimination in the country. Complementarily, in the period under review, both for homicides and for physical assault, a more discriminatory scenario was observed on the black population that converges to the North and Northeast regions of Brazil, regions historically characterized by high social inequalities and violent mortality.

Keywords: **Victimization; Homicide; Physical assault; Racial discrimination; Probability.**

JEL classification: **I00; J15; K00.**

RESUMO

A compreensão sobre o cenário de desigualdades sociais no Brasil revela a sobrerrepresentação da população negra nas classes de escolaridade e renda mais baixas, além da concentração de elevadas taxas de vitimização sobre indivíduos negros, expondo a fragilidade de uma concepção de democracia racial. Neste estudo, portanto, os esforços de pesquisa foram direcionados para identificar, no plano nacional, os mecanismos de reprodução do fenômeno de discriminação racial manifesto pela vitimização, por homicídios e agressão física, bem como verificar como esta situação se expressa segundo as realidades específicas a cada Unidade Federativa brasileira. Combinando-se as informações da PNAD (2009) aos dados sobre mortalidade do SIM/DATASUS para o mesmo período, aplicou-se a metodologia de decomposição de Oaxaca-Blinder. Os resultados obtidos evidenciaram que, parcela significativa do diferencial de vitimização entre negros e não negros indica dever-se à discriminação racial no país. De forma complementar, no período em apreço, tanto para homicídios quanto para agressão física, observou-se um cenário mais discriminatório sobre a população negra que converge para as regiões Norte e Nordeste do Brasil, regiões historicamente caracterizadas por elevados índices de desigualdades sociais e de mortalidade violenta.

Palavras-chave: **Vitimização; Homicídios; Agressão física; Discriminação racial; Probabilidade.**

Classificação JEL: **I00; J15; K00.**

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1. Introduction

In Brazil, despite the universalizing progress, consolidated through the process of redemocratization, as for the protection of human and civil rights, the absence of strong initiatives to guarantee the availability of security for the entire population - verified through the understanding of the Brazilian inequality framework, taking also into account violent crimes -, reveals the intensity with which criminality and victimization rates have expanded in our country since the 1980s (SOUZA, 2009; CARVALHO; SILVA, 2011; WAISELFISZ, 2015; CERQUEIRA *et al.*, 2018).

According to Cerqueira *et al.* (2018), Brazil registered a total of 62,517 homicides in 2016, representing an increase of 25.8% in this index compared to the year of 2006, when there were 49,704 violent deaths in the country.

In turn, the National Household Sampling Survey (PNAD) of 2009 reveals that, in this same year, nearly 2.5 million people suffered some kind of physical assault. This context is corroborated by the National Research of Victimization, published in 2013, in which 14.3% of those interviewed experienced some sort of aggression or threat to their integrity (MINISTÉRIO DA JUSTIÇA *et al.*, 2013).

These studies and surveys testify that, even though they are dispersed heterogeneously both temporally and spatially in the country, violence against physical integrity (homicides and physical assaults) are concentrated among the male population, especially among young individuals⁶, of low-income class and with black ethnic-racial identity⁷ (PNAD, 2009; MINISTÉRIO DA JUSTIÇA *et al.*, 2013; CERQUEIRA *et al.*, 2018). Not to mention, such researches uncover that the dynamics of victimization have two dimensions: (i) interiorization, concentrated on the states, according to the gaps in the performance of the state, forming an intra-state movement; (ii) dissemination/spreading, which similarly to the previous concept, constitutes an interstate tendency, concentrated on specific regions, such as the north and the northeast, with a lack of public resources and inefficient state performance (WAISELFISZ, 2015; CERQUEIRA *et al.*, 2018).

Therefore, at the national level, it is observed that victimization unveil a trajectory corresponding to the persistence of a discretionary profile, especially in relation to the categories of race/ethnicity, income, age group and gender/sex. This scenario of violence is closely related to the Brazilian inequality framework, which is deep and inextricable from the historical process of the socio-political-economic constitution of Brazil (COELHO, 1978; PAIXÃO, 1990; ADORNO, 1995; MISSE, 2007). In this context, there is an overrepresentation of black people, either in the lower-income⁸ strata or in the lower levels of education⁹ (PNAD, 2015).

Regarding lethal violence, in the period between 2006 and 2016, while black homicide rates rose by 23.1%, a rate for non-black experienced a contraction of 6.8%. Moreover, in 2016, the index of homicides for black people (40.2%) surpassed two and a half times the non-black homicide rate (16%) (CERQUEIRA *et al.*, 2018). In addition, the Index of Youth Vulnerability to Violence and Racial Inequality (IVJ - Violence and Racial Inequality), published in 2017 - base year of 2015 - noticed that in the national average, the young black population is 2.7 times more likely to become victims of murders than young whites (BRASIL, 2017).

As stated by the PNAD (2009), a higher relative frequency of occurrences of physical assault among blacks (1.8%) prevails when compared to non-blacks (1.3%). This condition was also certified by

⁶ Nevertheless, besides the deep scenario of social inequality, such numbers also reveal the human capital subtraction - a fundamental element for the development and economic growth of any nation -, corresponding, in 2010, for the Brazilian case, a portion of 1.5% of the Gross Domestic Product (GDP) (CERQUEIRA; MOURA, 2013a).

⁷ According to the methodology proposed by the Brazilian Institute of Geography and Statistics (IBGE), the category "blacks" includes the subcategories "blacks" and "browns". This methodology is adopted by several surveys and empirical studies carried out by different institutions and research entities.

⁸ According to information from PNAD (2015), the black population represents 74.0% of the income percentile of the poorest 10% of the Brazilian population - while the white population represents only 26.0% -, and only 28.8% of the income percentile of the richest 10% - and the white population represents 71.2%.

⁹ According to information from PNAD (2015), in the segment of the population with educational level up to seven years of study, 59.6% corresponds to blacks against 40.4% of non-blacks. In the segment with 12 years of study or more, the blacks correspond to 34.7%, whereas the white population represents 65.3% of the total.

the National Research of Victimization released in 2013 (MINISTÉRIO DA JUSTIÇA *et al.*, 2013).

This context suggests forceful evidence for the argument in favor of contestation to the possibility that the Brazilian nation is currently erected under solid values of a racial democracy, as postulated by Freyre (1933, 1936). For this reason, this study proposes to understand how ethnic-racial identity differentiates victimization by physical assault and by homicide in Brazil, focusing on the period between September/2008 and September/2009. Furthermore, the comprehension of the possible connections between victimization and racial inequality in Brazil supposes an exploration in depth of the mechanisms that allow its reproduction and perpetuation.

This paper comprises four sections besides this introduction. The second section presents the theoretical framework that serves as the basis for the other sections. The third section is composed by the methodology, in addition to exploring the databases. Section four sets out the adjustment estimates for both variables of interest (homicides and physical assault), as well as the corresponding results and analyzes for the Oaxaca-Blinder decomposition for each victimization variable. Finally, the main conclusions of this study are presented.

2. Literature review

Despite the wide debate about the phenomenon of criminal violence within the Economic Sciences¹⁰ since the late 1960s, with the pioneering works of Fleisher (1963, 1966) and Ehrlich (1967), however, the Economic Theory of Crime has consolidated as an independent field of economic knowledge, and with a specific theoretical framework, only with the seminal studies proposed by Becker (1968) and Ehrlich (1973) (CERQUEIRA; LOBÃO, 2004). Among the criminological approaches that encompass the basic components that make it possible to understand the process of victimization¹¹ as a result of crime, we can highlight the Theory of Social Disorganization, Lifestyle Theory, and Routine Activities Approaches Theory.

With the publication of seminal empirical studies developed by Shaw and McKay (1969), the Theory of Social Disorganization inaugurates a new perspective on the analysis of crime, incorporating other factors such as environmental and socioeconomic aspects. Thus, this theoretical approach focuses on the dynamics of local communities, understanding them as a complex system of formal and informal relationships, kinship, friendship and others that act in the individual process of social and cultural learning. Moreover, such connections would be shaped by structural issues such as economic status, ethnic diversity, residential mobility, urbanization and family cohesion. The social disorganization level would condition the establishment of complex networks of systemic connections that would allow to determine the degree of social control (SAMPSON, 1997). As a result, the criminal phenomenon would emerge as a consequence of the disorganization of this intricate network of community relations (ENTORF; SPENGLER, 2002).

Regarding Lifestyle Theory, the contributions and studies developed by Hindelang *et al.* (1978) focus on analyzing the connections between victimization and the individual's lifestyle, highlighting the central role of individual expectations - a set of personal preferences and behavioral patterns, determined by personal characteristics and cultural norms/rules - and the social structure; or in the process of mediation between the private and the public, the external environment - the society, or the State - infers limitations to the individual who must adapt. The authors emphasize that both, expectations and social structure, depend on demographic conditions, although the former are not the result of demographic circumstances. In addition, Hindelang *et al.* (1978) postulate that the victimization¹² process comprises

¹⁰ The subject of crime finds fertile ground among the classics of economic literature, since the seminal studies of Adam Smith (1776) and Bentham (1789, 1843), to Durkheim (2002).

¹¹ In order to understand the criminal behavior, the economic literature considers the criminal phenomenon as analogous to a market. In this sense, in order to adapt to the theoretical methodology in question, it is understood the problem of victimization as a demand for crimes.

¹² In this sense, the probability of attending to this set of factors and, therefore, victimization is not a uniformly distributed phenomenon, but depends on innumerable constraints, such as specific time and location, potential victims and criminals with particular demographic characteristics, as well as potential connections between the potential victim and the offender (HINDELANG *et al.*, 1978).

the articulation of three situations: the temporal encounter between a victim and an offender; the perception of a potential victim by the offender; and the impetus by the offender to use violence to achieve their goal.

Faced with the advance of academic clashes over crime, the Routine Activities Approaches Theory, postulated by Cohen and Felson (1979), proposes an extension of the Hindelang *et al.* (1978), arguing that the achievement of crimes presupposes the confluence of three elements, namely: the potential victim; the potential criminal; and, a safety/security mechanism, determined by the lifestyle of the potential victim. As the lifestyle depends on the individual's idiosyncratic characteristics - the way of seeing, feeling and reacting, specific to each person -, their age and gender, as well as family, professional and social relationships. For this reason, assuming that the worldview does not depend on the individual's skin tone, it is understood that younger individuals would be exposed, due to their circle of social relations and set of riskier activities, to homicidal violence. In addition, family, professional and social relationships are related to socioeconomic status - educational level, housing conditions, etc. - and accessibility to the institutional and legal structure - availability of mechanisms for protection and resolution of social conflicts -, revealing that such a marginalized population is more likely to be victimized (COHEN; FELSON, 1979).

Regarding the issue of racial discrimination, it should be emphasized that the Economic Theory of Crime does not present a specific approach that considers this theme completely. Therefore, the economic literature on crime that deals with this discussion uses racial discrimination theories developed within the scope of the Economics of Education and Labor Economics. In this context, there are theoretical models that associate the socioeconomic condition of the black population - a reflection of historical processes such as the abolitionist model, and the intrinsic patriarchal and racist ideology - with consequences in the scope of educational process and insertion in the labor market (BEHMAN; GAVIRIA; SZÉKELY, 2001). In addition, some theories discuss the persistence of intergenerational discrimination by understanding that the conservative ideals of machismo and patriarchy are consistent with the perpetuation of low levels of education for blacks, since the transmission of teachings to children is transferred to responsibility of mothers with low educational level (BLACK *et al.*, 2005).

Other theoretical approaches in the labor market argue about the performance of employers who censure hiring and even the career plan of black individuals, according to Becker's (1971) mechanism for a taste for discrimination. On the other hand, some theories understand that the discriminatory action relative to a certain social group favors the persistence of the marginalization of the black population in the labor market. According to the perspective of the labor demand, the phenomenon called, by Arrow (1973), of statistical discrimination, occurs when the employer, in the face of a problem of information asymmetry about the possible candidates, hires and/or pays wages according to an observable (subjective) criterion, which is the individual's skin tone. From the viewpoint of the job offer, Silvério (2002) identifies the discriminatory issue as a consequence of psychological problems and self-esteem that afflict individuals seeking employment.

This scenario consolidates the phenomenon called by Oliveira Junior and Lima (2013) institutional racism, which derives from the state's organizational deficiency to respond to daily demands and contributes to the maintenance of racial discrimination. Furthermore, it is understood that the connection point between the theoretical approaches of the Crime Economy with the economic aspects related to the labor market and the educational process is the understanding that the socioeconomic and environmental factors are reproductive mechanisms of racial discrimination that, when associated with the racist culture/ideology - which socially stigmatize the black population and perpetuate racial stereotypes - contributes to the concentration of victimization and marginalize blacks from access to public power in Brazil (CERQUEIRA; MOURA, 2013b; CERQUEIRA; COELHO, 2017).

3. Methodology

Given that in both regressions - homicides and physical assault - constitute dummy variables, the Oaxaca-Blinder mechanism, through the adaptation proposed by Yun (2004), allows for the decomposition for nonlinear models. This procedure comprises two interrelated stages, namely: (i)

estimation - and later competition¹³ with the probit model - of the logit model, for both regressors; and (ii) the differential decomposition of the probability of victimization by violent mortality and physical assault, among black and non-black¹⁴ population groups, applying the Oaxaca-Blinder methodology.

3.1. Racial discrimination and violence against physical integrity

For this reason, adapting the methodology proposed by Cerqueira and Coelho (2017)¹⁵, the logit¹⁶ model estimated for both victimization variables - whether for homicide or for physical assault - will include the following structure:

$$p_i \equiv \text{Prob}[Victimization_{it} = 1 | X_i] = \frac{e^{\hat{\beta}'X_i}}{1 + e^{\hat{\beta}'X_i}} \quad (1)$$

where, β_0 is the constant term. β_l , with $l = 1, 2$ and 3 , are the estimated parameters for the three blocks of the model's explanatory variables, namely: (i) individual characteristics - gender, age group, ethnicity/race and marital status -; (ii) a set of socioeconomic attributes - income¹⁷ and educational level (years of study); and, (iii) place of residence - state/Federative Unit (UF) and great geographic region. Finally, ε_{it} corresponds to the stochastic/random error term of the econometric model.

As argued above, both dependent variables represented in (1) by $Victimization_{it}=[1,0]$ estimate the probability of the individual "i" becoming a victim ($Y_i = 1$) regarding the probability of not being victimized ($Y_i = 0$), respectively, for homicide and physical assault, also called by relative risk (or odds ratio), at time t .

3.2. Empirical strategy

The basic mechanism proposed by Oaxaca (1973) and Blinder (1973), is the estimation of mincerian¹⁸ equations for blacks and non-blacks. In this study, the explained variables are homicides and physical assault, and as regressors there are three blocks of variables, which are: (i) individual characteristics; (ii) a set of socioeconomic attributes; and, (iii) the place of residence.

Through the following two equations, the counterfactual victimization of blacks is estimated in the possibility that they present the condition of non-blacks, incorporating the estimated coefficients ($\hat{\beta}$ s) of the equations for non-blacks (white, "W") in the respective equations for black (black, "B"). Thus, in general, for the linear decomposition technique, the equations for each ethnic-racial group j could be expressed as follows:

$$\bar{Y}^W = \bar{X}^W \hat{\beta}^W, \bar{Y}^B = \bar{X}^B \hat{\beta}^B \text{ e } \tilde{Y}^B = \bar{X}^B \hat{\beta}^W \quad (2)$$

where, \bar{X}^j represents the matrix of average characteristics for each group j ; the $\hat{\beta}^j$ s refer to the partial coefficients of the variables, revealing the return to this set of characteristics; \bar{Y}^j is the average predicted value of the dependent variable for individuals of each population group; and, finally, \tilde{Y}^B estimates the counterfactual mean of these explanatory variables for blacks.

¹³ With the impetus to test and prove the efficient adequacy of the two proposed econometric models - whether in terms of robustness, or in relation to non-omission of relevant variables -, the estimation/competition between probit and logit nonlinear decomposition models is proceeded.

¹⁴ In this study, the "yellow/asians" and "indigenous" are disregarded, according to the understanding that their inclusion would cause a possible bias. Each of these groups has characteristics that are significantly different in relation to the groups in which they are inserted.

¹⁵ The authors argue that the inclusion of a set of socioeconomic variables and identification of the Federative Unit mitigate possible problems associated to the bias caused by the omission of variables highly correlated to the variable referring to race/color.

¹⁶ It should be emphasized that all variables - explanatory and dependent - are constructed according to a methodology proposed by França, Duenhas and Gonçalves (2014), Souza and Cunha (2015) and Cerqueira and Coelho (2017).

¹⁷ Used only in the estimation of the model related to physical assault.

¹⁸ In the salary model proposed by Jacob Mincer (1974), the mincerian equation of wage determination corresponds to a structure used to estimate returns with education and experience.

Through this stage, for a linear regression function, the Oaxaca-Blinder decomposition could be expressed as:

$$\bar{Y}^W - \bar{Y}^B = [\bar{X}^B (\hat{\beta}^W - \hat{\beta}^B)] + [(\bar{X}^W - \bar{X}^B) \hat{\beta}^W] \quad (3)$$

However, according to Yun's (2004) adaptation, due to the binary character of the variables of interest - where the $\text{Prob}(Y_i = 1 | x) = \Phi(x, \beta)$, and assuming that Φ is a standard normal cumulative distribution function (CDF) -, the discrimination component, expressed by homicides and physical assault, is estimated at the national level, by the following nonlinear decomposition:

$$\bar{Y}^W - \bar{Y}^B = \sum_{i=1}^T W_{\Delta\beta}^i [\Phi(\bar{X}^B \hat{\beta}^W) - \Phi(\bar{X}^B \hat{\beta}^B)] + \sum_{i=1}^T W_{\Delta X}^i [\Phi(\bar{X}^W \hat{\beta}^W) - \Phi(\bar{X}^B \hat{\beta}^W)] \quad (4)$$

where,

$$W_{\Delta\beta}^i = \frac{\bar{X}_i^B (\hat{\beta}_i^W - \hat{\beta}_i^B)}{\bar{X}^B (\hat{\beta}^W - \hat{\beta}^B)}, W_{\Delta X}^i = \frac{(\bar{X}_i^W - \bar{X}_i^B) \hat{\beta}_i^W}{(\bar{X}^W - \bar{X}^B) \hat{\beta}^W}, \text{ and } \sum_{i=1}^T W_{\Delta\beta}^i = \sum_{i=1}^T W_{\Delta X}^i = 1 \quad (5)$$

Note that, in both (3) and (4), the left side of equality shows the total difference and the right side indicates the sum of the price-effect - or the portion of the difference between the $\hat{\beta}^j$ s - with the characteristic-effect - or the portion of the difference derived from the difference between the explanatory (\bar{X}^j) variables. According to the literature, the price-effect corresponds to the discrimination component.

The decomposition technique developed by Yun (2004) seeks to correctly weigh the contribution of each explanatory variable to the characteristic and price effects, represented in the above equation, respectively, by $W_{\Delta X}^i$ and $W_{\Delta\beta}^i$. And, to obtain an adequate weight, the author proposes two types of approximation: (i) to evaluate the value of the function using the average of the characteristics; and (ii) applying a first-order Taylor expansion to linearize the characteristic and price effects around $\bar{X}^W \hat{\beta}^W$ and $\bar{X}^B \hat{\beta}^B$, respectively (YUN, 2004).

In order to show the participation of each specific set of characteristics - individual, socioeconomic and place of residence - to explain the discriminatory phenomenon under consideration, the explanatory variables were grouped in their respective blocks of attributes for the application of the decomposition methodology of Oaxaca-Blinder.

3.3. Source and data processing

The databases required for this purpose are: (i) for the analysis of homicides¹⁹, according to the methodology developed by Cerqueira and Moura (2013b)²⁰, the set of information on all individuals of interest, selected by the PNAD, data set for 2009, were combined with mortality data collected in the Mortality Information System (SIM/MS/SVS/DATASUS)²¹, for the same period of the PNAD; on the other hand, (ii) the analysis of physical assault uses the PNAD (2009).

3.2.1. Victims of homicidal violence

The homicide database is a probabilistic sample representative of the Brazilian population, aged 15 years or older, for the period between September/2008 and September/2009. Composed by the PNAD (2009) information set, combined with mortality data collected in the SIM/DATASUS, with the time frame in correspondence to the aforementioned edition of the PNAD, all observations related to

¹⁹ The construction of the homicide variable will be based on the conjunction of the categories of deaths related to aggressions (X85-Y09) and legal interventions/war operations (Y35-Y36), based on the methodology proposed by Cerqueira and Coelho (2017).

²⁰ This same methodology was also adopted and widely applied in studies developed by Cerqueira and Coelho (2015, 2017).

²¹ Department of Informatics of the Unified Health System (SUS), subordinate to the Ministry of Health of the Federal Government.

SIM/DATASUS received a sample weight equal to one, and the other information, collected from the PNAD (2009), maintained their respective weights, established by specific methodology. Therefore, the resulting database contains 350,425 observations, which with the sample weights represent 147,061,444 individuals of the Brazilian population for the period of analysis.

Table 1 summarizes the descriptive statistics - based on the means of the variables used in this survey - of the population of interest, revealing the proportion of each category in relation to the total of the sample used. It is noteworthy that 49,630 (0.03%) individuals of this population were victims of homicidal violence in the period in question. Now, focusing on the population groups of blacks and non-blacks - even in Table 1 - it can be observed that, while the black population generally represents just over half of the Brazilian citizens (approximately 50.27%), they are underrepresented in the strata of higher education, and suffer a higher prevalence of lethal violence, 32,483 homicides of blacks - corresponding to a rate of 0.04% of this population - compared to 14,532 (0.02%) among whites, in 2009. The black population also has a higher proportion of single, with a younger profile and lower life expectancy - in the age group of 60 years or more, a representativity of 16.81% is observed for whites, in contrast to only 12.97% among blacks.

Table 1 - Descriptive statistics (mean) of the variables used in the research, by ethnicity/race

Variables	Full sample	Blacks	Non-blacks
Homicide	0.03%	0.04%	0.02%
Ethnicity/Race: White	49.73%	0.00%	100.00%
Gender/Sex: Woman	52.15%	50.84%	53.47%
Marital status: Married	51.69%	47.26%	56.24%
Age (15-17 years)	7.15%	8.02%	6.32%
Age (18-24 years)	15.84%	16.77%	14.94%
Age (25-39 years)	31.21%	32.72%	29.72%
Age (40-59 years)	30.85%	29.52%	32.21%
Age (60 years, or more)	14.95%	12.97%	16.81%
Education (up to 7 years of study)	44.79%	52.48%	37.18%
Education (8-11 years of study)	41.50%	39.89%	43.31%
Education (12 years, or more, of study)	13.65%	7.63%	19.51%
North	7.49%	11.40%	3.56%
Northeast	26.84%	38.22%	15.59%
Midwest	7.22%	8.27%	6.11%
Southeast	43.63%	36.11%	50.99%
South	14.82%	6.01%	23.75%
Observations (Sample)	350,425	194,423	151,328
Observations (with Sample Weights)	147,061,444	73,339,389	72,555,165

Source: Own elaboration. Information collected from PNAD (2009) and SIM/DATASUS, for the same period.

Note: The base categories, respectively, are: do not suffer homicide; black; man; and single.

3.2.2. Victims of physical assault

On the other hand, the data on physical assault were extracted from PNAD (2009), constituting a probabilistic sample that represents the Brazilian population, aged 10 years or more, for the period between September/2008 and September/2009; in addition, all observations maintained their respective weights, according to the methodology adopted by IBGE. Therefore, the resulting database contains 337,510 observations that, according to the sample weights, represent 164,640,165 individuals of the Brazilian population for the time frame analyzed.

Table 2 compiles the descriptive statistics of the population of interest, revealing the proportion of each category in relation to the full sample. It is observed that of this population, 2,549,827 (1.55%) individuals became victims of physical assault during the study period. Focusing on the population

groups of blacks and non-blacks - also in Table 2 - it is observed that, while more than half of the Brazilian citizens are self-declared blacks (around 51.04%), they are overrepresented in the lower levels of education and income, suffering higher prevalence of physical assault, revealing that 1,488,691 blacks - a rate of 1.79% of this group - reported having experienced this type of violence, contrasting with the report of 1,041,719 white individuals (1.30%) in the same period. In a similar way, to the study case for homicides, with the same time frame, it is emphasized that the black population has a younger profile, with lower life expectancy and higher proportion of singles.

Table 2 - Statistical analysis with the mean of the variables used in the research, by ethnicity/race

Variables	Full sample	Blacks	Non-blacks
Physical assault	1.55%	1.79%	1.30%
Ethnicity/Race: White	48.96%	0.00%	100.00%
Gender/Sex: Woman	51.76%	50.49%	53.06%
Marital status: Married	45.58%	41.03%	50.35%
Age (10-14 years)	10.71%	12.09%	9.32%
Age (15-17 years)	6.39%	7.05%	5.73%
Age (18-24 years)	14.14%	14.74%	13.55%
Age (25-39 years)	27.87%	28.76%	26.95%
Age (40-59 years)	27.55%	25.96%	29.21%
Age (60 years, or more)	13.35%	11.41%	15.25%
Income <i>per capita</i> (up to 1/2 minimum wage)	27.61%	37.32%	17.49%
Income <i>per capita</i> (more than 1/2 up to 2 minimum wages)	54.58%	53.28%	56.05%
Income <i>per capita</i> (more than 2 up to 5 minimum wages)	13.57%	7.85%	19.49%
Income <i>per capita</i> (more than 5 minimum wages)	4.23%	1.56%	6.96%
Education (up to 7 years of study)	50.50%	58.05%	42.79%
Education (8-11 years of study)	37.31%	35.25%	39.52%
Education (12 years, or more, of study)	12.19%	6.71%	17.69%
Urban/Rural area: Urban	84.09%	80.77%	87.49%
North	7.74%	11.69%	3.66%
Northeast	27.28%	38.43%	15.91%
Midwest	7.21%	8.19%	6.14%
Southeast	43.09%	35.71%	50.56%
South	14.67%	5.98%	23.74%
Observations (Sample)	337,510	184,162	151,139
Observations (with Sample Weights)	164,640,165	83,395,677	79,995,979

Source: Own elaboration. Information collected from PNAD (2009).

Note: The base categories, respectively, are: do not suffer physical assault; black; man; single; and, rural.

4. Results²² and discussions

4.1. Adjustment estimation and efficient adaptation of the models

Tables 3 and 4 present the estimated coefficients in terms of marginal effects - estimation (2), for the probit model, and estimation (5) for the logit model, and the robust standard-errors associated in parentheses, respectively, for homicides and physical assault. Note that, in both models, there is a high statistical significance for the majority of the parameters; besides observing the correct adjustment of these, according to the LR (Maximum Likelihood Ratio) test. However, in relation to the partial coefficients - more realistic, because they are more smoothed in terms of impact for the logit models - and

²² It should be emphasized that all the models proposed in this methodological section were also estimated without assigning the respective sample weights, attesting to the consistency of the results obtained; moreover, the correlation matrix between the explanatory variables ensures the absence of multicollinearity for all the estimated models.

for the robust standard-errors - relatively higher in probit estimations - the logit regressions prove to be better adjusted and efficiently the most appropriate, comparatively, the probit regressions for both dependent variables under consideration.

Otherwise, the model adjustment tests also attest to the preference for the logit model for homicides and physical assault, due to: (i) McFadden's²³ Pseudo-R² higher value - - even if only for homicides, in equality for physical assault -; (ii) higher proportion of correctly predicted observations - superior to homicides, and equal to physical assault; and, (iii) lower value for the Akaike Information Criterion (AIC*), for both dependent variables.

Moreover, according to Pohlman and Leitner (2003), the logit regressions prove to be better adjusted and efficiently the most appropriate for the analysis in question, compared to the probit regressions, due to the characteristic of the logistic cumulative distribution, with slightly heavier tails - smoothing the variations of the estimated partial coefficients -, besides the relative mathematical simplicity characteristic to the logit models.

The analysis of the partial coefficients estimated by the logit model - Table 3 - for homicides shows that: (i) in relation to the block of individual characteristics, white, female and married individuals, in general, are less likely to suffer this type of violence, compared to the respective base-categories under consideration, and the probability of suffering homicide increases with age, reaching the peak in the group between 18 and 24 years, gradually reducing since then; (ii) regarding the block of socioeconomic attributes, it is observed that individuals with a higher education level are exposed to a lower probability of suffering lethal violence. These results confirm, not only the descriptive statistics proposed by Waiselfisz (2015) and Cerqueira *et al.* (2018), but also the empirical results obtained by Cerqueira and Moura (2013b) and Cerqueira and Coelho (2017).

Table 3 - Comparative results of the probit and logit estimations for homicides (Brazil, 2009)

Homicide	(1) Probit	(2) Marginal Effects	(3) Logit	(4) Odds Ratio	(5) Marginal Effects
Ethnicity/Race:	-0.1255***	-0.000107**	-0.4452***	0.6407***	-0.000110**
White	(0.0461)	(0.000042)	(0.1688)	(0.1082)	(0.000045)
Gender/Sex:	-0.6363***	-0.000542***	-2.3893***	0.0917***	-0.000589***
Woman	(0.0194)	(0.000070)	(0.0592)	(0.0054)	(0.000077)
Marital status:	-0.4138***	-0.000353***	-1.5179***	0.2192***	-0.000374***
Married	(0.0179)	(0.000050)	(0.0604)	(0.0132)	(0.000054)
15 to 17	0.1268***	0.000108***	0.5121***	1.6688***	0.000126***
	(0.0211)	(0.000024)	(0.0770)	(0.1285)	(0.000027)
18 to 24	0.4435***	0.000378***	1.6340***	5.1241***	0.000403***
	(0.0201)	(0.000051)	(0.0697)	(0.3569)	(0.000055)
25 to 39	0.3749***	0.000320***	1.3817***	3.9815***	0.000341***
	(0.0180)	(0.000042)	(0.0689)	(0.2743)	(0.000047)
40 to 59	0.1769***	0.000151***	0.6604***	1.9357***	0.000163***
	(0.0145)	(0.000020)	(0.0548)	(0.1062)	(0.000022)
Education (up to 7 years)	0.4121***	0.000351***	1.4808***	4.3966***	0.000365***
	(0.0220)	(0.000050)	(0.0808)	(0.3554)	(0.000053)
Education (12, or more, years)	-0.0475	-0.000041	-0.2076*	0.8126*	-0.000051*
	(0.0318)	(0.000026)	(0.1194)	(0.0971)	(0.000028)
Geographical Region	Yes	Yes	Yes	Yes	Yes
Constant	-3.7041***	-	-9.1653***	0.0001***	-
	(0.0611)		(0.2270)	(2.37e-05)	

²³ For both regressors, Pseudo-R² values - in the probit and logit estimates - are not very high. However, according to Hosmer and Lemeshow (2000) and Long and Freese (2001), such scenario is a common situation when working with qualitative and micro-data models.

Table 3 (Continuation)

Observations	296,447	296,447	296,447	296,447	296,447
Test LR		53,470.925		54,539.501	
P-value LR		0.000		0.000	
Pseudo-R ² (McFadden)		0.265		0.270	
Count-R ²		0.8971		0.8974	
AIC*		148,597.683		147,529.107	

Source: Research results.

Note: Robust standard-errors in parentheses, and adjusted for 27 clusters (at Federative Unit level). ***Significant at 1%; **Significant at 5%; *Significant at 10%. The base categories, respectively, are: do not suffer homicide; black; man; and single. The categories omitted were: age (60 years or more); education (8-11 years); and the Northeast region.

Complementarily, Figure 1 presents the estimated probability distributions²⁴ - by applying the logit model - of suffering homicidal violence, according to age and educational level, for both population groups. It is observed in Part A that in the age group corresponding to the youth (between 15 and 29 years of age) there is an intensification of the mortality differential between blacks and non-blacks; and at the apex of lethality for both groups at age of 20, the probability of blacks becoming victims exceeds by approximately 164% to the non-blacks. In Part B, it is noted that the mortality differential between the groups is higher, precisely in the educational segment that concentrates the victimization, for individuals with up to seven years of study.

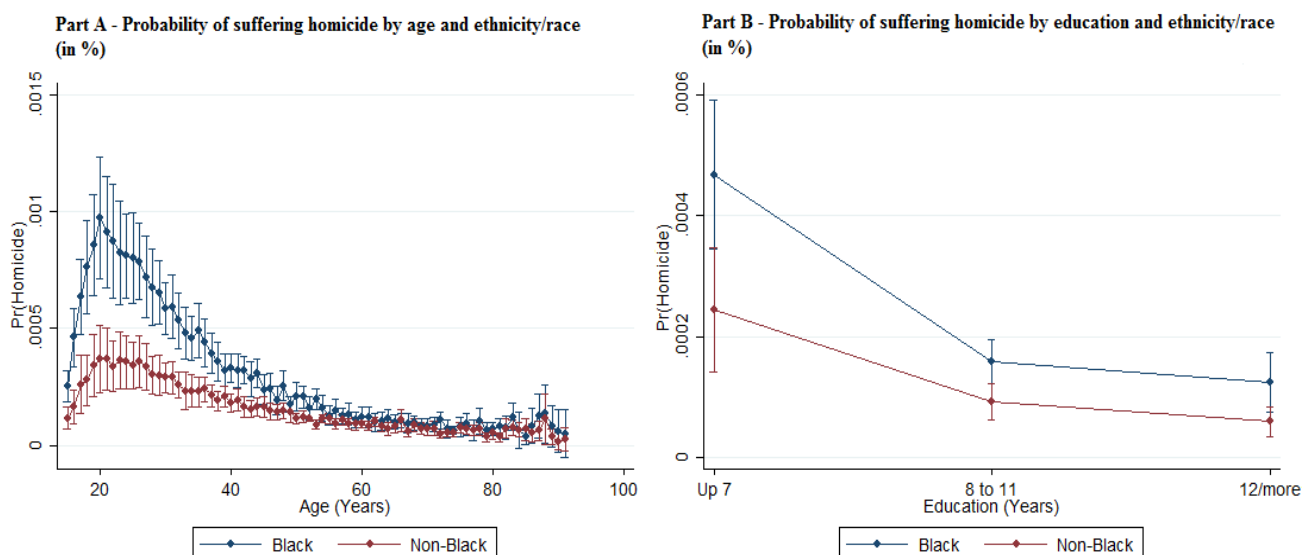


Figure 1 - Distribution of the estimated probability of suffering homicide among blacks and non-blacks, by age and education (Brazil, 2009).

Source: Own elaboration based on data from PNAD (2009) and SIM/DATASUS, for the same period, and research results.

Note: In Part A only the interval between 15-91 years is considered, due to the high incidence of missing values in the higher age groups.

The partial coefficients estimated by the logit model for physical assault - Table 4 -, similarly to homicides, reveal that: (i) in relation to the block of individual characteristics; white, female and married individuals, in general, are less likely to suffer this type of violence, compared to the respective base-categories under evaluation, and the probability of suffering physical assault increases with age, reaching the apex in the group between 18 and 24 years of age, gradually reducing since then; (ii) regarding the

²⁴ Figure 1 relates in a two-dimensional way the ethnic-racial identity of homicide victims with their age and educational level. A more appropriate and robust econometric analysis should jointly consider other socioeconomic dimensions and attributes that affect, directly and/or indirectly, the probability of individuals becoming victims of homicide (CERQUEIRA; COELHO, 2015), which is rightly proposed by the methodological approach in this study. The option to express the age variable in continuous form, in the logit regression (Figure 1), aims to externally point out the estimated probability distribution of suffering homicidal violence.

socioeconomic attributes block, it can be observed that individuals with higher education and income levels are exposed to lower probabilities of physical assault. In this case, as for homicides, the results of the estimated model also confirm, not only the descriptive statistics proposed by Waiselfisz (2015) and Cerqueira *et al.* (2018), but also the empirical results obtained by Cerqueira and Moura (2013b), Souza and Cunha (2015) and Cerqueira and Coelho (2017).

Table 4 - Comparative results of probit and logit estimations for physical assault (Brazil, 2009)

Physical Assault	(1) Probit	(2) Marginal Effects	(3) Logit	(4) Odds Ratio	(5) Marginal Effects
Ethnicity/Race:	-0.0561***	-0.0022***	-0.1435***	0.8663***	-0.0022***
White	(0.0166)	(0.0006)	(0.0423)	(0.0367)	(0.0006)
Gender/Sex:	-0.1510***	-0.0058***	-0.3760***	0.6866***	-0.0057***
Woman	(0.0171)	(0.0007)	(0.0423)	(0.0291)	(0.0007)
Marital status:	-0.2207***	-0.0084***	-0.5635***	0.5692***	-0.0086***
Married	(0.0146)	(0.0006)	(0.0375)	(0.0213)	(0.0006)
10 to 14	0.0739**	0.0028**	0.2292**	1.2576**	0.0035**
	(0.0361)	(0.0014)	(0.0933)	(0.1174)	(0.0015)
15 to 17	0.2560***	0.0098***	0.6860***	1.9858***	0.0105***
	(0.0297)	(0.0012)	(0.0784)	(0.1557)	(0.0012)
18 to 24	0.3442***	0.0132***	0.9061***	2.4745***	0.0138***
	(0.0322)	(0.0013)	(0.0853)	(0.2110)	(0.0014)
25 to 39	0.3090***	0.0118***	0.8255***	2.2830***	0.0126***
	(0.0351)	(0.0014)	(0.0909)	(0.2075)	(0.0014)
40 to 59	0.1675***	0.0064***	0.4557***	1.5773***	0.0070***
	(0.0301)	(0.0011)	(0.0825)	(0.1301)	(0.0012)
Income <i>pc</i> (1/2 to 2 MW)	-0.0984***	-0.0038***	-0.2397***	0.7868***	-0.0037***
	(0.0267)	(0.0011)	(0.0684)	(0.0538)	(0.0011)
Income <i>pc</i> (2 to 5 MW)	-0.1098***	-0.0042***	-0.2734***	0.7608***	-0.0042***
	(0.0378)	(0.0015)	(0.0973)	(0.0740)	(0.0015)
Income <i>pc</i> (more than 5 MW)	-0.1345**	-0.0051**	-0.3324**	0.7172**	-0.0051**
	(0.0566)	(0.0022)	(0.1459)	(0.1046)	(0.0023)
Education (up to 7 years)	0.1025***	0.0039***	0.2678***	1.3071***	0.0041***
	(0.0227)	(0.0008)	(0.0556)	(0.0726)	(0.0008)
Education (12, or more, years)	-0.0961***	-0.0037***	-0.2645***	0.7676***	-0.0040***
	(0.0245)	(0.0010)	(0.0649)	(0.0498)	(0.0010)
Urban/Rural	0.2903***	0.0111***	0.7518***	2.1209***	0.0115***
	(0.0392)	(0.0015)	(0.1008)	(0.2139)	(0.0016)
Geographical Region	Yes	Yes	Yes	Yes	Yes
Constant	-2.3902***	-	-4.8280***	0.0080***	-
	(0.0799)		(0.2044)	(0.0016)	
Observations	291,275	291,275	291,275	291,275	291,275
Test <i>LR</i>		1,477.897		1,486.621	
P-value <i>LR</i>		0.000		0.000	
Pseudo-R ² (McFadden)		0.029		0.030	
Count-R ²		0.9835		0.9835	
AIC*		47,633.789		47,625.065	

Source: Research results.

Note: Robust standard-errors in parentheses, and adjusted for 27 clusters (at Federative Unit level). ***Significant at 1%; **Significant at 5%; *Significant at 10%. The base categories, respectively, are: do not suffer physical assault; black; man; single; and, rural. The omitted categories were: income *per capita* (up to 1/2 minimum wage); education (8-11 years); age (60 years or more); and the northern region.

Extending the results obtained in the probit and logit models, Figure 2 shows the estimated probability distributions²⁵ - through logit regression - of suffering physical assault according to age, educational level and income, for blacks and whites. Also in Figure 2, Part A, it is noted that in the age group between 25-39 years of age the differential of victimization among the population groups is intensified; and at the apex of the aggressions on both groups, between 18-24 years, the probability of blacks becoming victims exceeds by approximately 28% to the non-blacks. In Part B, it can be observed that the differential of victimization by aggressions between the groups is higher, precisely in the educational segment that concentrates the victimization, for individuals with up to seven years of study. Finally, with regard to income, although the aggressions on the Brazilian population are concentrated on the segment of up to half a minimum wage, it is verified that the greater amplitude between the population groups occurs for individuals who earn between two and five minimum wages (Figure 2, Part C).

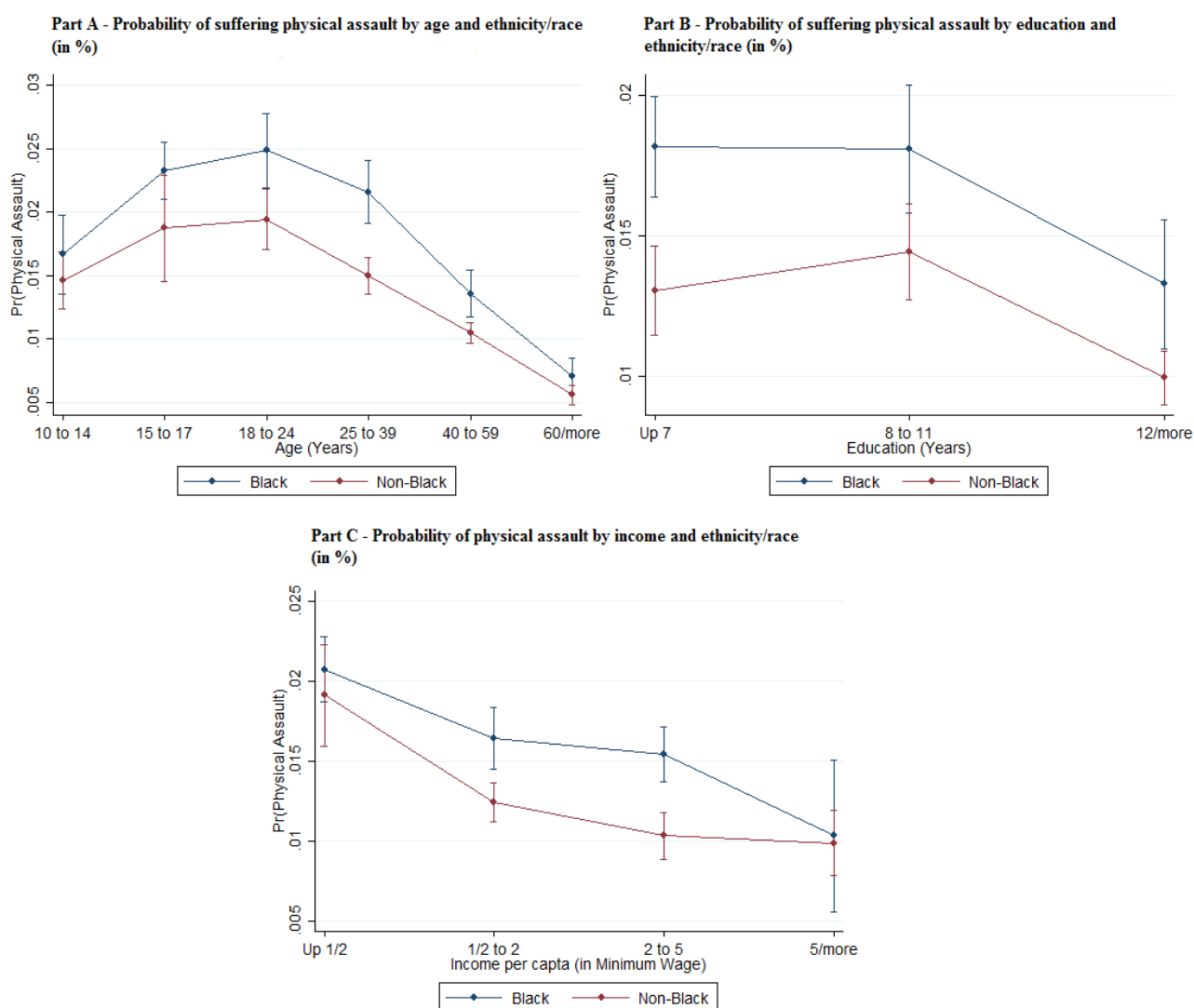


Figure 2 - Distribution of the estimated probability of suffering physical assault between blacks and non-blacks, according to age, education and income (Brazil, 2009).

Source: Own elaboration based on data from PNAD (2009), and research results.

²⁵ Figure 2 relates in a two-dimensional way the ethnic-racial identity of the victims of physical assault with their age, educational level and budget allocation. A more appropriate and robust econometric analysis should jointly consider other socioeconomic dimensions and attributes that affect, directly and/or indirectly, the probability of individuals becoming victims of violence against physical integrity (CERQUEIRA; COELHO, 2015), which is rightly proposed by the methodological approach of this study.

4.2. Decomposing the differential of victimization between blacks and non-blacks

Having set the most adequate and efficient models for both explained variables - homicides and physical assault - the second phase of the proposed methodology follows the decomposition²⁶ of the characteristic and price (or discriminatory component) effects, through the application of the Oaxaca-Blinder technique.

Table 5 presents the results of the effects decomposition, characteristic (“explained” portion) and price (“unexplained” portion), at the national level, for homicides and physical assault. Note that the Oaxaca-Blinder decomposition presents high statistical significance for all partial coefficients estimated.

Table 5 - Results of the Oaxaca-Blinder decomposition for homicide and physical assault (Brazil, 2009)

Overall	Homicide (Brazil)	Physical Assault (Brazil)
Group 1 (Black)	0.000341*** (4.39e-05)	0.0190*** (0.0012)
Group 2 (White)	0.000149*** (3.17e-05)	0.0134*** (0.0007)
Difference	0.000193*** (4.49e-05)	0.0057*** (0.0010)
Explained	0.000109*** (2.43e-05)	0.0035*** (0.0006)
Unexplained	8.33e-05*** (2.93e-05)	0.0022*** (0.0007)
Explained		
Individuals characteristics	5.86e-05*** (1.08e-05)	0.0012*** (0.0002)
Socioeconomic characteristics	6.51e-05*** (9.13e-06)	0.0020*** (0.0003)
Location characteristics	-1.43e-05 (2.29e-05)	0.0002 (0.0005)
Unexplained		
Individuals characteristics	-2.96e-05 (2.68e-05)	-0.0002 (0.0025)
Socioeconomic characteristics	1.60e-06 (1.30e-05)	0.0037*** (0.0009)
Location characteristics	-0.000206*** (7.64e-05)	0.0027 (0.0023)
Constant	0.000318*** (7.75e-05)	-0.0041 (0.0037)
Observations	296,447	291,275

Source: Research results.

Note: Robust standard-errors in parentheses, and adjusted for 27 clusters (at Federative Unit level). ***Significant at 1%; **Significant at 5%; *Significant at 10%. Regarding the blocks of characteristics, the categories omitted were, respectively: age (60 years or more); income per capita (up to 1/2 MW), only in the estimation for physical assault; education (8-11 years); and the Northeast region (for homicide) and the North region (for physical assault).

The analysis of the estimated parameters associated with the decomposition for both dependent variables - still in Table 5 - shows that: (i) the differential, at the national level weighted by the respective population groups, is positive, with the probability of victimization for blacks (group 1) surpassing in 129% the probability for non-blacks (group 2) in the case of homicides, and in 42% in case of physical assault, demonstrating the relative concentration of the victimization process on the black population,

²⁶ Estimates for homicides and physical assault without sample weights attest to the consistency of the partial coefficients obtained by this study.

considering, in addition, all three blocks of characteristics (individual, socioeconomic and place of residence) previously presented; (ii) it is also noted that this differential, in general, is equally distributed between the characteristic and price effects; (iii) with respect to the characteristic-effect, it is observed that individual and socioeconomic attributes infer greater relative weight in its composition; lastly, (iv) the higher participation of the price-effect - due to unobservable (subjective) effects -, in the composition of the differential between both groups, raises strong evidence regarding racial discrimination, expressed here by its violent character. Results, which corroborate, not only the descriptive statistics proposed by Waiselfisz (2015) and Cerqueira *et al.* (2018), but also the empirical results obtained by Cerqueira and Moura (2013b), Souza and Cunha (2015) and Cerqueira and Coelho (2017).

Table 6 presents the results of the decomposition for homicides among the population groups - and even between price and characteristic effects - for each geographic region of Brazil. Statistically significant - at 1% - this differential was not statistically significant only in the southern region, for which, on average, there are relatively close probabilities of suffering homicidal violence between blacks and non-blacks. It is also observed that this differential is more intense in the northern region, passing to the northeastern and midwestern regions, to the situation of the lower differential in the southeastern region (Figure 3, Part A).

Table 6 - Results of the Oaxaca-Blinder decomposition for homicide, by major regions (Brazil, 2009)

Homicide	(1) OB (North)	(2) OB (Northeast)	(3) OB (Midwest)	(4) OB (Southeast)	(5) OB (South)
Group 1 (Black)	0.000447*** (8.09e-05)	0.000376*** (7.31e-05)	0.000396*** (8.41e-05)	0.000278*** (6.72e-05)	0.000204*** (6.78e-05)
Group 2 (White)	0.000142*** (3.85e-05)	9.33e-05*** (1.90e-05)	0.000140*** (3.35e-05)	0.000129*** (2.03e-05)	0.000232** (0.000116)
Difference	0.000305*** (7.53e-05)	0.000283*** (6.35e-05)	0.000256*** (6.92e-05)	0.000149*** (5.24e-05)	-2.74e-05 (4.88e-05)
Explained	0.000111*** (1.29e-05)	7.93e-05*** (2.11e-05)	0.000110*** (2.71e-05)	0.000102*** (2.49e-05)	0.000101* (5.73e-05)
Unexplained	0.000194*** (6.52e-05)	0.000203*** (5.06e-05)	0.000146*** (5.47e-05)	4.77e-05 (4.51e-05)	-0.000129 (0.000105)
Explained					
Individuals Carac.	5.66e-05*** (9.78e-06)	4.11e-05*** (1.55e-05)	4.36e-05*** (7.98e-06)	4.73e-05*** (1.12e-05)	2.98e-05*** (9.61e-06)
Socioeconomic Carac.	4.17e-05*** (8.22e-06)	3.78e-05*** (7.50e-06)	5.94e-05*** (1.60e-05)	5.88e-05*** (1.17e-05)	4.07e-05* (2.34e-05)
Location Carac.	1.28e-05** (5.31e-06)	3.80e-07 (1.43e-05)	6.85e-06 (9.89e-06)	-4.39e-06 (1.15e-05)	3.07e-05 (2.48e-05)
Unexplained					
Individuals Carac.	5.33e-05 (0.000158)	4.90e-05 (6.24e-05)	-0.000219* (0.000112)	-0.000246 (0.002010)	1.34e-05 (7.23e-05)
Socioeconomic Carac.	-1.31e-05 (3.17e-05)	4.04e-05** (1.81e-05)	-3.05e-05 (4.79e-05)	-5.49e-05 (0.000425)	-7.72e-06 (1.18e-05)
Location Carac.	-1.22e-05 (0.000112)	-0.000376*** (0.000106)	-0.000214 (0.000200)	0.001286 (0.010000)	5.36e-05*** (1.13e-05)
Constant	0.000166 (0.000192)	0.000489*** (0.000113)	0.000610* (0.000266)	-0.000938 (0.007543)	-0.000188* (0.000110)
Observations	38,279	94,213	31,663	88,008	44,284

Source: Research results.

Note: Robust standard-errors in parentheses, and adjusted for 27 clusters (at Federative Unit level). ***Significant at 1%; **Significant at 5%; *Significant at 10%. Regarding the blocks of characteristics, the categories omitted were, respectively: age (60 years or more); education (8-11 years); and, respectively, in each region, the states of Pará, Alagoas, Distrito Federal, Espírito Santo and Paraná.

Finally, by focusing on the particular spatial dynamics of the price-effect, Figure 3 - Part B²⁷ - reveals that the discriminatory racial phenomenon emanating from lethal violence intensifies as it moves from the Midwest and North towards the states in the Northeast region of the country. Moreover, this approach, based on previous analyses, corroborates the reality widely discussed in the literature specific to the topic of racial discrimination in Brazil.

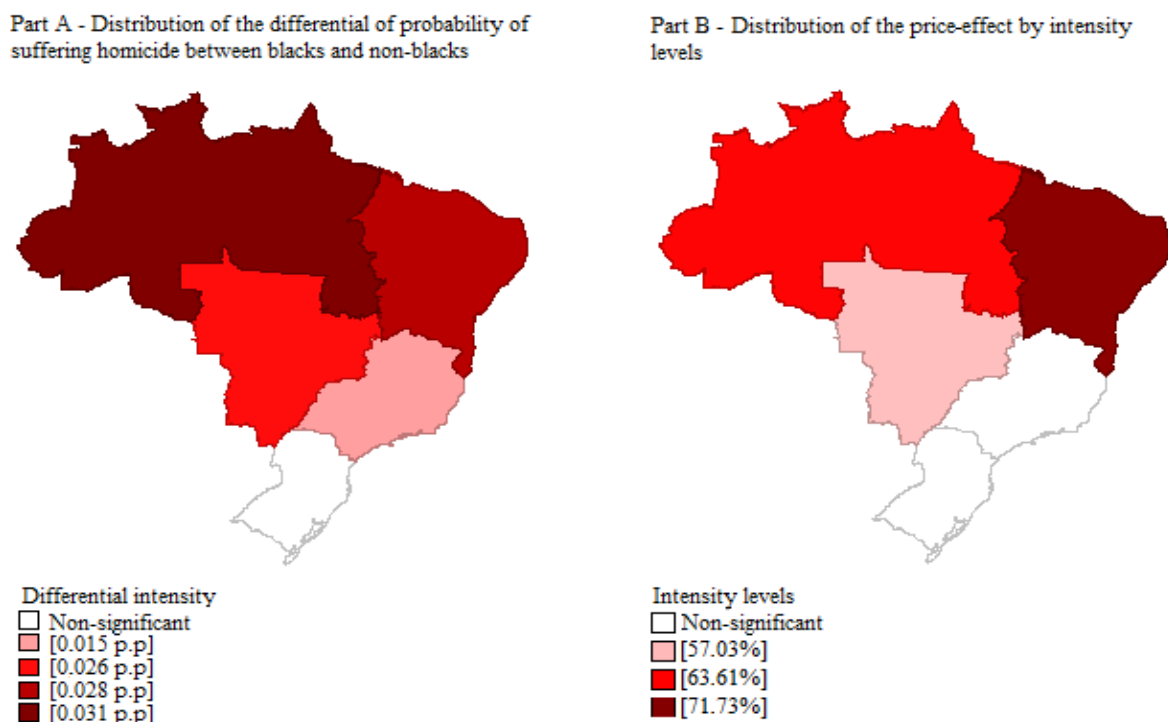


Figure 3 - Distribution analysis of the differential of probability of suffering homicide between blacks and non-blacks and distribution of price-effect for homicides according to levels of intensity, by major regions (Brazil, 2009).

Source: Own elaboration based on data from PNAD (2009) and SIM/DATASUS, for the same period, and research results.

Table 7 shows the results of the decomposition for physical assault among the population groups, as well as the participation of the price and characteristic effects, for each Brazilian region. It is observed that, statistically significant - at least 5% - this differential is more intense in the southern region, passing, in sequence, to the Midwest, Southeast and Northeast regions, to the situation of the lower differential in the North region (Figure 4, Part A).

Table 7 - Results of the Oaxaca-Blinder decomposition for physical assault, by major regions (Brazil, 2009)

Physical Assault	(1) OB (North)	(2) OB (Northeast)	(3) OB (Midwest)	(4) OB (Southeast)	(5) OB (South)
Group 1 (Black)	0.0196*** (0.0028)	0.0194*** (0.0017)	0.0174*** (0.0027)	0.0155*** (0.0011)	0.0210*** (0.0026)
Group 2 (White)	0.0174*** (0.0025)	0.0160*** (0.0014)	0.0132*** (0.0016)	0.0119*** (0.0011)	0.0124*** (0.0014)
Difference	0.0022** (0.0009)	0.0034** (0.0017)	0.0043*** (0.0016)	0.0036*** (0.0004)	0.0086** (0.0040)
Explained	0.0005 (0.0006)	0.0017*** (0.0006)	0.0024*** (0.0005)	0.0021*** (0.0005)	0.0049*** (0.0006)
Unexplained	0.0017** (0.0008)	0.0017 (0.0016)	0.0019 (0.0016)	0.0015*** (0.0005)	0.0037 (0.0039)

²⁷ The intensity of the price-effect, for each geographic region, is obtained according to the participation of this effect in the composition of the differential of probability of suffering homicide between blacks and non-blacks.

Table 7 (Continuation)

	Explained				
Individuals Carac.	0.0009*** (0.0002)	0.0008*** (0.0002)	0.0006*** (0.0001)	0.0010*** (0.0001)	0.0011*** (0.0002)
Socioeconomic Carac.	0.0009** (0.0004)	0.0013*** (0.0003)	0.0020*** (0.0003)	0.0013*** (0.0005)	0.0032*** (0.0004)
Location Carac.	-0.0012*** (0.0005)	-0.0003 (0.0005)	-0.0003* (0.0002)	-0.0003 (0.0002)	0.0006*** (0.0002)
	Unexplained				
Individuals Carac.	-0.0045 (0.0041)	-0.0011 (0.0037)	0.0081 (0.0074)	-0.0142 (0.0226)	-0.0031 (0.0066)
Socioeconomic Carac.	0.0018 (0.0020)	0.0004 (0.0010)	0.0043* (0.0023)	0.0068 (0.0116)	0.0021 (0.0031)
Location Carac.	0.0043* (0.0025)	-0.0004 (0.0021)	0.0001 (0.0030)	0.0272 (0.0526)	0.0005 (0.0049)
Constant	0.0001 (0.0028)	0.0029 (0.0051)	-0.0106 (0.0081)	-0.0183 (0.0438)	0.0042 (0.0074)
Observations	39,137	93,866	31,766	82,710	43,796

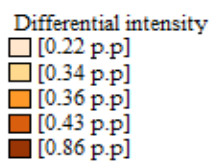
Source: Research results.

Note: Robust standard-errors in parentheses, and adjusted for 27 clusters (at Federative Unit level). ***Significant at 1%; **Significant at 5%; *Significant at 10%. Regarding the blocks of characteristics, the categories omitted were, respectively: income *per capita* (up to 1/2 minimum salary); education (8-11 years); age (60 years or more); and, respectively, in each region, the states of Amapá, Rio Grande do Norte, Goiás, Espírito Santo and Paraná.

Specifically with respect to the price-effect, Figure 4 - Part B²⁸ -, although only significant for two Brazilian regions, it is noted that the spatial dynamics for discriminatory racial phenomenon expressed by physical assault reveals a tendency to deepen while the analysis is directed from the southeastern region to the states of the northern region of the country. As a complement, this analysis is incorporated to the previous approaches, proving the scenario problematized by specific research to the theme of racial discrimination in Brazil.

²⁸ The intensity of the price-effect, for each geographic region, is obtained according to the participation of this effect in the composition of the differential of probability of suffering physical assault between blacks and non-blacks.

Part A - Distribution of the differential of probability of suffering physical assault between blacks and non-blacks



Part B - Distribution of the price-effect by intensity levels

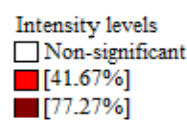


Figure 4 - Distribution analysis of the differential of probability of suffering physical assault between blacks and non-blacks and distribution of price-effect for physical assault according to levels of intensity, by major regions (Brazil, 2009). Source: Own elaboration based on data from PNAD (2009), and research results.

5. Concluding remarks

This work was motivated by the impetus to understand how ethnic-racial identity affects differently the victimization by physical assault and homicides in contemporary Brazil. Due to the unavailability of more recent information on the issue of physical assault, in addition to maintaining a temporally appropriate treatment for the phenomenon of victimization due to violence against physical integrity, the year of 2009 was analyzed for both variables, combining information from PNAD (2009) with data on violent mortality from the Mortality Information System (SIM/DATASUS), with the time frame in correspondence to the aforementioned edition of the PNAD.

The theoretical approach was necessary to support the understanding of the context of social inequalities that are perpetuated in the Brazilian society even today, as a direct consequence of the inexistence of solid mechanisms - social, political and economic - to ensure the civil rights. Revealing that these inequalities are concentrated on the black population, being this overrepresented in the segments of lower education and income; in addition, they are more vulnerable to situations of physical violence and even lethal violence. This scenario, therefore, makes it inevitable and even necessary to challenge the veracity of a nation founded on principles of a racial democracy.

Through the proposed econometric procedures, the severity of this discriminatory racial reality could be verified, proving that: (i) besides the existence of a profound difference in the probability of victimization, whether by homicidal violence or physical assault, between blacks and non-blacks in Brazil; (ii) there is an intense participation, in the composition of this differential between the two groups - for the two variables under consideration -, of an “unexplained” component - or price-effect - by the observable characteristics inserted in the model and, therefore, it suggests strong evidence on the presence, at the national level, of a discriminatory racial character in the social relations, constituting, according to the literature, a direct channel of concentration of victimization on the black population; (iii) on the other hand, in relation to the “explained” component of this victimization differential between the groups, the presence of socioeconomic factors stands out for both variables of violence against physical integrity, constituting an indirect reproduction channel of this scenario; (iv) and, as a complement, it is observed that this discriminatory phenomenon reveals tendencies to deepen while the analysis moves to the northern and northeastern regions of the country.

Conclusively, this scenario, expressed by the concentration of victimization - both by physical assault and by homicidal violence - on the black population of the Brazilian society, allows for the extrapolation of this discriminatory condition for other social relations. In other words, once it has been established that at the limit of human civilization, according to the scenario of violence and even homicidal mortality, there is evidence of racial discrimination, the apprehension about the socioeconomic channels of reproduction of this phenomenon reveals its implicit diffusion, as approached by literature, through the educational, labor and institutional spheres more broadly.

However, this study and consequent analyses do not exhaust this complex scenario. This research only gives a new perspective, trying to keep this discussion fundamentally necessary for the construction of a more inclusive and democratic society. For this reason, it is understood that only the full guarantee of the democratic rights - among them, especially the right to life - in a society called egalitarian will only be achieved through the complete promotion of universal social aspects such as a qualitative education, equity in working conditions, access to housing structure, etc. For this purpose, the state vanguard in the planning and implementation of public policies is necessary.

The achievement of these basic civil and socio-economic conditions, constitutionally established in our *Magna Carta* - the "Citizen" Constitution of 1988 - and democratically necessary, are presented as minimum prerequisites for achieving the national development project - of building a democratic nation - sustainable and sustained, in line with the civilizing social aspects of the most virtuous and prosperous societies.

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