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Cintia Denise Granja and Ana Maria Carneiro

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Maastricht Economic and social Research institute on Innovation and Technology (UNU-MERIT)
email: **info@merit.unu.edu** | website: **http://www.merit.unu.edu**

Boschstraat 24, 6211 AX Maastricht, The Netherlands
Tel: (31) (43) 388 44 00

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Attitudes Towards Inequality in Brazil: an analysis of a highly unequal country

Cintia Denise Granja* and Ana Maria Carneiro†

Abstract

Understanding public views on what is (un)fair is fundamental, as it has several policymaking implications. In this paper, we conduct a cross-sectional analysis of the determinants of attitudes towards inequality and provide an in-depth analysis of inequality perceptions in Brazil, one of the world's most unequal countries. To achieve this goal, the paper is divided as follows. Firstly, it summarises the main determinants of attitudes towards inequality, categorising each factor into one of the following categories: 1) macroeconomic factors; 2) individual economic factors; 3) social factors. Secondly, it presents Brazil's case study, using data from a study conducted in 2019 by Oxfam/Datafolha. The Brazilian data is analysed through Ordered Logistic Regressions. The results show that social factors related to skin colour/race, education and meritocracy beliefs are important to determine Brazilians attitudes towards inequality. For the economic factors, inequality perception was found to be also an essential determinant of attitudes.

Keywords: Equality of income; Redistribution; Role of the government

JEL Classification: D31; D63; H23; I24

1 Introduction

What are the main determinants of people's attitudes towards inequality in Brazil? In this paper, we conduct a cross-sectional analysis of the determinants of attitudes towards inequality (ATI from now on) and provide an in-depth analysis of inequality perceptions in Brazil. To do that, we use data from a study conducted in 2019 through a partnership between Oxfam - an international non-governmental organisation - and Datafolha - a private research institute in Brazil.

Previous literature have identified several important factors to determine ATI, such as: real inequality (Meltzer and Richard, 1981), income and social class (Curtis and Andersen, 2015; Guillaud, 2013; Jaime-Castillo and Sáez-Lozano, 2016; Ohtake, 2008; Reeves and Mager, 2018;

*UNU-MERIT & University of Campinas (granja@merit.unu.edu)
†University of Campinas (anamacs@unicamp.br)

Roex et al., 2018), subjective social position (Guillaud, 2013), past experiences (Guillaud, 2013), future experiences expectation (Wu and Chou, 2017), meritocracy beliefs (García-Sánchez et al., 2019; Roex et al., 2018), gender (Dallinger, 2010; Guillaud, 2013; Hjerm and Schnabel, 2012; Wulfgramm and Starke, 2016), religion (Guillaud, 2013), age (Saar, 2008; Hjerm and Schnabel, 2012), education (Dallinger, 2010; Hjerm and Schnabel, 2012; Roex et al., 2018) and political ideologies (Jaime-Castillo and Sáez-Lozano, 2016).

This paper tests the main drivers of attitudes towards inequality found in previous studies, using Ordered Logistic Regressions. The robustness of our results is checked with a Partial Proportional Odds model.

The contribution of this paper to the existing literature is the following. Firstly, understanding public views on what is (un)fair is fundamental, as it has several policymaking implications. As the literature on the topic suggests, there is increasing evidence that the demand of constituents influences politicians (Kim et al., 2017; Lübker, 2004; Oxfam, 2017), as elected officials tend to implement policies that reflect public opinion, to maximise their chances of re-election (Andersen and Yaish, 2014). Secondly, this paper uses recent microdata, not yet analysed in studies about attitudes towards inequality in Brazil. Thirdly, this paper includes new factors in the analysis, that were not present in previous studies, such as skin colour as one of the possible determinants of attitudes towards inequality in the country. Lastly, it focuses on Brazil, a particularly well-suited research context, as it is one of the most unequal countries in the world (World Bank, 2018). At the same time, little is known about how Brazilians perceive differences in income, as most of the studies of ATI look or at developed countries or at countries participating in cross-country studies in which Brazil does not participate.

To achieve its goal, this paper is divided as follows. Section 2 summarises the main determinants of attitudes towards inequality, based on an extensive literature review on the topic.[1] Section 3 summarises the empirical strategy of the paper, while Section 4 shows the most important results, as well as the robustness tests. Section 5 focuses on discussing the main findings, and Section 6 summarizes the main conclusions of the paper.

[1]The literature search was initially done in February of 2019, using the Web of Science (WoS) base of articles. Using the keywords "attitudes towards inequality" (both in the title and abstract), 31 papers were selected, in which only 27 were available at the time of the search. The same keywords were used in Google Scholar, from which 25 papers were selected for further reading. Additionally, another 21 articles were included by backward referencing or indications from people working on the same field.

2 Literature

Despite the effort to change the current global scenario and narrow disparities of opportunity, income and power, reducing inequality within and between countries is still a significant concern, being one of the 17 Sustainable Development Goals (United Nation, 2019).

Economic inequality has been receiving more attention recently, both in the media and in research (Wiwad et al., 2019). The growing interest towards economic inequality is related not only to the aim to quantify inequality within a society, but also to understand how inequality is maintained through perceptions and attitudes (Wiwad et al., 2019).

How people perceive inequality can vary between societies (Lübker, 2004, 2007) and over the years, according to individual's beliefs and their political, economic and social conditions (Austen, 2006). There is no consensus in the literature on how attitudes towards inequality should be measured, and the data collection on inequality perceptions is also not a straightforward process. Despite the lack of consensus on how to examine and measure ATI, by looking at the literature on the topic, one can still find some common themes. For example, a traditional way to find out whether people in different societies differ in their attitudes towards inequality is to ask them directly (Osberg and Smeeding, 2005). How the information is collected, however, can vary, as the data can be gathered or through surveys embedding direct questions about people's opinions[2], or through social experiments using more indirect questions[3].

This section aims to review the body of literature on the topic and to identify the factors that play a role in changing people's ATI.

For didactic purposes, we grouped the main determinants into three groups: 1) macroeconomic factors; 2) individual economic factors; 3) individual social factors.

2.1 Macroeconomic factors: The role of country inequality and the medium voter approach

An important factor affecting people's ATI is country inequality. The relationship between both has been recognized as a stylized fact (Lübker, 2007) and has received a theoretical foundation in Meltzer and Richard (1981), that postulated that inequality should motivate the median voter to increase their demand for redistribution (García-Sánchez et al., 2019).

[2]Examples of cross-country studies including questions about attitudes towards inequality are: the Oxfam/Datafolha study analysed in this paper; the International Social Survey Programme; the World Values Survey; the European Social Survey; and the European Values Study.

[3]An example of a social experiment for collecting information about attitudes towards inequality is the leaky-bucket experiment (Amiel et al., 1999; Cappelen et al., 2018; Pirttila and Uusitalo, 2010).

The median voter approach has received mixed support from empirical studies (Jaime-Castillo and Sáez-Lozano, 2016). Consistent with the economic self-interest thesis presented by Meltzer and Richard (1981), Curtis and Andersen (2015) found that, even when the current level of inequality is seen as legitimate by the individuals, people will tend to support the decrease in inequality if they might benefit from it.

The direction of the impact of inequality on people's attitude, however, is not a consensus in the literature. Andersen and Yaish (2014), for instance, show a negative relationship between inequality of incomes (measured by the Gini index) and egalitarian preferences. That means that, as inequality of incomes increased in their sample, people tended to accept more the different levels of income between individuals, perpetuating inequality through popular support in a continuous cycle.

Agreeing partially with the median voter approach, Dallinger (2010) shows that, after controlling for the GDP and modelling the Gini as a quadratic relation, inequality had an impact on the support for redistribution. However, the relationship was not the same for every country, since "it is in the liberal world of welfare capitalism that the demand for redistribution is low despite high inequality"(Dallinger, 2010, p.346). The author showed that contextual factors were not the only determinants of preferences for redistribution, but were indeed important to understand the cross-national variation of preferences for redistribution. In the same line, Medgyesi (2013) stated that, even though the average Gini coefficient did not impact people's attitudes, the increase in the coefficient still leads to more discontentment with inequality. The magnitude of the effect, however, according to the author, was small.

In disagreement with the medium voter approach, Hjerm and Schnabel (2012) showed that the Gini did not have an impact on the acceptance of redistribution or taxation. At the same time, Lübker (2007) also showed that demand for redistribution was not a direct function of inequality. As stated by Ohtake (2008, p.88), "[e]ven if income inequality does not change, as measured by the Gini coefficient, people may feel that there is greater income inequality if the determinants of income deviate from their value judgments about income distribution".

2.2 Economic individual factors: The roles of income and social class

Studies indicate that both income and social class are essential elements when looking at people's attitudes towards inequality. For example, using data from the World Values Survey and the European Values Study from 102 countries, Medgyesi (2013) found that people in higher

positions in the income distribution tended to accept more income inequality. The author also found that occupation played an important role, with manual workers being the group with less acceptance of inequality.

Using data from the World Values Survey and national-level statistics for 24 OECD countries, Curtis and Andersen (2015) found that in almost all countries analysed, people with lower levels of income (i.e. working class) were more likely to believe that inequality should be decreased. They also found that class effects tended to be smaller in countries with higher levels of inequality, meaning that, in more unequal countries, the middle classes were just as likely as the working class to think that inequality should be reduced. The conclusion that lower-income groups have more egalitarian preferences was also found in other studies, such as in Reeves and Mager (2018), Roex et al. (2018), Ohtake (2008) and Jaime-Castillo and Sáez-Lozano (2016).

Guillaud (2013) looked at data from the International Social Survey Program for 33 democracies and found that labour market position influenced preferences for redistribution, even after controlling for income. The study found that the odds of a manager to oppose redistribution increased by 40% compared to an office clerk, and concluded that "the less skills an individual has, the higher his/her probability of favouring redistributive polices"(Guillaud, 2013, p.69). A similar conclusion can also be found in Andersen and Yaish (2014) which, by using data from the International Social Survey Program from 20 countries, found that attitudes were positively correlated to individuals' social class. In that sense, people from the working class were found to have more egalitarian views than those in better economic conditions (e.g. managers and professionals).

Not only current income and social class seem to affect people attitudes, but also their previous experiences. Guillaud (2013), for instance, found that people who experienced downward mobility in the past ten years were 32% more likely to support redistribution. In contrast, people who have experienced upward mobility were less likely to support it. Those findings are in agreement with the model proposed by Piketty (1995), which shows that voters with equal incomes but different social origins vote differently. A contrasting impact is found by Andersen and Yaish (2014), who found that, even though individual's class of origin (measured through fathers' social class) and current social class impact positively in desired level of income inequality, no effect is found regarding intergenerational mobility (both upward and downward).

The subjective way in which people perceive themselves regarding their position on the social ladder is also a factor that can be related to their inequality perception. Guillaud (2013,

p.70) found, for instance, that "individuals who express the feeling of belonging to the upper class are less inclined to favour redistribution than those who subjectively belong to the middle class". The symmetry, however, did not hold, since the author did not find a significant effect for individuals who subjectively place themselves in the lower class.[4] In a study about the Hong Kong society, Wu and Chou (2017) found that both people who foresaw themselves as more economically vulnerable, as well as those who perceived themselves as being from lower social classes, tended to support more governance assistance to reduce income inequality.

2.3 Social factors: The role of ideology and values

Not only economic resources are important in determining attitudes towards inequality, as the self-interest approach suggests, but also other factors, such as ideologies and social values (Jaime-Castillo and Sáez-Lozano, 2016; Wu and Chou, 2017). For instance, as García-Sánchez et al. (2019) argued, the relationship between perceived inequality and support for redistribution may be attenuated by the beliefs that justify inequality, such as the beliefs on meritocracy (i.e.that individual efforts leads to success) and on equality of opportunities. The authors showed that more meritocratic countries were associated with less support for progressive taxes and that regions where individuals believed that opportunities were equally distributed expected a lower government role in reducing inequality. Following the same line, Roex et al. (2018) also showed that support to inequality was higher among people who had meritocratic perceptions of their society.

Evidence of a relationship between political affiliation and attitudes towards inequality were also found in the literature (Hjerm and Schnabel, 2012; Jaime-Castillo and Sáez-Lozano, 2016; Wulfgramm and Starke, 2016). For example, Jaime-Castillo and Sáez-Lozano (2016) found that left-wing voters tended to support redistribution towards the poor, while right-wing voters towards the rich. They also found that the probability of supporting redistribution became more polarised in countries with higher direct taxation levels.

How people judge the cause of the income gap can also be an important determinant. For instance, in a study about the Hong Kong society, Wu and Chou (2017) found that those who believed that social injustice was the primary cause of poverty were more likely to support redistribution.

[4]It is important to add that studies about inequality perceptions and social class need to be careful when the data is self-reported. As pointed out by Bamfield and Horton (2009), there is a tendency for people to place themselves in the middle-class, and therefore compare them with the ones from the 'top' or the 'bottom', influencing their perceptions of the income gap.

Regarding the social factors, several studies show the role of gender since it is found that women tend to favour redistribution more than men (Dallinger, 2010; Guillaud, 2013; Hjerm and Schnabel, 2012; Wulfgramm and Starke, 2016). However, the size of the gender gap is not homogeneous in all countries, as pointed out by Jaime-Castillo et al. (2016). The authors analysed data from the World Values Survey from 86 countries and found that the difference between men and women regarding their attitudes towards redistribution was lower in more religious countries. In terms of the influence of religion, Guillaud (2013) found that Catholics and Protestants were both less in favour of redistribution than people who had no religion.

Age and education are other agents that can influence people's attitudes. In a study about Estonian society, Saar (2008) showed that older cohorts in the country tended to be more critical concerning income inequality and that the most important mediator of this effect were justice beliefs. Following the same line, a positive relationship between age and acceptance of taxation and redistribution was found by Hjerm and Schnabel (2012). Regarding education, several studies found a significant and negative impact of each additional year of education in support for equality, meaning that an increase in education years tends to reduce the support for redistribution (Dallinger, 2010; Hjerm and Schnabel, 2012; Roex et al., 2018)

3 Materials and Methods

3.1 Data

To explore the relationship between economic individual and social factors and attitudes towards inequality in Brazil, we used data from a study called "Nós e as Desigualdades" (*We and the Inequalities*, in Portuguese) (Oxfam, 2017, 2019). This study on inequality was conducted by a partnership between Oxfam (an international non-governmental organization) and Datafolha (a private Brazilian public opinion research institute). For their research, 2086 people were interviewed at the national level in February 2019, aiming to reflect the profile of Brazilian society according to the last Census, in terms of gender, age, schooling, skin colour/race, region, type and size of municipality.[5]

The variable of interest analysed in our models is attitudes towards inequality, measured by the individual's opinion on the statement that *reducing differences between rich and poor is*

[5]Their dataset is publicly available and can be downloaded from the following link: https://www.oxfam.org.br/um-retrato-das-desigualdades-brasileiras/pesquisa-nos-e-as-desigualdades/pesquisa-nos-e-as-desigualdades-2019/

important for the progress of Brazil. This variable can take the values of 1 (Completely Disagree), 2 (Partially Disagree), 3 (Neither Agree nor Disagree), 4 (Partially Agree) or 5 (Completely Agree).

A set of explanatory variables are selected from the dataset, each of them belonging to one of the main categories detailed in Section 2. The main causal links, based in previous studies, are summarised below.

Income and social class	People with lower levels of income, as well as those working in occupations that require fewer skills, are more likely to believe that inequality should be decreased (Curtis and Andersen, 2015; Guillaud, 2013; Jaime-Castillo and Sáez-Lozano, 2016; Ohtake, 2008; Reeves and Mager, 2018; Roex et al., 2018).
Subjective social position	Individuals who express the feeling of belonging to the upper class are less inclined to favour redistribution than those who subjectively belong to the middle class (Guillaud, 2013).
Past experiences	People who experienced downward mobility in the past years are more likely to support redistribution, whereas people who have experienced upward mobility are less likely to support it (Guillaud, 2013).
Future experiences	People who foresee themselves as more economically vulnerable tend to support more governance assistance to reduce income inequality (Wu and Chou, 2017).
Meritocracy beliefs	Support for inequality is higher among people who have meritocratic perceptions of their society (García-Sánchez et al., 2019; Roex et al., 2018).
Gender	Women favour redistribution more than men (Dallinger, 2010; Guillaud, 2013; Hjerm and Schnabel, 2012; Wulfgramm and Starke, 2016).
Religion	Religious people are less in favour of redistribution than people who have no religion (Guillaud, 2013).
Age	There is a positive relationship between age and attitudes towards equality (Saar, 2008; Hjerm and Schnabel, 2012).
Education	An increase in education years tends to reduce the support for redistribution (Dallinger, 2010; Hjerm and Schnabel, 2012; Roex et al., 2018).

Perceived inequality Inequality should motivate the individual to increase their demand for redistribution (Meltzer and Richard, 1981).

In addition to the above factors, we also added three other explanatory variables available in the Oxfam/Datafolha dataset, that might also play an important role in determining ATI: civil status, skin colour/race, and a control for Brazilian regions. Table 1 shows the summary statistics of all the variables used in our model. The first block of the table corresponds to the social factors, whereas the second block corresponds to the economic variables. All estimations are weighted, to make the sample representative of the target population (Solon et al., 2015). Since we are doing a cross-sectional analysis, the macroeconomic factors (such as the Gini coefficient and the GDP) were not included in the group of explanatory variables.[6]

Table 2 details the distribution of the main dependent variable. As can be seen, the majority of the sample completely or partially agreed that reducing inequality is important for the progress of Brazil.

Table 2: Distribution of opinions towards the statement: *"Reducing differences between rich and poor are important for the progress of Brazil"*

	n	%	Reducing inequality is important for progress (%)						
			Completely disagree	Partially disagree	Neither agree or disagree	Partially agree	Completely agree	Don't know	Total
Total	2086	100	6,6	5,09	0,65	14,47	71,85	1,33	100
Age[a]									
16 to 24	391	18,7	5,87	7,44	0,88	18,76	66,79	0,25	100
25 to 34	409	19,6	6,44	4,78	0,64	14,12	73,76	0,25	100
35 to 44	409	19,6	7,21	4,03	0,21	12,18	75,2	1,17	100
45 to 59	489	23,4	4,64	5,19	0,42	13,79	75,15	0,8	100
60 or more	388	18,6	9,35	4,05	1,16	13,79	67,26	4,4	100
Gender									
Male	988	47,4	6,94	5	0,72	13,61	73,09	0,65	100
Female	1098	52,6	6,3	5,18	0,58	15,25	70,75	1,95	100
Married									
No	1143	54,8	7,41	6,03	0,7	15,39	69,35	1,12	100
Yes	943	45,2	5,63	3,95	0,59	13,35	74,89	1,59	100
Education									
No education	247	11,9	9,77	4,88	0,44	17,85	61,13	5,92	100
Primary	708	33,9	6,83	4,86	0,73	12,09	74,33	1,17	100
Secondary	868	41,6	6,31	5,05	0,39	15,74	71,95	0,56	100
Tertiary	262	12,6	3,98	6,04	1,47	13,52	74,99	0	100
Skin colour/race									
White	686	32,9	7,89	5,89	0,74	16,01	67,84	1,64	100
Black or brown	1201	57,6	6,16	4,3	0,7	13,54	74,46	0,84	100
Others	200	9,6	4,87	7,1	0	14,78	70,01	3,24	100
Brazilian region									
South	308	14,7	8,19	5,27	0,46	11,62	73	1,45	100
Southeast	907	43,5	5,33	3,73	0,56	13,96	75,39	1,03	100
Midwest	159	7,6	5,55	6,98	1,41	19,31	66,75	0	100
Northeast	547	26,2	8,34	6,39	0	15,68	67,7	1,89	100
North	165	7,9	5,95	6,1	2,86	13,91	68,98	2,2	100

Continue on the next page

[6]The choice of doing a cross-sectional analysis is due to a limitation of the Oxfam dataset, that does not provide enough information for a time-series study.

Table 2: Distribution of opinions towards the statement: *"Reducing differences between rich and poor are important for the progress of Brazil"* (continued)

	n	%	Reducing inequality is important for progress (%)						
			Completely disagree	Partially disagree	Neither agree or disagree	Partially agree	Completely agree	Don't know	Total
Income per capita (in min. wages)									
0 to 1	1195	57,3	6,71	5,07	0,56	15,64	70,73	1,28	100
1 to 2	436	20,9	6,65	5	0,63	12,1	74,5	1,12	100
2 to 3	165	7,9	8,12	4,08	1,22	14,33	72,25	0	100
3 to 5	101	4,9	5,42	6,9	0	10,84	76,83	0	100
5 or more	89	4,3	3,28	8,58	2,27	9,29	76,58	0	100
No answer	99	4,8	6,8	2,43	0	19,32	63,84	7,62	100
Occupation									
Unemployed	270	13	7,1	5,25	0,97	13	73,2	0,48	100
Salaried employee	573	27,5	7,1	4,14	0,16	12,81	75,42	0,36	100
Managers	61	2,9	9,04	4,26	0	10,7	76	0	100
Civil Servant	109	5,2	2,28	3,77	0	16,54	77,41	0	100
Self employed	204	9,8	6,22	4,93	1,63	13,67	72,44	1,11	100
Others	870	41,7	6,59	5,93	0,76	16,21	67,97	2,55	100
Expected mobility (in 5 years)									
No mobility	539	25,8	7,85	5,85	0,82	13,07	71,06	1,35	100
Upward	1384	66,3	6,07	5,18	0,59	14,94	72,57	0,65	100
Downward	71	3,4	4,75	1,62	0	16,45	73,58	3,59	100
Don't know	93	4,5	8,68	2	1,05	14,14	64,49	9,64	100
Experienced mobility (past 5 years)									
No mobility	1198	57,5	6,45	4,59	0,66	13,48	73,18	1,63	100
Upward	510	24,4	6,95	5,2	0,11	17,49	69,48	0,77	100
Downward	362	17,3	6,93	6,54	1,1	13,82	71,04	0,57	100
Don't know	16	0,8	0	6,52	6,13	6,76	66,22	14,36	100
Perceived social class									
Poor	9	0,4	6,39	4,52	0,88	10,9	74,96	2,35	100
Middle-low	333	16	6,55	4,28	0,74	14,75	72,54	1,15	100
Middle	1029	49,3	6,72	6,38	0,29	16,18	69,36	1,07	100
Upper middle	672	32,2	10,5	11,48	0	10,91	67,11	0	100
Rich	37	1,8	0	0	0	17,1	82,9	0	100
Don't know	6	0,3	0	0	11,03	0	77,68	11,29	100
Perceived inequality[b]									
Completely disagree	91	4,4	23,12	5,91	0	10,08	58,73	2,17	100
Partially disagree	59	2,8	12,21	13,3	1,95	29,34	39,18	4,02	100
Neither agree nor disagree	3	0,1	0	0	63,91	36,09	0	0	100
Partially agree	161	7,7	3,94	11,81	1,7	41,95	40,61	0	100
Completely agree	1765	84,6	5,85	4,19	0,45	11,73	76,78	1,01	100
Don't know	8	0,4	0	0	0	0	24,67	75,33	100
Religion									
No religion	265	12,7	3,83	4,6	0,31	14,34	75,4	1,51	100
Has a religion	1810	86,8	7,05	5,19	0,7	14,36	71,44	1,26	100
No answer	11	0,5	0	0	0	36,13	54,26	9,61	100
Meritocracy beliefs[c]									
Completely disagree	950	45,6	6,56	3,36	0	9,1	79,8	1,18	100
Partially disagree	244	11,7	2,82	12,71	1,27	22,54	60,66	0	100
Neither agree nor disagree	19	0,9	8,63	2,88	0	9,18	74,17	5,15	100
Partially agree	310	14,9	3,36	5,85	0,85	29,79	59,61	0,55	100
Completely agree	541	25,9	10,1	4,55	1,44	11,84	71,31	0,76	100
Don't know	22	1,1	8,21	0	0	10,72	37,01	44,06	100

Source: Calculations based on Oxfam (2019) microdata.
Note. Values calculated using sample weights. [a]To facilitate the interpretation, the variable *age* was categorized into different ranges. [b]Opinion to the statement that, in Brazil, few people earn a lot of money and a lot of people earn a small amount of money. [c]Opinion to the statement that, in Brazil, a poor person who works a lot

Table 1: Descriptive Statistics

Variable	Obs.	Weight	Mean	Std. Dev.	Min.	Max.
Social factors						
Age	2086	2086,08	41,78	16,62	16	87
Age squared	2086	2086,08	2021,55	1497,19	256	7569
Gender (0 Male; 1 Female)	2086	2086,08	0,53	0,50	0	1
Married (1 Yes; 0 Otherwise)	2086	2086,08	0,45	0,50	0	1
Region (1 South; 2 Southeast; 3 Midwest; 4 Northeast; 5 North)	2086	2086,08	2,69	1,23	1	5
Education (0 No education; 1 Primary; 2 Secondary; 3 Tertiary)	2086	2086,08	1,55	0,86	0	3
Skin colour/race (1 Black or Brown; 0 Otherwise)	2086	2086,08	0,58	0,49	0	1
Meritocracy beliefs[b] (1 Completely/Partially agrees, 0 Otherwise)	2065	2063,75	0,41	0,49	0	1
Has a religion (1 Yes, 0 No)	2076	2075,35	0,87	0,33	0	1
Economic factors						
Income per capita of household (normalized)	1989	1986,59	0,03	0,05	0	1
Occupation (0 Unemployed, 1 Salaried Employee, 2 Managers, 3 Civil Servant, 4 Self-employed, 5 Others)	2086	2086,08	2,96	2,01	0	5
Self-reported income level (1 Poor and Middle-low; 2 Middle; 3 Upper middle and Rich)	2077	2077,22	1,36	0,52	1	3
Experienced mobility in past 5 years (0 No mobility, 1 Upward, 2 Downward)	207	2070,16	0,60	0,77	0	2
Expected mobility in 5 years (0 No mobility, 1 Upward, 2 Downward)	1997	1993,00	0,77	0,50	0	2
Perceived inequality[a] (1 Completely/Partially agrees, 0 Otherwise)	2079	2078,50	0,93	0,26	0	1

Source: Calculations based on Oxfam (2019) microdata.
Note. Summary statistics (mean and standard deviation) are calculated using sample weights. [a]Opinion to the statement that, in Brazil, few people earn a lot of money and a lot of people earn a small amount of money. [b]Opinion to the statement that, in Brazil, a poor person who works a lot has the same successful rates as a rich person who works a lot.

has the same successful rates as a rich person who works a lot.

3.2 Estimation process

The estimation process is done through Ordered Logistic Regressions, inspired by the empirical strategy from Guillaud (2013). The choice of strategy is due to the fact that the main dependent variable encompasses discrete choices, which can be ordered on a Likert scale.[7]

[7]As pointed by Guillaud (2013, p.65): "The Likert scale is commonly used to measure individuals' degree of satisfaction. This type of scale typically uses a symmetric classification in five points that ranges from strong agreement to simple agreement, indifference, disagreement, and strong disagreement in order to rank attitudes. Even though some scholars treat this scale as being an interval scale (hence applying OLS [Ordinary Least Squares] estimates), it is not known whether the distances between the different alternatives are equal (i.e. the gap between "strongly agree" and "agree" is not necessarily of the same magnitude as the gap between "agree" and "indifferent"). Therefore, the presence of a Likert scale calls for the use of categorical dependent variable regression models (CDVMs). Unlike OLS models, CDVMs are not linear."

The complete equation is defined as follows:

$$Y_i^* = \beta_1 EconObj_i + \beta_2 EconSubj_i + \beta_3 SocialD_i + \beta_4 SocialV_i + \epsilon_i \quad (1)$$

where Y_i^* is a dependent categorical variable which can take the values in a Likert scale; $EconObj_i$ is a vector of economic objective factors (income per capita of household and occupation); $EconSubj_i$ is a vector of economic subjective factors (perceived income level, experienced income class mobility, expected income class mobility and perceived inequality); $SocialD_i$ is a vector of socio-demographic variables (age, gender, civil status, education, Brazilian region and skin colour/race); $SocialV_i$ is a vector of social values (meritocracy beliefs and religion); and ϵ_i is the error term.

We calculate the model using 4 categories of our dependent variable (Completely Disagree, Partially Disagree, Partially Agree and Completely Agree). The choice to remove the category "Neither Agree nor Disagree" is due to the fact that the intermediate category contemplated only a small percentage of respondents (only 0.65% from a total of 2086 observations). Removing a category is not a problem in our model, as ordered logistic regressions do not impose equal distances between different categories (Guillaud, 2013).

We estimate the model for 6 different specifications. Column 1 reports the baseline model, where only socio-demographic variables were included. Column 2 includes the baseline variables and the economic objective factors. Column 3 expands the specification in Column 2, by adding interaction terms between skin colour/race and gender, as well as religion and gender, to obtain a more in-depth perception of the relationships between the variables. Column 4 includes the economic subjective factors to the baseline specification. Column 5 includes variables for values. Column 6 displays the results for the complete specification. For all specifications, the impact of the independent variables are shown as odds ratio.

4 Results

Table 3 shows the result for Ordered Logistic Regressions for Equation 1. The results are summarised below and are discussed in more details the next section.

Looking at the socio-demographic variables, we can note two variables standing out as significant in determining attitudes towards inequality in Brazil, across all specifications: education and skin colour.

Table 3: Determinants of Attitudes Towards Inequality in Brazil

	1	2	3	4	5	6
Age	1030	1025	1024	1030	1.033*	1026
	(0.0188)	(0.0195)	(0.0195)	(0.0194)	(0.0189)	(0.0204)
Age (square)	1000	1000	1000	1000	1000	1000
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Female	0.992	1006	1515	0.971	1020	1327
	(0.108)	(0.111)	(0.464)	(0.106)	(0.112)	(0.466)
Married	1.209*	1203	1206	1.217*	1.226*	1.221*
	(0.138)	(0.138)	(0.138)	(0.142)	(0.141)	(0.143)
Education (ref: no education)						
Primary	1.894***	1.893***	1.895***	1.896***	1.854***	1.873***
	(0.367)	(0.368)	(0.370)	(0.365)	(0.359)	(0.365)
Secondary	1.621**	1.568**	1.566**	1.574**	1.557**	1.459*
	(0.304)	(0.302)	(0.303)	(0.297)	(0.292)	(0.283)
Tertiary	1.794***	1.586*	1.592*	1.756**	1.663**	1444
	(0.394)	(0.388)	(0.391)	(0.393)	(0.367)	(0.352)
Black or Brown	1.350***	1.331**	1.690***	1.354***	1.333**	1.727***
	(0.155)	(0.153)	(0.275)	(0.159)	(0.153)	(0.285)
Income per capita of household (normalized)		1269	1309			1178
		-1968	-2070			-1953
Occupation (ref: unemployed)						
Salaried employee		1049	1052			1026
		(0.189)	(0.191)			(0.191)
Managers		1035	1044			1144
		(0.389)	(0.389)			(0.415)
Civil Servant		1515	1552			1644
		(0.478)	(0.486)			(0.514)
Self-employed		0.943	0.955			0.932
		(0.216)	(0.219)			(0.218)
Other occupations		0.899	0.904			0.889
		(0.158)	(0.159)			(0.159)
Religion * Female			0.845			1027
			(0.234)			(0.361)
Black or Brown * Female			0.630**			0.590**
			(0.137)			(0.130)
Perceived social class (ref: Poor and Middle-low)						
Middle				0.879		0.884
				(0.112)		(0.117)
Upper-middle and Rich				0.848		0.894
				(0.305)		(0.346)
Experienced mobility (ref: no mobility)						
Upward				0.917		0.974
				(0.124)		(0.134)
Downward				0.825		0.816
				(0.121)		(0.121)
Expected mobility (ref: no mobility)						
Upward				1102		1128
				(0.153)		(0.159)
Downward				1379		1331
				(0.392)		(0.377)
Perceived inequality in Brazil				2.820***		2.917***
				(0.555)		(0.579)
Agree with meritocracy beliefs					0.687***	0.683***
					(0.0748)	(0.0765)
Has a religion					0.813	0.801
					(0.137)	(0.173)
Observations	1868	1868	1868	1868	1868	1868
Pseudo R-squared	0.0139	0.0153	0.0169	0.0257	0.0185	0.0335
Chi-squared	41.21	45.97	50.35	76.80	53.89	100.1

Source: Calculations based on Oxfam (2019) microdata.
Note. Robust standard errors in parentheses. ***p<0.01, **p<0.05, *p<0.1. Values calculated using sample weights. Dummy variables for Brazilian regions included in all specifications. Coefficients shown as odds-ratio.

As all the specifications show, being educated increases the odds of having more positive attitudes towards equality, compared with those with no education. The magnitude of the impact varies across different educational levels, as the largest and most significant impact were for the ones who completed only the primary education. This result is partially consistent with the previous literature, that pointed out that each additional year of education resulted in a negative impact in the support for equality (Dallinger, 2010; Hjerm and Schnabel, 2012; Roex et al., 2018). In all of our specifications, higher positive attitudes towards equality were indeed associated with lower levels of education, but in contrast to the literature, when compared to those who did not receive any education at all, the impact of being educated was overall positive.

Regarding skin colour, the results show that being black or brown also increases the odds of having more positive attitudes towards equality. This finding deserves more attention, since the relation between inequality perceptions and skin colour/race has not yet been explored by researchers so far. For that reason, we are dedicating part of the Discussion section to address this topic.

Looking at specifications 4 to 6, we can see other variables showing significant impact in determining attitudes towards inequality in Brazil. The first is the perceived inequality, which is the answer to the question of whether the person thinks that Brazil is an unequal country. As the results show, not surprisingly, the odds of a person to have more positive attitudes towards equality increases when the person believes that Brazil is an unequal country.

Finally, another significant factor in the regressions was the one related to meritocracy beliefs. As the results show, believing in meritocracy increases the odds of having a more negative attitude toward equality. This result is in accordance to Roex et al. (2018), that shows that the support for inequality is higher among those who have meritocratic perceptions of their society.

4.1 Predicted Probabilities

For further illustration of the impact of education and skin colour on our variable of interest, we calculated the predicted probabilities of having different attitudes towards inequality for several ideal types, using the complete specification as a base. Table 4 shows the relative importance of the skin colour factor, while Table 5 illustrates the relative importance of education. The probabilities are calculated holding all the other variables constant at their means. As can be seen from both tables, an average individual has a higher probability of completely agreeing

Table 4: Attitudes Towards Inequality: predicted probabilities (skin colour)

	Average individual	Average black or brown individual	Average white individual
Completely disagrees	0.06	0.05	0.08
Partially disagrees	0.05	0.04	0.07
Partially agrees	0.14	0.12	0.18
Completely agrees	0.75	0.79	0.67

Source: Calculations based on Oxfam (2019) microdata.

Note. Based on Equation 1, Specification 6. Predicted probabilities for different ideal types, holding all other variables constant at their means. Dependent variable: opinion on the statement that *reducing differences between rich and poor is important for the progress of Brazil.* All probabilities are statistically significant at 1 percent.Values calculated using sample weights.

Table 5: Attitudes Towards Inequality: predicted probabilities (education)

	Average individual	Average individual with no education	Average individual with primary education	Average individual with secondary education	Average individual with tertiary education
Completely disagrees	0.06	0.09	0.05	0.06	0.06
Partially disagrees	0.05	0.07	0.04	0.05	0.05
Partially agrees	0.14	0.18	0.12	0.15	0.15
Completely agrees	0.75	0.66	0.78	0.74	0.74

Source: Calculations based on Oxfam (2019) microdata.

Note. Based on Equation 1, Specification 6. Predicted probabilities for different ideal types, holding all other variables constant at their means. Dependent variable: opinion on the statement that *reducing differences between rich and poor is important for the progress of Brazil.* All probabilities are statistically significant at 1 percent. Values calculated using sample weights.

that reducing inequality is important for Brazil's progress. Higher probabilities are associated with the average black/brown individual (79%)[8] and with individuals that have completed at least the primary education (74% to 78%).

4.2 Robustness

Doing an Ordered Logistic Model implies that the parallel lines assumption (also called proportional odds assumption) is met, meaning that the relationship between each pair of outcome groups is the same (UCLA, 2006). However, a key problem with this approach is that its assumptions are often violated, since it is common for the β's to differ across different categories of the dependent variable (Williams, 2006).

[8]For further analysis of the impact of skin colour on ATI, we also split "black or brown" individuals into "black" and "brown" and calculated the predicted probabilities for each subgroup, taking the complete specification as a base. However, results were very similar for both groups (see Table 6 in the Appendix).

In order to assess differentiated effects of the independent variables on the dependent one, we recalculated the complete specification using a Partial Proportional Odds model, which relaxed the parallel-lines constraint only for those variables where it was not justified (Williams, 2006).

For the complete specification, we ran a Wald test of parallel lines, a test to compare the slopes of a series of binary logistic regressions where categories of the dependent variable were combined.[9] The Wald test after the calculation of the Partial Proportional Odds models indicated that all specifications met the parallel lines assumption. It also indicated that, for specifications 2, 3 and 6, the constraints for parallel lines were not imposed for age squared (p-value = 0.01186), income per capita (p-value = 0.01424) and occupation (p-value = 0.01761). Since none of these variables showed significant and robust impacts across different specifications, therefore not interpreted in this paper, our main conclusions remain the same. Results of the Partial Proportional Odds model are shown in Table 7 in the Appendix.

5 Discussion: The role of skin colour and education in Brazil

Two important implications can be highlighted from our results. The first relates to the role of education in determining people's views on inequality. Given the Brazilian context, this result is important, as in the country, educational levels are, in average, very low. The country had, in 2017, an average of 36% of 25-34 year-olds without upper secondary education (41% for men and 32% for women), much higher than the OECD average in the same year (17% for men and 14% for women) (INEP, 2018; OECD, 2018b). A similar trend can be seen when looking at school attendance. In 2016, the school attendance in Brazil was 85% among 16 year olds, 74% among 17, 49% among 18, 42% among 19 and 35% among those aged 20 years (INEP, 2018). For the average of OECD countries, on the other hand, more than 90% of the population of 16 and 17 years old attended school in the same year (OECD, 2018a). The OECD average for 18 years old was 76%; 64% among 19 and 56% among 20 year olds (OECD, 2018a).

As a report from a national research institute in Brazil (INEP, 2018) points out, countries where the majority of the population is highly educated tend to enjoy less income inequality and this inequality is greater in countries with a large proportion of people without secondary education, which is the case of Brazil. Those results are confirmed when we look at studies focused on Brazil, which highlights the importance of education as a determinant of differences

[9] In this case, the first equation compares category 1 with categories 2, 3, and 4; the second compares categories 1 and 2 with 3 and 4; and the last compares categories 1, 2, and 3 with category 4 (Williams, 2006). An insignificant test statistic indicates that the final model does not violate the assumption.

in wages (Barros, 2017; Salvato et al., 2010).

A second important result from our analysis is the conclusion that skin colour influences people's attitudes towards inequality in Brazil. As mentioned before, this relation has not been largely documented so far by the literature in the field. Similar to the education component, skin colour is also an important factor in the structure of inequalities in Brazil, given that black people live, study and earn less than whites (United Nations Brazil, 2018). In 2018, for instance, although black and brown people represented 56% of Brazilian population, they represented 75% of the lower income individuals and only 28% of the higher income ones (IBGE, 2019).[10]

The findings about skin colour open a window of opportunity for studies in this topic, specially when it comes to the interpretation of the possible reasons why being a black or brown woman leads to a higher odds of having more negative attitudes towards equality, contradicting previous studies, that shows that women tend to favour redistribution more than men (Dallinger, 2010; Guillaud, 2013; Hjerm and Schnabel, 2012; Wulfgramm and Starke, 2016). One possible explanation for our results is that, in Brazil, considering the intersectionality between skin colour and gender, black and brown women are the poorest strata of the population. In 2009, for example, 21% of black or brown women in Brazil were experiencing poverty, while less than 10% of white women faced a similar situation (Marcondes et al., 2013). As discussed by Pellicer et al. (2017), poorer people living in a situation of chronic inequality can conform to inequality, no longer demanding redistribution. According to the authors, it is possible that this type of mechanism is of particular importance in places with high levels of inequality, which is the case of Brazil.

6 Conclusion

The globalization process has increased the interest in inequality within and between countries (Lübker, 2004), and also in income redistribution (Pellicer et al., 2017). In this context, studies which have historically focused on objective realities and measures of poverty have gained a more subjective approach, focusing on the analysis of attitudes towards inequality (Ng and Koh, 2012). Adding to the empirical literature on this field, the present paper looked at the determinants of attitudes towards inequality and provided an in-depth analysis of inequality perceptions in Brazil, a country with high inequality levels.

[10]It is important to mention that, in contrast to other countries, in Brazil, variables associated with skin colour (e.g. black, brown, white) are very often combined with ethnicity (e.g. indigenous) and place of origin (e.g. yellow), and it is highly criticized for perpetuating the myth of a racial democracy in the country (Anjos, 2013).

Accessing people's attitudes towards inequality is not a straightforward process. Even though there is no consensus on how attitudes towards inequality should be measured, there are some common trends in the academic literature. For example, most of the studies base their analysis in international cross-country datasets, built through surveys carried out in different regions of the world, which allows for country comparisons. Other studies use data collected through various kinds of social experiments.

To list the most critical determinants of attitudes towards inequality, we categorised the factors into three different groups, macroeconomic, individual economic and social. We, then, showed some evidence from the academic literature to support the role of each element in determining people's attitudes towards inequality.

After, we showed a case study of Brazil, using micro-data of a survey conducted in 2019 by an international non-governmental organisation, in partnership with a Brazilian private research institute. Using data from around 2000 Brazilians, we conducted several regressions using the approach called Ordered Logistic Model. The results showed that education, as well as skin colour, inequality perception and meritocracy beliefs, are essential in determining Brazilians' attitudes towards inequality. In the discussion section, we focused on skin colour and education, two factors that plays an crucial role in the structure of inequality in Brazil.

We acknowledge that this study has some limitations. One of them is that it uses a single-item measure of support of economic inequality, instead of an index. This strategy can have some drawbacks, as explained in more detail by Wiwad et al. (2019), but it is still widely used among the studies about inequality perceptions. Another limitation is that this study does not include a political affiliation control variable in the model to estimate the determinants of attitudes towards inequality in Brazil, due to a limitation of the Oxfam data, that lacks feasible proxies. The lack of a political proxy, however, should not be a problem for our results, since party supporters in both political extremes in Brazil do not differ significantly with respect to the approval of policies against inequality in the country, even in periods of high polarisation (Fuks and Marques, 2020).

A third limitation of the study, coming from the limitations of the Oxfam dataset, is that the study refers to the year of 2019 only, not accounting for differences over time. For future research, we recommend expanding the analysis and using other datasets to be able to evaluate trends across different years.

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Appendices

Table 6: Attitudes Towards Inequality: predicted probabilities (skin colour, spiting black and brown into two subgroups)

	Average individual	Average white	Average brown	Average black
Completely disagrees	0,06	0,08	0,05	0,04
Partially disagrees	0,05	0,07	0,04	0,04
Partially agrees	0,14	0,18	0,12	0,11
Completely agrees	0,75	0,67	0,78	0,80

Source: Calculations based on Oxfam (2019) microdata.

Note. Based on Equation 1, specification 6. Value associated with brown/black split into Brown and Black. Predicted probabilities for different ideal types, holding all other variables constant at their means. Dependent variable: opinion on the statement that *reducing differences between rich and poor is important for the progress of Brazil*. All probabilities are statistically significant at 1 percent. Values calculated using sample weights.

Table 7: Determinants of Attitudes Towards Inequality, using a Partial Proportional Odds model

	1 vs. 2,3,4	1,2 vs. 3,4	1,2,3 vs. 4
Age	0.0253	0.0253	0.0253
	(0.0198)	(0.0198)	(0.0198)
Age (square)	-0.000377	-0.000241	-0.000194
	(0.000234)	(0.000228)	(0.000225)
Female	0.298	0.298	0.298
	(0.350)	(0.350)	(0.350)
Married	0.201*	0.201*	0.201*
	(0.117)	(0.117)	(0.117)
Education (ref: no education)			
Primary	0.621***	0.621***	0.621***
	(0.193)	(0.193)	(0.193)
Secondary	0.362*	0.362*	0.362*
	(0.191)	(0.191)	(0.191)
Tertiary	0.347	0.347	0.347
	(0.239)	(0.239)	(0.239)
Black or Brown	0.550***	0.550***	0.550***
	(0.165)	(0.165)	(0.165)
Income per capita of household	1.799	-1.452	0.709
	-2.063	-1.499	-1.386
Occupation (ref: unemployed)			
Salaried employee	0.0213	0.0213	0.0213
	(0.184)	(0.184)	(0.184)
Managers	0.120	0.120	0.120
	(0.356)	(0.356)	(0.356)
Civil Servant	0.481	0.481	0.481
	(0.307)	(0.307)	(0.307)
Self-employed	-0.0727	-0.0727	-0.0727
	(0.230)	(0.230)	(0.230)
Other occupations	0.396	-0.0186	-0.170
	(0.258)	(0.212)	(0.180)
Religion * Female	0.0198	0.0198	0.0198
	(0.352)	(0.352)	(0.352)
Black or Brown * Female	-0.533**	-0.533**	-0.533**
	(0.221)	(0.221)	(0.221)
Perceived social class (ref: Poor and Middle-low)			
Middle	-0.127	-0.127	-0.127
	(0.131)	(0.131)	(0.131)
Upper-middle and Rich	-0.123	-0.123	-0.123
	(0.387)	(0.387)	(0.387)
Experienced mobility (ref: no mobility)			
Upward	-0.0347	-0.0347	-0.0347
	(0.138)	(0.138)	(0.138)
Downward	-0.209	-0.209	-0.209
	(0.148)	(0.148)	(0.148)
Expected mobility (ref: no mobility)			
Upward	0.110	0.110	0.110
	(0.142)	(0.142)	(0.142)
Downward	0.276	0.276	0.276
	(0.280)	(0.280)	(0.280)
Perceived inequality in Brazil	1.066***	1.066***	1.066***
	(0.197)	(0.197)	(0.197)
Agree with meritocracy beliefs	-0.380***	-0.380***	-0.380***
	(0.112)	(0.112)	(0.112)
Has a religion	-0.224	-0.224	-0.224
	(0.217)	(0.217)	(0.217)
Observations	1868	1868	1868
Pseudo R-squared	0.0399	0.0399	0.0399
Chi-squared	117.6	117.6	117.6

Source: Calculations based on Oxfam (2019) microdata.
Note. Robust standard errors in parentheses. Model calculated for the complete specification. The first column compares category 1 of our main dependant variable with categories 2, 3, and 4; the second compares categories 1 and 2 with 3 and 4; and the last compares categories 1, 2, and 3 with category 4. Values calculated using sample weights. Dummy variables for Brazilian regions included in all specifications. ***p<0.01, **p<0.05, *p<0.1.

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