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Monetary Policy and the Gender and Racial Employment Dynamics in Brazil

by

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ABSTRACT

Monetary policy has been historically concerned with controlling inflation, using the interest rate as its main tool. However, such policies are not gender- or race-neutral. This paper explores econometrically the effect of changes in the interest rate for female and black employment creation in Brazil. We conduct a panel data fixed effects analysis for 13 states between 2012 and 2021 to estimate the effects of changes in interest rates on unemployment, separating the data by gender and race. Our results show that the real interest rate has a positive effect on the relative unemployment of black men to white men, no effect on the relative unemployment of black women to white men, and a negative effect on the relative unemployment of white women to white men. These effects are intensified in regions where the black population ratio is lower. This paper contributes to understanding the challenges to closing gender and racial gaps, particularly in developing economies. We conclude that social stratification, if not considered, can lead to misleading policies that perpetuate unequal socioeconomic outcomes.

KEYWORDS: Monetary policy, gender inequality, racial inequality, social stratification

JEL CODES: B54, E24, E52, E58

1. INTRODUCTION

The structural adjustment programs promoted and implemented by international financial institutions in developing countries around the 1980s emphasized that including a gender lens at the forefront of macroeconomic policies is key to the success of any structural program and policy implementation (Elson 1995; Seguino 2020). This awareness led to important contributions, with scholars exploring the interaction of macroeconomic policies and certain economically vulnerable groups, focusing, for example, on gender and race. A disaggregated analysis provides a better understanding of population groups' different economic responses, essential to evaluating and improving policymaking efficiency.

With inflation rates rising worldwide in the current economic climate, the importance of policies aimed at fighting inflation is greater than ever, making monetary policy an object of targeted research and intense debate. Many central banks apply an inflation-targeting regime, with the interest rate as the main policy instrument. The reasoning behind such a strategy starts with the assumption that inflation occurs due to demand pressures. In this way, changes in interest rates negatively affect demand, thus alleviating inflationary pressures. The adverse effect of this strategy is an increase in the unemployment rate, as theorized in a Phillips Curve approach.

In this context, empirical studies have shown that changes in the basic rate of interest have different impacts on different social groups (Zavodny and Zha 2000; Thorbecke 2001; Braunstein and Heintz 2008; Seguino and Heintz 2012). Depending on the productive structure, composition of the labor market, and income distribution, gender and racial minorities are disproportionately affected by contractionary monetary policy. One of the main channels through which this occurs is the labor market: those social groups are concentrated in lower-paying occupations and in sectors that are more sensitive to changes in interest rates. In other words, since they are in vulnerable positions in the labor market, monetary policy may not be gender- or race-neutral.

Hence, within a framework that highlights distributive impacts, variables such as gender and race become indispensable in the debate for more strategic economic policy. However, the monetary

policy impact on social stratification is little explored. Among those who do it, the majority focus on developed economies (for the US, see Zavodny and Zha 2000; Thorbecke 2001; Seguino and Heintz 2012). The few works that focus on developing economies aggregate them in a panel data set, dismissing important dynamics of individual countries (Braunstein and Heintz 2008).

Brazil implemented inflation targeting in 1999 with the primary objective of containing price volatility and its adverse effects, considered the main challenge in the economic scenario of that time. Since then, the monetary policy in Brazil, in line with the practices of central banks internationally, considers the control of inflation as its primary objective and uses the basic rate of interest as its main tool (Barbosa-Filho 2015). In a country like Brazil, marked by its high inequality rates, where women represent 51 percent and blacks 54 per of the population, including such variables when studying the impact of monetary policy is needed. The Brazilian context also includes important regional characteristics intrinsically connected to its racial and social inequality. Hence, a federal-level policy can exacerbate the high level of inequality if regional differences are not considered.

In this paper, we investigate how the cost of interest rate hikes, the main policy instrument in combating inflation according to the Central Bank of Brazil (Barbosa-Filho 2015). is distributed in the labor market among blacks and women relative to white men. It is important to clarify that it is not the purpose of this paper to argue whether the theory of inflation behind the inflation-targeting approach is appropriate or to suggest alternative frameworks but actually to evaluate the effects of that approach on unemployment rates based on gender and race.

To our knowledge, this is the first paper to do such an investigation for a periphery country, and so it also contributes to understanding interest rate changes in different social groups in the context of a developing economy. Comprehending these dynamics and their distributional effects is essential for improving economic policy strategies.

This paper is thus organized into five additional sections. The next section presents a brief review of the literature. In the third section, we present the empirical strategy and data used in

the research. The fourth section presents the results found, followed by the fifth section on robustness checks. In the last section, we discuss the implications of the results for macroeconomic policy and inequality and conclude the paper.

2. LITERATURE REVIEW

As mentioned previously, our focus is on the effects of monetary policy on race and gender. According to the literature, the main channel through which the interest rate can affect gender and race inequality is through labor market outcomes. The disproportionate impact is caused by the unequal increase in unemployment rates – a primary cost of controlling inflation using the interest rates mechanism. The lower rungs of the labor market ladder are more affected by contractionary monetary policies due to a greater labor supply elasticity for low-skilled workers than skilled workers (Blanchard 1995; Blanchard and Katz 1997).

Investigating the different impacts of monetary policy on unemployment rates in the United States, Abell (1991) concluded that the labor market is segregated in a way that favors white men during periods of contractionary monetary policies. Thorbecke (2001) found similar results, showing that African-American and Latino unemployment is 50 percent to 90 percent higher than white unemployment during periods of deflationary policies. Research later complemented by Carpenter and Rodgers (2004) highlighted that young black people with low education are the most affected by the increase in unemployment. Thorbecke (2001) also stresses that the explanation for the disproportionate impact of rising interest rates in different social groups is due to the different sectoral impacts on the economy. The author estimates the impacts of contractionary monetary policies by sector and concludes that the small business, construction industry, and durable goods sectors are more negatively affected. The results are then explained by the coincident sectoral and racial segregation in the workforce.

Seguino and Heintz (2012) expand the impact analysis of contractionary policies in the United States, developing a model that estimates the impact on unemployment of blacks and women relative to white men. The authors conclude that the effects vary according to the density of the

black population in each US state and that the cost of policies to combat inflation is unevenly distributed among workers, negatively affecting more black women and black men, followed by white women and white men. In contrast to the results found for the US economy, the analysis conducted by Takhtamanova and Sierminska (2009) of nine OECD countries with quarterly data from 1980 to 2004 found no evidence of gender differences in unemployment rates associated with changes in interest rates as the monetary policy instrument.

To contribute to the understanding of the impact on the labor market by gender in developing countries, Braunstein and Heintz (2008) analyzed 17 low- and middle-income countries, including Brazil, and concluded that the employment rate of women relative to men declines after episodes of contractionary monetary policy. During periods of expansionary monetary policies, there is no significant effect on women's employment compared to men. They also show that the negative effect could be reversed by maintaining a competitive exchange rate due to the greater employability of women in durable goods industries, which benefit from exchange rate devaluations.

In this connection, the literature shows that the sectoral composition is also an important channel in which the exchange rate affects gender and race inequality. Blecker and Seguino (2002), for example, develop a theoretical model where women are a source of cheap labor for the export sector in Semi-Industrialized Economies (SIE). Thus, a devaluation would boost exports and increase female employment. Nonetheless, the exchange rate may also affect inflation (Ha, Stocker, and Yilmazkuday 2020), especially in countries that need to import capital goods and inputs, such as Brazil, which could then offset the effect found by the authors. Hence, even under an inflation-targeting regime, developing countries need to consider other economic variables besides interest rates (Freddo 2019; Ribeiro, McCombie, and Lima 2017; Kaltenbrunner and Painceira 2017). Changes in the interest rate influence the exchange rate by affecting capital flows, which could have an additional effect on inflation. Given the importance of the exchange rate as a monetary policy in developing countries, Munyo and Rossi (2015) analyzed the dynamics of gender employment and domestic violence with changes in the exchange rate in Uruguay. The authors found a highly significant impact on incidences of domestic violence associated with increases in the exchange rate, especially in regions where men are more

allocated in tradable sectors, such as manufacturing. This is because an undervalued exchange rate affects employment in the tradable sector, affecting women's wages and bargaining power inside the home, since they are more allocated in non-tradable sectors such as the services, and then increasing domestic violence rates.

Erten and Metzger (2019) also contributed to this analysis by exploring the impact of changes in the exchange rate on women's labor force participation with a panel data set of 103 countries. The authors found no association in developed countries. Still, for developing countries at the early stages of development, an undervalued currency reduced the gender participation gap due to the expansion of female-dominated, labor-intensive industries. Hence, they highlight the importance of the country's sectoral composition and stages of development where a currency undervaluation can have different effects, reducing women's labor force participation by allocating resources to male-dominated, technologically intensive industries— such as happened in East Asia (Kucera and Tejani 2014; Tejani and Milberg 2016; Erten and Metzger 2019).

3. EMPIRICAL STRATEGY

To address the effects of the real interest rate on gender and racial unemployment, our empirical strategy is inspired by Seguino and Heintz (2012). We perform a fixed-effects model with panel data for 13 Brazilian states. The fixed-effects model considers regional differences between states that are constant over time and not observed in the data but can still affect outcomes, such as gender and racial norms. As we expect these unobserved variables to be correlated with some of the explanatory variables, the fixed-effects model is our preferred specification. However, we also estimate random effects and pooled ordinary least squares (Pooled OLS) models.

We explore how the cost of increasing unemployment following a contractionary monetary policy is distributed between different social groups. We conduct a regression model where we measure the effects of changes in the real rate of interest on our dependent variable: the relative unemployment rate of our group of interest (black women, black men, or white women) to white men. Gender and race estimates are carried out separately to better assess the impact of monetary

policies on those different social groups.

Changes in the basic interest rate— the Selic rate in the Brazilian case— influence economic variables, mainly prices and output. The most common transmission mechanism is through aggregate demand effects, as consumption and investment decisions depend on the real rate of interest. In this way, an increase in the real interest rate decreases aggregate demand, alleviating inflation but with the adverse effect of raising unemployment. In the context of developing economies, the real rate of interest also affects exchange rates. An increase in interest rates tends to attract capital flows, appreciating the domestic currency and making imports cheaper— which also directly impacts lowering price pressures if those imported goods are used as inputs for production. In addition, currency appreciation reduces exports and, consequently, aggregate demand. Hence, differing from Seguino and Heintz (2012), we use the exchange rate as a control variable in the model due to its importance in affecting inflation and the interest rate policy itself in the context of Brazil (Freddo 2019). In addition to the exchange rate, we also include the labor force participation rate ratio between our group of interest (black men, black women, and white women) to white men, the growth rate at the state level, and the black labor share of the economy as control variables.

We follow Seguino and Heintz (2012) by including the labor force participation rate as an explanatory variable to capture the possible bias of the unemployment rate as conventionally measured. This leads to a possible endogeneity problem, as the labor force is correlated with unemployment. However, as Seguino and Heintz (2012) argue, those variables are inversely correlated, which would lead to a lower-bound estimate of the effect on unemployment.

There's also a possibility of reverse causality between changes in the unemployment rate and the interest rate. Central banks could respond to changes in real economic activity and not only to inflation, for example. However, since our estimations consist of the unemployment gap between black men, black women, and white women, relative to white men, we find it harder for the Central Bank of Brazil to respond to those unemployment measures. In any case, we pursue a Granger-causality test with unemployment and the Federal Funds Rate (FFR). We find that the real FFR is not Granger-caused by any of our dependent variables. The test results are in the

Appendix in Table A. The growth rate at the state level is included to control for any change in unemployment that is due to economic activity and not related to changes in the interest rate itself.

Finally, Seguino and Heintz (2012) show that the black labor share of the population (BLSH) is significant in explaining differences in unemployment by race and gender and impacts the effects of the interest rate on the dependent variable. Seguino and Heintz (2012) mention two opposing theories that can explain the relevance of the BLSH for this analysis: the contact theory and the threat theory. Contact theory argues that higher contact with blacks and Hispanics would induce lower discrimination by whites. Threat theory, on the contrary, suggests that a greater share of blacks in the population could "intensify racialist group identity in response to whites' perceived threat to their group position." (Seguino and Heintz, 2012 p. 605) For the Brazilian context, we expect this variable to also be relevant to the dynamics of unemployment by race and gender: the higher the BLSH of the state, the lower the propensity for discrimination. Hence, we decided to follow their strategy and include the BLSH in our estimations.

We estimate, then, the following equation:

$$U_{i,t} = \beta_1 Real\ Selic_t + \beta_2 LFP_{i,t}^{j} + \beta_3 gr_{i,t} + \beta_4 BLSH_{i,t} + \beta_5 ER_{i,t} + \eta_i + \epsilon_{i,t} \qquad (1)$$

The variables are defined as follows: j represents the group of interest used to construct the dependent variables (white women, black women, or black men); i and t represent states and time respectively; U represents the dependent variable (the ratio of unemployment between the group of interest j to white men); real Selic is the economy's interest rate minus inflation; LFP is the relative labor force participation (also calculated as a ratio between the labor force participation of the group of interest j to white men); gr is the rate of growth in output in each state; BLSH is the black labor share in each state; ER is the exchange rate (in log differences1); η is the fixed effect per state; and ϵ is the error term, assumed to be independent and identically distributed (iid).

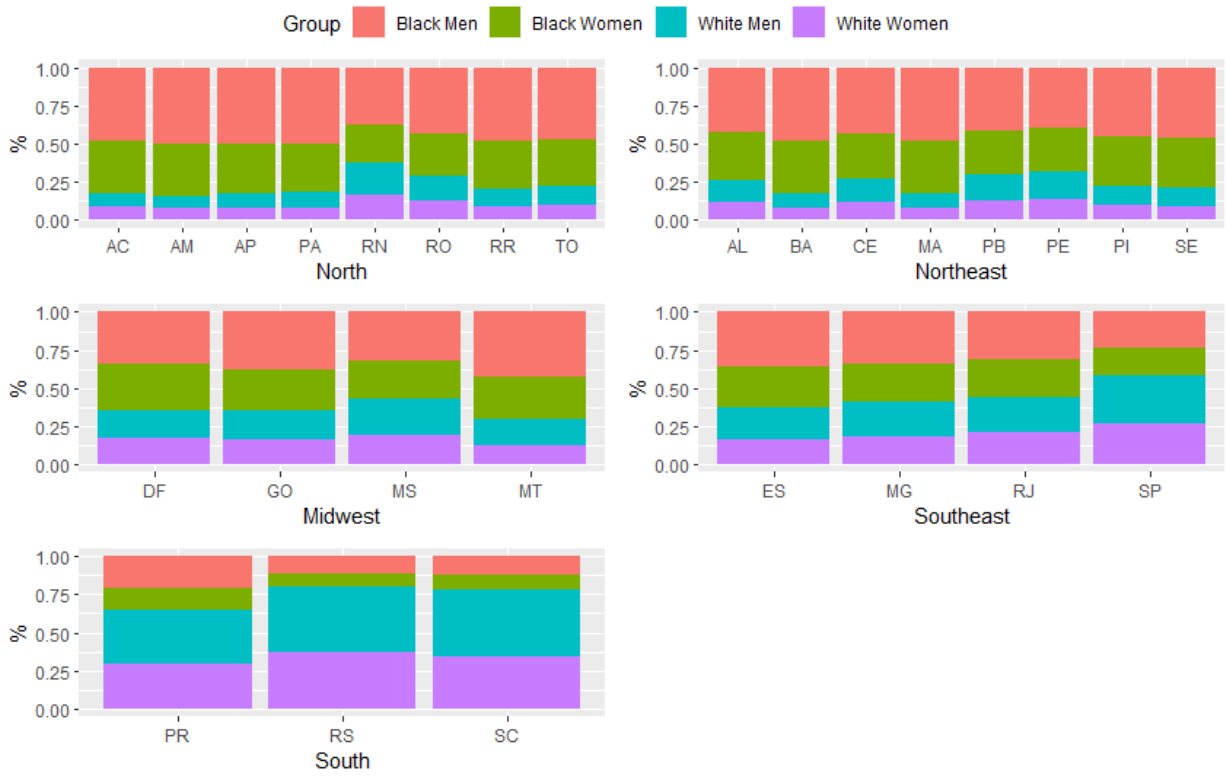
[1] We reproduce these estimations with the exchange rate in level, but the results don't change significantly. We decided to keep it in log differences because the exchange rate series has a unit root, so we avoid any bias.

After conducting the estimations with all available states, we separated them into two groups: (i) North and Northeast, and (ii) South, Southeast, and Midwest, given the segregation of the Brazilian economic and racial structures. Figure 1 shows the share of the population by race and gender for each Brazilian state, separated by regions, in the fourth quarter of 2021. The contrast of regional racial composition in Brazil becomes clear: black men and black women sum up to 70 percent of the labor share in the North and Northeast, while the South, Southeast, and Midwest have a lower BLSH— an average of 43 percent, for the states used in this estimation. In this way, the effect of monetary policy on gender and race may vary significantly among regions.

In terms of economic structure, the Brazilian regions also vary considerably. The North and Northeast regions respectively had 21.2 percent and 23.4 percent of total employment allocated to agriculture. In comparison, the Southeast and South regions respectively had 7.4 percent and 13.4 percent occupied in agriculture in 2015 (IPEA 2015). The sectoral occupation also varies by race and gender. As can be seen in Figure 2, data from PNADc shows that, in 2019, 14.5 percent of employed black men are employed in agriculture, 18 percent in trade, and 17.8 percent in construction. For white men, 27.8 percent are allocated to transportation and commerce, 16.2 percent to industry, and 9.8 percent to construction. In the case of women, they are mostly employed in education, health, and domestic services. For total white women employed, 22 percent are in education and health, 9 percent in domestic services, and 32 percent in other services.[2] On the other hand, 18.5 percent of black women are employed in education and health, 17.5 percent are in domestic services and 29.4 percent in other services.

[2] Other services include information, communication and financial, real estate, professional and administrative activities, accommodation and food and public administration, defense and social security.

Figure 1: Brazilian states' Gender and Racial Composition, Separated by Region, 4th Quarter of 2021

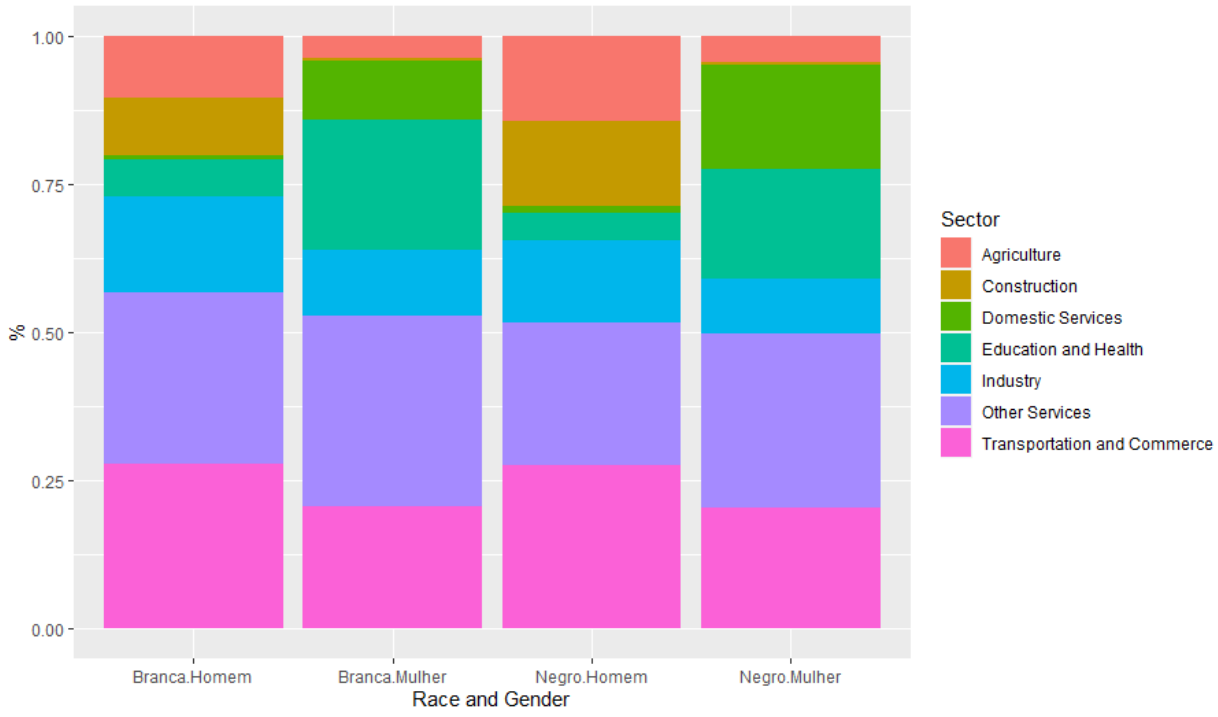


Source: PNADc

In addition, there is still no consensus on the regional impacts of monetary policy in Brazil (Arau´jo 2004; Bertanha and Haddad 2008; Silva, Afonso, and Rodrıguez-Fuentes 2010; Guimarães and Monteiro 2014). The Selic rate is defined at a national level but has different regional consequences. Regions that concentrate more on interest-rate-sensitive industries, like construction and manufacturing, could be more affected by a contractionary monetary policy, for example.

Hence, considering the regional differences in Brazil, monetary policy can impact populations differently. Addressing this is key to developing a policymaking strategy that can contribute to a more equitable society leading to sustainable economic development. We hypothesize that blacks will be more negatively affected by contractionary monetary policy, but this effect will be lower in regions where the black population share is higher. We also expect that white women will be the less-affected group, in comparison to white men, since they are employed in sectors that are not sensitive to the interest rate (i.e., education and health sectors) and have higher education.

Figure 2: Sectoral Composition by Race and Gender in Brazil, First Quarter of 2019



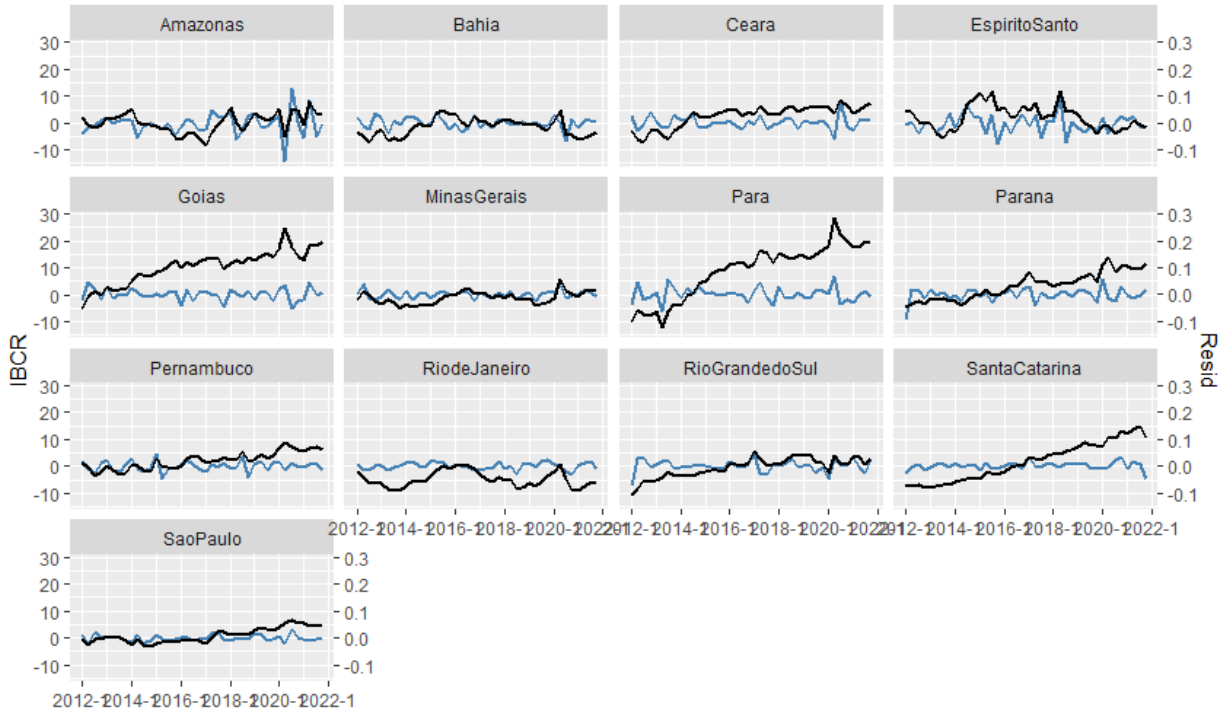
Source: PNADc

3.1. Data

The panel data set covered the period from the first quarter of 2012 to the last quarter of 2021 for 13 Brazilian states (Amazonas, Para, Pernambuco, Ceará, Bahia, Minas Gerais, São Paulo, Espirito Santo, Rio de Janeiro, Goiás, Paraná, Santa Catarina e Rio Grande do Sul). We used data from 13 of the 27 Brazilian states in our estimations due to the need for higher frequency data in our analysis. Therefore, for economic activity data, we used the regional and national economic activity index (IBCR and IBC-Br) published by the Central Bank of Brazil but available only for those 13 states. We used the IBCR and IBC-Br rather than the GDP because the GDP is only available annually at the state level, while the IBCR is available monthly. In addition to that, the IBCR provides the important distinction between the regional and national economic dynamics that affect aggregate output and, therefore, is the main tool used by the Brazilian government to develop the monetary policy strategy (BC 2018). These 13 states together corresponded to 85.5 percent of the national GDP in 2019 and covered all 5 regions of Brazil.

To better access the impact of these variables at the state level and distinguish the impact of national and regional macroeconomic policies, we follow the strategy used by Seguino and Heintz (2012) to regress state IBCR growth on national IBC-Br growth data using a simple fixed-effects model. Then, we use the residual of this regression as a regional activity or economic growth index. Figure 3 shows the original index and regression residuals after eliminating the national activity effect.

Figure 3: Quarterly IBCR State Activity Level (Blue) and Regression Residuals (Black) of State Activity on National Activity Index, 2012-2021



Source: Central Bank of Brazil and authors' estimations

The time period was chosen due to data availability on national and state labor market statistics. Unemployment and labor force participation rates disaggregated by gender and race were calculated directly from the main Brazilian household survey conducted by the Brazilian Institute of Geography and Statistics (IBGE): the National Continuous Household Sample Survey (PNADc). The PNADc is a household survey conducted to produce quarterly indicators on the workforce and annual indicators on additional permanent topics (such as other forms of work, care economy and domestic work, information, and communication technology, among others).

In this way, race and gender characteristics are self-reported. We used only two race categories (blacks[3] and whites) due to lack of sufficient observations from other racial categories, such as indigenous peoples. The survey asks the status of employment and, for those employed, a further question is asked on the condition of the occupation, with the alternatives being: employed in the private sector, domestic worker, employed in the public sector (including statutory and military servants), self-employed, and auxiliary family worker. In this way, informal workers are considered part of the employed population. The data used in our robustness checks on education and sectoral composition of employment were also taken from the PNADc.

Finally, the interest rate (Selic) and exchange rate data were downloaded directly from the Central Bank of Brazil website. The quarterly values of these monthly indices were obtained by the arithmetic mean of the three periods. For inflation, we first collected data from the Broad Consumer Price Index (IPCA), taken from the IBGE. As the Selic rate is reported in annual terms, we use annualized quarterly inflation to ensure consistency. To find the quarterly inflation rate in annual terms, we calculate the average price index (IPCA) for the quarter and then calculate the rate of change of this index to the same quarter of the previous year.

4. RESULTS

In this section, we present the estimation results. In each subsection, we present three tables: one with all states aggregated and two with the results for each subgroup of states. As previously mentioned, the racial dynamic in Brazil is related to regional characteristics, thus separating the estimation into subgroups of states can provide a better understanding of how monetary policy impacts gender and race.

There are three dependent variables for the estimations: the unemployment rate ratio of (i) black men to white men (BMWM); (ii) black women to white men (BWWM); and (iii) white women to white men (WWWM). The two first columns of each dependent variable group present the fixed effects estimation results. The second column includes the exchange rate as part of the

[3] We consider blacks the sum of those who reported being “Pretos” (blacks) or “Pardos”" (browns).

explanatory variables (our preferred specification). Columns 3 (RE) and 4 (POLS) present the random effects and pooled OLS estimation results.

Table 1: Estimation of Unemployment for Black Men, Black Women, and White Women relative to White Men - All 13 States

	Black-men to white-men				Black-women to white-men				White-women to white-men			
	FE (1)	FE (2)	RE	POLS	FE (1)	FE (2)	RE	POLS	FE (1)	FE (2)	RE	POLS
(Intercept)			1.86***	1.31**			3.57***	2.00***			2.51***	1.68***
			(0.44)	(0.43)			(0.37)	(0.29)			(0.31)	(0.30)
Real Selic	0.93**	0.92**	0.89**	1.01**	−0.80	−0.85	−0.69	−0.27	−1.60***	−1.65***	−1.42***	−1.30**
	(0.30)	(0.30)	(0.30)	(0.38)	(0.47)	(0.46)	(0.47)	(0.57)	(0.35)	(0.34)	(0.35)	(0.39)
Growth	0.31	0.00	0.32	0.23	0.08	0.27	0.03	−0.12	−0.19	−0.13	−0.23	−0.35
	(0.49)	(0.50)	(0.49)	(0.62)	(0.78)	(0.80)	(0.78)	(0.97)	(0.58)	(0.59)	(0.59)	(0.67)
BLSH	−0.20	−0.65	−0.63**	−0.70***	−2.75***	−2.78**	−1.43***	−0.99***	−2.06***	−1.87**	−0.25	−0.00
	(0.46)	(0.49)	(0.19)	(0.05)	(0.82)	(0.87)	(0.28)	(0.09)	(0.57)	(0.59)	(0.16)	(0.06)
ER		−0.17				−0.18				−0.26		
		(0.13)				(0.21)				(0.16)		
LFP (BMWM)	−0.24	−0.28	−0.17	0.41								
	(0.43)	(0.43)	(0.42)	(0.42)								
LFP (BWWM)					−0.66	−0.58	−0.94*	0.90*				
					(0.54)	(0.54)	(0.45)	(0.36)				
LFP (WWWM)									−0.86*	−0.73	−1.21**	−0.26
									(0.41)	(0.41)	(0.38)	(0.38)
R^2	0.60	0.61	0.04	0.33	0.58	0.58	0.06	0.33	0.28	0.30	0.05	0.02
Adj. R^2	0.59	0.60	0.04	0.33	0.57	0.57	0.05	0.33	0.26	0.27	0.04	0.01
Num. obs.	520	507	520	520	520	507	520	520	520	507	520	520

$^{***}p < 0.001$, $^{**}p < 0.01$, $^{*}p < 0.05$

Table 1 provides the initial results with all 13 states. The coefficient associated with the real interest rate is positive and significant for the relative unemployment rates of black men and white men. This means that an increase in the real interest rate is associated with an increase in the unemployment gap between black men and white men, as expected. The coefficient associated with the black population share (BLSH) is significant only on the random effect and pooled OLS specification.

For the estimations of the relative unemployment rate of black women and white men, only the coefficient associated with the BLSH is negative and significant. Hence, changes in the real interest rate seem to have no distinct effect on the unemployment of black women when compared to white men, and states with a higher share of blacks in their population would have a lower unemployment gap between black women and white men.

Finally, in the estimation for white women and white men's relative unemployment rate, the coefficient associated with the real interest rates is negative and significant. This result was surprising, as it means that a contractionary monetary policy would increase white men's unemployment more than that of white women. The coefficient associated with the BLSH was also negative and significant, indicating how race characteristics can influence gender outcomes.

Table 2: Estimation of Unemployment for Black Men, Black Women, and White Women relative to White Men - North and Northeast

	Black-men to white-men				Black-women to white-men				White-women to white-men			
	FE (1)	FE (2)	RE	POLS	FE (1)	FE (2)	RE	POLS	FE (1)	FE (2)	RE	POLS
(Intercept)			1.26*	0.59			1.80**	0.51			1.92*	0.31
			(0.56)	(0.50)			(0.69)	(0.37)			(0.83)	(0.46)
Real Selic	0.31	0.32	0.36	0.46	−1.14	−1.17	−0.96	−0.83	−2.28***	−2.30***	−2.19**	−2.12**
	(0.43)	(0.43)	(0.44)	(0.46)	(0.71)	(0.71)	(0.73)	(0.76)	(0.68)	(0.67)	(0.69)	(0.74)
Growth	0.36	0.36	0.40	0.42	0.27	0.09	0.17	0.03	−0.14	−0.50	−0.21	−0.40
	(0.61)	(0.63)	(0.63)	(0.67)	(1.02)	(1.03)	(1.06)	(1.10)	(0.98)	(0.99)	(1.00)	(1.07)
BLSH	−0.23	−0.96	−0.54	−0.59**	−5.55**	−6.31**	0.57	1.75***	−3.14	−4.48*	0.67	2.54***
	(1.00)	(1.25)	(0.36)	(0.22)	(1.69)	(2.09)	(0.83)	(0.40)	(1.64)	(2.00)	(1.00)	(0.36)
ER		−0.02				−0.14				−0.24		
		(0.20)				(0.33)				(0.31)		
LFP (BMWM)	−0.10	−0.06	0.32	1.02*								
	(0.51)	(0.52)	(0.50)	(0.48)								
LFP (BWWM)					−0.74	−0.68	−0.70	−0.14				
					(0.75)	(0.77)	(0.71)	(0.53)				
LFP (WWWM)									−1.09	−0.96	−1.33*	−1.10
									(0.61)	(0.61)	(0.61)	(0.60)
R^2	0.22	0.22	0.02	0.06	0.25	0.25	0.01	0.11	0.36	0.39	0.07	0.23
Adj. R^2	0.19	0.18	-0.00	0.04	0.22	0.22	-0.01	0.09	0.33	0.36	0.05	0.21
Num. obs.	200	195	200	200	200	195	200	200	200	195	200	200

$^{***}p < 0.001$, $^{**}p < 0.01$, $^{*}p < 0.05$

Table 3: Estimation of Unemployment for Black Men, Black Women and White Women relative to White Men - South, Southeast and Mid-west

	Black-men to white-men				Black-women to white-men				White-women to white-men			
	FE (1)	FE (2)	RE	POLS	FE (1)	FE (2)	RE	POLS	FE (1)	FE (2)	RE	POLS
(Intercept)			1.92**	3.26***			3.66***	4.13***			2.32***	2.16***
			(0.72)	(0.67)			(0.48)	(0.48)			(0.40)	(0.38)
Real Selic	1.33**	1.30**	1.29**	0.94	−0.53	−0.59	−0.47	−0.60	−1.11**	−1.14**	−0.91*	−0.88*
	(0.43)	(0.43)	(0.42)	(0.52)	(0.62)	(0.62)	(0.61)	(0.74)	(0.37)	(0.36)	(0.37)	(0.38)
Growth	0.31	−0.32	0.31	0.32	−0.12	0.53	−0.16	−0.22	−0.24	0.36	−0.23	−0.17
	(0.74)	(0.79)	(0.74)	(0.96)	(1.17)	(1.24)	(1.16)	(1.41)	(0.70)	(0.73)	(0.71)	(0.73)

BLSH	−0.07	−0.48	−0.28	−0.37***	−2.01*	−2.19*	−1.10*	−0.90***	−1.86***	−1.52**	−0.31**	−0.25***
	(0.54)	(0.55)	(0.33)	(0.08)	(1.02)	(1.04)	(0.48)	(0.11)	(0.54)	(0.54)	(0.11)	(0.07)
ER		−0.24				−0.21				−0.28		
		(0.18)				(0.28)				(0.16)		
LFP (BMWM)	−0.32	−0.41	−0.34	−1.60*								
	(0.71)	(0.72)	(0.70)	(0.66)								
LFP (BWWM)					−0.77	−0.58	−1.20	−1.95**				
					(0.76)	(0.76)	(0.64)	(0.62)				
LFP (WWWM)									−0.31	−0.10	−0.97	−0.79
									(0.59)	(0.58)	(0.52)	(0.49)
R^2	0.49	0.50	0.05	0.13	0.45	0.42	0.04	0.17	0.14	0.14	0.04	0.05
Adj. R^2	0.47	0.48	0.03	0.11	0.43	0.45	0.02	0.16	0.11	0.11	0.03	0.04
Num. obs.	320	312	320	320	320	312	320	320	320	312	320	320

$^{***}p < 0.001$, $^{**}p < 0.01$, $^{*}p < 0.05$

Tables 2 and 3 show the estimations of unemployment rates separated by regions, with Table 2 showing the results for the North and Northeast regions, and Table 3 for the South, Southeast and Midwest.

The main results are maintained for the South, Southeast, and Midwest regions, only with the coefficient magnitudes changing. The coefficient associated with the real interest rates increases in magnitude for black men relative to white men and maintains its significance. This would suggest that the disproportional effect on black men, relative to white men, is higher in the regions with a lower black population share, possibly pointing out a more pronounced racial bias in that region. There was no change in the results for the relative unemployment of black women to white men: the coefficient associated with the FFR continues to be insignificant. For the estimation of white women relative to white men, the coefficient associated with the FFR increased (became less negative) and maintained its significance.

However, for the North and Northeast regions, the effect of the real interest rate on the ratio between the unemployment rates of black men and white men becomes insignificant. This is an interesting result, as it points out the importance of differentiating regional dynamics. Again, the North and Northeast regions have a higher BLSH , so racial discrimination in the labor market may be lower.

For the estimation of the relative unemployment between white women and white men in the North and Northeast regions, the coefficient associated with the real FFR decreases (becomes more negative) and maintains its significance. This means that the effect of reducing the unemployment gap between white men and white women, followed by an increase in interest rates, is more significant in the North and Northeast regions when compared to the South and Southeast. Table 5 summarizes the results, focusing on the coefficients associated with the real interest rate.

We also reproduced the estimations removing the data from the COVID-19 period. The COVID-

19 pandemic was a unique period where companies had to shut down and only essential services were functioning, like health facilities, supermarkets, and construction services. In addition, the real interest rate decreased sharply during that period. Hence, given the gender and racial composition of those sectors, the dynamics of this period could be leading to some of the results found. The estimation results are reported in Table A1 in the Appendix. The effect of the real interest rate changed only for the black population. The effect continues positively but becomes insignificant in all scenarios for the estimation of the relative unemployment between black men and white men. This can be due to lower observation points or less variability in the interest rate series. It can also indicate different labor market dynamics not accounted for in our model, and thus needs further development in future research. For the ratio between black women and white men, the coefficient associated with the real interest rate becomes negative and significant for all 13 states and the South, Southeast, and Midwest regions. The lack of significance found previously for black women can also be associated with different directions taken by the unemployment gap before and during the pandemic. If the unemployment gap between black women and white men is negatively associated with real interest rates, it should have increased during the pandemic years, given that real interest rates were falling. However, that may not have been the case given that black women are more concentrated in care services, viewed as essential during that period. The results are qualitatively similar for white women relative to white men, with the coefficient maintaining its negative sign and its significance for the estimation of all 13 states and the estimation for the South, Southeast, and Midwest regions but insignificant for the North and Northeast regions.

The estimation results for the period before the COVID-19 pandemic shed light on possible different channels operating on the connection of the interest rate and labor market outcomes, especially when regional, gender, and racial differences are considered. To better understand our results, in the next section we conduct robustness checks on the estimations found, including sectoral and educational variables.

5. ROBUSTNESS CHECKS

5.1. Including Educational and Sectoral Variables

In this section, we conduct a robustness check exercise. Following the Seguino and Heintz (2012) model, we include sectoral occupation and education variables. Those variables are the percentage of the labor force with some college education (complete and incomplete) and the employment composition in the industry and construction sectors, all separated by gender and race. The data obtained for this exercise were also taken from PNADc.

The control variables for the robustness test are:

- College degree$_j$ = ratio between the percentage of group j with a college degree in the labor force and the percentage of white men with a college degree in the labor force;
- Industry$_j$ = ratio between the percentage of group j that is employed in the industry and the percentage of white men employed in the industry;
- Construction$_j$ = ratio between the percentage of group j that is employed in the construction industry and the percentage of white men employed in the construction;

where, as presented in the main equation above, j represents the group of interest used to construct the dependent variables (white women, black women, or black men).

Table 4 presents the results. We report, in this exercise, only the fixed effect estimation.

Table 4: Robustness Test: Fixed Effects Estimation for Black Men, Black Women, and White Women relative to White Men

	Black men to white men			Black women to white men			White women to white men		
	National	S, SE and MW	N and NE	National	S, SE and MW	N and NE	National	S, SE and MW	N and NE
Real Selic	1.22***	1.46**	0.71	−1.03	−1.18	−0.82	−1.46***	−0.88*	−1.96**
	(0.33)	(0.45)	(0.49)	(0.53)	(0.68)	(0.84)	(0.35)	(0.38)	(0.68)
Growth	0.03	−0.40	0.42	0.40	0.88	0.13	−0.15	0.36	−0.42
	(0.50)	(0.79)	(0.63)	(0.80)	(1.25)	(1.01)	(0.59)	(0.73)	(0.99)
ER	−0.16	−0.22	−0.03	−0.14	−0.28	0.05	−0.23	−0.29	−0.17
	(0.13)	(0.18)	(0.20)	(0.21)	(0.28)	(0.32)	(0.15)	(0.16)	(0.31)
BLSH	−0.94	−0.71	−1.30	−2.19*	−1.58	−5.01*	−1.58**	−1.54**	−3.99*
	(0.51)	(0.60)	(1.27)	(0.88)	(1.08)	(2.08)	(0.60)	(0.56)	(1.99)
LFP (BMWM)	−0.31	−0.46	−0.03						
	(0.43)	(0.72)	(0.52)						
LFP (BWWM)				−0.37	−0.50	−0.41			
				(0.56)	(0.79)	(0.78)			
LFP (WWWM)							−0.92*	−0.06	−1.24
							(0.44)	(0.67)	(0.65)
construction (BMWM)	−0.05	−0.11	0.01						
	(0.04)	(0.07)	(0.06)						
college (BMWM)	0.25	0.20	0.22						
	(0.15)	(0.24)	(0.19)						
industry (BMWM)	0.16*	0.15	0.14						
	(0.07)	(0.15)	(0.07)						
construction (BWWM)				0.73	0.24	1.71*			
				(0.51)	(0.70)	(0.77)			
college (BWWM)				−0.39**	−0.67**	−0.28			
				(0.14)	(0.26)	(0.17)			
industry (BWWM)				0.11	−0.25	0.37*			
				(0.13)	(0.22)	(0.16)			
construction (WWWM)							0.40	0.99*	0.25
							(0.26)	(0.50)	(0.35)
college (WWWM)							−0.05	−0.06	−0.02
							(0.09)	(0.19)	(0.13)
industry (WWWM)							0.27**	−0.06	0.36*
							(0.10)	(0.17)	(0.14)
R^2	0.62	0.51	0.24	0.59	0.46	0.30	0.31	0.15	0.41

Adj. R^2	0.60	0.48	0.19	0.58	0.43	0.25	0.28	0.11	0.37
Num Obs.	507	312	195	507	312	195	507	312	195

$^{***}p < 0.001$, $^{**}p < 0.01$, $^{*}p < 0.05$

The effect of the real interest rate on black men's unemployment relative to white men maintains the positive and significant coefficient for the estimation of all states. It maintains the positive sign for the South, Southeast, and Midwest regions and increases its magnitude. This means that, even when controlling the sectoral composition and educational level, the negative impact of a contractionary monetary policy is greater for black men when compared to white men. In other words, the unequal effect of contractionary monetary policy cannot be fully explained by different educational levels among these two groups, or for one group being more employed in industries that are more sensitive to changes in the interest rate (industry and construction).

The results do not change qualitatively for black women: the interest rates continue not to impact the relative unemployment rate between black women and white men. Finally, for white women, the real interest rate maintained a negative and significant coefficient after the variables of education and sectoral composition were included but decreased in absolute values. This indicates that part of the effect found previously can be attributed to education or sectoral compositions. However, the employment behavior of this group needs to be further explored to fully understand this result.

Table 5: Summary of Results for FE Estimations, Reported Coefficients for the Real Federal Funds Rate, with Standard Errors Reported in Parentheses

		All 13 states	South, SE, Midwest	North, NE
Full sample	Black Men	0,92 (0.30)**	1,30 (0.43)**	0,32 (0,43)
	Black Women	-0,85 (0,46)	-0,59 (0,62)	-1,17 (0,71)
	White Women	-1,65 (0.34)***	-1,14 (0.36)**	-2,30 (0.67)***
Without COVID-19	Black Men	0,76 (0,52)	0,93 (0,69)	0,49 (0,79)
	Black Women	-2,45 (0.78)**	-3,27 (1.02)**	-1,13 (1,22)
	White Women	-2,03 (0.57)***	-2,36 (0.58)***	-1,49 (1,15)

Robustness	Black Men	1,22 (0.33)***	1,46 (0.45)**	0,71 (0,49)
	Black Women	-1,03 (0,53)	-1,18 (0,68)	-0,82 (0,84)
	White Women	-1,46 (0.35)***	-0,88 (0.38)*	-1,96 (0.68)**

* p<0.05 ** p<0.01 *** p<0.001

We ran the regressions without the COVID-19 period data as in the previous estimations. The results in Table 4 changed significantly for the relative unemployment rates of black men and black women. As demonstrated in Table A2, in the Appendix, the real interest rates coefficient becomes insignificant for the estimation with the relative unemployment of black men to white men. The coefficient is negative and highly significant for black women's relative unemployment rates.

5.2. Estimation with Variables at the Level Form

To better understand the previous results, it is also important to look at the effects on each group individually. A ratio can increase because the numerator increases or the denominator decreases (or both). Hence, in this subsection, we conduct the estimations with the same variables, but instead of the unemployment rate ratios, we use the unemployment level for each gender-race group. Table 6 presents the fixed-effect model estimation results.

Table 6: Fixed-Effect Estimations: Variables in Level*

	White Men			White Women			Black Men			Black Women		
	BR	S,SE, MW	N, NE	BR	S,SE, MW	N, NE	BR	S,SE, MW	N, NE	BR	S,SE, MW	N, NE
Real Selic	0.10***	0.22***	−0.05	−0.15***	0.12**	−0.49***	0.32***	0.42***	0.18**	0.23***	0.41***	0.03
	(0.03)	(0.03)	(0.06)	(0.04)	(0.04)	(0.08)	(0.03)	(0.04)	(0.06)	(0.05)	(0.06)	(0.09)
Growth	0.01	0.05	0.02	−0.04	0.03	−0.08	0.01	−0.02	0.03	−0.04	−0.06	−0.06
	(0.04)	(0.05)	(0.07)	(0.06)	(0.06)	(0.11)	(0.05)	(0.07)	(0.07)	(0.06)	(0.08)	(0.10)
BLSH	0.06	−0.10*	0.31*	0.04	−0.05	0.21	0.03	0.03	−0.08	−0.22**	−0.21**	−0.47*
	(0.05)	(0.04)	(0.15)	(0.07)	(0.05)	(0.23)	(0.05)	(0.05)	(0.15)	(0.08)	(0.08)	(0.21)
ER	−0.05***	−0.03**	−0.07**	−0.12***	−0.08***	−0.18***	−0.09***	−0.07***	−0.12***	−0.13***	−0.08***	−0.20***
	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.03)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)
LFP(WM)	−0.19***	0.01	−0.30***									
	(0.04)	(0.06)	(0.07)									
LFP(WW)				0.05	0.28***	−0.08						
				(0.05)	(0.05)	(0.09)						
LFP(BM)							−0.15**	−0.09	−0.20*			
							(0.05)	(0.07)	(0.09)			
LFP(BW)										0.36***	0.35***	0.27*
										(0.06)	(0.06)	(0.11)
R^2	0.54	0.74	0.47	0.46	0.71	0.43	0.66	0.70	0.62	0.66	0.74	0.60
Adj. R^2	0.52	0.72	0.43	0.44	0.70	0.40	0.64	0.69	0.60	0.65	0.73	0.57
Num. obs.	507	312	195	507	312	195	507	312	195	507	312	195

***$p < 0.001$, **$p < 0.01$, *$p < 0.05$

* We omitted the coefficients related to the controls of college degree, construction and industry for better displaying the table.

As predicted by the Phillips curve, real interest rates positively affect unemployment for almost every group and region. The most surprising result is for white women: the real interest rate has a negative relationship with unemployment for the estimation with the aggregated states, and for the North and Northeast regions. For the South, Southeast, and Midwest, the relationship is positive.

When looking at the magnitude of the coefficients associated with the real interest rate in the estimations, we can understand if the previous results were related to changes in the numerator or denominator. In the white men's estimation, the real interest rate positively affects white men's unemployment, but in a smaller magnitude when compared to black men and black women. Moreover, the FFR has no effect on white men's unemployment in the North and Northeast regions.

In this way, we can see that for the ratios between white women's and white men's unemployment, both the denominator and numerator are operating in the same direction: white women's unemployment is decreasing, and white men's unemployment is increasing, when interest rates rise. The coefficient for white women is positive for the South, Southeast, and Midwest regions, and the magnitude is smaller than for white men. This means that even when women's unemployment increases in this region, it increases in a lower proportion compared to white men, possibly explaining the different magnitudes found on the coefficients.

The opposite happens for black men and black women: the coefficient associated with the real interest rate is larger in magnitude when compared to white men. This means that an increase in the interest rates disproportionately affects the unemployment of black men in comparison to white men, explaining the positive coefficient found in the estimations for this group. For black women, the coefficient is smaller in terms of magnitude, which can explain the absence of significance found in the previous estimations.

For the estimation without the COVID-19 period data (Table B, in Appendix), for all groups and in all regions, the relationship between unemployment and interest rates is positive. In this way, we understand that the negative results found in Table 6 for white women are due to the increase

in the demand for healthcare workers, a female-dominated sector, during the COVID-19 pandemic.

6. CONCLUDING REMARKS

Understanding policymaking effects and their intersectionalities with race and gender is a fundamental step toward a more inclusive economic development strategy. Our main goal with this study is to contribute to the recent literature that explores the disproportionate impact of monetary policies on different social groups, especially in a country like Brazil, marked by the diversity of its population and high inequality rates.

We investigated the impact of real interest rates, the primary monetary policy tool according to the Brazilian Central Bank, on unemployment by gender and race relative to white men. As mentioned previously, due to the lack of data, we could only conduct the estimations with quarterly periods from 2012 to 2021. We provided empirical evidence that social groups are disproportionately impacted when there is an increase in the interest rate, especially for black men relative to white men. This happens especially in the regions with the lowest BLSH: the South, Southeast, and Midwest regions. This result can be explained by the different positions of these two groups in the labor market or for possible racial discrimination.

The effect for white women, however, is opposite from expected: the unemployment of white women relative to white men reduces with increases in interest rates. We speculate that this can represent the need for white women to enter the labor market during periods of economic crisis. In addition, white women are mostly allocated to the education and healthcare sectors, which are less affected by economic cycles. They are also the group with higher education but still receive lower wages compared to white men, so they could represent a source of cheap labor in crisis periods. However, a better investigation of the dynamics of this group in the labor market and how that relates to interest rates is needed.

Finally, for black women the interest rate seems not to impact their employment relative to that

of white men. Their position in the labor market can explain this: most black women in Brazil are allocated to sectors that are not sensitive to changes in the interest rate, such as caretaking positions.

Aligned with previous studies, we conclude that the impact of contractionary monetary policies is not gender- or race-neutral. More importantly, the adverse effects vary according to different social groups, highlighting the importance of the intersection between race and gender when analyzing the impact of policymaking. We cannot stress enough that social stratification, if not considered, can lead to misleading conclusions that can perpetuate unequal socioeconomic outcomes. In addition to that, as indicated by the literature, if the side effects of macroeconomic policy on inequality are ignored, it is impossible to achieve sustainable economic development.

It is also important to emphasize that the dynamics of monetary policies have different instruments and channels that can impact social groups differently. For the scope of this study, our strategy was to focus on only one of these instruments—the interest rate—and on one channel—the labor market. Further studies are required to analyze other channels and intersections to contribute to a more comprehensive understanding of how monetary policy impacts different social groups, especially in Brazil and other developing economies.

Finally, we also bring attention to the importance of understanding the impact of policymaking in developing countries, despite data availability issues. As shown in the literature review, most of the studies conducted so far are concentrated in developed economies. The few that look at developing economies do so in an aggregated, multi-country panel, dismissing important regional characteristics and leading to conclusions and recommendations that can frequently contribute to the perpetuation of historical and structural issues that hamper the country's development process

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A Granger Causality test

To guarantee that the real FFR is not caused by changes in unemployment, we conducted a

Granger causality test for our three dependent variables, using four lags. The null hypothesis of the test is that lagged x-values do not explain the variation in y. Table A shows the results. We conclude that we cannot reject the hypothesis that the real FFR is not Granger-caused by changes in the relative unemployment of black and white men, black women and white men, and white women and white men.

	F	P(>F)
UBMWM	0.317	0.867
UBWWM	0.645	0.631
UWWWM	1.746	0.139

B Main Estimations Without the COVID Pandemic period

Table A1: Fixed Effects Estimation for Black Men, Black Women and White Women relative to White Men, excluding the COVID Pandemic period

	Black-men to white-men			Black-women to white-men			White-women to white-men		
	National	S, SE and MW	N and NE	National	S, SE and MW	N and NE	National	S, SE and MW	N and NE
Real Selic	0.76	0.93	0.49	−2.45**	−3.27**	−1.13	−2.03***	−2.36***	−1.49
	(0.52)	(0.69)	(0.79)	(0.78)	(1.02)	(1.22)	(0.57)	(0.58)	(1.15)
Growth	−0.02	−0.84	1.05	0.81	0.34	1.59	0.69	0.63	0.92
	(0.65)	(0.89)	(0.93)	(0.98)	(1.33)	(1.43)	(0.70)	(0.75)	(1.34)
ER	−0.20	−0.31	−0.02	−0.08	−0.32	0.29	0.05	−0.22	0.48
	(0.15)	(0.20)	(0.23)	(0.23)	(0.30)	(0.36)	(0.16)	(0.17)	(0.33)
BLSH	−0.35	−0.40	0.04	−1.69	−2.00	−1.71	−1.56**	−1.84**	−1.08
	(0.53)	(0.60)	(1.47)	(0.93)	(1.12)	(2.32)	(0.60)	(0.55)	(2.09)
LFP (BMWM)	−0.73	−0.87	−0.64						
	(0.55)	(0.93)	(0.66)						
LFP (BWWM)				−1.19*	−0.97	−1.39			
				(0.58)	(0.82)	(0.83)			
LFP (WWWM)							−0.83	−0.50	−0.91
							(0.43)	(0.65)	(0.64)
R^2									
Adj. R^2									
Num. obs.	416	256	160	416	256	160	416	256	160

*** $p < 0.001$, ** $p < 0.01$, * $p <$

Table A2: Robustness Test: Fixed Effects Estimation for Black Men, Black Women and White Women Relative to White Men, Excluding Data from COVID Pandemic Period

	Black-men to white-men			Black-women to white-men			White-women to white-men		
	National	S, SE and MW	N and NE	National	S, SE and MW	N and NE	National	S, SE and MW	N and NE
Real Selic	0.80	0.95	0.50	−2.41**	−3.81***	−0.82	−1.82**	−2.23***	−1.39
	(0.53)	(0.70)	(0.82)	(0.82)	(1.08)	(1.24)	(0.59)	(0.64)	(1.17)
Growth	0.03	−0.82	1.12	0.81	0.38	1.24	0.74	0.64	1.10
	(0.65)	(0.90)	(0.93)	(0.98)	(1.35)	(1.44)	(0.70)	(0.76)	(1.33)
ER	−0.21	−0.30	−0.07	−0.08	−0.40	0.30	0.06	−0.22	0.44
	(0.15)	(0.20)	(0.23)	(0.23)	(0.30)	(0.36)	(0.16)	(0.17)	(0.33)

BLSH	−0.59	−0.57	−0.12	−1.43	−2.02	−1.03	−1.24*	−1.93**	−0.61
	(0.58)	(0.69)	(1.51)	(0.97)	(1.17)	(2.34)	(0.61)	(0.59)	(2.09)
LFP (BMWM)	−0.72	−0.90	−0.60						
	(0.55)	(0.94)	(0.67)						
LFP (BWWM)				−1.14	−1.04	−1.36			
				(0.62)	(0.86)	(0.90)			
LFP (WWWM)							−0.78	−0.90	−0.85
							(0.47)	(0.74)	(0.69)
construction (BMWM)	−0.00	0.00	−0.01						
	(0.06)	(0.10)	(0.07)						
college degree (BMWM)	0.17	0.13	0.20						
	(0.18)	(0.29)	(0.24)						
Industry (BMWM)	0.13	0.03	0.17						
	(0.10)	(0.18)	(0.12)						
construction (BWWM)				−0.02	−0.32	0.84			
				(0.63)	(0.82)	(1.01)			
college degree (BWWM)				−0.17	−0.35	−0.09			
				(0.17)	(0.30)	(0.21)			
Industry (BWWM)				0.06	−0.45	0.42			
				(0.17)	(0.26)	(0.21)			
construction (WWWM)							0.36	0.28	0.39
							(0.33)	(0.56)	(0.47)
college degree (WWWM)							0.08	−0.30	0.15
							(0.10)	(0.19)	(0.14)
industry(WWWM)							0.26*	0.04	0.35*
							(0.11)	(0.20)	(0.16)
R^2									
Adj. R^2									
Num. obs.	416	256	160	416	256	160	416	256	160

$^{***}p < 0.001$, $^{**}p < 0.01$, $^{*}p < 0.05$

Table A3: Fixed Effect Estimations: Variables in Level, Excluding Data from COVID Pandemic Period

	White Men			White Women			Black Men			Black Women		
	BR	S,SE, MW	N, NE	BR	S,SE, MW	N, NE	BR	S,SE, MW	N, NE	BR	S,SE, MW	N, NE
Real Selic	0.23***	0.25***	0.17*	0.20***	0.26***	0.16	0.49***	0.51***	0.50***	0.39***	0.40***	0.40***
	(0.04)	(0.04)	(0.08)	(0.05)	(0.05)	(0.11)	(0.05)	(0.05)	(0.09)	(0.06)	(0.07)	(0.12)
Growth	−0.03	0.04	−0.07	0.00	0.06	−0.05	−0.02	−0.03	0.04	0.05	−0.00	0.13

	(0.05)	(0.05)	(0.09)	(0.06)	(0.06)	(0.12)	(0.06)	(0.07)	(0.10)	(0.07)	(0.09)	(0.12)
BLSH	0.07	−0.07	0.11	−0.02	−0.10	−0.03	0.09	0.10	−0.19	−0.17*	−0.22**	−0.30
	(0.05)	(0.04)	(0.16)	(0.06)	(0.06)	(0.21)	(0.06)	(0.06)	(0.16)	(0.07)	(0.08)	(0.20)
ER	−0.05***	−0.03**	−0.08**	−0.08***	−0.07***	−0.10**	−0.07***	−0.07***	−0.07**	−0.12***	−0.10***	−0.13***
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.03)	(0.01)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)
LFP(WM)	−0.07	0.15*	−0.21*									
	(0.05)	(0.07)	(0.09)									
LFP(WW)				0.23***	0.53***	0.04						
				(0.05)	(0.06)	(0.09)						
LFP(BM)							−0.01	0.25**	−0.25*			
							(0.07)	(0.09)	(0.11)			
LFP(BW)										0.50***	0.57***	0.24
										(0.07)	(0.08)	(0.13)
R^2	0.58	0.73	0.50	0.52	0.71	0.39	0.68	0.73	0.64	0.69	0.76	0.60
Adj. R^2	0.55	0.72	0.45	0.50	0.69	0.34	0.66	0.72	0.61	0.67	0.74	0.57
Num. obs.	416	256	160	416	256	160	416	256	160	416	256	160

***$p < 0.001$, **$p < 0.01$, *$p < 0.05$