

Gender and income inequalities in Brazilian households: implications for food security and nutrition

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Aléxia Vieira de Abreu Rodrigues (<https://orcid.org/0000-0003-0452-6205>)¹

Delaine Martins Costa (<https://orcid.org/0000-0003-2222-5676>)²

Rosana Salles-Costa (<https://orcid.org/0000-0002-2307-4083>)¹

Abstract In Brazil, the articulation between the problem of combating hunger and income transfer policies deepened the debate on food insecurity (FI). Limited access to income may explain the greater vulnerability of families with a female reference person to severe FI. The article aims to investigate the difference in the participation of earnings from work, benefits and social programs in the income of families in food security (FS) and severe FI, according to the gender of the reference person. Quantitative study that analyzed data from 37,927 households from the 2018 Household Budget Survey. The difference in the participation of income from work, retirement, pension, and the Bolsa Família Program (PBF) in family income was analyzed according to per capita income and situation of AS and severe FI, assessed by the Brazilian Scale of Food Insecurity. The analysis privileged the concept of the sexual division of labor, and the results revealed a greater participation of the PBF for families with a female reference person when in FS and with lower income. The greater contribution of conditional cash transfers to these families reaffirms their importance as a mechanism for social protection and reduction of inequalities.

Key words Food insecurity, Hunger, Income, Gender

¹ Instituto de Nutrição Josué de Castro, Universidade Federal do Rio de Janeiro. Av. Carlos Chagas Filho 373, Bloco J, 2º andar, sala 21, Cidade Universitária. 21941-902 Rio de Janeiro RJ Brasil. alexiaabreurodrigues@gmail.com

² Escola Nacional de Saúde Pública Sérgio Arouca, Fundação Oswaldo Cruz. Rio de Janeiro RJ Brasil.

Introduction

The issue of food insecurity food insecurity (FI) calls for a multidisciplinary perspective, because different factors affect individuals, families and populations living with FI. Data from the Brazilian food and nutrition security research network (PENSSAN) showed that, in 2022, some 33.1 million Brazilians lived with hunger in the most severe form of FI¹. That scenario has been corroborated as severe FI has advanced in all regions, to reach 924 million worldwide, including 14.5% of the population of Latin America and the Caribbean².

Since 2018, severe FI has become a reality for increasing numbers of Brazilian families³, surpassing its 2004 levels⁴, when FI was first evaluated in Brazil, in a context where the food was not yet recognized as a social right. A number of public policy factors have contributed to this reversal, most prominently the economic crisis resulting from austerity measures⁵, the dismantling and discontinuance of food and nutrition security (FNS) policies and the extinction of Brazil's Food and Nutrition Security Council in 2019⁶. With the Covid-19 pandemic, social and regional inequalities worsened, with differential effects on families headed by male and female persons of reference, according to data from an assessment of access to appropriate diet^{1,3}.

Santos *et al.*⁷ observed that families headed by women and living in Brazil's North, Northeast and Mid-west regions were more vulnerable to the most severe forms of FI. Also, families in rural areas of Brazil's semiarid and whose reference person was a woman were even more affected by hunger than families in urban areas⁸.

That FI is more prevalent in households with a woman as reference person can be explained by limited access to earnings from work and to productive resources⁹. This expresses a key discussion regarding FI, to do with cash transfer policies (whether conditional or not) as a mechanism for social protection and for combating poverty. As poverty increases, so women are less in a position to access the labour market or vocational training and have to cope with a double workload¹⁰.

Despite the importance of learning what factors structurally affect families living with FI and how they interrelate, few studies explore in depth, from a critical gender studies perspective, why more women than men live in situations of FI. Oliveira *et al.*⁹ drew attention to this relationship between FS and being female, raising the question of whether unequal access

to food is an expression of gender injustice, a concept formulated by Fraser¹¹ and relating to theories of justice and barriers to women's emancipation¹².

This article draws on the concept of the sexual division of work¹³, with a view to understanding how the social division of work, which results from social power relations between the sexes, has contributed to the unequal roles of women and men in productive work and, in Brazil, to contradictions in social protection designed to combat poverty and hunger.

Even when women are assured the same rights as men, they perform the larger part of reproductive work¹³ and, in countries and regions with weak social protection systems¹⁴, women's placement and continuance in productive work are obstructed by class barriers¹³. In that regard, studies that discuss the sexual division of work, given its characteristic allocation of men primarily to the sphere of productive work and women, to the reproductive sphere, can contribute to understanding factors that bear on gender inequalities and severe FI¹³.

This article examines the difference in the proportion of revenue from work, retirement benefits, pensions and the federal *Bolsa Família* family allowance programme (FAP) in the composition of family income, by household FI classification and comparing households by sex of reference person, in the different regions and urban and rural areas of Brazil. It contributes by working with data from the 2018 Family Budget Survey (FBS) on a perspective that associates gender and feminist studies with the issue of FI, thus prompting new discussions based on analyses of the subject presented in Brazilian quantitative studies.

Methods

Study sample

This cross-sectional, quantitative study used data from the family budget survey (FBS) conducted between July 2017 and July 2018, by Brazil's official bureau of statistics, the *Instituto Brasileiro de Geografia e Estatística* (IBGE). The FBS is a population-based survey that collects detailed data on patterns of consumption, the consumption of household budgets and conditions of life of Brazil's population¹⁵. The sample design is defined by the master sample developed by the IBGE¹⁶, and sample selection considers clusters in two stages (primary consump-

tion units and households). More details on the sample design of the 2018 FBS can be obtained in IBGE publications¹⁶.

General characteristics of households and their members were investigated using sociodemographic information, as well as information on conditions of life and individual work and income. The variables considered were household food insecurity, sex of the reference person, per capita family income and income classification.

Household food insecurity

Using the Brazilian Food Insecurity Scale (BFIS), which assesses household access to food by way of available income in the three months prior to the interview, the 2018 FBS recorded food security and three levels of FI (mild, moderate and severe). Validated for the Brazilian population, this psychometric scale comprises 14 questions of which eight are directed to adult and older adult residents and six, to residents under 18 years of age¹⁷. Each affirmative response to a question adds one point to the household's classification in levels of FI¹⁷. The study reported here considered exclusively families classified as with FS (families with no affirmative responses to the questions) and with severe FI (those with at least one member under 18 years of age and scoring from 10 to 14 affirmative responses or all-adult families scoring 7 or 8 points). Details of the BFIS and classification of levels of FI can be found in previous publications¹⁷.

Sex

For discussion of “female/male” classifications over the course of the article, sex of the family reference person was analysed as “woman/man”, as used in the questions posed by the IBGE¹⁵. On this approach, sex is a descriptive category and gender is an analytical category originating in social science studies that emphasise a social logic that structures systems of power relations and ontologies around what is attributed socio-culturally to maleness and femaleness¹⁸.

For that purpose, the article is framed by the theory of gender and feminist studies which, in their diversity, converge to gender analyses with an intersectional perspective, that is, in which power relations between the sexes structure inequalities and are overlaid interdependently on other forms of inequality, such as class and race^{19,20-22}. This thus means that, beyond the male/female dyad, the sexual division of work

stands as one of the explanatory dimensions of these power relations^{13,20,21}.

In this article, the terms “reference person” and “head of family” have been taken to be synonymous.

Family income and income classification

Family income was analysed from the families' total income and information for monetary revenues, in order to investigate the origin and amounts of any kind of monetary gain by each member of the household. The study considered information for all residents who contributed to the family budget within a 12-month reference period¹⁵. Revenue was classified into four different categories as originating from: (i) paid work, (ii) retirement benefits, (iii) pensions and (iv) the FAP. Residents' revenue from work, pensions and retirement benefit was calculated including amounts received as holiday allowances and 13th and 14th wages. The Christmas bonus of residents who received the FAP was also included. Amounts received for each revenue type were divided by the number of persons in the household, so that all analyses of income considered the per capita amount.

The IBGE records total income expressed in an average monthly amount of household income comprising the sum of family gross monetary and non-monetary revenue, plus the monetary amount representing change in assets, received during the 12-month reference period¹⁵. Accordingly, in this study, where revenue from paid work, retirement benefits, pensions and the FAP was received for less than the reference period, the monthly amount was multiplied by the number of instalments received during the year and then divided by the 12 months of the reference period, so as to give an average monthly amount compatible with the annualised total average income. As the amounts of 13th and 14th wages, holiday allowance and FAP Christmas bonus are all paid in single instalments, they were divided by 12 months.

The proportion of monetary revenues in the composition of per capita family income was calculated by estimating the average percentage amount of each monetary revenue in proportion to total average income. Also calculated were percentage differences between revenues of families headed by women and those headed by men; subgroups of family income of less than ½ a minimum wage per capita (MWPC), ½ to 1 MWPC and more than 1 MWPC were also

established. On 15 January 2018, the reference date set by the FBS¹⁵, one minimum wage was R\$ 954.00 (nine hundred and fifty-four Brazilian reais), that is, R\$ 447,00 (four hundred and forty-seven Brazilian reais) for ½ a minimum wage.

Other study covariables

The analyses were stratified by subnational region (North, Northeast, Mid-west, Southeast and South) and area (urban; rural). Other covariables used to characterise the families were the number of residents in the household (up to 3 and 4 or more) and the reference person's race/colour (white or black: the latter including black or brown, following the IBGE classification²³), schooling (≤ 8 years; > 8 years) and marital status (without spouse or with spouse).

Data analysis

First, the proportion of monetary revenues to estimated total income was calculated as average percentages and corresponding 95% confidence intervals (95% CIs). The analysis of variance (ANOVA) test was used to estimate the difference between averages for households with a woman reference person (W) and households with a man reference person (M). Then the differences in the average percentages for each source of revenue (work, retirement benefits, pensions and the FAP) was calculated, by sex of the reference person, using the following equation $[(W_i - M_i)/M_i] \times 100$; where M represents the amount of household revenue with a man as reference person, W the amount of household revenue with a woman as reference person and i indicates the existence of household FS or severe FI. The equation was applied to subsamples of the per capita income categories (i.e., $< 1/2$ MWPC, from $1/2$ to 1 MWPC and > 1 MWPC). The Stata 16 statistics programme was used for the analyses in this study, all of which were stratified by region, area and household reference person's sex. All analyses were weighted to offset the non-response rate, according to the 2018 FBS sample design, using the 'svy' package of Stata, version 16.1 (<https://www.stata.com>).

Ethical considerations

The IBGE's data collection activities are governed by Law No. 5.534, published on 14 November 1968. That law guarantees confidentiality to all physical and legal persons who

provide statistics and information to the IBGE. Accordingly, all are notified that the information they provide will be used exclusively for the purpose of statistical analysis. Also, research using secondary data in the public domain does not require research ethics committee approval, pursuant to National Health Council Resolution No. 510, of 7 April 2016.

Results

Of the 57,920 households from the 2018 FBS investigated, complete information on the revenue of the family reference person and FS or severe FI was available for 37,927 households (65.5% of the sample). Most of the families resided in urban areas (87.7%) and were headed by a man (Man: 56.4% [95%CI 55.6; 57.1]; Woman: 43.6% [95%CI 42.9; 44.4]). Among families in rural areas, a significantly smaller percentage were headed by a woman (30.7% [95%CI 29.0; 32.4]) than by a man (69.3% [95%CI 67.9; 71.0]).

Figures 1A and 1B shows the prevalences of FS and severe FI, by profile of families headed by men or women and by location in urban or rural areas. From these data, there was more FS in urban and rural households in the Mid-west, Southeast and South regions when the head of the family was a man (Figure 1A). There was more severe FI in families headed by women, except in the rural Southeast. In rural areas of the North, Northeast and Mid-west regions and in urban households in the Southeast and South regions, families headed by women represented the greatest proportions of families living with severe FI (Figure 1B).

The sociodemographic characteristics showed that families in urban areas headed by a man with regular access to food in sufficient quantity and quality (FS), were categorised mostly as receiving family income of more than 1 MWPC (80.0%) and comprising smaller numbers of residents (69.6%). In that profile, more than half the men heads of families were white (53.6%), had more than eight years' schooling (67.30%) and lived with spouses (80.7%). Meanwhile, among urban families with the same FS, headed by women, a significantly smaller proportion were in the higher-income group (77.6%), a larger proportion had up to three residents (77.7%) and the reference person was white (53.4%) and had no spouse (62.9%). Also in urban areas, significant differences emerged in severe FI by sex in a greater proportion of families headed by black women (72.4%), with

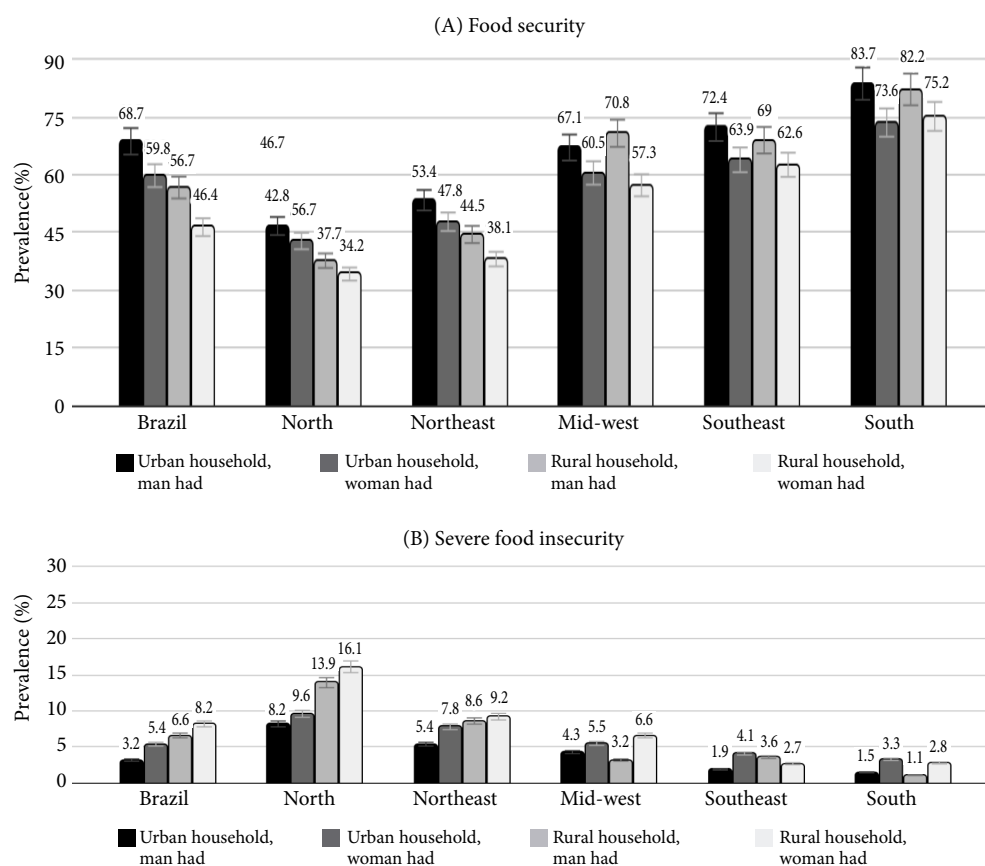


Figure 1. Prevalence of food security (A) and severe food insecurity (B) in urban and rural territories, by sex of the reference person of households in regions of Brazil, 2018.

Source: Authors.

less family income (35.0%) and less schooling (64.0%) (Table 1).

Among families in rural areas, there was significantly more FS among families headed by black men (54.5%) and men living with a spouse (79.3%). Among families with a woman reference person, there was a notably larger proportion of FS in those living without a spouse (50.3%, p -value < 0.001) and who were black (61.9%). Interpretation of the data on severe FI in rural families revealed that all families, whether headed by men or women, were more vulnerable to race and marital status: the most vulnerable to FI were those headed by men who were black (82.5%) and men with spouses (79.2%) and by women who were black (84.2%) and women without spouses (59.1%) (Table 1).

Tables 2 and 3 show the percentage differences in revenue from work, retirement benefits, pensions and the FAP in families headed by

a woman as compared with these revenues as a proportion of the income of families headed by men, by strata of family income in MWPC and household FS and severe FI.

Revenues from the FAP and pensions showed greater differences and contributed more to the income of families in urban areas headed by women. In most of the regions, revenue from the FAP showed stronger differences among families with least income and with FS (South: +57.0%; Southeast: +41.4%; Mid-west: +34.3%; Northeast: +27.8%) and in families with most income and severe FI in the Southeast region (+575.0%). Pension revenues showed the greatest difference among families with FS and least income in the Southeast region (+132.9%) and in families with severe FI in the Mid-west region (+562.5%). Families with incomes of more than ½ MWPC and with severe FI showed strong differences from pensions in the North

(+131.4%) and South (+95.2%) regions (Table 2).

Families with severe FI and living in urban areas also showed strong differences in revenue from work in the Mid-west region (-26.1%) in the lowest income stratum. Among families with most income, revenue from work returned the strongest differences in the Northeast (25.6%) and South (-19.6%) regions, while revenue from retirement benefits showed the greatest difference among families in the Mid-west (-36.2%). These negative values indicate that revenue from work and retirement benefit accounted for

a smaller proportion of the income of families headed by women (Table 2).

The differences in revenues among families in rural areas were greater than those found among families in urban areas. However, revenues from the FAP and pensions also showed greater differences than those in revenue from work, indicating that the latter accounted for a smaller proportion of the income of families headed by women in rural areas. In all regions, the difference in revenue from the FAP indicated larger proportions in families with least income, those headed by women and those with

Table 1. Percentages (%) and 95% confidence intervals (95%CI) of sociodemographic characteristics of Brazilian urban and rural households, by sex of the reference person and situation of food security and severe food insecurity (severe FI). Brazil, 2018.

Sociodemographic characteristics	Urban				Rural			
	Man		Woman		Man		Woman	
	Food security	Severe FI	Food security	Severe FI	Food security	Severe FI	Food security	Severe FI
	[95%CI]	[95%CI]	[95%CI]	[95%CI]	[95%CI]	[95%CI]	[95%CI]	[95%CI]
Per capita household income								
< ½ MWPC	4.8 [4.4-5.3]	30.6 [26.8-34.7]	5.7 [5.2-6.3]	35.0 [31.7-38.5]	15.3 [13.7-17.0]	58.5 [53.6-63.3]	18.9 [16.0-22.1]	57.7 [49.5-65.5]
≥ 1/2 ≤ 1 MWPC	15.2 [15.6-17.7]	28.6 [25.3-32.3]	16.6 [15.7-17.7]	30.5 [27.3-33.9]	25.3 [23.8-26.9]	24.8 [21.2-28.8]	26.4 [23.8-29.2]	32.7 [26.0-40.2]
> 1 MWPC	80.0 [78.9-81.0]	40.7 [36.6-45.0]	77.6 [76.4-78.8]	34.5 [31.0-38.1]	59.4 [57.4-61.4]	16.7 [13.3-20.7]	54.7 [50.9-58.4]	9.6 [6.3-14.2]
Number of residents								
Up to 3	69.6 [68.5-70.7]	66.2 [62.3-70.0]	77.7 [76.7-78.7]	63.5 [59.6-67.2]	69.9 [68.1-71.6]	46.7 [41.1-52.4]	70.4 [67.3-73.3]	52.1 [44.5-59.6]
4 or more	30.4 [29.3-31.5]	33.7 [30.0-37.7]	22.2 [21.2-23.3]	36.5 [32.8-40.4]	30.1 [28.4-31.9]	53.3 [47.6-58.9]	29.6 [26.7-32.7]	47.9 [40.4-55.5]
Race/colour								
White	53.6 [52.1-55.0]	27.0 [23.3-31.2]	53.4 [51.9-54.8]	27.6 [23.9-31.6]	45.5 [43.2-47.8]	17.5 [13.9-21.9]	38.1 [34.4-42.0]	15.8 [10.4-23.3]
Black/mixed	46.4 [45.0-47.8]	72.9 [68.8-76.7]	46.6 [45.2-48.0]	72.4 [68.4-76.1]	54.5 [52.2-56.8]	82.5 [78.1-86.1]	61.9 [58.0-65.6]	84.2 [76.7-89.6]
Schooling								
≤ 8 years	33.0 [31.8-34.2]	61.4 [57.2-65.4]	33.9 [32.6-35.2]	64.0 [60.1-67.7]	73.9 [72.0-75.7]	83.9 [79.4-87.6]	68.7 [65.0-72.3]	79.0 [72.2-84.5]
> 8 years	67.0 [65.7-68.2]	38.6 [34.6-42.8]	66.1 [64.8-67.4]	36.0 [32.3-39.9]	26.1 [24.3-28.0]	16.1 [12.4-20.6]	31.3 [27.7-35.0]	21.0 [15.5-27.8]
Marital status								
Without spouse	19.3 [18.4-20.3]	35.4 [31.5-39.4]	62.9 [61.5-64.2]	70.5 [67.1-73.6]	20.7 [19.1-22.3]	20.7 [17.0-25.0]	50.3 [47.2-53.5]	59.1 [51.7-66.1]
With spouse	80.7 [79.7-81.6]	64.6 [60.6-68.4]	37.1 [35.8-38.4]	29.5 [26.3-32.8]	79.3 [77.7-80.9]	79.2 [75.0-83.0]	49.6 [46.5-52.8]	40.9 [33.8-48.3]

1. Chi-square test, for households with man and woman reference person, p-value < 0.05.

Source: Authors.

FS. The largest differences in revenue from the FAP were observed in families with FS in the North region (+65.9%) and families with severe FI in the Northeast (+225.8%) region, when per capita family income was less than 1 MWPC. There were greater differences in pension revenue among families with FS in the North region (+133.5%), when income was less than ½ MWPC, and in families with severe FI in the South region (+665.9%), when income was

greater than ½ MWPC and less than 1 MWPC (Table 3).

Among families in rural areas and with severe FI, the greatest differences in revenue from retirement benefit showed that this revenue accounted for the largest proportion of income in families headed by women living in the Midwest (+79.3%), when income was greater than 1 MWPC, and in the Northeast (+62.6%), when it was less than ½ MWPC. Similar results were ob-

Table 2. Percentage differences (%) in proportion of revenue from work, retirement benefits, pensions and the family allowance programme (FAP), in urban households of regions of Brazil, with a woman reference person, as compared with households with a man reference person, by situation of food security and severe food insecurity and family income (in minimum wage per capita [MWPC]). Brazil, 2018.

Revenue	Food security			Severe food insecurity		
	< ½ MWPC ^a	≥ ½ to ≤ 1 MWPC	> 1 MWPC	< ½ MWPC	≥ ½ to ≤ 1 MWPC	> 1 MWPC
	% ^b	%	%	%	%	%
Brazil						
Work	-12.5 ^c	-9.6	-10.2	-8.4	-12.5	-11.4
Retirement benefit	-5.3	+0.6	-4.4	-2.4	-4.4	-10.1
Pensions	+48.0	+31.0	+59.4	+4.6	+13.6	+1.1
FAP	+34.1	+10.5	+12.9	+11.2	+7.7	+37.5
North						
Work	-9.8	-3.2	-5.5	-11.8	-6.9	-25.6
Retirement benefit	+4.5	+0.6	-2.1	-9.0	+37.9	-20.9
Pensions	-54.9	+3.7	+9.1	-31.4	+131.4	-36.1
FAP	+27.5	+21.3	-41.7	-0.4	-29.9	+33.3
Northeast						
Work	-13.3	-13.0	-12.1	-10.0	-27.9	-11.8
Retirement benefit	-0.5	-1.3	-8.2	+8.0	-22.8	+8.2
Pensions	-22.2	+21.1	+40.2	-14.0	-7.6	-21.0
FAP	+27.8	+3.1	+12.9	+31.3	+29.7	-8.8
Mid-west						
Work	-5.3	-8.6	-11.4	-26.1	-14.0	-8.1
Retirement benefit	-21.3	-16.2	+3.9	&	-27.4	-36.2
Pensions	+78.5	+34.8	+42.8	+562.2	+54.6	+10.9
FAP	+34.3	+8.9	+11.1	+30.7	+16.3	+19.2
Southeast						
Work	-16.9	-11.3	-10.7	+2.1	+7.7	-4.8
Retirement benefit	-1.0	+6.8	-5.3	-21.2	+17.3	-10.9
Pensions	+132.9	+41.3	+71.6	&&	+26.6	+11.1
FAP	+41.4	+20.4	+29.0	-9.1	-1.4	+575.0
South						
Work	-3.1	-3.6	-8.3	-13.7	-13.9	-19.6
Retirement benefit	-18.1	-4.4	-2.3	&&&	-20.4	-2.1
Pensions	+26.6	+32.4	+59.9	&&&	-43.6	+95.2
FAP	+57.0	+16.7	+25.0	-44.5	-40.2	&&

^a minimum wage per capita (MWPC); ^b percentage difference; ^c [(woman-man)/man]*100; & No information on income for households with a woman reference person; && No information on income for households with a man reference person; &&& No information on income for households with a woman reference person or households with a man reference person.

Source: Authors.

served for families with FS and least income in the Northeast (+16.0%) and Southeast (+39.3%) regions. Among families in rural areas and with FI, differences in revenue from work were found in those with most income in the Midwest (-88.3%) and Southeast (-89.7%) regions. Among families with FS, the largest difference was in the Northeast (-23.9%) region in the lowest family income stratum (Table 3).

Discussion

Corroborating the data in the literature, this study reiterated that Brazilian families headed by women form part of the most vulnerable social group in that they live in situations of severe FI^{1,4,7-9}. Note that the proportion with the most severe form of FI was even larger among families headed by black women and living in urban areas of the Southeast and South regions or in

Table 3. Percentage differences (%) in proportion of revenues from work, retirement benefits, pensions and family allowance programme (FAP), in rural households in regions of Brazil with a woman reference person, as compared with households with a man reference person, by situation of food security and severe food insecurity and family income (minimum wage per capita [MWPC]). Brazil, 2018.

Revenue	Food security			Severe food insecurity		
	< ½ MWPC ^a	≥ ½ to ≤ 1 MWPC	> 1 MWPC	< ½ MWPC	≥ ½ to ≤ 1 MWPC	> 1 MWPC
	% ^b	%	%	%	%	%
Brazil						
Work	-20.0 ^c	-20.1	-6.6	-11.1	-6.5	-36.4
Retirement benefit	+10.9	-3.1	-3.5	+39.5	-11.9	-20.7
Pensions	+31.3	+29.9	+29.6	+11.1	+30.0	+42.1
FAP	+32.8	+1.4	-7.7	+5.6	+4.0	+157.7
North						
Work	-14.5	-2.1	-2.7	-12.7	-11.8	+12.7
Retirement benefit	-3.9	-4.8	-9.6	+12.7	+15.0	-55.9
Pensions	+133.5	-6.5	-22.8	&&	+175.3	-24.6
FAP	+33.3	+49.3	+65.9	+33.6	+11.9	-66.1
Northeast						
Work	-23.9	-25.4	-11.2	-9.5	+1.3	-38.4
Retirement benefit	+16.0	-6.0	-12.3	+62.6	-21.8	-24.9
Pensions	+19.7	+9.7	+7.0	+2.3	-3.4	+33.0
FAP	+25.0	-16.3	-17.8	-3.1	-16.5	+225.8
Mid-west						
Work	-18.9	-14.0	-13.3	+1.4	+33.1	-88.3
Retirement benefit	-42.9	-9.7	+21.7	&	-88.7	+79.3
Pensions	&&&	-16.0	+51.1	+2.1	&&	-42.1
FAP	+24.0	-3.6	-32.3	+5.0	+46.3	&
Southeast						
Work	+0.3	-21.0	+4.1	-23.1	+29.0	-89.7
Retirement benefit	+39.3	-9.8	-13.2	&&	&	-8.3
Pensions	-2.4	+108.7	+47.8	+26.0	&&&	+139.7
FAP	+60.8	+33.8	-19.4	-30.6	&	&
South						
Work	-4.2	-3.0	-11.5	&	-38.7	-43.7
Retirement benefit	-2.1	+1.3	-1.2	&&	-21.5	-2.4
Pensions	&&	+124.6	+54.9	&&&	+665.9	&
FAP	+21.5	+33.3	+56.5	&	+8.6	&&&

^a minimum wage per capita (MWPC); ^b percentage difference; ^c [(woman-man)/man]*100; & No information on income for households with a woman reference person; && No information on income for households with a man reference person; &&& No information on income for households with a woman reference person or households with a man reference person.

Source: Authors.

rural areas of the North, Northeast and Midwest regions.

It was also among families headed by women that revenue from cash transfer programmes – whether contributory, as in pensions, or direct, as with the FAP – was most present and where revenue from work contributed least. In other words, it is families with a woman person of reference that have most difficulty obtaining revenue from work and, accordingly, the lack of pensions and FAP benefits make the situation of severe FI permanent and cause it to have lasting repercussions.

In the light of the concept of the sexual division of work, the lesser proportion of revenue from work and greater proportion of revenue from the FAP are evidence that reproductive work is attributed to women, as is disproportionate responsibility for tasks essential to social reproduction¹³. That responsibility leaves women less available for productive work, at the same time as they sustain it²⁴.

Cash transfer from the FAP is conditional on promoting access to health care and education, which – in addition to distributing income – contributes to investment in human capital and favours the interruption of intergenerational cycles of poverty²⁵. At the same time, it is the responsibility of the women, who are preferentially the holders of the benefit, to ensure compliance with the counterpart requirements, suggesting that they perform reproductive activities, thus reinforcing social gender roles and contributing to inequality between the sexes^{26,27}.

Women are mostly responsible for domestic activities, even when holding a position on the labour market, which reveals the need to reconcile paid work away from home and reproductive activities to benefit the family²⁸. Reconciling family and paid work places greater constraints on time and mobility, especially for those in situations of poverty and extreme poverty^{28,29}. Also, little is available in the way of public services to socialise care, while those that do exist are difficult to access, reinforcing the attribution of reproductive work to poor women and revealing that that State takes it for granted that care is women's work²⁸. That is, the sexual division of work, in addition to jeopardising women's entry to, and stability in, paid work, tends to contribute to their being more vulnerable to informal jobs and unemployment, thus limiting their access to labour rights and social protection mechanisms, such as retirement benefit.

Note that, aside from revenue from work as such, retirement and pension revenues are

social security benefits, that is, conditional on workers' contributing while active on the labour market and thus securing rights for themselves and their dependents. Accordingly, this study suggested that social protection, seen as a social right, but conditional on the formal employment market, fails to serve a specific portion of men and women workers with unstable and precarious ties to the labour market²⁸.

On the other hand, this study revealed that revenue from retirement benefits accounts for a larger proportion of the income of families headed by women in rural areas. Some specific characteristics of the rural retirement benefit may have contributed to this finding. Firstly, its characteristics are closer to social assistance than to social insurance, because men and women rural workers are entitled to this social benefit, as special beneficiaries, even without contributing, providing they demonstrate rural activity and the minimum age for retirement benefit^{30,31}. Second is the basis for contribution: rural social insurance contributions are calculated on the basis of produce sold, rather than on workers' wages, as occurs with urban social insurance³⁰. The former contribution makes allowance for the lack of regularity in rural workers' income³⁰, which is particularly important to women, because – even when they are legally recognised as rural workers^{31,32} – the work they do is largely regarded as helping with tasks performed by men³³. This reinforces the situation where, even when rural women's activities are connected with paid work^{30,32}, they are often regarded as extensions of household chores, meaning unpaid work, leaving these families more dependent on cash transfers for their income.

Revenue from the FAP, which is operated by the federal government, comes from cash transferred to families in conditions of poverty or extreme poverty²⁵. The benefit is thus designed to be temporary and independent of individual contributions. This can be described as cash transfer as such and as not constituting a benefit, because it is for a specific group of the population that meets certain criteria. Once enrolled in the programme, members of that population have access to material and immaterial resources made available by public policies designed to foster beneficiaries' socioeconomic autonomy¹⁴.

Since its inception, the FAP intended that women should hold title to the benefit. On the argument that they are better at managing funds intended for the family, the programme recognises the value of the reproductive activities

traditionally performed by women, while at the same time reinforcing and reproducing the logic of the sexual division of work and preserving the link between domestic work and traditional gender roles¹⁰. Women beneficiaries are responsible not only for receiving and using the benefit, but also for ensuring compliance with the health care and education conditions for remaining in the programme²⁷. In that regard, women's title in the FAP has become a subject for discussion and analyses by feminist studies, because it tends to reinforce women's obligations in caring for the family, instead of reducing them or socialising women in groups¹⁰.

In Mariano & Souza²⁸, about 2/3 of FAP benefit holders interviewed in Curitiba and Fortaleza reported heavier duties after enrolling in the programme. Emphasis on responsibilities to family and children, added to precarious infrastructure for socialising care, were factors limiting women's economic autonomy based on paid work and emancipation from the FAP²⁸. In households in the Southeast region, even in the upper income stratum, the difference in revenue from the FAP was greater, even in families with severe FI, indicating that this revenue accounted for a greater proportion for women when the difference in revenue from work was smaller.

In a study of women FAP benefit holders in one municipality in the Southeast region, Mariano & Carloto¹⁰ found that 61% were working; of these, 65.7% were black women, who also reported that their responsibilities increased on entering the programme, indicating that these women were more prone to the symbolic interferences of the FAP¹⁰.

Black women are strikingly present among the poorest people, which reflects a historical process of (re)production of social inequalities. It is essential not only to recognise how racism operates in Brazilian society, but to identify and demonstrate which racial dynamics affect FI. Meanwhile, incorporating the discussion of race relations (or social theory of racism) into the analysis leads beyond the scope of this article. The enduring inequalities³⁴ operate through a series of social categories that make no sense in isolation, only in relation. In Brazilian society, the social categories of class, race and gender constitute mechanisms for the production and reproduction of historically interwoven inequalities and can elucidate objectively one of the main racist effects, which is the complex dynamics of food and nutrition security. However, agreeing with the approach of Campos³⁵, more in-depth analysis is required in order not to in-

cur in reductionisms based on race-related ideologies, practices and structures, which produce different generative mechanisms in relation to FNS.

For example, Santos *et al.*³⁶ found greater FI in families headed by black women. Exploring intersectionality between gender and race/colour and using the same data base as the study reported here (the 2018 FBS), they found that families headed by single black women with children up to five years of age were four times more likely to suffer moderate or severe FI than families in the same situation headed by a black man³⁶.

The data of this study make it possible to examine a period (2016) following the measures to discontinue Brazil's FNS policies. This is particularly important, because it shows that the population's human right to satisfactory food was violated and that this worsened during the COVID-19 pandemic period. The results reiterate the scenario of vulnerability to severe FI experienced by Brazilian families headed by women⁴, which was aggravated by the public health crisis precipitated by the pandemic³⁷. In 2023 the *Rede Penssan* network published national data that revealed increasing hunger in Brazil, with impact especially on households headed by black women, which represented 22.0% of families with severe FI¹. The report found that the scenario resulted as a reflection of the black woman head of the family's having less income, less schooling and being unemployed or in informal work¹.

The study reported here has certain limitations. Family income was constructed as the sum of the amounts of monetary and non-monetary revenues¹⁵. The non-monetary portion of total income comprised the amounts of goods and services acquired with no monetary counterpart, plus an estimated amount of rent, representing the amount of rent, suggested by the interviewee, that would be payable if their home, instead of being owned or loaned, were rented¹⁵. In that way, the percentage shares of revenue from work, retirement benefits, pensions and the FAP were investigated in relation to the monetary and non-monetary portion of per capita family income. That characteristic of variable income may explain the proportion of FAP revenue in the composition of per capita family income higher than ½ MWPC, which would make these families ineligible for the programme. Note that Brazil's Unified Register (*Cadastro Único*), the system of information on low-income families for the implementation of

public policies, including the FAP, records only the amounts of monetary revenues. However, examining per capita income including the non-monetary component makes it possible to consider available per capita family income, thus reducing the risk of income distribution distortions and under-recording of available personal income³⁸.

Final remarks

Knowing the composition of family income assists in understanding the means by which women have income at their disposal which will contribute to their access to food in appropriate quantity and quality. The preponderant contribution of the FAP to the income of families with FS with a woman reference person reasserts its importance as a mechanism for social protection and for reducing socioeconomic – and especially gender – inequalities.

Cash transfer by the FAP is an important social assistance resource for combating poverty, and contributes, together with FNS policies, to reducing hunger in Brazil. However, the lack of criticism and its reinforcing of traditional gender roles to benefit the family reproduce gender inequalities. In that regard, the FAP's ability to induce the formulation of measures and programmes that actually promote women's autonomy and emancipation is open to question,

because cash transfer alone is not enough to address the underlying problems of gender inequality.

Allotting women primarily to the reproductive sphere also contributes to their entering less into productive work, particularly when the allocation of this responsibility establishes a class relationship. For women in situations of poverty, reconciling productive work and reproduction intensifies the burden of social responsibilities, making it important to reduce the overload of what are considered women's tasks by providing public facilities, such as community kitchens, school meals, full-time schools and daycare centres, as well as other measures to facilitate their spatial and social mobility.

In the rural context, not only income, but lack of access to land is one of the factors that leads to women's FI, because it contributes to their lack of autonomy in family decision making, as well as limiting their access to rural credit. Note the importance of recognising rural areas as a space for more than just agriculture and of considering their heterogeneity, diversity and singularity, so as to understand, from a gender relations perspective, how conditions and ways of life are produced there. In that respect, the specific features of rural social insurance contribute to women's having access to rural benefit retirement, even though they are occupied with other kinds of agricultural production.

Collaborations

We declare that the authors contributed to the conception and design of the study, analysis and interpretation of data, writing and approved the final version of the manuscript.

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