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Covid-19: Public Policies and Society's Responses

Quality information for refining public policies and saving lives

Technical Note 2
The vulnerability of Brazilian workers amid the Covid-19 pandemic

General objective

To identify the most fragile segments of Brazilian workers and measure the degree of their vulnerability as an initial key procedure for implementing quality public policies. Vulnerable groups are defined both by the fragility/stability of their positions and employment relationships as well as the characteristics of their areas of activity and economic sectors. The most vulnerable groups are precisely those that experience, simultaneously, higher fragility and lower stability.

Conclusions

- A quarter of Brazilian workers (23.8 million people) concentrate vulnerabilities due to their fragile employment relationships and positions as well as a result of sectoral shocks and impacts.
- 81% of the workforce (75.5 million people) experience some form of vulnerability as a direct effect of the Covid-19 pandemic.
- The distribution of vulnerable groups across all states is reasonably homogeneous, which means that labor markets will be similarly affected in every state. In other words, workers identified as most vulnerable, whether in São Paulo or Maranhão (the richest and poorest state in the country, respectively) are also susceptible to significant loss of jobs and/or decline in income. These workers, who occupy more unstable positions and employment relationships in non-essential sectors, comprise the extremely vulnerable group.

Introduction

A job may be vulnerable in the labor market due to a less stable employment relationship or position (for example, self-employed or without a registered formal contract) or participation in a sector or industry that has been impaired expressly because of the pandemic.

This Technical Note considers two types of workers' employment relationships and positions:

- Less stable: self-employed, domestic employees, unregistered employees, registered employees in small business, and small employers[1].
- More stable: registered employees in medium and large companies, statutory civil servants, military personnel, and employers in medium and large companies.

The classification of sectors is based on two criteria: (i) the separation established by the Federal Government between "Essential Services" and "Non-Essential Services"; (ii) economic performance above or below average for the period between March and mid-April. Sectors classified as "essential" cannot be closed by actions of the Federal Government or by subnational federated entities (states and municipalities). With increasingly strict social distancing measures, mostly adopted by the states, we observed in practice a major exposure of the "non-essential" activity sectors.

The second criterion serves to distinguish segments that have been less or more affected, from an economic standpoint, within the group of essential sectors. This variation was observed in the mobility indicators provided by the Google COVID-19 Community Mobility Reports, the information on credit card transactions provided by the Cielo Bulletins, and in the data from the second stage of the research "Coronavirus and the Impact on Small Businesses", conducted by SEBRAE.

In this preliminary investigation, we did not include other characteristics of the economic activity sectors when characterizing vulnerability. We assumed in this Note that all sectors considered "non-essential" are equally prone to suspension of activities by the state governments. We shall consider regional differences due to lockdown measures in future analyses. We also avoided any predictions about the resumption of economic activities, which may be related to productivity and other sectoral characteristics. We also assumed in this Note that, at this moment, vulnerability and job maintenance are not particularly dependent on the performance of a given sector.

Table 1: Vulnerability Groups

		Economic Sector	
		Non-Essential	Essential
Type of Employment Relationship or Position	Less stable	(1)	(2)
	More stable	(3)	(4) (5)

1 We classify establishments as small companies if they have up to 5 employees. These companies incorporate approximately 50% of the employees in the private sector.

By crossing the data on the classification of employment relationships/positions and sectors we find the following summarized table of vulnerability groups:

1. Less stable positions in non-essential sectors
2. Less stable positions in essential sectors
3. More stable positions in non-essential sectors
4. More stable positions in essential sectors more impacted economically
5. More stable positions in essential sectors less impacted economically

The intermediate categories (2, 3, and 4), however, are not a perfect match on an ordinal scale. For different reasons, they experience degrees of vulnerability that are not promptly hierarchical.

Job distribution according to vulnerability groups

About a quarter of workers (25.5%) find themselves in the most vulnerable category, just over half are in the intermediate categories of vulnerability (55.4%), and only 19% (17.8 million people) comprise the group least exposed to economic effects.

Close to 7 million workers (7.3%) are in the unfortunate group of people who, although occupy positions with protected employment relationships and work in services classified as essential, experienced a loss in revenues, whether due to a drastic reduction in demand, problems in the production chain, or because of the impacts on foreign trade. These are individuals who, under the recession, have their incomes and jobs at risk, although they could formally be classified as protected under a different context.

Table 2: Distribution of vulnerability groups. Brazil, 2019

Vulnerability Groups	Quantity	(%)
1. More Vulnerable Workers in Non-Essential Sectors	23.796.239	25.49
2. More Vulnerable Workers in Essential Sectors	26.891.591	28.80
3. Less Vulnerable Workers in Non-Essential Sectors	18.009.886	19.29
4. Less Vulnerable Workers in Highly Impacted Essential Sectors	6.825.049	7.31
5. Less Vulnerable Workers in Lowly Impacted Essential Sectors	17.832.708	19.11

Source: Continuous PNAD microdata (2019/1 to 2019/4). Prepared by the authors

The data in Table 1 shows that circa 81% of the Brazilian workforce experiences some type of vulnerability. Normally, in the labor market, just over 40% of workers were already in categories classified as vulnerable due to informal employment relationships and positions. However, the crisis precipitated by the corona virus pandemic exposed another segment of the workforce, which was normally protected under different circumstances, or at any rate not under systematic threat of unemployment, income reduction, or any other factor.

The net result of the pandemic is twice the number of workers living under health/epidemiologic and economic risks. Altogether, 75.5 million workers are in positions considered vulnerable to some degree.

Most frequent sectors in each vulnerability group

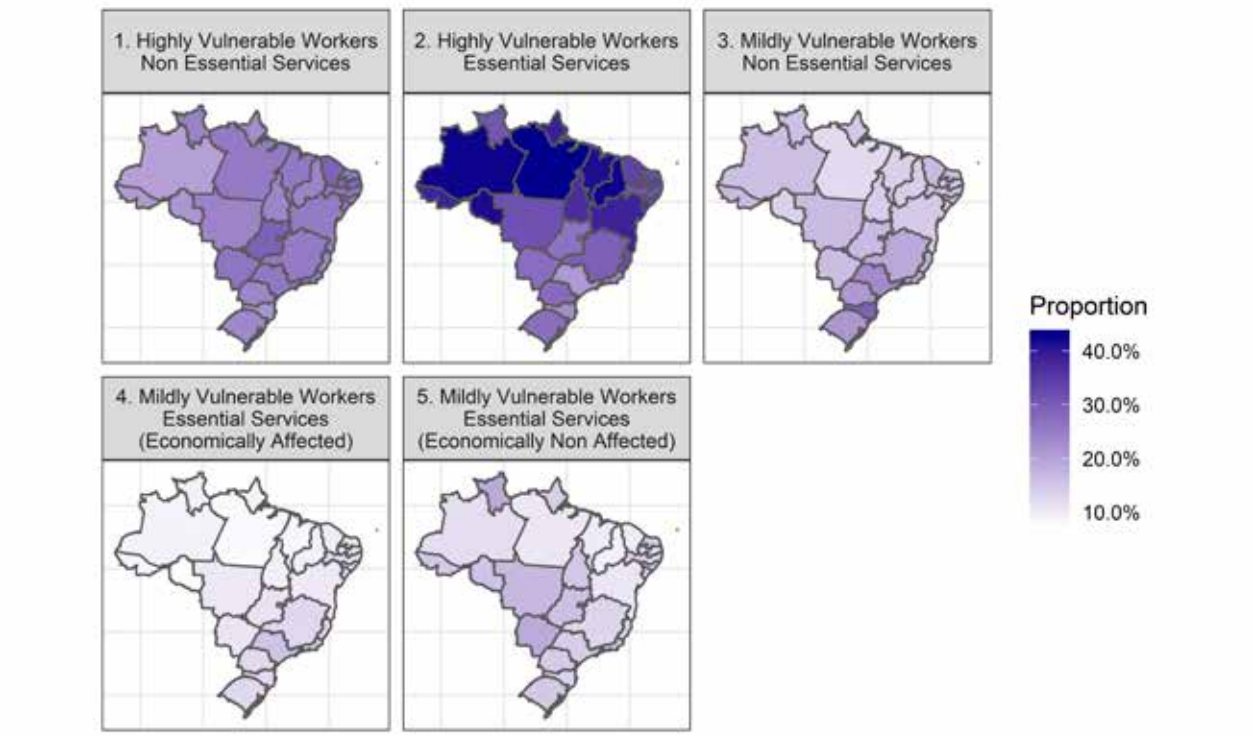
Table 3: Vulnerable Sectors

CNAE-Dom Code	Activity Sector	N
1 – More Vulnerable Workers in Non-Essential Sectors (Extremely Vulnerable)		
97000	Domestic services	6.248.517
96020	Hairdressers and other beauty treatment activities	2.042.129
48042	Trade in clothing, accessories, footwear, and travel goods	1.476.983
45020	Maintenance and repair of motor vehicles	1.409.865
69000	Legal, accounting and auditing activities	1.073.637
2 - More Vulnerable Workers in Essential Sectors		
41000	Construction of buildings	3.728.086
56011	Restaurants and other service establishments dedicated to food and beverages	2.525.078
48030	Trade in food products, beverages, and tobacco	2.403.291
1201	Cattle breeding	1.928.417
49030	Road passenger transportation	1.497.894
3 – Less Vulnerable Workers, Non-Essential Sectors		
85012	Preschool and elementary school	3.118.440
85013	Secondary Education	1.188.266
78000	Selection, agency, and leasing of labor	772.188
85014	Higher Education	712.625
48042	Trade in clothing, accessories, footwear, and travel goods	658.214
4 - Less Vulnerable Workers, Highly Impacted Essential Sectors		
56011	Restaurants and other service establishments dedicated to food and beverages	1.269.900
48030	Trade in food products, beverages, and tobacco	1.184.460
41000	Construction of buildings	783.313
49040	Road freight transportation	754.189
49030	Road passenger transportation	663.519
5 - Less Vulnerable Workers, Lowly Impacted Essential Sectors (Less Vulnerable)		
84013	Public administration and regulation of economic and social policy – Municipal	2.429.052
86001	Hospital care activities	1.896.935
48080	Supermarkets and hypermarkets	1.585.532
84016	Other collective services provided by public administration – State Level	1.148.877
86002	Outpatient care activities performed by doctors and dentists	1.119.222

Spatial distribution of vulnerable jobs

The maps below show the proportion of each vulnerability group across all states. The spatial distribution is greatly homogeneous, which means that labor markets will be similarly affected across all regions. In other words, the Brazilian labor market is so fragile that, whether in São Paulo or Maranhão (the richest and poorest state in the country, respectively) one in four workers is equally susceptible to job loss at the moment. These workers, who occupy more unstable positions and employment relationships in non-essential sectors, belong to the extremely vulnerable group.

Graph 1: Distribution of vulnerability groups across states. Brazil, 2019



The Brazilian labor market already had circa 40% of workers allocated in informal segments. The crisis triggered by the Covid-19 pandemic, which struck upon a scenario not yet fully recovered from the 2015 recession, doubled the contingent at risk. The unfortunate news is that the current crisis has brought a mass of traditionally protected workers or in stable employment relationships to a novel condition of vulnerability. It is precisely these workers who, right now, deserve the most attention from more ambitious social protection policies, in order to mitigate the effects of the crisis and avoid large-scale consequences on employment, income, and the wellbeing of families.

Methodology

Our data source stems from the four quarterly editions of the 2019 PNAD Continuous microdata (IBGE). The methodology is detailed in the working paper that supports this technical note (Barbosa, Prates, and Meireles, 2020). All our analyses were performed with the use of the software R, a free and open-source platform. The codes and data for complete replication of the analyses may be provided upon request from the authors.

ABOUT

We are over 40 researchers, actively engaged in the task of improving the quality of public policies within federal, state, and municipal governments as they seek to act amidst the Covid-19 crisis to save lives. We dedicate our energies towards rigorous data collection, devising substantial information, formulating indicators, and elaborating models and analyses to monitor and identify pathways for public policies and review the responses presented by the population.

The Solidary Research Network has researchers from all scientific fields (Humanities as well as Exact and Biological Sciences) in Brazil and overseas. For us, the combination of skills and techniques is vital as we face the current pandemic. The challenge ahead is enormous, but it is particularly invigorating. And it would never have come to fruition if it weren't for the generous contribution of private institutions and donors who swiftly answered our calls. We are profoundly grateful to all those who support us.

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