

The pandemic's effects on the Brazilian labor market:

Inequalities, changing channels and the role of working hours

Coord: Marcelo Neri



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NERI, Marcelo C.

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The pandemic's effects on the Brazilian labor market: Inequalities, changing channels and the role of working hours

Executive Summary

Marcelo Neri - marcelo.neri@fgv.br

FGV Social

Abstract

After the first complete quarter under the effects of the Covid-19 pandemic in Brazil (i.e. the months of April, May and June), mean individual labor income, including formal and informal workers and non-working population, has fallen by 20.1% while its inequality based on the Gini index has risen by 2.82%. Both level and changes of these two estimates reached new negative records in their respective time series initiated in 2012.

The labor income of the poorest half of the distribution has diminished by 27.9% against a 17.5% fall for the richest 10% Brazilians. The main losers among the social groups were the indigenous people (-28.6%), the illiterate (-27.4%) and the youngsters between 20 and 24 years old (-26%). All Brazilian States and their respective capital cities have also presented reductions in their mean labor earnings. Pernambuco and Recife were respectively the most affected locations.

The reduction of 20.1% on mean individual labor income was mainly led by a fall of 14.34% on working hours, in addition to a contraction of 9.9% on the occupation rate. A counterfactual empirical estimate suggests that the occupation rate would have been reduced by 22.8% if the working hours had been kept constant. This "attenuation-effect" derived from reducing working hours thus protected more jobs from being lost, in other words, it has led to a socialization of the pandemic's negative effects in addition to avoiding more permanent scars in the labor market related to job losses. This jobs-saving process was more intense for women as well as for poorest formal private employees, facts that are consistent with the implementation of policies that have partially suspended jobs contracts after the Covid-19 crisis reached the country.

Introduction

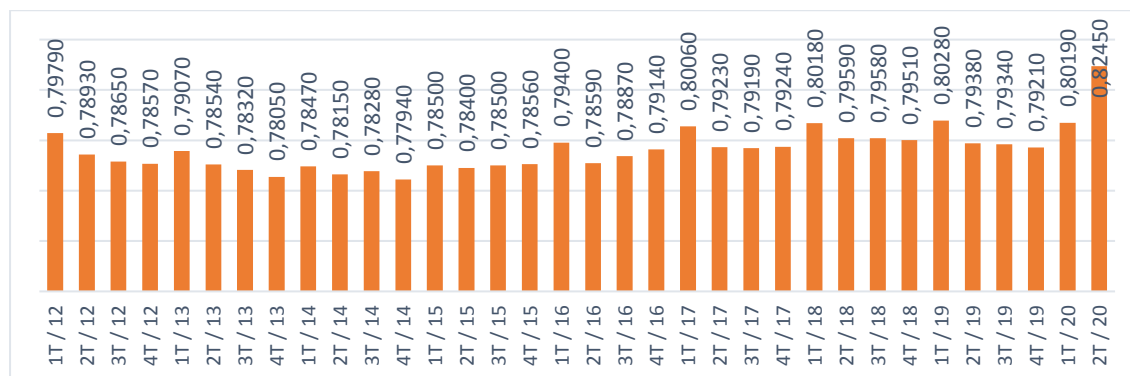
We assessed the initial effects of the new coronavirus pandemic on the Brazilian labor market. Our goal is to answer the following questions: 1) What was the impact of the Covid-19 crisis on individual labor earnings' mean level and inequality?; 2) Who was most affected in the labor market? – Either considering social groups (education, race, age, etc.) or places (Brazilian States, their capital cities, metropolitan regions, etc.); 3) What were the main transmission channels of the crisis' effects in the Brazilian labor market? (regarding classic labor ingredients such as unemployment, participation rate, hourly-wages, working hours, etc.); 4) What was the role of public policy-making in mitigating the pandemic's effects on labor? (in particular regarding the partial suspension of jobs contracts implemented by the Federal Government);

The FGV Social's new research is based on up-to-date microdata from household surveys for the second quarter of 2020 in comparison with the first quarter of the year. We work with data at the individual level for the population aged 10 or more. We use the concept of actual income and actual working hours (in contrast to the concept of usual income or working hours) because it best captures the variations observed in the short run. More and detailed information about these elements is listed in the appendix.

Impact on labor income's mean level and inequality

The graph below shows that the Gini Index, the most common inequality measure, has rapidly increased during the pandemic, growing from 0.792 in the last quarter of 2019 to 0.8019 in the first quarter of 2020, and then to 0.8245 in the second quarter of the year. These estimates correspond to the highest level in the time series. This increase of 0.0324 points in the Gini Index in only two quarters can be seen as a huge inequality growth according to Atkinson, once it surpassed the 0.03 points threshold that he had stipulated. It is worth mentioning that 70% of this hike occurred during the passage between the last two quarters. The Gini Index has escalated from 0.7938 to 0.8245 between the second quarter of 2019 and the same period in 2020, thus reaching a new record in the historical registries. This 3.87% increment is more than three times larger than any other change that had been previously noticed in the series.

Inequality: Individual Labor Income (Gini Index) - Quarters from 2012 to 2020



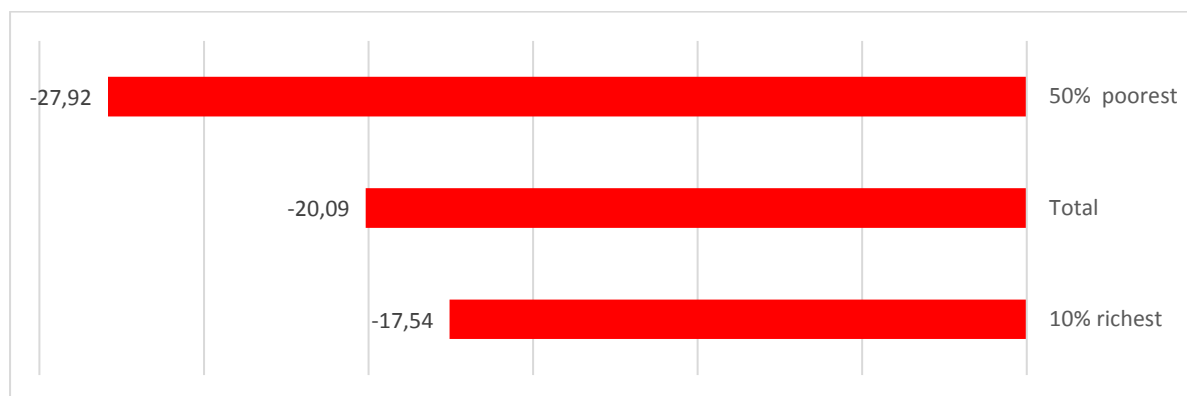
Source: FGV Social based on microdata from the PNADC/IBGE

Who has lost more?

When looking specifically at changes between the first and second quarter of 2020, the central period assessed in this research, the Gini Index increased by 2.82%. During this same period, mean labor income fell by 20.1%, going from R\$ 1118 to R\$ 893 in real monthly values.

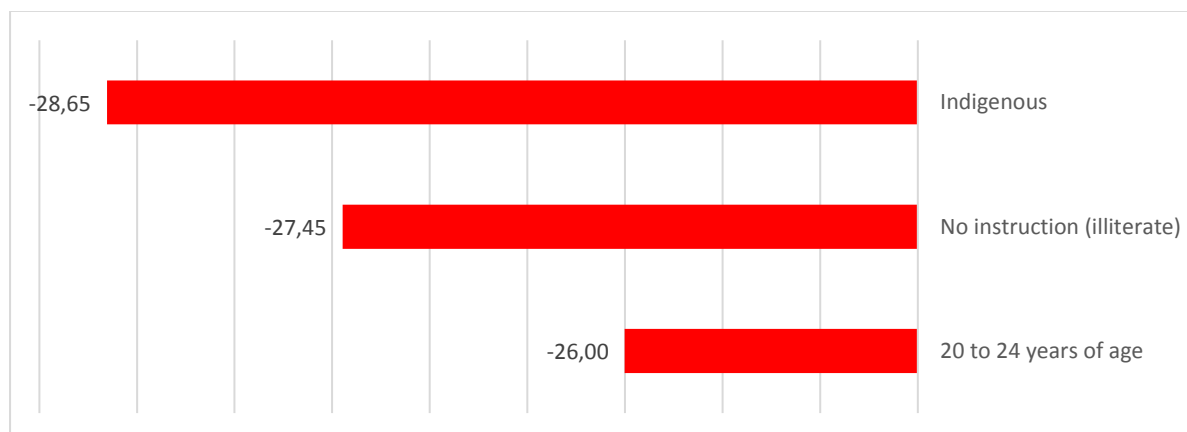
While the Brazilian labor market has suffered losses in the order of 20.1% in only 3 months of the pandemic, the poorest half of the population has lost 27.9% (from R\$ 199 to R\$ 144) and the richest 10% has lost 17.5% (from R\$ 5428 to R\$ 4476) - a difference of approximately 10 percentage points in relation to the bottom half of the population. In other words, it represented a regressive recession, in which everyone has been impoverished but the poorest individuals have lost more. Regarding horizontal inequality, that is, changes by social groups, the main losers were the indigenous (-28.6%), the illiterate (-27.4%) and the youngsters between 20 and 24 years old (-26%).

Changes in Individual Labor Income by Income Brackets between 2020.Q1 and 2020.Q2 (%)



Source: FGV Social based on microdata from the PNADC/IBGE

Horizontal Inequality: Largest Changes in Individual Labor Income by Social Groups – between 2020.Q1 and 2020.Q2 (%)

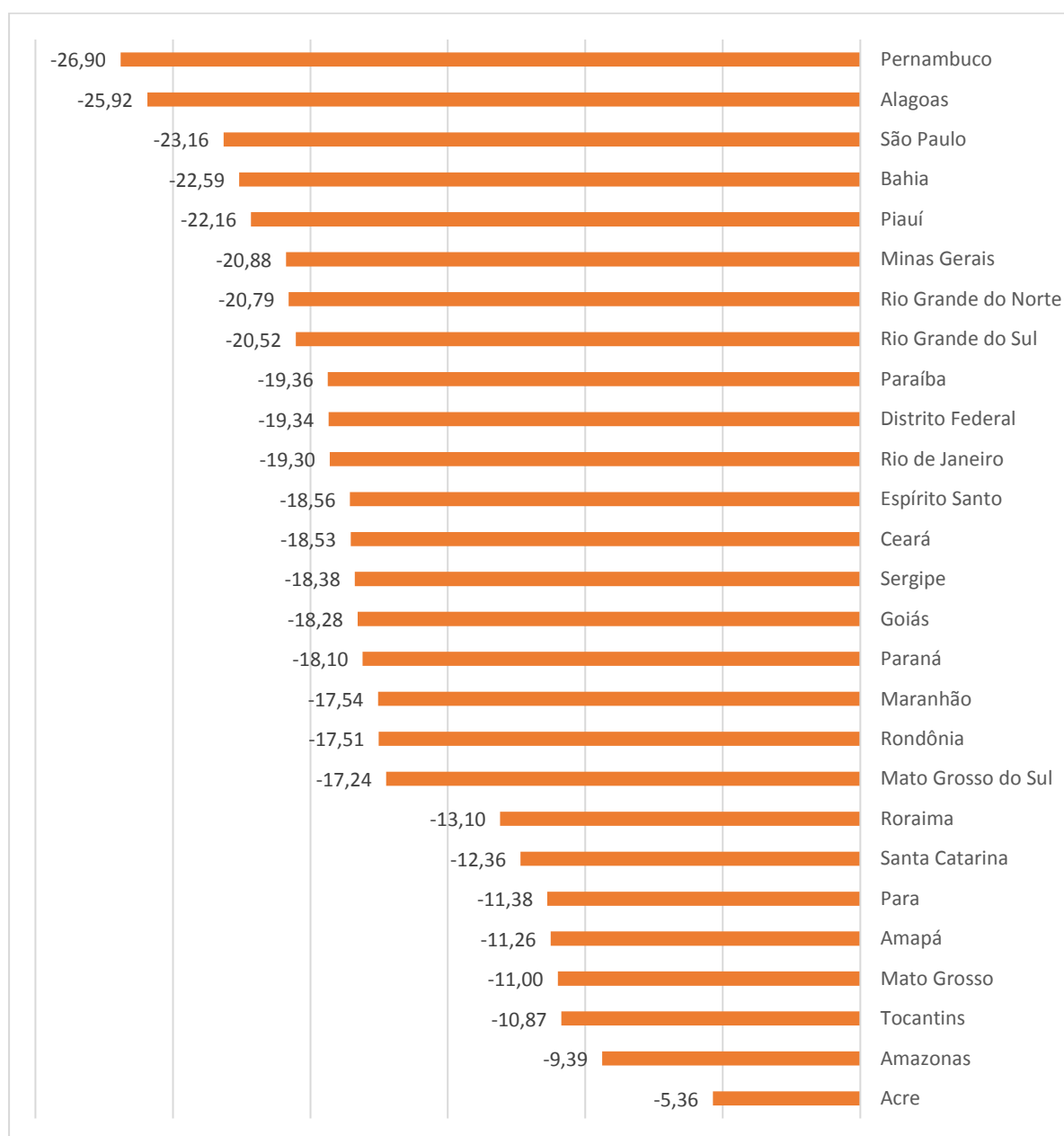


Source: FGV Social based on microdata from the PNADC/IBGE

Where has income fallen the most?

The **Unit of the Federation (UF)** that has had the largest labor income fall was Pernambuco (-26.9%). Broadly speaking, at the top of the ranking of losses are states from the Northeast Region, such as Alagoas, Bahia and Piauí. São Paulo is also among the leaders, substantially affecting the national average given its economic and populational preeminence. The smallest changes were seen at states from the North and Center-West Regions, such as Acre, Amazonas, Tocantins and Mato Grosso.

Ranking by Unit of the Federation regarding Changes in Individual Labor Income between 2020.Q1 and 2020.Q2 (%)

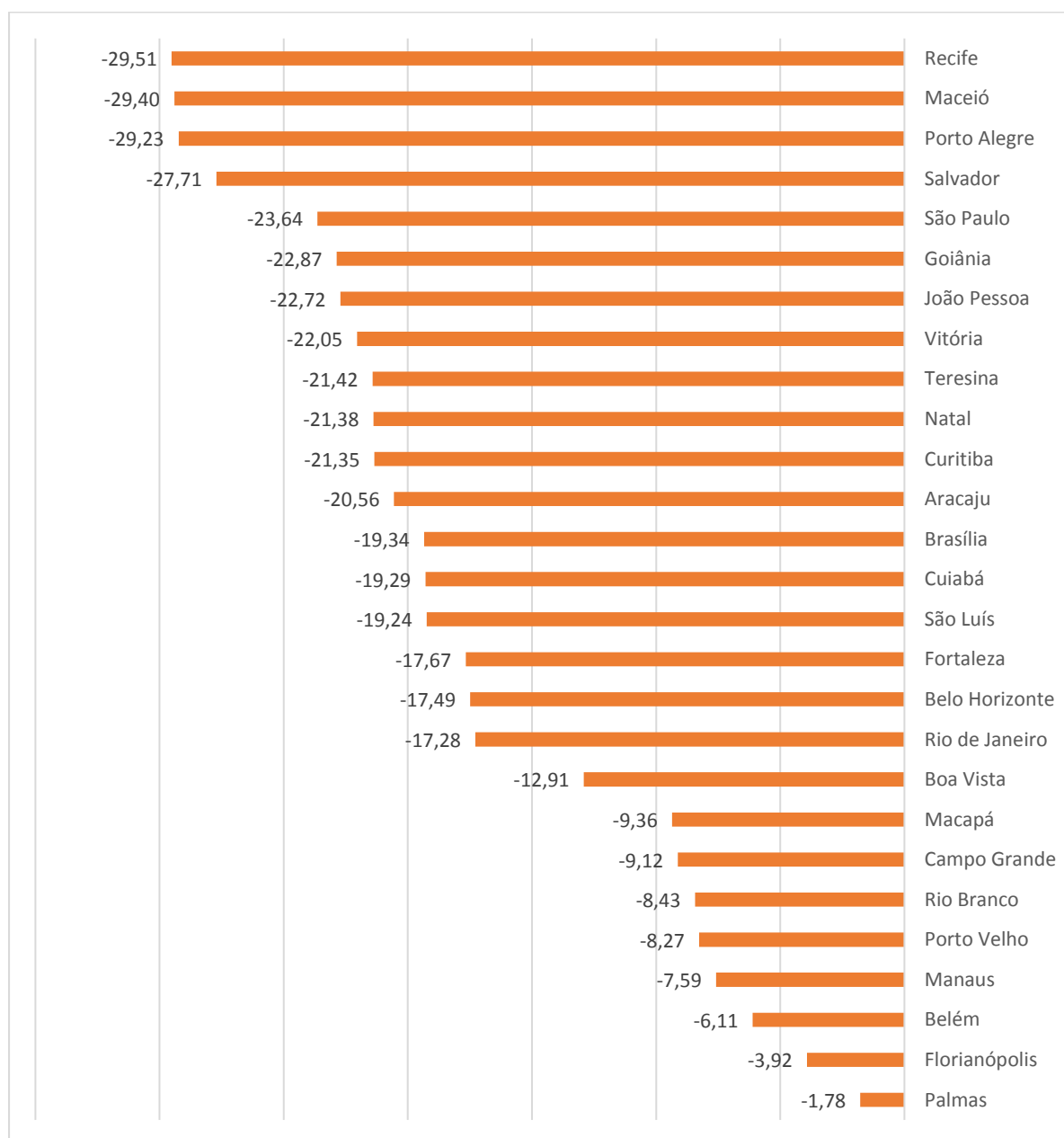


Source: FGV Social based on microdata from the PNADC/IBGE

The Brazilian State's capital city that has had the largest reduction in labor income was Recife, in Pernambuco (-29.5%). Both Recife's metropolitan region (-29.6%) and its periphery (-32%) also have stood out in their respective rankings.

Overall, capital cities of the aforementioned leading states from the Northeast region also have had the largest fall in labor income, such as Maceió and Salvador. From the South and Southeast regions, Porto Alegre and São Paulo, respectively, also deserve a mention for their negative performances. The smallest changes were seen at capital cities from states in the North and Center-West regions, such as Palmas, Belém and Manaus. In Florianópolis we have observed the second shortest variation in labor earnings.

Ranking by Capitals regarding Changes in Individual Labor Income between 2020.Q1 and 2020.Q2 (%)



Source: FGV Social based on microdata from the PNADC/IBGE

Why has he/she lost?

Assessing changes in the labor market is a complex task since there are simultaneous changes occurring in different variables, directions and sizes. Aiming to explain what has been going on in the labor market, we have applied a *Lego*-like methodology, disentangling labor income into pieces that enable us to better understand its changes. In other words, we are trying to observe how each classic labor ingredient has affected labor income, such as unemployment and participation rates (%), hourly-wages (R\$/month), working hours (per week) and schooling (workers' number of completed year of study). At the end of this process, we will be able to observe how each labor ingredient has contributed to the total variation in labor income.

In short, the reduction in the average individual labor income during the Covid-19 crisis was mainly led by a fall of 14.34% on working hours (going from 35.9 to 30.76 actual working hours). The second most important reason was the contraction of 8.6% in the participation rate (going from 49.75% to 45.47%). When combined to a decline of 1.42% in the occupation rate among the economically active population (going from de 86.12% para 84.9%)¹, this retraction in labor supply led to a fall of 9.9% on the total occupation rate. The latter has gained prominence in recent analysis concerning the impacts of the pandemic, however, the working hours' effect is quantitatively larger. This *Lego*-like methodology also allows us to undertake counterfactual empirical estimates. For example, if the workings hours had been kept constant, the occupation rate would have been curtailed by 22.8%. This "attenuation-effect" derived from reducing working hours thus protected more jobs from being lost, therefore, it has led to a socialization of the pandemic's negative effects in addition to avoiding more permanent scars in the labor market related to job losses.

Labor Changing Channels: Level and Variation of Individual Labor Income between 2020.Q1 and 2020.Q2 (%)

	Quarter	Individual Labor Income =	Hourly-Wage by Year of Study x	Years of Study x	Working Hours x	Unemployment-effect x	Participation Rate
Total	2020.Q1	1117.82	6.84	10.62	35.91	0.8612	0.4975
	2020.Q2	893.25	6.89	10.91	30.76	0.849	0.4547
	Change (%)	-20.09	0.79	2.73	-14.34	-1.42	-8.60

Source: FGV Social based on microdata from the PNADC/IBGE

Finally, hourly wages have increased during the pandemic due to a tiny gain in hourly-wages by year of study (0.79%), given the advances seen in average schooling (2.73%), thus partially offsetting the losses in labor income observed from other labor ingredients.

¹ Corresponds to the opposite of the unemployment rate, also being known as "unemployment-effect".

Working Hours and Gender

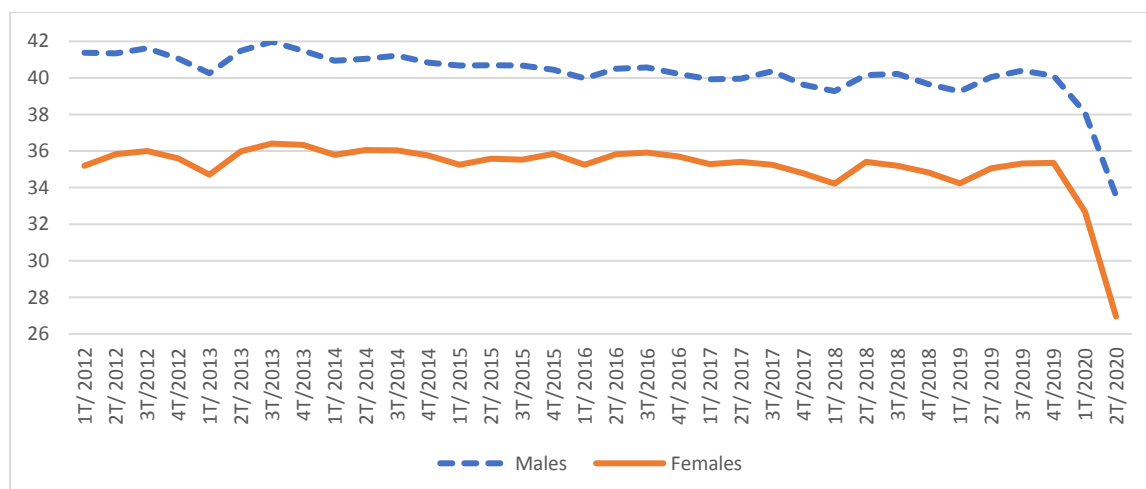
Women have had marginally larger reductions in labor income than men during the pandemic (-20.54% against -19.56%, respectively), as depicted in the table below. However, women have had a significantly larger decrease in occupation rate than men (-11.1% against -8.8%, respectively), due to the combination of high unemployment with lower labor supply. After repeating the previous counterfactual study we found that the reduction in working hours has avoided a deeper fall in occupation rate for women (-27.1%) than for men (-19.8%). This difference between the observed scenario and our counterfactual simulation corresponds to the “attenuation-effect” linked to a reduction in working hours, which seems to have protected more jobs contracts for women than for men given the former usual requirement to also undertake domestic tasks in addition to taking care of the family, especially children during schools’ close down period. This reduction in working hours was the main labor changing channel for women, which variation can be seen in the following graph.

Labor Changing Channels: Level and Variation of Individual Labor Income for Men and Women between 2020.Q1 and 2020.Q2 (%)

Category	Quarter	Individual Labor Income =	Hourly-Wage by Year of Study x	Years of Study x	Working Hours x	Unemployment-effect x	Participation Rate
Women	2020.Q1	669.97	4.94	11.56	32.85	0.8303	0.4305
	2020.Q2	532.34	5.22	11.91	26.94	0.8247	0.3855
	Change (%)	-20.54	5.64	3.10	-17.99	-0.67	-10.45
Men	2020.Q1	1202.55	6.28	9.91	38.25	0.8864	0.5699
	2020.Q2	967.32	6.14	10.16	33.65	0.8683	0.5304
	Change (%)	-19.56	-2.13	2.48	-12.02	-2.04	-6.93

Source: FGV Social based on microdata from the PNADC/IBGE

Actual Working Hours by Gender (weekly hours)



Source: FGV Social based on microdata from the PNADC/IBGE

Working Hours and Income

The next step is to assess labor changing channels by income brackets, in which we noticed that labor income of the bottom 50% of the distribution has fallen by 27.9% against a reduction of 17.55% for the richest 10% Brazilians, a difference of 10.5 percentage points. The decline in occupation rate for the richest 10% reached only 1.96% while for the bottom half it was an 18.9% fall, thus recording a difference of 16 percentage points. Moreover, the working hours' impact was also quantitatively larger for the latter: registering a -15.5% fall for the poorest 50% and a -9.9% reduction for the top 10%, a difference of 5.5 percentage points. The counterfactual simulation of a scenario in which the working hours had been kept constant would have expanded the difference in favor of the rich, registering a decline of 11.16% in occupation rate for the top 10% and a sharp reduction of 31.6% for the 50% poorest Brazilians, a difference of 21.5 percentage points. Consequently, the "attenuation-effect" in the pandemic's negative impacts on occupation rate that are obtained after diminishing working hours has had a more fundamental importance for the poorest workers by protecting more jobs contracts at the basis of the labor income distribution.

Labor Changing Channels: Level and Variation of Individual Labor Income for the bottom 50% and the top 10% between 2020.Q1 and 2020.Q2 (%)

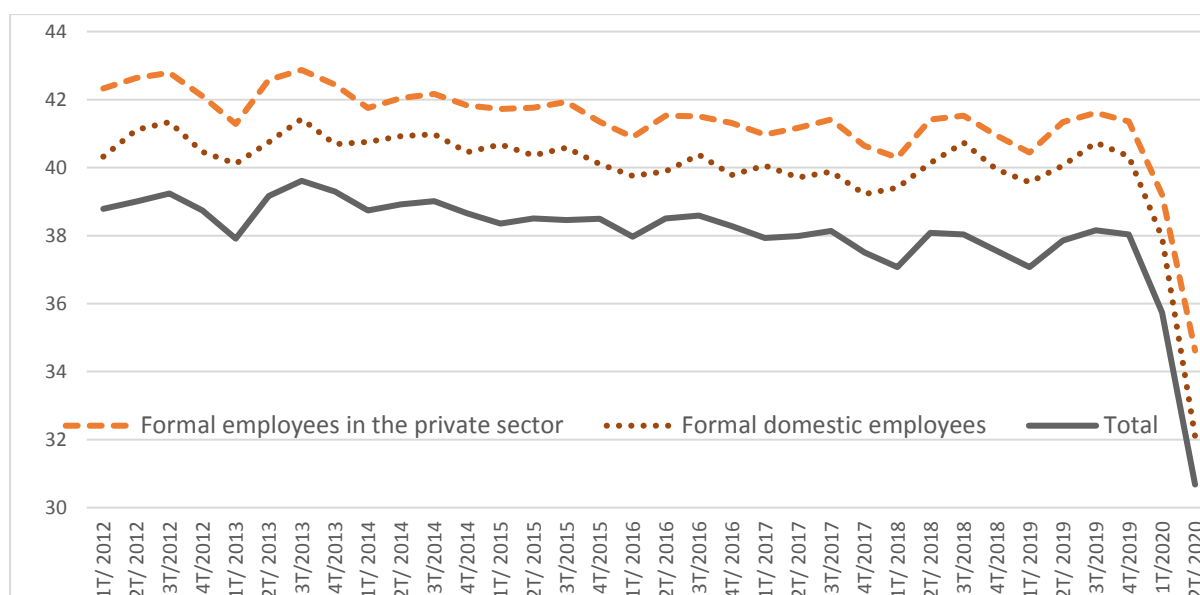
Category	Quarter	Individual Labor Income =	Hourly-Wage by Year of Study x	Years of Study x	Working Hours x	Unemployment-effect x	Participation Rate
50%-	2020.Q1	165.14	2.75	7.97	32.89	0.7016	0.3259
	2020.Q2	119.02	2.83	8.18	27.78	0.6631	0.2795
	Change (%)	-27.93	2.64	2.57	-15.53	-5.49	-14.24
10%+	2020.Q1	4496.50	11.65	14.46	37.01	0.9746	0.7398
	2020.Q2	3707.80	10.80	14.57	33.34	0.9737	0.726
	Change (%)	-17.54	-7.31	0.74	-9.92	-0.09	-1.87

Source: FGV Social based on microdata from the PNADC/IBGE

Working Hours and the Partial Suspension of Job Contracts

The following graph illustrates the evolution of actual working hours since 2012, revealing that the sharp negative variation registered in the first two quarters of 2020 have outperformed all previous quarters in the time series. We have previously shown that this impressive reduction in working hours had an important role in explaining the reduction in labor income in spite of the negative variation registered in other labor changing channels during the same period. Now we depict the changes observed in working hours for the total population in comparison with formal workers' categories in which labor legislation is stricter, such as domestic employees and formal workers in the private sector. The substantial decline in the working hours of domestic employees, usually a job done by poor women in Brazil, is a motivation to look more carefully at the details in labor legislation changes that have been put into place during the pandemic.

Actual Working Hours for All Workers and Formal Employees (weekly hours)



Source: FGV Social based on microdata from the PNADC/IBGE

Given the necessity of mitigating the pandemic's impacts on the labor market, the Brazilian Federal Government implemented a measure that enabled employers to partially or totally suspend job contracts for a brief period (under Provisory Act n. 936/2020). This policy was later extended (under Law n.14.020) for protecting jobs from the negative impacts of social distancing measures that were also implemented during the Covid-19 pandemic. It is worth mentioning that flexibilization of contracts and working hours have been implemented in Brazil since 2017 when the reform of labor legislation was first approved (Law n. 13.467). Similar policies have been put into practice by different governments around the globe in order to cope with the pandemic's effects on labor, in addition to measures focused on easing the access to unemployment insurance and/or adjusting the level of the benefit.

A program called Emergency Benefit for Saving Jobs and Income was launched in April proposing a temporary grant on jobs in case of contract's partial or total suspension, including reductions in working hours. Administrative registries collected up to September 9 shows that the program has cost R\$ 22.7 billion so far and has concluded approximately 17.5 million contract deals, involving 1.4 million employers and 9.7 million workers.² Given these numbers and the evidence presented in our research, we assert that this program has been successfully implemented by the government, reducing actual working hours and saving job contracts.

In this temporary labor legislation implemented to cope with the pandemic's negatives on the labor market, the government helps employers to pay workers' salaries in case of reductions in working hours by 25%, 50% or 70%. The government's goal is to save job contracts by protecting both employers and employees. The larger is the reduction in working hours, the biggest is the value of the Emergency Benefit for Saving Jobs and Income offered by the government. This emergency benefit is calculated based on the value of the unemployment-insurance and the size of the reduction in working hours. Currently, each instalment of the unemployment insurance goes from R\$ 1045 to R\$ 1813. In case of workers who usually receive a wage up to the highest possible instalment of the unemployment insurance and have had their working hours and wages reduced under this new legislation, their wages are going to be fully restored by the government emergency benefit. From wages above R\$ 1813 onwards, the government only partially covers the wage lost linked to fewer working hours during the pandemic. Therefore, the program's design is progressive, better favoring the poorest formal workers in the private sector. In fact, the decline in working hours for private formal workers in the second quarter of 2020 was sharper for the poorest workers, reaching -15.3% for the bottom 50% of the distribution, -12.4% for the group between the 50th and 90th percentiles, and only -5.2% for the top 10% workers in terms of wages. These results suggest that is truly important to assess the effects of the new labor legislation that was put into place during the pandemic on working hours and occupation rate.

² Sources: <https://www.tesourotransparente.gov.br/visualizacao/painel-de-monitoramentos-dos-gastos-com-covid-19> ; <https://servicos.mte.gov.br/bem/> .

Conclusion

The first results regarding the Covid-19 pandemic's effects on individual labor income show a sharp decline of 20.1% in its average level and an increase of 2.82% in its inequality, measured by the Gini Index, after the first complete quarter under the effects of the pandemic in Brazil (i.e. the months of April, May and June). Both level and changes of these two estimates have reached new negative records in their respective time series initiated in 2012. The labor income of the poorest half of the distribution has diminished by 27.9% against a 17.5% fall for the richest 10% Brazilians. The main losers among the social groups were the indigenous people (-28.6%), the illiterate (-27.4%) and the youngsters between 20 and 24 years old (-26%). All locations assessed here have also presented reductions in their mean labor earnings.

The comparison of these results with evidence that considers income from all sources reveals a paradox. When we include social cash transfers in our estimates, we see that both poverty and inequality have reduced to their lowest level in the historical series. For example, Pernambuco and Recife were respectively the most negatively affected locations when only considering labor income. However, if we include social transfers, Pernambuco has had the second sharpest reduction in poverty between all Brazilian States (Neri, 2020).

These contrasts reveal that, after the end of the temporary social transfers that have been protecting the poorest segments in society, the situation will probably rapidly deteriorate if the results for the labor market do not change. We have to assess not only the symptoms but also the vital signs of the labor market once it will represent the main pillar of social wellbeing after the pandemic is over and public spending is back to sustainable levels. Monitoring the labor market is of central importance if our goal is to gradually reduce emergency social transfers and slowly withdraw the labor legislation implemented to mitigate the pandemic's negative impacts on society.

Given the pandemic's effects, the government implemented in April a policy that enabled employers to partially or totally suspend job contracts. This measure, which was later extended from July onwards, was also helpful in protecting companies and employees during social isolation period, using public money to help employers to pay workers' salaries in case of reductions in working hours that maintained the job contract valid. Similar policies were put into practice in many countries around the world. Administrative registries collected up to September shows that the program has concluded approximately 17.5 million contract deals, saving job contracts and reducing the negative impacts of the pandemic on the labor market.

The reduction of 20.1% on mean individual labor income was mainly led by a fall of 14.34% on working hours, in addition to a contraction of 9.9% on the occupation rate. A counterfactual empirical estimate suggests that the occupation rate would have been reduced by 22.8% if the working hours had been kept constant. This "attenuation-effect" derived from reducing working hours led to a socialization of the pandemic's negative effects in addition to avoiding more permanent scars in the labor market related to job losses. This job-saving process was more intense for women and poor formal private employees, facts that are consistent with the implementation of policies that has partially suspended jobs contracts after the Covid-19 crisis reached the country.

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