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The gender inequality effects of the COVID-19 pandemic on the Nigerian labor market

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September 26, 2023

Abstract

The COVID-19 pandemic has profoundly impacted the Nigerian labor market, exacerbating existing inequalities and disrupting employment dynamics. This study provides a reliable overview of the time-varying effects of the pandemic on the Nigerian labor market. It deviates from previous works as it draws on a representative panel of adults in Nigeria that tracks them at baseline (2018/19) and in three rounds of the High-Frequency Phone Surveys (HFPS) during the COVID-19 pandemic (September 2020, February 2021, and March 2022), instead of using a larger panel that mainly comprises household heads, as past research has done. Hence, this paper challenges previous results on this country that underestimate the pervasive employment effects of the pandemic, given that household heads had better-off employment outcomes than the rest of the household members. The paper confirms that the pandemic negatively affected employment levels in Nigeria of those individuals already participating in the labor force before the pandemic. Women experienced more adverse employment reductions, and the presence of school-age children in households further hindered their employment. Gender inequality overlaps with other dimensions of inequality, exacerbating preexisting conditions of marginalization for women. Indeed, vulnerable groups, such as young women and those from the poorest pre-crisis consumption quantiles, were hardest hit. In short, the COVID-19 pandemic was far from an equalizer event.

Keywords: *COVID-19*, *Gender inequality*, *Employment*, *Nigeria*.

JEL Codes: D63, I18, J16, J21, J22.

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1 Introduction

The COVID-19 pandemic affected economies around the globe, disrupting economic activities and increasing inequalities. Nigeria was one of the Sub-Saharan African (SSA) countries most affected by the health shock since its economy was still recovering from the 2016 recession. Before the health shock, Nigeria faced difficulties in its labor market because of high levels of unemployment, low wages, and widespread informality; gender inequality was already high, with unemployment rates higher for women than for men and women being most often employed in lower-productivity, informal occupations (IMF 2018). The COVID-19 crisis and its related policy responses might have important consequences for the labor market, contributing to increased inequalities, particularly between men and women. Although there is a need for policy interventions, the gender consequences of the crisis are not fully understood because data and empirical literature on the inequality costs of COVID-19 in Africa are sorely lacking. The contribution of this paper is, therefore, to close this gap by exploring the gender inequality effects of the arrival of the COVID-19 pandemic on the Nigerian labor market.

The effects of the pandemic on employment in Nigeria have been studied in previous works. Hossain & Hossain (2021) use a difference-in-difference design to show that the COVID-19 pandemic has widened gender inequality in the Nigerian labor market: the employment likelihood decreased by 13 percent in the post-pandemic period. Women's employment was reduced by about 8 percent more than males in the post-pandemic period. Contreras-Gonzalez et al. (2021) use a descriptive study to compare the evolution in the labor market of four SSA countries, Nigeria included, from April to October 2020. In Malawi and Nigeria, they compared the working situation of household heads with the working situation that also includes other household members (September 2020 wave) and concluded that the labor market conditions in these countries are worse than what is inferred from the High-Frequency Phone Surveys on COVID-19 (HFPS) data obtained from the primary respondent only (primarily heads of household). Therefore, they advise disentangling the impacts that might be hidden when considering only one respondent. Finally, Alon et al. (2022) used cross-sectional data from several developing countries before and during the COVID-19 pandemic and concluded that mothers of school-age children experienced the largest employment reductions. As a case study, they zoomed in on Nigeria with September 2020 and February 2021 data from household heads and other household members. They found that in this country, women's employment was disproportionately affected by the pandemic, but only during September 2020, later, it rebounded quickly.

In this paper, we implement an event study to analyze the time-varying effect of the COVID-19 pandemic on the Nigerian labor market. For this purpose, we use labor data from three rounds of the HFPS collected during the pandemic (September 2020, February 2021, and March 2022) and matched to the Nigeria General Household Survey, wave 4, 2018/19 (Nigeria GHS 18). We emphasize gender effects since we rely on randomly selected labor data of at most four household members and the household head; hence, women account for half of the sample. Our analysis focuses only on individuals who worked before the COVID-19 crisis since we are interested in the (gender) impact of the pandemic measured in terms of job loss.

Three main findings emerge from our analysis. First, the pandemic negatively affected employment levels in Nigeria. Second, women exhibited a sharper reduction in employment during the pandemic and a slower recovery over time than men. In addition, there were overlaps in disadvantages for women in such a way that, for instance, youth and poverty exacerbated the adverse effects for women in the Nigerian labor

market during the pandemic. Also, there were significant differences in the effects of the pandemic on labor market participation between women from households with and without school-age children, with the former facing additional employment reductions. Third, the outbreak of the COVID-19 pandemic led to significant changes in how labor market sectors are structured and organized. Although the sectoral composition of female employment may have affected the general findings, it is also true that key gender differences occurred within occupations.

This study provides two main contributions to the existing literature. First, our work contributes to the literature focusing on the impact of the COVID-19 pandemic on (gender) inequality. Much attention has been paid to the consequences of the pandemic on rich countries (Cajner et al. 2020, Hupkau & Petrongolo 2020, Alon et al. 2021, Albanesi & Kim 2021, Galasso & Foucault 2020, Farré et al. 2022). In contrast, this paper focuses on a developing country, Nigeria, which is the most populous African country, providing new evidence on the (gender) inequality effects of the COVID-19 pandemic on the Nigerian labor market. Our work is very close to the previous contributions of Alon et al. (2022), Contreras-Gonzalez et al. (2021), and Hossain & Hossain (2021). Although informative and relevant, the previous studies have some caveats. Contreras-Gonzalez et al. (2021) is a cross-country comparison that only considers the very short-term effects of the pandemic (at most until October 2020), with emphasis on the main respondents (mostly household heads). While the Hossain & Hossain (2021) study focuses only on Nigeria, they also restricted their analysis to household heads. We demonstrate that this approach does not offer a reliable picture of the Nigerian labor market, as it underestimates gender inequality and the pervasive employment effects of the COVID-19 crisis. Despite overcoming the problem of the non-random selection of the respondents, Alon et al. (2022) performed a repeated cross-sectional analysis showing that female employment rebounded quickly after being disrupted in September 2020. However, we found that female employment did not recover after two years from the onset of the pandemic when tracking the same individuals over time.

Second, our study contributes significantly to the literature on intersecting inequality (Kabeer 2016). The consequences of the COVID-19 pandemic and the resulting policies have interacted with pre-existing inequalities along multiple dimensions (Eaves & Al-Hindi 2020). As a result, different dimensions of inequality might have overlapped, contributing to a process of production and reproduction of inequality (Berkhout & Richardson 2020, Eaves & Al-Hindi 2020, Ryan & El Ayadi 2020). However, the intersectionality aspect of the crisis has been empirically understudied so far (Maestripieri 2021). This study contributes to advancing the knowledge of the intersectional consequences of the COVID-19 pandemic, investigating the complex relations of gender with other dimensions in the context of the labor market in Nigeria. This study shows how the COVID-19 pandemic provoked higher costs —i.e., employment losses— for young women and women in poor households. Understanding the intersectionality effects of the pandemic is crucial to helping policymakers identify the most vulnerable groups and design policies that protect them.

This chapter is organized as follows. Section 2 describes the data and details our empirical strategy. Section 3 presents the employment disruptions during the pandemic among people working before the crisis, and takes monogamous couples to identify whether intra-household employment gender differences persisted during the pandemic. Section 4 sheds light on how socioeconomic characteristics played a role in these employment trends. Section 5 details several robustness checks. Finally, Section 6 offers concluding remarks.

2 Data and the Empirical Strategy

2.1 Data

To study the gender inequality effects of the COVID-19 pandemic on the Nigerian labor market, we combine the Nigeria General Household Survey, wave 4 (2018/19) (Nigeria GHS 18) with HFPS data.[1] The Nigeria GHS 18 was the latest pre-COVID-19 LSMS data project implemented under the World Bank Living Standards Measurement Study–Integrated Surveys on Agriculture (LSMS-ISA). It is the largest household survey in the country and collects nationally and zonally representative data at the urban and rural levels. These data were combined with the HFPS collected to monitor the socio-economic effects of the pandemic. HFPS were implemented by the National Bureau of Statistics (NBS) in collaboration with the World Bank. Participants in the HFPS project were drawn from the sample of households participating in the Nigeria GHS 18. Out of the 4,976 households interviewed in the Nigeria GHS 18, 4,934 provided phone numbers; from them, 3,000 were randomly selected to be contacted for the HFPS project. However, only 1,950 households were successfully interviewed in the first round (April 2020). In the end, 62% of those households (1,200) were phone interviewed in more than ten consecutive rounds during the pandemic.

Phone surveys allowed tracking almost real-time outcomes, such as employment, during the COVID-19 pandemic, even when containment measures were in place around the globe. However, they have limitations in questionnaire design due to time constraints, relying on simple questions and one representative household member for data collection (Contreras-Gonzalez et al. 2021). Indeed, the main difference between HFPS and conventional face-to-face surveys is that labor information for only one household member was collected in the former (for more than ten rounds since the onset of the pandemic). In contrast, the conventional LSMS —Nigeria GHS 18— collected labor information from all household members. This approach led to a respondent selection bias due to an over-representation of household heads as the primary respondents of the survey.

Phone surveys also have other drawbacks, such as selection bias due to excluding households without phones, non-response bias in longitudinal studies, variation in phone coverage across groups and regions, and limited accuracy verification. Yet, in some rounds of the HFPS, the World Bank team collected individual-level data on the employment of other household members. The World Bank retrieved labor information from up to six randomly selected household members aged 15 years and above (in addition to the main respondent) in rounds 5 and 10 of the HFPS Phase 1 (September 2020 and February 2021, respectively). The World Bank collected labor information from a maximum of four household members aged 15 and above (in addition to the primary respondent) in round 3 of the HFPS, Phase 2 (March 2022), and it made available panel individual weights for the respondents to bring results representative of the Nigerian population.

Hence, we built a balanced panel with information on randomly selected individuals involved in any income-generating activities in the preceding week of the 2019 survey interview matched with information on the same group of individuals in three survey waves collected after the outbreak of the COVID-19 pandemic, i.e., September 2020, February 2021, and March 2022. Following Adams-Prassl et al. 2020, our analysis

[1] In more than 39 countries, the World Bank, in collaboration with the national statistics institutes, conducted HFPS. However, depending on feasibility, some surveys were conducted through random digit dialing (e.g., in Latin America and the Caribbean), and others by recontacting previous respondents (as in SSA, for instance) (Brubaker et al. 2021).

focuses only on individuals who were in work before the arrival of the COVID-19 crisis since we are mainly interested in the gender impact of the pandemic measured in terms of job loss. Our final sample comprises 1,404 individuals aged 15 or older in 2019 from 960 households. Table 1 reports some descriptive statistics at baseline —before the pandemic. First, it is possible to note that 47% of the respondents were female. Regarding the other characteristics, respondents are relatively young, considering that 84% of the sample is under 55 years old. Most of the males are household heads (80%). The majority of the individuals in the sample were self-employed at baseline (77% and 63% of women and men, respectively). The sample has heterogeneity in geopolitical zones and consumption quantiles, although the economically more vulnerable group was slightly overrepresented[2]. At baseline, 36% of the sample lived in rural areas. Most women in the sample (44%) did not complete any level of education, whereas a third of men finished secondary education.

[2]57 percent of the sample comprised the top 60 pre-COVID-19 consumption quantiles.

Table 1: Descriptive statistics at baseline (means). Sample of individuals employed at baseline

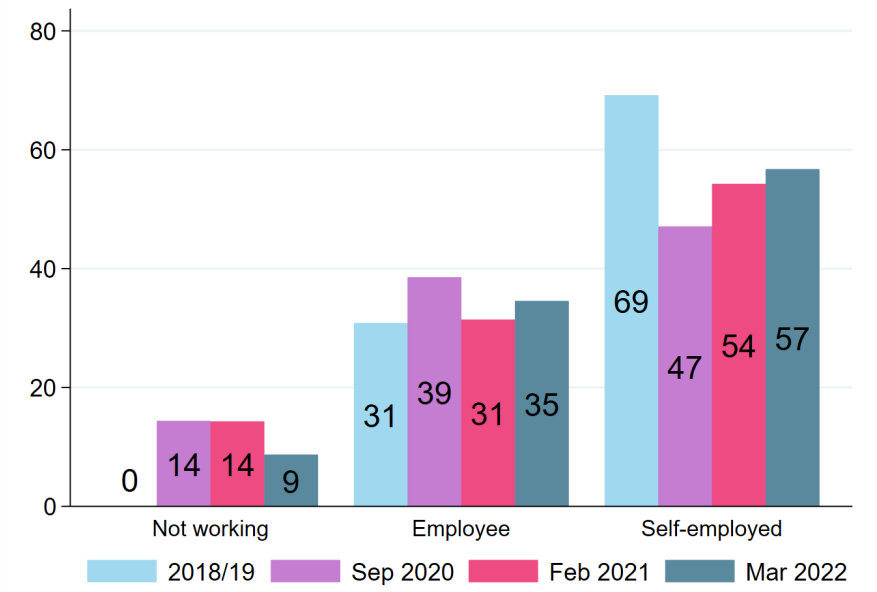
	All	Women	Men
Age (Baseline)	39.39	38.52	40.15
Age category			
15-24 years old	0.13	0.14	0.12
25-34 years old	0.25	0.24	0.25
35-44 years old	0.29	0.33	0.27
45-54 years old	0.17	0.15	0.19
55-64 years old	0.13	0.10	0.14
65 and more	0.03	0.04	0.03
Relation to the head of household			
Head of household	0.51	0.18	0.80
Spouse	0.33	0.71	0.00
Own child	0.13	0.07	0.18
Other relationship	0.03	0.04	0.02
Rural	0.36	0.37	0.35
Household size	6.39	6.52	6.27
Zone			
North Central	0.09	0.10	0.09
North East	0.10	0.09	0.11
North West	0.34	0.35	0.33
South East	0.13	0.12	0.14
South South	0.18	0.18	0.19
South West	0.15	0.16	0.13
Highest level of education completed			
None	0.35	0.44	0.26
Primary education	0.25	0.28	0.23
Secondary education	0.26	0.17	0.33
Tertiary education	0.15	0.11	0.17
Consumption quantile at baseline			
Poorest	0.21	0.23	0.19
Poorer	0.22	0.25	0.20
Middle	0.20	0.18	0.21
Richer	0.18	0.20	0.17
Richest	0.19	0.15	0.22
Occupation at baseline			
Self-employed	0.69	0.77	0.63
Employee	0.31	0.23	0.37
Observations	1,404	659	745

Source: authors' elaboration based on HFPS. All the variables in this table, except for Age and Household size, are dichotomous (=1 when individuals in the sample hold a particular characteristic). The table reports the means of the variables. Longitudinal weights are employed in the estimates.

2.2 Main outcome of interest

We consider employment, as any income-generating activity, as our outcome of interest. In particular, we focus our analysis on those individuals employed in the preceding week of the interview of the 2019 survey. Since the pandemic may have affected employment patterns, we consider two employment categories: self-employed and employees. The former includes those working in the home business, whereas employees are subordinated in different subsectors, such as agriculture, manufacturing, and services. Figure 1 shows changes in employment considering three mutually exclusive statuses: not working, working as an employee, or self-employed. The increase in the share of individuals who were not working stands out: it rose to 14% in September 2020, then decreased to 8.7% in March 2022. Figure 1 also shows that the share of self-employed individuals declined by 12 percentage points (pp) from 69% in the period before the crisis to 57% in March 2022, while the share of employees increased by 4 pp from 31% to 35% over the same period. We found that at least half of the rise in the share of individuals not working vis-à-vis the baseline was accounted for by young and prime-aged women with, at most, secondary education.[3] Moreover, prime-aged men with no educational attainment mainly contributed to the increase in the share of employees vs. pre-COVID-19. Finally, prime-aged individuals with no educational attainment mostly drove the increase in the proportion of self-employed individuals (vs. pre-pandemic) (See Tables A1, A2, and A3 in the Appendix).

Figure 1: Percent change in the share of workers by employment status



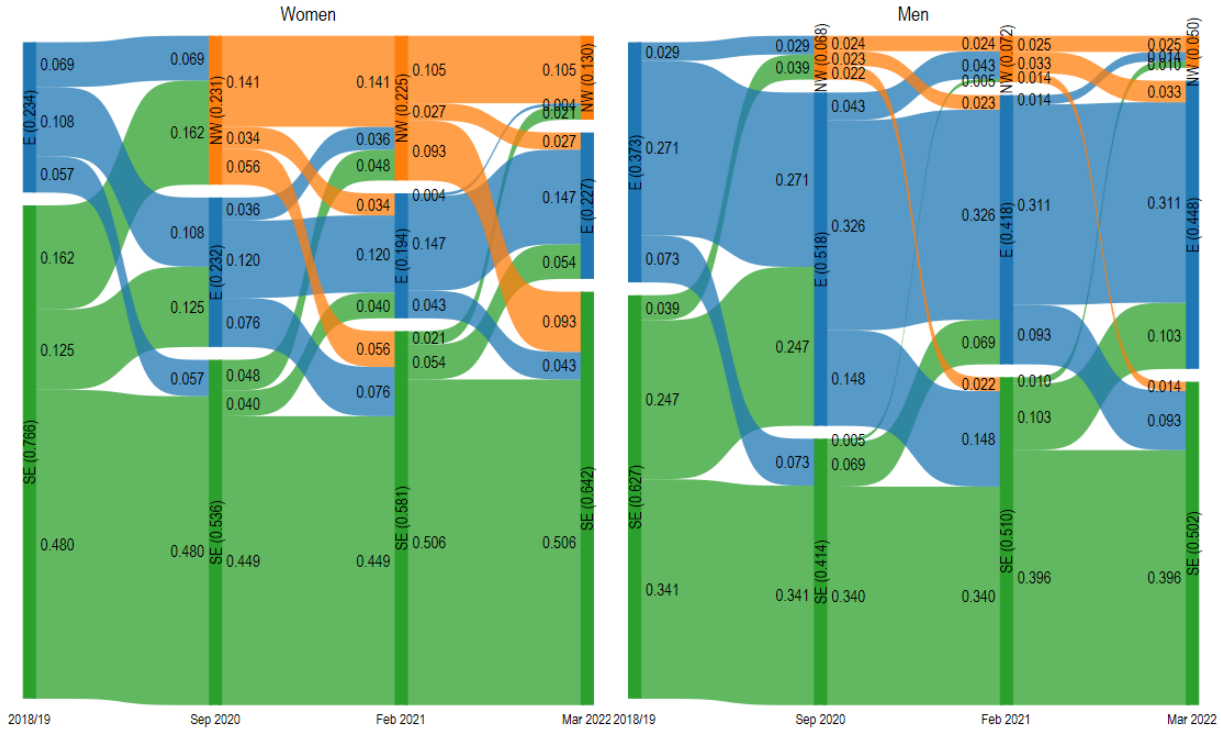
Notes: 2018/19 vs data points during the COVID-19 pandemic. The sample includes all individuals working at baseline. The figure considers three employment statuses: Self-employed, Employee, or Not working.

Though helpful, the previous analysis did not fully leverage the panel characteristics of the data. Hence, Figure 2 presents the employment flows during the period analyzed. The disintegration is done by gender

[3] We run a decomposition analysis following Cortes et al. (2017). According to Cortes et al. 2017, p.12, this approach "is equivalent to an Oaxaca Blinder specification where the regressors include a full set of interactions between demographic characteristics."

and occupation. Five points stand out. First, there was a non-trivial pre-pandemic employment composition difference by gender, with a larger share of females working as self-employed. Second, a higher percentage of women than men were not working throughout the pandemic. For instance, in September 2020, roughly a quarter (23%) of the women were in such employment status, and 70% of them used to be self-employed pre-pandemic. Third, there was an expansion in the share of male employees vs. pre-pandemic. Fourth, the fraction of self-employed individuals shrunk, regardless of gender. Fifth, the group of individuals who were not working in February 2021 and March 2022 was composed mainly of individuals not engaged in any income-generating activity in the previous round of the HFPS (September 2020 and February 2021, respectively).

Figure 2: Employment flows during the COVID-19 pandemic by gender and pre-pandemic employment status



Notes: The sample includes all individuals working at baseline. The figure considers three employment statuses: SE: Self-employed, E: Employee, NW: Not working. Longitudinal weights are employed in the estimates.

2.3 Main specification

Our empirical strategy employs an event study approach, which shows the time-varying impact of the COVID-19 crisis on the probability of employment. Formally, we have:

$$Y_{it} = \sum_{t=-1}^{3} \beta_t (COVID-19)_t + X_{it}^{'}\delta + \alpha_i + \epsilon_{it} \quad (1)$$

Where Y_{ist} is a binary indicator with value one if the individual i in round t of the HFPS is involved in any income-generating activity. The coefficients of interest are β_t, which capture the evolution of the probability of employment after the outbreak of the COVID-19 pandemic. It is worth pointing out again that we only kept in the sample employed individuals before the pandemic[4]. As a result, our analysis mainly focuses on the effect of the coronavirus crisis measured in terms of job loss, as in Adams-Prassl et al. (2020). X_{it} refers to a vector of control variables measured at the baseline i.e., before the outbreak of the COVID-19 pandemic: household size, age group, education level, rural/urban, household consumption quantile, and occupation. We interact these indicators with a time trend variable[5]. Equation 1 includes individual fixed effects (α_i) to capture unobserved heterogeneity at the individual level and further reduce concerns around omitted variable bias.

3 Results

3.1 Main results

Descriptive results show that the impact of the crisis was not the same across groups. Females and self-employed were more affected than other groups. They accounted for a relevant share of employment losses during the pandemic. This section looks at the time-varying gendered effect of the COVID-19 pandemic on employment in Nigeria. Table 2 reports the results of our analysis. Our study shows that the pandemic negatively affected employment levels in Nigeria of those individuals participating in the labor force before the pandemic. Women exhibited a sharper reduction in the probability of being employed than men. In September 2020, the likelihood of female employment dropped by 28.3 pp vs. pre-COVID-19 levels. The analogous for men was -8 pp. Then, in February 2021, employment levels worsened for women. In March 2022, the probability of women working was still 27.2 pp below its pre-pandemic level. In contrast, the recovery for men was better, and their likelihood of working rebounded quickly since the February 2021 wave. See Table 2.

Since pre-pandemic occupation may have affected employment patterns, we consider two categories: self-employed and employees. To analyze how employment trajectories evolved differently across gender and baseline occupation, we partitioned the sample by pre-crisis occupation[6] and estimated the event study

[4] As an exercise and to study to what extent the crisis pushed people to join the labor force, we expand the sample in the panel and include all people, regardless of their pre-pandemic employment status. See section 5.

[5] The exception was the household size, for which we used the actual measure collected in each round.

[6] We did it to account for the fact that baseline characteristics may be different depending on the baseline occu-

from the main specification. Columns 4 to 9 of Table 2 summarize the findings. The results suggest that self-employed workers were more likely to be unemployed during the pandemic than employees. Although the pre-crisis distribution of women and men by type of occupations may have affected the general findings — given that 77% and 63% of the female and male sample, respectively, were self-employed at baseline — it is also true that key gender differences occurred within occupations. Within occupations, women's working situation was disrupted more than men's.

Table 2: Effect of the COVID-19 pandemic on employment. Individuals working at baseline

	Working at baseline			Self-employed at baseline			Employee at baseline		
	(1) All	(2) Women	(3) Men	(4) All	(5) Women	(6) Men	(7) All	(8) Women	(9) Men
Sep 2020	-0.184***	-0.283***	-0.080***	-0.174***	-0.265***	-0.058**	-0.204***	-0.369***	-0.115**
	(0.023)	(0.049)	(0.023)	(0.025)	(0.053)	(0.022)	(0.051)	(0.108)	(0.051)
Feb 2021	-0.219***	-0.321***	-0.093	-0.217***	-0.329***	-0.061	-0.214*	-0.346	-0.143*
	(0.055)	(0.085)	(0.066)	(0.052)	(0.088)	(0.050)	(0.114)	(0.246)	(0.083)
Mar 2022	-0.199**	-0.272**	-0.080	-0.184***	-0.280**	-0.028	-0.216	-0.310	-0.161
	(0.075)	(0.113)	(0.086)	(0.065)	(0.113)	(0.048)	(0.158)	(0.321)	(0.114)
Observations	5,615	2,636	2,979	3,575	1,896	1,679	2,040	740	1,300
R^2	0.493	0.523	0.416	0.501	0.549	0.353	0.481	0.469	0.506

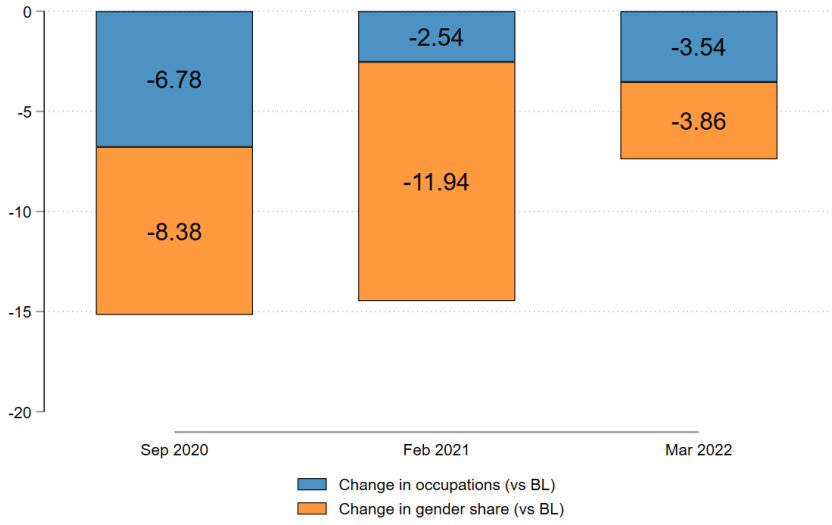
Notes: The estimations include household size, rural, education, age group, occupation, and consumption quantile at baseline as controls, and individual fixed-effects. Longitudinal weights are employed in the estimates. Robust standard errors are clustered at the state level.
*** p<0.01, ** p<0.05, * p<0.10.

According to Bluedorn (2021), two factors might drive the uneven impact of the pandemic on women: (i) they tend to have higher preexisting employment shares in occupations particularly hit by the COVID-19 crisis, and (ii) within a given occupation, women tend to experience worse labor market outcomes. We decompose the absolute gender gap change during the pandemic into the two previously described components: (i) changes in occupations (holding fixed the pre-pandemic women's employment shares by occupation) and (ii) changes in gender share of employment within occupations.

All the comparisons are against the pre-pandemic period (baseline: 2018/19). Figure 3 points to a "she-cession", where women's labor market outcomes deteriorate disproportionately during the pandemic. The absolute gender gap was the largest in September 2020 — -15.16 pp — and shrunk over time, so in March 2022, it was 7.4 pp below its pre-COVID-19 level. The driving factor of the absolute gender gap change was the change in the gender shares; hence, female employment was hit harder than men's within occupations. This result is relevant as it suggests that the stronger disruptions in female employment during COVID-19 did not stem from a pre-pandemic unlucky distribution of women in occupations particularly hit by the pandemic (i.e., in self-employment). These descriptive findings point to the relevance of delving into the analysis of the affectations of employment during the pandemic, emphasizing gender differences.

pation.

Figure 3: Absolute gender gap change decomposition during the pandemic



Notes: See Bluedorn 2021, p.12 for the absolute gender gap change decomposition formula. All the comparisons are against the pre-pandemic period, i.e., baseline (BL).

3.2 Within household employment inequality?

The previous subsections highlighted how the pandemic worsened gender inequality in terms of employment at the aggregate level. But what happened within households? To answer this question, we matched individuals into heterosexual couples composed of the household head (male) and his spouse (female).[7] The final sample consists of 395 dual-worker couples at baseline (with both partners employed before the pandemic).

We estimated an event study for dual-worker couples to identify the evolution of couple's employment during the pandemic. Table 3 reports the estimates. Among these couples, women suffered the most harmful consequences of the crisis on their employment. As a case in point, in September 2020, February 2021, and March 2022, the probability of their employment dropped by more than 30 pp compared to pre-crisis. In contrast, household heads' employment likelihood did not differ from pre-crisis. The COVID-19 pandemic interplays with family dynamics. When both partners were working, women were more likely to stop working. As a result, intra-household inequality dramatically increases, fueling a rapid increase in gender inequality in the country.

[7] We kept only monogamous couples.

Table 3: Effect of the COVID-19 pandemic on dual-worker couple's employment

	Dual-worker couple at baseline	
	(1) Wives	(2) Household heads
Sep 2020	-0.327***	-0.008
	(0.077)	(0.019)
Feb 2021	-0.385***	-0.005
	(0.119)	(0.042)
Mar 2022	-0.314*	0.050
	(0.183)	(0.054)
Observations	1,384	1,384
R^2	0.491	0.425

Notes: The sample includes 395 dual-worker couples at baseline. The estimations include household size, rural, education, age group, occupation, and consumption quantile in the baseline as controls and individual fixed-effects. Longitudinal weights are employed in the estimates. Robust standard errors are clustered at the state level.
*** p<0.01, ** p<0.05, * p<0.10.

4 Heterogeneous effects

In this section, we investigate the effects of the COVID-19 pandemic on intersecting inequality. The health shock and the resulting policies might have exacerbated preexisting inequalities along multiple dimensions (Eaves & Al-Hindi 2020). Different dimensions of inequality might have overlapped, exacerbating their individual effects and provoking a rise of intersecting inequality. For this purpose, we aim to further explore the heterogeneous effects of the pandemic depending on the individuals' socio-economic characteristics. For this purpose, we use fixed effects linear probabilistic models and interacted a dummy variable that takes the value of one for COVID-19 pandemic waves and zero for the baseline, with various individual and household-level characteristics, namely, household composition, age group, and initial economic conditions.

4.1 Household composition

The results above suggest that women suffered the main adverse effects of the pandemic on their employment status. This might be also due to social norms. Nigeria has a patriarchal society, and women tend to be the principal caregivers at home. Indeed, the general belief is that women's responsibilities begin and conclude with managing the household and nothing beyond that (Ifegbesan & Azeez 2022, Obioha 2017, Nwosu 2012). Therefore, women were more affected than men when there were also school-age children (0-14 years old)[8] in the household. To test this hypothesis, we identified those households with at least one child living there at baseline, and we interacted this variable with the COVID-19 indicator variable. Table A4 in the Appendix

[8]For brevity, we will refer to them as children.

reports the estimates. The pandemic negatively affected especially women's employment. Yet, women from households with school-age children face additional costs in terms of employment reductions. In contrast, Table A4 shows no additional costs for men living in households with school-age children. Again, this might be explained by the role played by social norms in Nigerian society. Indeed, before the COVID-19 pandemic, only 13% of the men reported looking after children at home, whereas 47% of the women reported so as an activity besides their remunerated employment. In short, the presence of school-age children in the household disrupted women's employment during the pandemic (see Figure 4).

4.2 Age group

As a second exercise, we also consider the role of age. Youth employment is more sensitive than adult employment to economic downturns. The reasons are threefold. First, young individuals tend to have less work experience than other groups[9], which in formal work arrangements implies that it is easier and less costly to fire them compared to workers with more extended stays at their job position. Second, young workers usually account for a relevant share of new job seekers. Employers are more likely to stop or at least limit hiring people when facing a demand-side disruption. Third, self-employed youth are vulnerable to stopping their activities because they neither possess sufficient financial means to withstand such a downturn nor take advantage of support programs for businesses (ILO 2020).

To test the role of age, we created three age categories based on the age of individuals at baseline: young (under 24 years old), prime-age (between 25 and 54 years old), and old individuals (over 54 years old). Then, we interacted these age categories with the COVID-19 indicator variable. The prime-aged group is the reference category. Table A5 in the Appendix reports the estimates. Young women suffered the most adverse effects of the pandemic on employment. Their employment decreased during the pandemic by 25.5 pp more compared to the employment level of prime-aged women. Therefore, as hypothesized, the pandemic hurt young people more than other age groups. However, this statement only holds for women, reinforcing the overlapping inequalities among female individuals (see Figure 4).

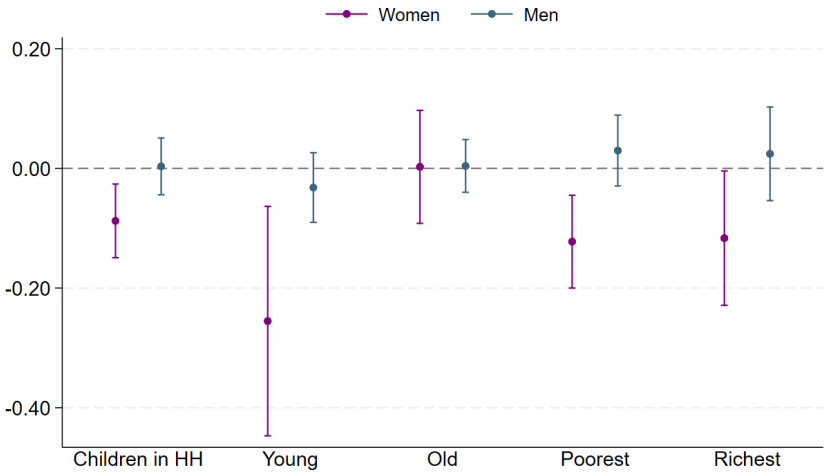
4.3 Initial economic conditions

We also expect that the pandemic affected the labor market participation of individuals differently depending on their economic conditions before the crisis. We checked the household's initial economic conditions to test this hypothesis, creating three categories of pre-crisis consumption quantiles. We pooled the first and second consumption quantiles at baseline and referred to them as the poorest; we followed an analogous approach with the fourth and fifth quantiles of the consumption distribution and referred to them as the richest. Finally, we took the middle consumption quantile as it was. Then, we interacted the COVID-19 indicator variable with these three categories of consumption quantiles. The middle consumption quantile is the reference category. Table A6 in the Appendix reports the estimates considering the previously described three groups. Women faced more substantial negative employment effects than men. In addition, women from the poorest consumption quantiles were the most affected by the COVID-19 pandemic, contributing to

[9]In March 2022, 84% and 81% of the female and male employed youth reported working in the first job of their lifetime.

worsening inequality given that the most vulnerable were hit hardest (see Figure 4).

Figure 4: Heterogeneous analysis: Summary



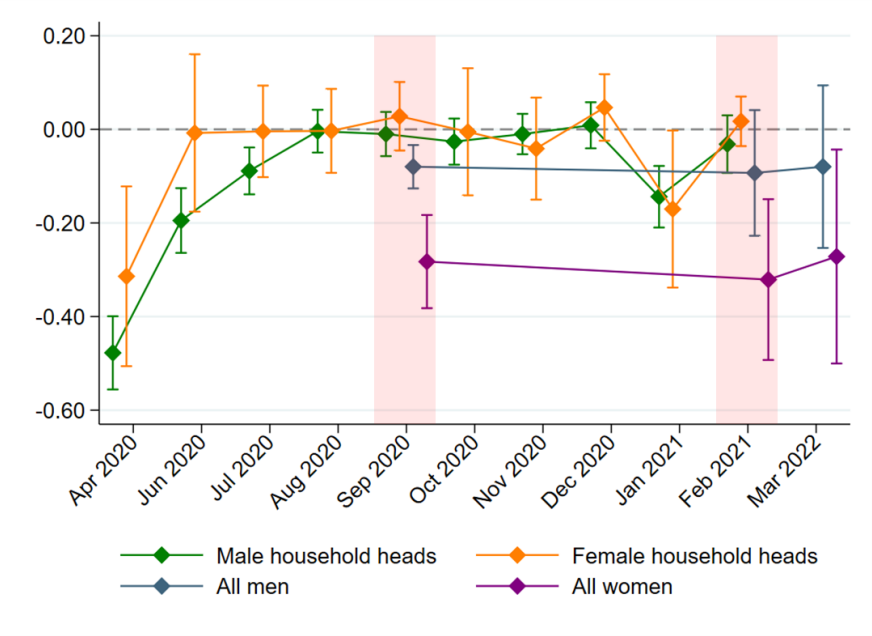
Notes: The figure displays the interaction coefficients between the COVID-19 indicator (i.e., equals 1 for the pandemic rounds and zero for the baseline) and the variable specified in the x-axis. Children in HH equals one if there were school-age children (under 15 years old) in the household at baseline. See Table A4 in the Appendix. Regarding age groups, the reference category comprises prime-aged individuals (between 25 and 54 years old at baseline). Young individuals were under 24 years old at baseline. Old individuals are those over 54 years old at baseline. See Table A5 in the Appendix. Finally, regarding pre-pandemic consumption quantiles, the reference category comprises the middle quantile (third). The poorest consumption quantiles include quantiles 1 and 2 at baseline. The richest group includes the fourth and fifth consumption quantiles at baseline. See Table A6 in the Appendix.

5 Robustness checks

We implement several robustness checks to confirm the validity of our results. First, regarding our sample, one may wonder whether it is worth losing the wealth of labor information from more than ten rounds starting in April 2020 instead of only keeping three rounds with employment data from up to five household members (see section 2). If doing the former, we would have labor data from the most knowledgeable survey respondent, causing an over-representation of household heads, which may bias the estimations. Indeed, we noticed two crucial differences when considering the restricted sample with the primary respondent. First, Figure 5 shows that male heads of household were the most affected by the crisis. Second, Figure 5 also shows that the impact of the crisis was not statistically significant in correspondence of the periods of September 2020, February 2021, and March 2022 (see Table A10 in the Appendix). As a result, choosing the restricted sample with the main respondent will lead to an underestimation of the negative impact of the pandemic on employment, and, most importantly, it would lead to a wrong interpretation of the impact of the crisis on gender inequality.

Second, one limitation of this chapter refers to the unfeasibility of testing for parallel trends for the whole sample used in the main specification —those individuals working at baseline— because of a partial panel

Figure 5: Event study. All household members and Household heads employment.



Notes: Event study. Work, by gender. The sample includes individuals working at baseline. The reference period in the figure (not displayed) is the baseline (2018/19). The estimations include household size, rural, education, age group, occupation, and consumption quantile at baseline as controls; and individual fixed effects. Longitudinal weights are employed in the estimates. Vertical lines represent 0.95 confidence intervals for the coefficients. Standard errors are clustered at the state level.

refresh in 2018 (the year of the baseline information, which also constitutes the sampling frame of the HFPS). Indeed, in the 2018 survey, only a small fraction of households from previous rounds was followed. So, we could create a long panel (2015, 2018 plus three rounds of the HFPS) and track only 265 out of the 1,404 individuals (19%) from the main sample working in 2015 and at baseline.[10] However, as Figure 6 shows, when tracing back the employment status of the individuals in the long panel, we noticed that the COVID-19 pandemic disrupted employment dynamics. This finding is indicative that without the COVID-19 pandemic, employment levels would not have changed dramatically as it occurred.[11]

Third, so far in our analysis, we have focused on a restricted sample, considering individuals who were employed before the outbreak of the COVID-19 pandemic. This allows us to understand the costs of the crisis in terms of reduction in employment. However, it might be possible that we overestimate the net effect on employment of the COVID-19 pandemic because we are not considering people who were not in the labor market at that time and decided to join the labor market after the outbreak of the COVID-19 pandemic. Indeed, some individuals could join the labor force to compensate for the reduced household income[12]; this

[10] See Table A7 in the Appendix for a summary of the sample characteristics.

[11] Notice how the disruptive effect on employment is stronger for men; nevertheless, it is worth mentioning that in this long panel subsample, women had a higher education than their peers included in the full sample included in the main analysis of this paper (i.e., in sections 2, and 3).

[12] All the individuals in the panel reported experiencing a reduction in the total household income during the pandemic vis-à-vis pre-crisis. In the HFPS, the main respondents (primarily household heads) answered this question for three points in time: 76% suffered a household income reduction from mid-March 2020 to April/May 2020, 66%

Figure 6: Employment in the long panel: Individuals employed at baseline.

Notes: The sample includes all individuals in the long panel (2015, 2018 + HFPS) employed at baseline and in 2015 (N= 265, 19% of the main sample). The prime age category includes individuals between 25 and 54 years old at baseline. Longitudinal weights are employed in the estimates.

possibility is referred to as the added-worker effect.[13] Therefore, we expanded the main sample to identify the net effect on employment during the pandemic in Nigeria. We included all individuals, regardless of their employment status, at baseline[14]. Table 4 confirms a drop in employment of about 4.2 pp in September 2020. But, this result seems to be driven by a drastic reduction in employment among women. Indeed, the likelihood of working for women decreased by 15.4 pp while the probability of working for men increased by 7.3 pp (Table 4). The likelihood of working for the overall population declined in the following two periods. Also, in this case, results are mainly driven by changes in the probability of working for women. Overall, this result further proves the health shock's unequal impact that contributed to increased gender inequality.

Fourth, with the long history of conflict in Nigeria and the perhaps long-lasting consequences of the presence of terrorist groups in some areas, mainly Boko Haram, one may worry that the effects on employment — previously described — result from a combination of the hardship that comes with experiencing conflict and COVID-19, so that we cannot claim that the national negative employment effects in September 2020, February 2021, and March 2022 reported in Table 2 purely stem from the pandemic. To account for this possibility, we excluded individuals living in the North East zone of Nigeria — 16% of the main sample — well known for the upheavals and destruction caused by Boko Haram since 2009. Table A9 in the Appendix

when comparing August 2020 vs. August 2019, and 42% from January 2020 to January 2021. These figures are not mutually exclusive.

[13]On the other hand, some individuals could either stop working or interrupt their job search due to the increase in household-care-related activities and the lack of available jobs; this alternative is called the discouraged-worker effect.

[14]Table A8 in the Appendix shows this alternative sample's descriptive statistics at baseline. See Figure A1 in the Appendix for an analogous chart to the one displayed in Figure 2. It is worth highlighting the reduction in the share of individuals not working at baseline who later joined the Nigerian labor market. However, for women, there were relevant movements in and out of the not working category during the pandemic. Hence, it is only until March 2022 when the flows out of the not working employment status offset the movements into unemployment. Moreover, from a decomposition exercise analogous to the one reported in section 2.2, when comparing September 2020 and February 2021 vs. pre-COVID-19, the demographic groups that drove the reduction in the not working category were young men with at most secondary education and women with primary or secondary education. In contrast, when comparing March 2022 vs. pre-crisis, young men with at most secondary education and prime-aged women with no educational attainment were the ones who mainly joined the labor market.

Table 4: Effect of the COVID-19 pandemic on employment. Individuals regardless of their working status at baseline

	Working or not at baseline		
	(1) All	(2) Women	(3) Men
Sep 2020	-0.042*	-0.154***	0.073**
	(0.025)	(0.041)	(0.027)
Feb 2021	-0.192***	-0.346***	-0.034
	(0.043)	(0.062)	(0.068)
Mar 2022	-0.262***	-0.453***	-0.063
	(0.060)	(0.092)	(0.088)
Observations	10,036	4,977	5,059
R^2	0.562	0.542	0.579

Notes: The estimations include household size, rural, education, age group, occupation, and consumption quantile at baseline as controls, and individual fixed-effects. Longitudinal weights are employed in the estimates. Robust standard errors are clustered at the state level.
*** p<0.01, ** p<0.05, * p<0.10.

reports the estimates of this approach. Even when excluding the historical Boko Haram zone of influence, the adverse effects of the pandemic, with a more substantial negative impact on women, still hold, indicating that conflict was not the primary cause of the adverse employment effects detailed in Table 2.

6 Conclusion

Previous studies have explored the labor market effects of the COVID-19 pandemic in Nigeria, highlighting employment disruptions. However, these studies often focused on household heads and underestimated the pervasive employment effects of the pandemic, particularly on women. This study addresses these limitations by analyzing a representative panel of the adult Nigerian population, including random household members —with women accounting for half of the sample— beyond just household heads. Our analysis offers three contrasting results when compared to the existing literature.

First, our results challenge previous findings that underestimated the employment effects of the pandemic in Nigeria because those analyses mainly used a panel that comprised only or primarily household heads, who, as shown in this chapter, had better-off employment outcomes than the rest of the household members. Second, our study highlights gender differences in employment outcomes, confirming that women faced worse-off employment reductions and slower employment recoveries than their male peers. We show that there was also a significant change in employment composition. Self-employed workers were likelier to be unemployed during the pandemic than employees. Last, our study documents how gender inequality overlaps with other dimensions of inequality, exacerbating preexisting conditions of marginalization for women. Women from underprivileged groups (young and from poor households pre-crisis) in Nigeria were at a particular disadvantage in the labor market during the pandemic. The presence of school-age children in the household further disrupted women's employment during the pandemic.

Yet, due to data limitations, additional studies are needed to understand the impact of the pandemic on gender inequality fully. Indeed, because of data availability[15], we could not identify what happened in the early stage of the pandemic (from April to August 2020) in terms of employment. We could not determine whether the gender inequality shown in this study also extended to other relevant labor market outcomes, such as labor income. However, we believe this is the first study that provides a proper understanding of the gender inequality effects of the COVID-19 pandemic on the Nigerian labor market.

[15]Labor data for all household members after March 2022 is not yet available.

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7 Appendix

Table A1: Employment Decomposition based on age, education, gender groups: Self-employed

	Panel A: Round Sep 2020 vs Baseline					
	Women			Men		
	Young	Prime-age	Old	Young	Prime-age	Old
None	0.04	0.27	0.08	0.06	0.18	0.03
Primary	0.05	0.05	0.03	0.03	0.04	0.04
Secondary	0.00	0.04	0.00	0.00	0.06	0.00
Tertiary	0.00	0.01	0.01	0.00	-0.02	0.01

	Panel B: Round Feb 2021 vs Baseline					
	Women			Men		
	Young	Prime-age	Old	Young	Prime-age	Old
None	0.04	0.22	0.06	0.03	0.13	0.05
Primary	0.03	0.06	0.01	0.05	0.07	0.04
Secondary	0.01	0.03	0.01	0.01	0.11	0.01
Tertiary	0.00	0.00	0.00	0.01	0.00	0.01

	Panel C: Round March 2022 vs Baseline					
	Women			Men		
	Young	Prime-age	Old	Young	Prime-age	Old
None	0.05	0.08	0.03	0.07	0.09	0.05
Primary	-0.02	0.05	0.01	0.02	0.04	0.04
Secondary	0.00	-0.02	0.01	0.00	-0.03	0.01

Notes: Composition of the Nigerian adult population across different employment statuses, based on individuals over 15 years old. The sample includes all individuals who were working at baseline. The decomposition follows Cortes et al. (2017) and it helps identify labor market changes by demographic groups, composed of gender, educational attainment, and age groups. We created 24 demographic groups by combining three criteria: age, education, and gender. So, we have three age groups: young (those under 24 years old), prime-age category (includes individuals between 25 and 54 years old), and old individuals (over 54 years old in the baseline); four educational attainment groups (none, primary, secondary, and tertiary), and two gender groups (female and male).

Table A2: Employment Decomposition based on age, education, gender groups: Employee

	Panel A: Round Sep 2020 vs Baseline					
	Women			Men		
	Young	Prime-age	Old	Young	Prime-age	Old
None	-0.01	0.14	0.05	0.06	0.34	0.13
Primary	-0.02	0.02	0.03	0.12	0.07	0.08
Secondary	-0.08	-0.03	0.03	0.00	0.20	0.01
Tertiary	0.00	-0.11	0.01	0.02	-0.06	0.00

	Panel B: Round Feb 2021 vs Baseline					
	Women			Men		
	Young	Prime-age	Old	Young	Prime-age	Old
None	-0.24	-0.15	0.13	1.04	1.38	0.26
Primary	0.07	0.05	0.09	0.16	-0.13	0.28
Secondary	-0.35	-0.23	0.00	-0.12	-0.19	-0.07
Tertiary	0.00	-0.42	0.04	-0.11	-0.59	0.09

	Panel C: Round March 2022 vs Baseline					
	Women			Men		
	Young	Prime-age	Old	Young	Prime-age	Old
None	-0.12	0.14	0.04	0.24	0.44	0.05
Primary	0.03	0.15	0.02	0.18	0.18	0.13
Secondary	-0.17	0.01	0.04	0.04	-0.04	0.10

Notes: Composition of the Nigerian adult population across different employment statuses, based on individuals over 15 years old. The sample includes all individuals who were working at baseline. The decomposition follows Cortes et al. (2017) and it helps identify labor market changes by demographic groups, composed of gender, educational attainment, and age groups. We created 24 demographic groups by combining three criteria: age, education, and gender. So, we have three age groups: young (those under 24 years old), prime-age category (includes individuals between 25 and 54 years old), and old individuals (over 54 years old in the baseline); four educational attainment groups (none, primary, secondary, and tertiary), and two gender groups (female and male).

Table A3: Employment Decomposition based on age, education, gender groups: Not working

	Panel A: Round Sep 2020 vs Baseline					
	Women			Men		
	Young	Prime-age	Old	Young	Prime-age	Old
None	0.06	0.27	0.06	0.03	0.00	0.00
Primary	0.06	0.08	0.01	0.01	0.07	0.02
Secondary	0.07	0.06	0.00	0.02	0.05	0.00

	Panel B: Round Feb 2021 vs Baseline					
	Women			Men		
	Young	Prime-age	Old	Young	Prime-age	Old
None	0.07	0.29	0.07	0.01	0.03	0.00
Primary	0.05	0.05	0.03	0.01	0.05	0.01
Secondary	0.04	0.06	0.00	0.01	0.08	0.01
Tertiary	0.02	0.05	0.00	0.01	0.05	0.00

	Panel C: Round March 2022 vs Baseline					
	Women			Men		
	Young	Prime-age	Old	Young	Prime-age	Old
None	0.10	0.20	0.06	0.00	0.01	0.04
Primary	0.07	0.04	0.04	0.01	0.04	0.00
Secondary	0.05	0.07	0.00	0.01	0.07	0.01

Notes: Composition of the Nigerian adult population across different employment statuses, based on individuals over 15 years old. The sample includes all individuals who were working at baseline. The decomposition follows Cortes et al. (2017) and it helps identify labor market changes by demographic groups, composed of gender, educational attainment, and age groups. We created 24 demographic groups by combining three criteria: age, education, and gender. So, we have three age groups: young (those under 24 years old), prime-age category (includes individuals between 25 and 54 years old), and old individuals (over 54 years old in the baseline); four educational attainment groups (none, primary, secondary, and tertiary), and two gender groups (female and male).

Table A4: Employment and the presence of children in the household

	(1) All	(2) Women	(3) Men
COVID-19	-0.154***	-0.231***	-0.087***
	(0.019)	(0.036)	(0.018)
COVID-19 × Children in HH	-0.043**	-0.088***	0.003
	(0.019)	(0.030)	(0.023)
Observations	5,615	2,636	2,979

Notes: *Children in HH* equals one if there were school-age children (under 15 years old) in the household at baseline. The estimations include household size, rural, education, age group, occupation, and consumption quantile at baseline as controls. The sample includes employed individuals at baseline. Longitudinal weights are employed in the estimates. Robust standard errors are clustered at the state level. *** p<0.01, ** p<0.05, * p<0.10.

Table A5: Employment and gender, by age group

	(1) All	(2) Women	(3) Men
COVID-19	-0.165***	-0.259***	-0.078***
	(0.014)	(0.033)	(0.016)
COVID-19 × Young	-0.139**	-0.255**	-0.032
	(0.057)	(0.095)	(0.029)
COVID-19 × Old	0.013	0.003	0.004
	(0.021)	(0.047)	(0.022)
Observations	5,615	2,636	2,979

Notes: The sample includes employed individuals at baseline. The reference category is composed of Young individuals who were under 24 years old at baseline. The prime age category includes individuals between 25 and 54 years old at baseline. Old individuals are those over 54 years old at baseline. The estimations include household size, rural, education, consumption quantile, and occupation at baseline as controls. Longitudinal weights are employed in the estimates. Robust standard errors are clustered at the state level. *** p<0.01, ** p<0.05, * p<0.10.

Table A6: Employment and gender, by Consumption quantile

	(1) All	(2) Women	(3) Men
COVID-19	-0.151***	-0.203***	-0.105***
	(0.022)	(0.045)	(0.027)
COVID-19 × Poorest	-0.051*	-0.122***	0.030
	(0.025)	(0.038)	(0.029)
COVID-19 × Richest	-0.037	-0.117**	0.024
	(0.024)	(0.055)	(0.039)
Observations	5,615	2,636	2,979

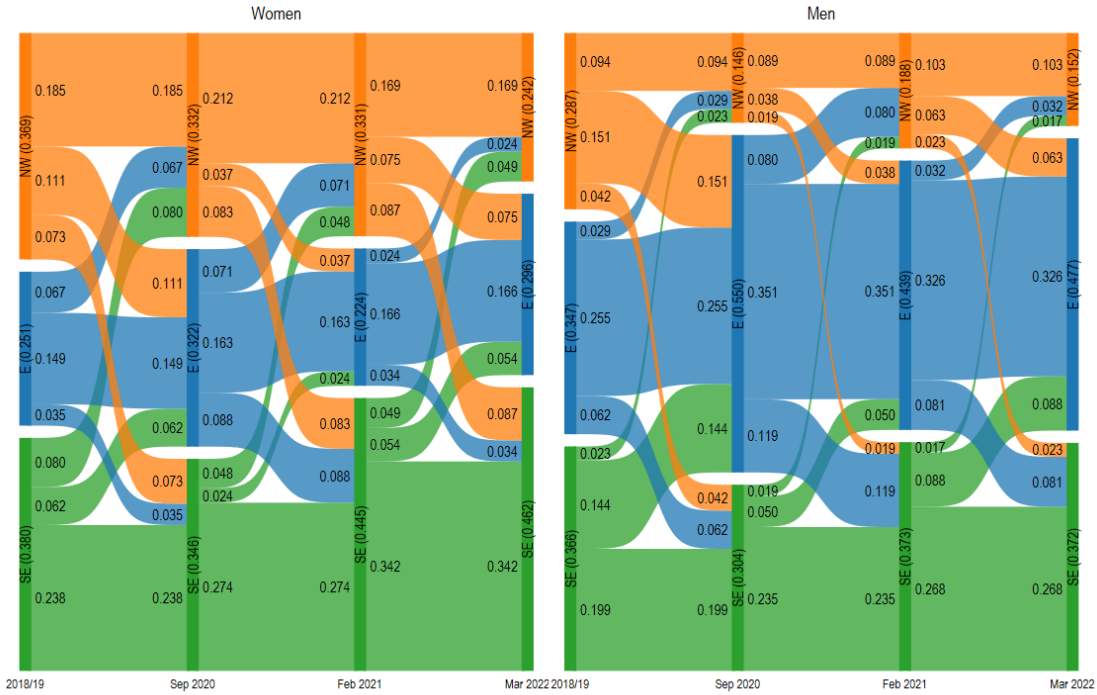
Notes: The reference category comprises the Poorest consumption quantiles (quantiles 1 and 2) at baseline. The estimations include household size, rural, education, age group, and occupation at baseline. The sample includes employed individuals at baseline. Longitudinal weights are employed in the estimates. Robust standard errors are clustered at the state level. *** p<0.01, ** p<0.05, * p<0.10.

Table A7: Descriptive statistics at baseline (means). Long panel: 2015, 2018 + HFPS. Sample of individuals working in 2015 and at baseline

	All	Women	Men
Age (Baseline)	41.62	39.09	44.33
Age category			
15-24 years old	0.15	0.17	0.12
25-34 years old	0.16	0.17	0.14
35-44 years old	0.29	0.36	0.21
45-54 years old	0.24	0.21	0.28
55-64 years old	0.15	0.08	0.22
65 and more	0.02	0.01	0.03
Relation to the head of household			
Head of household	0.47	0.15	0.81
Spouse	0.35	0.68	0.00
Own child	0.16	0.16	0.17
Other relationship	0.02	0.01	0.03
Rural	0.31	0.27	0.35
Household size	7.95	7.84	8.07
Zone			
North Central	0.14	0.16	0.12
North East	0.12	0.09	0.15
North West	0.27	0.27	0.27
South East	0.19	0.18	0.21
South South	0.18	0.21	0.16
South West	0.09	0.10	0.09
Highest level of education completed			
None	0.31	0.36	0.26
Primary education	0.24	0.21	0.27
Secondary education	0.21	0.19	0.23
Tertiary education	0.24	0.24	0.24
Consumption quantile at baseline			
Poorest	0.22	0.21	0.24
Poorer	0.22	0.23	0.21
Middle	0.21	0.17	0.25
Richer	0.16	0.19	0.13
Richest	0.18	0.19	0.17
Occupation at baseline			
Self-employed	0.44	0.54	0.34
Employee	0.56	0.46	0.66
Observations	343	163	180

Notes: All the variables in this table, except for Age and Household size, are dichotomous (=1 when individuals in the sample hold a particular characteristic). The table reports the means of the variables. Longitudinal weights are employed in the estimates.

Figure A1: Employment flows during the COVID-19 pandemic, by gender and pre-pandemic employment status



Notes: The sample includes all individuals regardless of their employment status at baseline. The figure considers three employment statuses: SE: Self-employed, E: Employee, NW: Not working. Longitudinal weights are employed in the estimates.

Table A8: Descriptive statistics at baseline (means). Sample of individuals working or not at baseline

	All	Women	Men
Age (Baseline)	35.52	35.30	35.76
Age category			
15-24 years old	0.29	0.26	0.32
25-34 years old	0.22	0.25	0.19
35-44 years old	0.22	0.25	0.19
45-54 years old	0.13	0.12	0.15
55-64 years old	0.10	0.09	0.11
65 and more	0.04	0.03	0.04
Relation to the head of household			
Head of household	0.36	0.12	0.60
Spouse	0.31	0.61	0.00
Own child	0.28	0.21	0.36
Other relationship	0.05	0.06	0.04
Rural	0.31	0.30	0.31
Household size	6.72	6.71	6.73
Zone			
North Central	0.16	0.16	0.15
North East	0.13	0.12	0.13
North West	0.29	0.30	0.28
South East	0.14	0.14	0.13
South South	0.18	0.17	0.19
South West	0.11	0.11	0.11
Highest level of education completed			
None	0.33	0.42	0.23
Primary education	0.31	0.30	0.32
Secondary education	0.24	0.18	0.29
Tertiary education	0.13	0.09	0.16
Consumption quantile at baseline			
Poorest	0.24	0.25	0.23
Poorer	0.22	0.23	0.22
Middle	0.19	0.19	0.20
Richer	0.18	0.19	0.17
Richest	0.16	0.14	0.18
Occupation at baseline			
Self-employed	0.37	0.38	0.37
Employee	0.63	0.62	0.63
Observations	2,510	1,245	1,265

Notes: All the variables in this table, except for Age and Household size, are dichotomous (=1 when individuals in the sample hold a particular characteristic). The table reports the means of the variables. Longitudinal weights are employed in the estimates.

Table A9: Effect of the COVID-19 pandemic on employment. Excludes the North East zone

	Working at baseline		
	(1) All	(2) Women	(3) Men
Sep 2020	-0.184***	-0.274***	-0.078***
	(0.025)	(0.053)	(0.024)
Feb 2021	-0.225***	-0.318***	-0.092
	(0.062)	(0.094)	(0.073)
Mar 2022	-0.218**	-0.290**	-0.079
	(0.084)	(0.125)	(0.094)
Observations	4,723	2,300	2,423
R^2	0.494	0.535	0.380

Notes: The sample excludes individuals from Nigeria's North East geopolitical zone. The estimations include household size, rural, education, age group, occupation, and consumption quantile at baseline as controls, and individual fixed-effects. Longitudinal weights are employed in the estimates. Robust standard errors are clustered at the state level.
*** p<0.01, ** p<0.05, * p<0.10.

Table A10: Effect of the COVID-19 pandemic on employment. Individuals working at baseline. Household heads

	Working at baseline		
	(1) All	(2) Female heads	(3) Male heads
Apr 2020	-0.448***	-0.320***	-0.474***
	(0.040)	(0.093)	(0.040)
Jun 2020	-0.163***	0.000	-0.192***
	(0.028)	(0.083)	(0.032)
Jul 2020	-0.075***	-0.008	-0.087***
	(0.021)	(0.047)	(0.024)
Aug 2020	0.001	-0.002	0.001
	(0.018)	(0.043)	(0.021)
Sep 2020	-0.003	0.034	-0.009
	(0.023)	(0.035)	(0.022)
Oct 2020	-0.020	0.009	-0.024
	(0.024)	(0.070)	(0.025)
Nov 2020	-0.014	-0.042	-0.009
	(0.021)	(0.059)	(0.021)
Dec 2020	0.019	0.058	0.012
	(0.019)	(0.035)	(0.023)
Jan 2021	-0.146***	-0.171*	-0.139***
	(0.027)	(0.085)	(0.031)
Feb 2021	-0.022	0.018	-0.028
	(0.026)	(0.021)	(0.030)
Observations	7,136	1,100	6,036
R^2	0.388	0.467	0.376

Notes: The sample includes household heads working at baseline (2019). The estimations include household size, rural, education, age group, occupation, and consumption quantile at baseline as controls and individual fixed-effects. Longitudinal weights are employed in the estimates. Robust standard errors are clustered at the state level.
*** p<0.01, ** p<0.05, * p<0.10.

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