

Good Jobs for a New Generation: Delivering Quality Jobs for Young Nigerians After COVID-19¹

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Key messages

- The COVID-19 crisis has underlined weaknesses in Nigeria's labor market, but the country can leverage the crisis to protect human capital and foster good jobs for its young population.
- Before COVID-19, Nigeria's youth already faced a daunting jobs challenge: even without the pandemic, about 30.8 million Nigerian youth aged 15-29 (about 54.3 percent of the 56.7 million people in that age group) were projected to have entered the labor market in 2021.
- Widespread informality and precarity in Nigeria's labor market had not improved in the decade before COVID-19. From 2010 to 2019, the share of working-age Nigerians with jobs in household agriculture increased from 25.6 to 35.9 percent. Precarious jobs offer less reliable paths out of poverty.
- To inform a new generation of labor-market policies, this brief marshals evidence on how Nigeria's youth have responded to two recent economic shocks: the 2016 oil-price recession and the ongoing COVID-19 crisis.
- Youth responded to both crises by leaving school earlier to enter the labor market, thus increasing overall labor supply. Rising labor supply amid chronic job shortages have further widened precarity and informality in Nigeria's labor market.
- Compared to the 2016 oil-price recession, COVID-19's negative labor-market effects are more concentrated among women and the poor.
- Two economic crises in close succession have diminished – and are still diminishing – Nigeria's human capital stock, notably through declines in educational attainment. Continued underinvestment in human capital may keep Nigeria from harnessing the economic potential of its young population through two main channels: by weakening workforce productivity and slowing any fertility transition.
- Evidence in this brief supports three directions for policy action to deliver good jobs and prepare young Nigerians to fill them: invest in human capital; boost job creation; and help enterprises grow.
- Reversing education losses from COVID-19, particularly among girls, is a top priority. Options include adding more hours to the school day, repeating the missed school period, and delivering lessons during school holidays. Monitoring education results is vital to ensure that losses are recouped.
- Priorities to support job creation include promoting economic diversification away from oil and redirecting public spending towards productivity-enhancing infrastructure and pro-poor social protection.
- Policies that loosen enterprise credit constraints and develop infrastructure can boost enterprise productivity, profits, and job creation. For example, cash grants administered through a national business competition have shown large positive effects on enterprise survival, profitability, and hiring.
- Nigeria's young population embodies the nation's promise. Ensuring good jobs for youth will enable the country to seize its demographic dividend. This is vital to drive future inclusive growth and poverty reduction.

Section 0. Introduction

Recent crises have threatened the welfare and livelihoods of households across Nigeria. Against a backdrop of ongoing conflict and climate shocks, the Nigerian economy was hit hard by the oil-price recession in 2016 and the ongoing COVID-19 crisis. The labor market is the main vehicle through which these large economic shocks affect households and individuals. It is also the main vehicle through which poverty can be alleviated. Therefore, understanding the make-up of the Nigerian labor market – and how it responded during these crises – is crucial for policymakers.

This policy brief combines insights from two main sources to analyze labor market dynamics and identify policy solutions during this critical juncture for Nigeria. These are Nigeria’s General Household Survey (GHS) – collected four times between 2010 and 2019 – and the monthly Nigeria COVID-19 National Longitudinal Phone Survey (NLPS) – collected throughout the COVID-19 crisis. The surveys are described in Box 1. This brief analyzes data from these two surveys to assess how Nigerian workers fared during two shocks that occurred in close succession – the oil-price recession and the COVID-19 crisis – how these shocks differed in their labor-market impacts, and what this means for future policy.

Given Nigeria’s large and growing youth population, this brief pays particular attention to young people. Exploiting the country’s “demographic dividend” will be vital for fostering inclusive growth and driving poverty reduction.

Box 1: Data sources

While several surveys collect data on labor-market outcomes in Nigeria, this policy brief primarily relies on the Nigeria General Household Survey-Panel (GHS) and the COVID-19 National Longitudinal Phone Survey (NLPS).

Two main reasons explain this choice. First, the GHS was implemented four times during the period 2010-2019, which straddles the 2016 oil-price recession, and contains modules suitable for analyzing labor-market dynamics. The panel (longitudinal) nature of the sample also allows rigorous analysis of labor market transitions. Secondly, the households surveyed in the NLPS are a subset of the GHS households, so that data at the household and individual levels from the GHS and NLPS can be linked longitudinally. With the ability to link individuals across data sources, this brief can analyze changes in labor-market outcomes before and during the COVID-19 crisis for the same set of households and individuals. More information on the GHS and NLPS is provided in Annex 1.

Other data sources, like Nigeria’s labor force survey, do not collect their data in a continuous or regular manner, making it difficult to consider changes over time, especially given the extent of seasonality in agricultural activities.

Section 1. A job-market crisis before the crisis

Even before COVID-19, ensuring there were enough jobs² for Nigeria’s youth was already an urgent concern. Assuming that the *share* of young people working remained the same as just before the COVID-19 crisis, about 30.8 million Nigerian youth aged 15-29³ were projected to need jobs in 2021.⁴ If anything, the scale of the jobs challenge could be even larger following the COVID-19 crisis: as Section 3 demonstrates, economic crises can lead a larger share of young Nigerians to seek work rather than remaining in school. Absent any reforms or large structural changes – and thus assuming that the shares of young people engaged in different jobs also remained the same – around 15.1 million youth (about half) would be engaged in household agriculture and about 9.9 million would be engaged in non-farm household enterprises, with just 3.0 million holding wage jobs.⁵ In 2030, the estimated number of youth needing jobs will increase to 40.2 million, with 19.7 million engaging in household agriculture, 13.0 million engaging in non-farm household enterprises, and 3.9 million holding wage jobs.

Nigeria’s young demographics

The sheer scale of Nigeria’s youth jobs challenge is a natural consequence of the country’s very young population structure. Over two-thirds of Nigerians are under 30 (Figure 1). Moreover, this young population structure has remained largely unchanged since at least 2000 and is projected to persist through 2030 with even greater absolute population size. As absolute population size has increased while the age structure remains unchanged, greater numbers of youth are entering the labor market compared with previous decades.⁶ The mechanical rise in the number of young job seekers will continue if the share of youth seeking work does not change.

² Key definitions, including what counts as a job, are taken from World Bank (2015) and outlined in Annex 1.

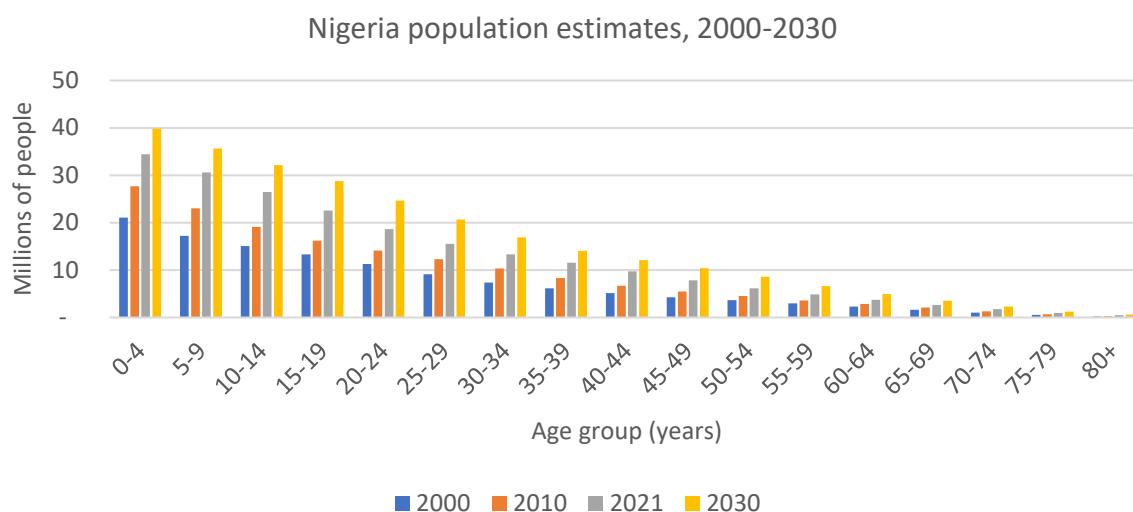
³ In this brief, unless otherwise specified, the terms “youth” and “young people” refers to those aged 15-29 years.

⁴ These calculations take the projected population estimates from the World Bank DataBank – which suggest there were around 56.7 million 15-29-year-olds in Nigeria in 2021 – and the shares of 15-29-year-olds who are working and engaged in different types of jobs according to the 2018/19 GHS (see Figure 3). It is assumed that the shares of young people working and engaged in different types of jobs remain the same while the population increases.

⁵ The number of young people projected to work as trainees or apprentices is not reported.

⁶ Alternative data from the US Census International Database, reported in Figure 37 in Annex 3, suggest that about 7 in 10 Nigerians are under age 30 and that the country’s population structure has remained largely unchanged since 2000, in line, with World Bank DataBank’s estimates. Using those population numbers gives an estimate of 33.2 million youth aged 15-29 needing jobs in 2021.

Figure 1. A “youth bulge” that is not going away



Source: World Bank DataBank (for population estimates and projections) and World Bank estimates.

Young people comprise a large share of the population across Sub-Saharan Africa, but the size and persistence of Nigeria’s youth bulge sets it apart from other countries. Young people make up a much larger share of the working-age⁷ population in Sub-Saharan Africa as a whole compared to any other region in the world (Fox and Gandhi 2021). Yet this masks important variation *within* Sub-Saharan Africa. Given declining fertility rates, the youth share of the working-age population has already peaked and is steadily dropping in key regional comparators like Ethiopia, Ghana, and Kenya. Thus, with the share of young people in the population projected to remain fairly constant in Nigeria (as Figure 1 demonstrates), the country’s demographic challenge is starker than many of its neighbors.

The ongoing COVID-19 crisis could intensify this jobs challenge, as these estimates of job shortages most likely represent a lower bound. This brief provides evidence that youth increase their rates of working in response to negative economic shocks. This, in turn, would further increase the number of young Nigerians seeking jobs.

Section 2. A long-standing pattern of informal and precarious work

Most jobs in Nigeria are informal and precarious, and do not allow individuals to make enough income to rise and stay out of poverty. Indeed, even before the COVID-19 crisis about 4 in 10 Nigerians lived below the national poverty line, and a further 1 in 4 were vulnerable to falling into poverty (World Bank 2020). This section provides descriptive evidence on Nigeria’s labor market prior to COVID-19, which emphasizes the informal and precarious nature of most people’s jobs and the long-standing nature of this challenge. Box 2 explains how this section follows the International Labor Organization (ILO) definitions of informality and precarity, describing how these characteristics can be measured using the GHS and NLPS data available for Nigeria.

⁷ Working age encompasses people aged 15 to 64 years old.

Box 2: Defining precarious work in Nigeria

The International Labour Organization (ILO) defines precarious work as possessing the following characteristics: low paid, especially if associated with earnings that are at or below the poverty level and volatile; insecure, with uncertainty regarding the number of hours of work available, or regarding the continuity of employment, or regarding the risk of job loss; minimal worker control, such that the worker, either individually or collectively, has no say about their working conditions, wages, or the pace of work; and unprotected, meaning that the work is not protected by law or collective agreements with respect to occupational safety and health, social protection, discrimination, or other rights normally provided to workers in an employment relationship (ILO 2016). Another way to describe a precarious work situation is one in which a worker bears the risks associated with the job, rather than the enterprise or firm that is hiring the worker.

In the Nigerian context, this definition of precarious work has significant overlap with informal work; household enterprises are typically informal, and the work is thus unprotected by law or collective agreements. Annex 1 discusses the definition of informal work in Nigeria in more detail.

The main proxies of precarity used in this brief – which are all available in the GHS and NLPS – are: job type, job sector, and hours worked.

Job type: The major job types measured in the GHS and NLPS include work in household agriculture, work in household non-farm enterprises, work as a trainee or apprentice, and wage work. Household agriculture and non-farm household enterprises may be more precarious as they are small scale and unprotected. A range of evidence on agriculture in Nigeria suggests that farms are not commercialized or well linked to markets and access to key inputs may be constrained (Oseni and Winters 2009, FAO 2018, Ecker and Hatzenbuehler 2021). In contrast, wage employment jobs tend to offer lower earnings risk – even if they have informal contractual arrangements – and at least potential opportunities for better working conditions, such as paid overtime, paid leave, and social insurance (Fox and Gandhi 2021). Wage jobs may also provide the foundations for *careers* requiring a longer-term commitment to the labor market and offering advancement opportunities (Goldin 2006).

Job sector: Information on job sector may also help characterize precariousness. For example, seasonality can render agricultural incomes insecure, while non-farm enterprises engaged in retail and trading – or commerce – may be more likely to be small scale with their owners bearing the risks associated with their business activities.

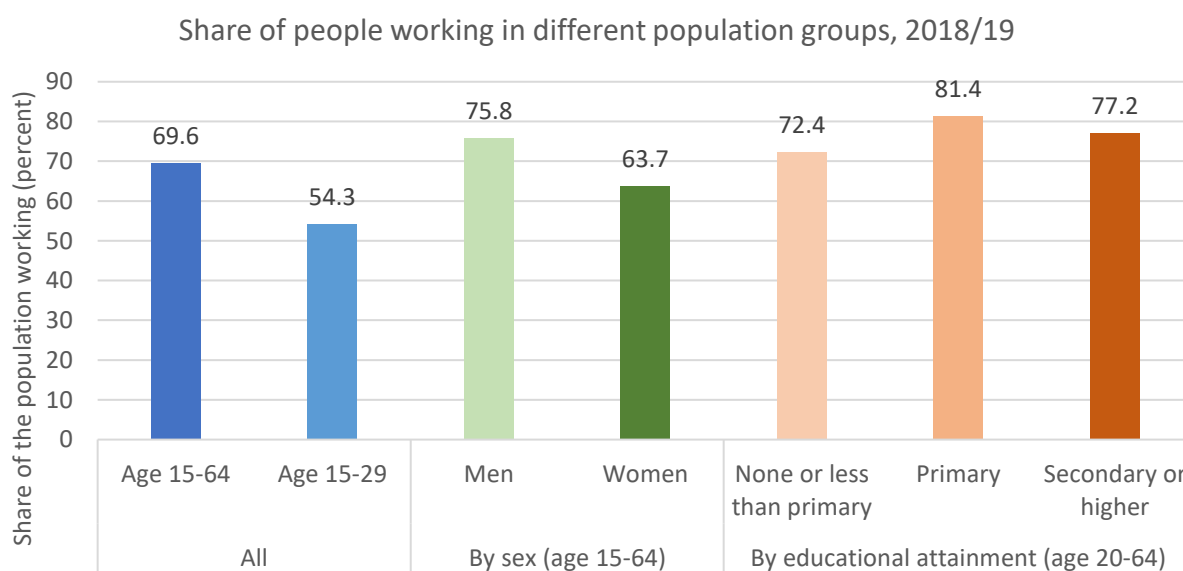
Hours worked: Work that is insecure, volatile, and unprotected – common in household agriculture and non-farm household enterprises – often does not provide enough hours of work to enable the worker to earn enough income.

Direct evidence on productivity and earnings, which can be compared across different job types and sectors, is not available in the GHS or NLPS. However, it is possible to verify which job types and sectors are associated with lower household *consumption*, and hence a greater chance of being in poverty. Jobs offering less opportunity to escape poverty are likely to be more precarious.

Many people working – but not in good jobs

Before the COVID-19 crisis, more than two-thirds of Nigeria’s working-age population was working. Averaged across the two agricultural seasons,⁸ about 69.6 percent of the working-age population was working in 2018/19 (Figure 2). These relatively high participation rates reflect the prevalence of subsistence work in agriculture or non-farm enterprises, combined with the fact that most people lack access to private or public safety nets and therefore cannot afford to be unemployed: this is consistent with evidence from across Sub-Saharan Africa (Fox and Gandhi 2021). There were, however, some important differences across different segments of the population. Unsurprisingly, working rates were lower among youth; many young people had not transitioned fully from school to work. The share of people working also had an inverted-U-shaped relationship with education, being higher among those with primary education than both those with less than primary education *and* those with at least secondary education. Finally, the share of men who were working – about 75.8 percent – was significantly higher than the share of women who were working – about 63.7 percent. Notwithstanding these differences, looking at working rates alone does not give adequate information on the state of the labor market. Additional data, such as job characteristics and hours worked, provide crucial evidence on whether jobs are precarious or productive – that is, whether they afford an opportunity to lift people out of poverty.

Figure 2. High working rates before COVID-19



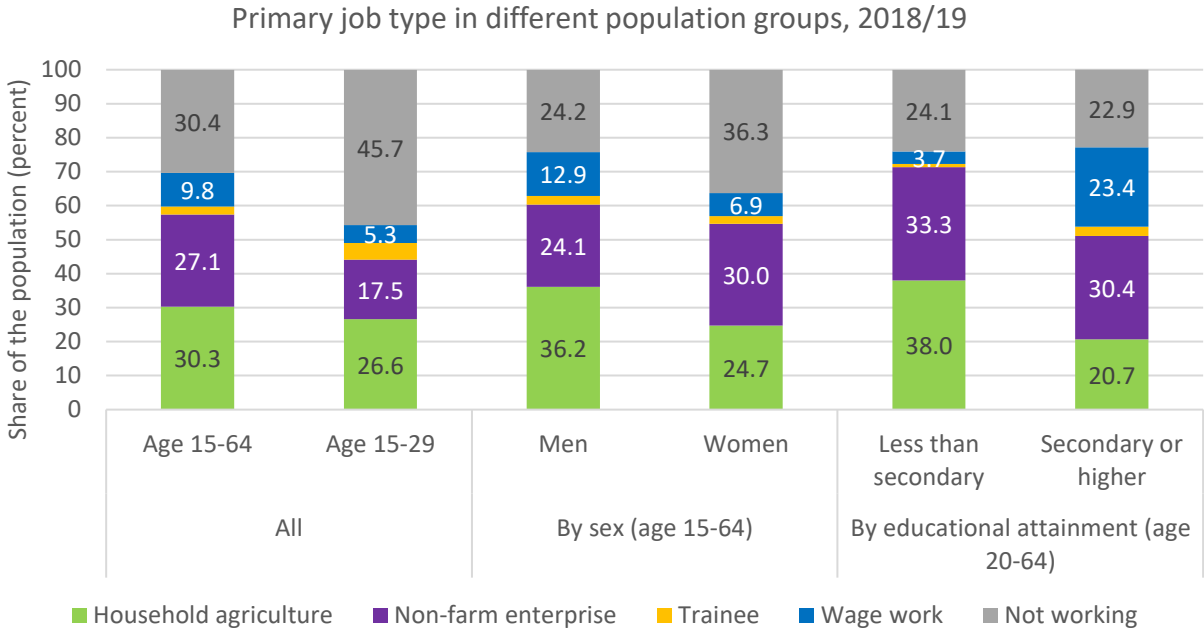
Source: 2018/19 GHS and World Bank estimates.

Notes: Estimates averaged across post-planting and post-harvest visits. Sample for this figure (and all figures with only 2018/19 data) is limited to those in the specified age range with non-missing information on sex, age, and education.

⁸ Since agriculture plays a large role in the Nigerian labor market and is highly seasonal, GHS data were collected during two agricultural seasons for each of the survey’s four waves. One set of data is gathered during the “post-planting” period, roughly July-September, and one during the “post-harvest” period, roughly January-February of the next calendar year. To simplify the analysis, this brief will typically average labor market outcomes of the post-planting and post-harvest visits for each wave.

Pre-COVID data on job types show that most Nigerian workers were engaged in farm or non-farm household enterprises. Some 57.4 percent of working-age Nigerians were primarily engaged in non-farm household enterprises or household agriculture in 2018/19 (Figure 3). As these types of jobs are typically small scale, unprotected, and potentially subject to seasonality, they may be more precarious (Box 2). Just 9.8 percent of the working-age population was engaged in wage work. This mirrors evidence from across Sub-Saharan Africa – while wage work may offer greater income security, in-work benefits, and potentially opportunities for building a more long-term and stable career, it remains rare across the region (Fox and Gandhi 2021).

Figure 3. High prevalence of work in household farms and non-farm household enterprises across population groups



Source: 2018/19 GHS and World Bank estimates.
 Notes: Estimates focus on primary job, defined as the job in which the individual worked the most hours. Estimates averaged across post-planting and post-harvest visits. Education sub-groups focus on cohorts aged 20-64, because almost all secondary education, if ever completed, is completed before age 20. Sample for this figure (and all figures with only 2018/19 data) is limited to those in the specified age range with non-missing information on sex, age, and education.

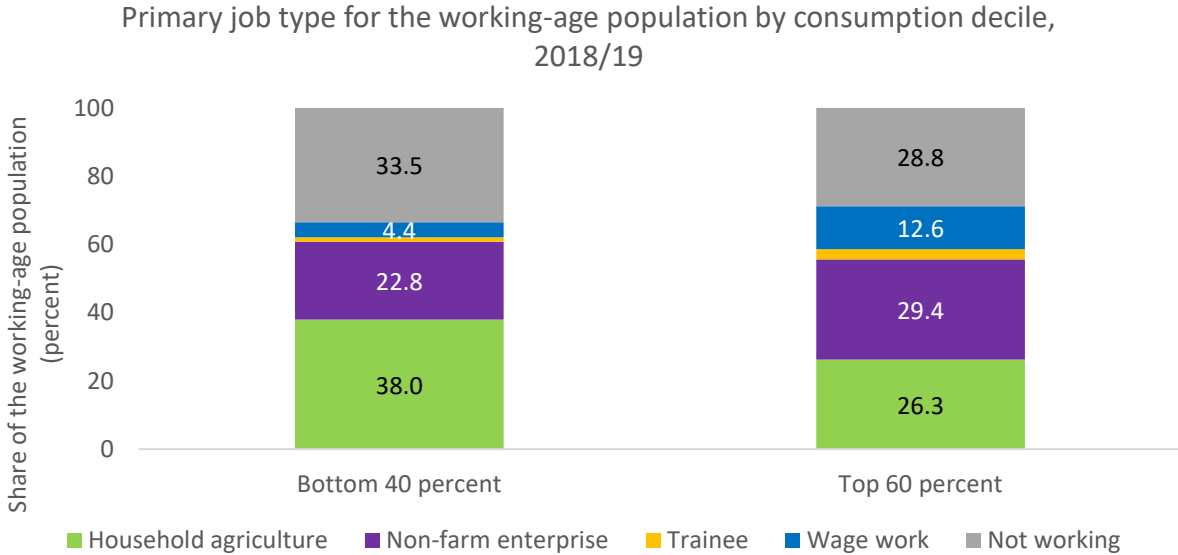
There were important differences in job types across gender and education levels. Men were more likely to be working in household agriculture and wage work, while women were more likely to be engaged in non-farm household enterprises in 2018/19 (Figure 3). In addition, less-educated Nigerians were more likely to work in household agriculture or non-farm household enterprises, while the more educated were far more likely to be doing wage work.

Young people were especially likely to engage in household agriculture and non-farm household enterprise jobs. Whereas 9.8 percent of the working-age population (14.1 percent of those who were working) engaged in wage work, just 5.3 percent of the youth population (9.7 percent of those who were

working) were engaged in wage work in 2018/19 (Figure 3). On average, working youth were also over-represented in household agriculture and were less likely than the full working-age population to engage in non-farm household enterprises. Yet this masks important gender differences among young people. Working youth’s overrepresentation in household agriculture was mainly driven by young men: 56.1 percent of young men who were working were engaged in household agriculture, compared with 39.9 percent of young women who were working. Conversely, young women who were working were about as likely as the full working-age population to engage in non-farm household enterprises: 40.8 percent of young women who were working were in non-farm household enterprises compared with 25.5 percent of young men who were working (and 39.0 percent of all workers).

Comparing across the consumption distribution reinforces the notion that work in household enterprises – especially household farms – may be more precarious. Individuals from households in the bottom 40 percent of the consumption distribution were much more likely than those in the top 60 percent of the consumption distribution to be working in household agriculture in 2018/19 (Figure 4).⁹ By contrast, individuals in the top 60 were more than three times as likely as those in the bottom 40 to hold wage jobs. While not a direct measure of productivity and earnings, these consumption data suggest that jobs in household enterprises are less able to generate the incomes required to lift households out of poverty.

Figure 4. Household agriculture was more prevalent among poorer households while wage work was more prevalent among richer households



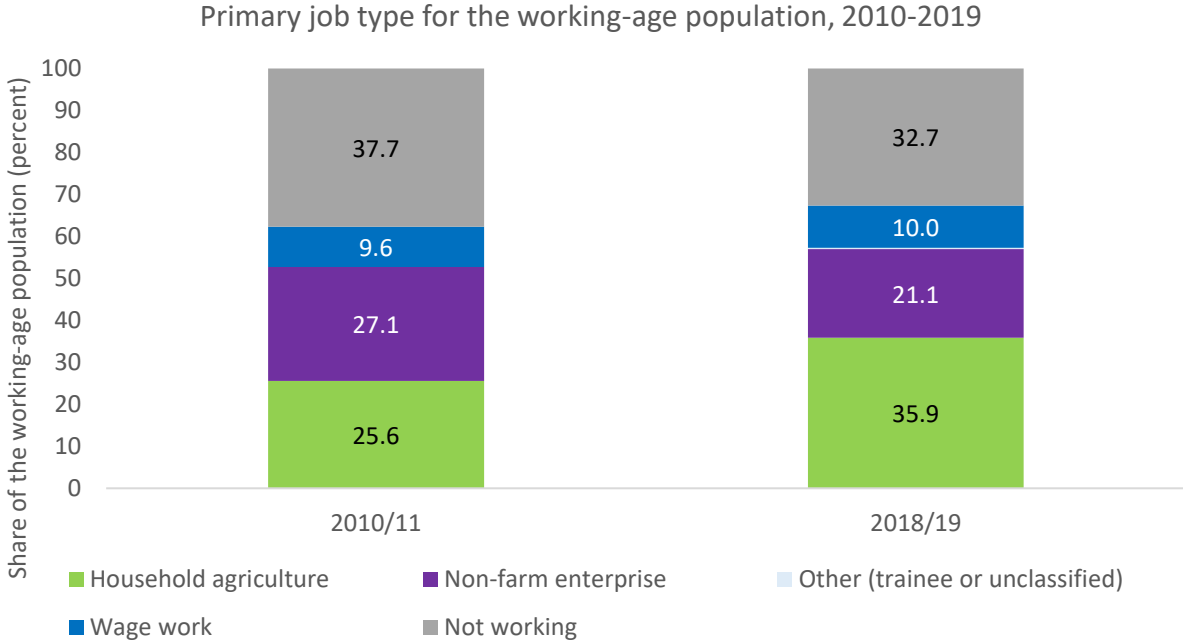
Source: 2018/19 GHS and World Bank estimates.
 Notes: Estimates focus on primary job, defined as the job in which the individual worked the most hours. Estimates averaged across post-planting and post-harvest visits. Sample for this figure (and all figures with only 2018/19 data) is limited to those in the specified age range with non-missing information on sex, age, and education.

⁹ In Nigeria, the bottom 40 percent of the consumption distribution approximately captures those who live below the national poverty line. See NBS (2020) for further details.

The precarity of agriculture also resonates with other direct evidence on farming in Nigeria. Agricultural commercialization remained rare in the decade before COVID-19: despite being relatively well diversified among different food crops, only around 5 percent of farm households cultivated any cash crops (Ecker and Hatzenbuehler 2021). Additionally, only around a quarter of Nigerian farms sell their agricultural products, on average (FAO 2018). Constraints on access to key inputs – such as seeds and fertilizers – may limit agricultural productivity (Oseni and Winters 2009). This, in turn, would constrain household agriculture’s capacity to lift households out of poverty.

Work in small-scale enterprises remained prevalent – and if anything became more widespread – in the 10 years before COVID-19. Typically, structural transformation would decrease the share of workers engaged in agriculture over time. Yet, tracing the evolution of job types between 2010 and 2019, the share of working-age Nigerians engaged in household agriculture actually *increased*, from 25.6 to 35.9 percent (Figure 5). Over the same period, the share of Nigerians engaged in wage work remained virtually the same, hovering around 10 percent.

Figure 5. The prevalence of precarious work did not improve in the decade before COVID-19



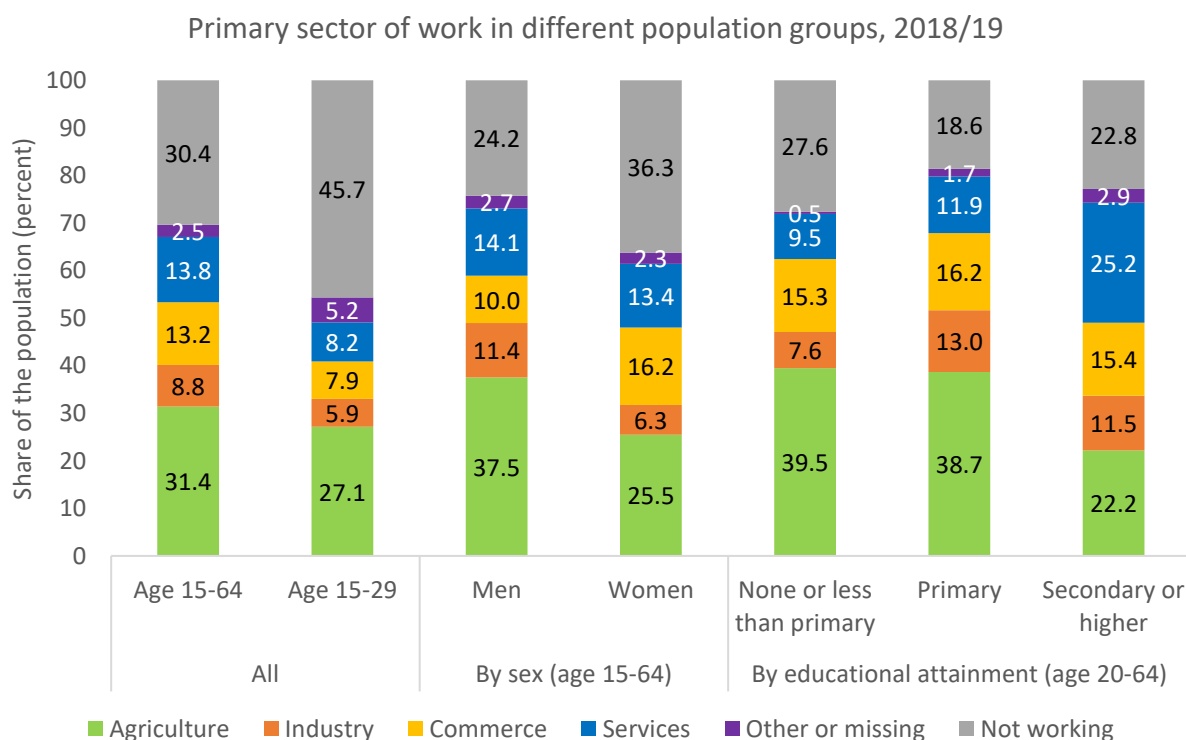
Source: GHS and World Bank estimates.
 Notes: Since information on hours worked is not available in earlier GHS waves, an alternative hierarchical definition of the primary job is used to classify working individuals into job type which prioritizes wage work, then household agriculture, then non-farm household enterprises, and trainees in that order. Estimates averaged across post-planting and post-harvest visits. The “Other” categories include trainees from the alternative hierarchical definition and working individuals who are not classified in the alternative definition. Sample restricted to individuals with non-missing observations of working status, age, sex, and education across all waves of the GHS, so results differ from figures focusing only on 2018/19.

A preponderance of jobs in precarious sectors

Agriculture, services, and commerce are the main sectors in which people work. Among the working-age population, almost 9 in 10 working individuals had primary jobs in agriculture (which comprises not

just household agriculture but also any wage workers or other activities linked to agriculture), commerce (retail and trading activities), or services (Figure 6). About 45.1 percent of jobs were in agriculture, 19.0 percent of jobs were in commerce, and 19.8 percent of jobs were in services. Among working youth, an even higher share worked in agriculture. There were also substantial gender differences: men were more likely to engage in agriculture, while women were more likely to be engaged in commerce. Additionally, individuals with higher levels of education were less likely to work in agriculture or commerce, engaging instead in industry and other service sector activities.

Figure 6. A high share of jobs were in agriculture, commerce, and services

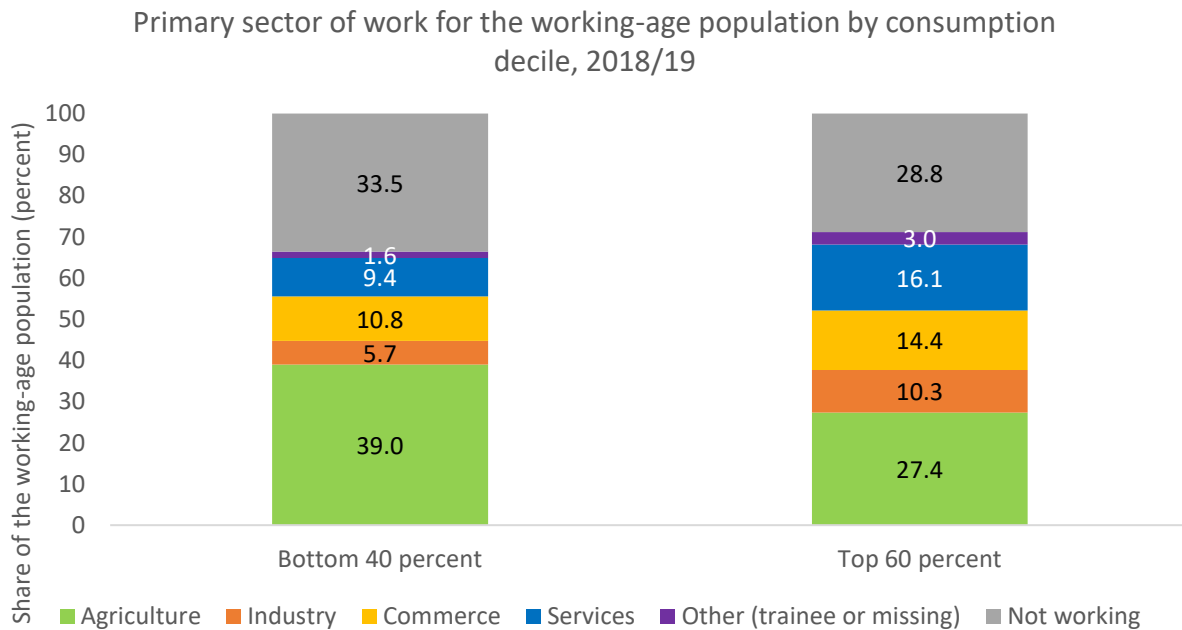


Source: 2018/19 GHS and World Bank estimates.

Notes: Estimates focus on primary job, defined as the job in which the individual worked the most hours. Estimates averaged across post-planting and post-harvest visits. Education sub-groups focus on cohorts aged 20-64, because almost all secondary education, if ever completed, is completed before age 20. Sample for this figure (and all figures with only 2018/19 data) is limited to those in the specified age range with non-missing information on sex, age, and education. Industry includes Mining, Manufacturing, Utilities, Construction, Postal/Transport; Services include Professional and Technical Activities, Public Administration, Education, Health, Personal Services.

Individuals from poorer households were substantially more likely to engage in agriculture, suggesting that such work is more precarious. In line with the results on job type, a much larger share of Nigerians in the bottom 40 percent of the consumption distribution worked in the agricultural sector compared to the top 60 percent of the consumption distribution (39.0 percent versus 27.4 percent; Figure 7). This, in turn, means the share of people engaged in industry, commerce, and services was squeezed lower for those in the bottom 40 percent of the consumption distribution compared to the top 60 percent.

Figure 7. Work in the agricultural sector was concentrated among poorer households

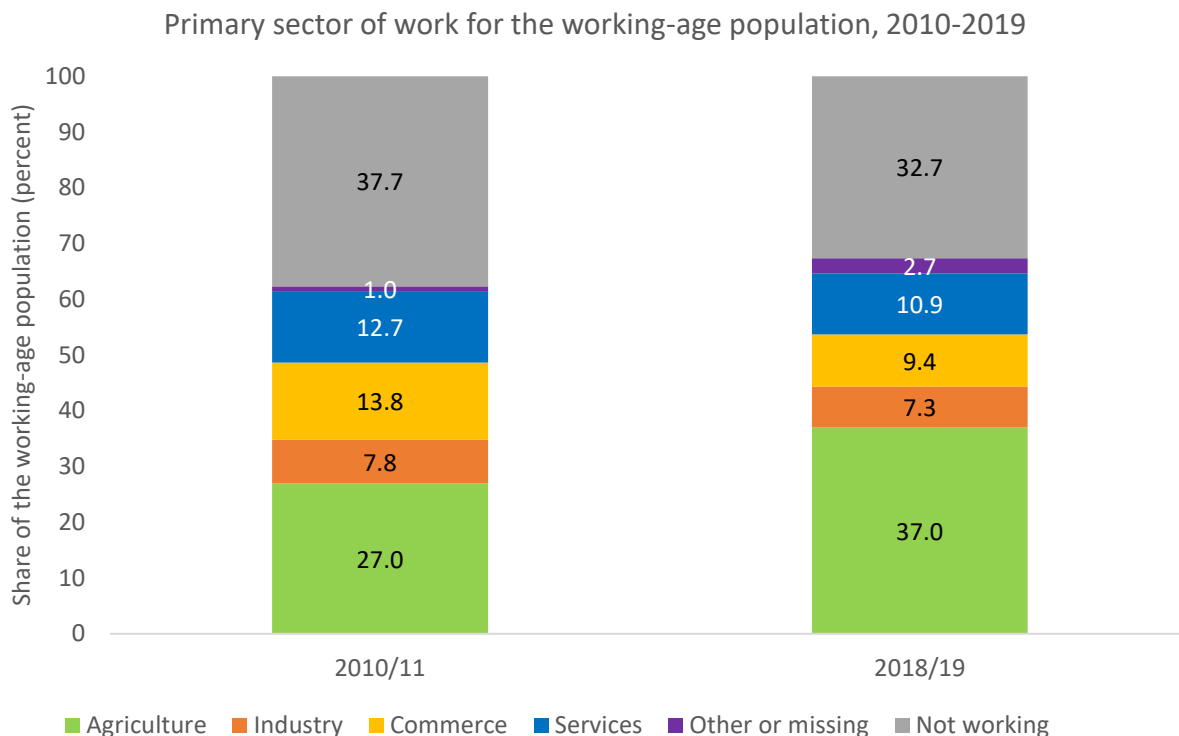


Source: 2018/19 GHS and World Bank estimates.

Notes: Estimates focus on primary job, defined as the job in which the individual worked the most hours. Estimates averaged across post-planting and post-harvest visits. Sample for this figure (and all figures with only 2018/19 data) is limited to those in the specified age range with non-missing information on sex, age, and education. Estimates averaged across post-planting and post-harvest visits. Industry includes Mining, Manufacturing, Utilities, Construction, Postal/Transport; Services include Professional and Technical Activities, Public Administration, Education, Health, Personal Services.

The share of working-age Nigerians engaged in agriculture increased over the decade prior to the pandemic. The share of workers engaged in agriculture rose from 27.0 percent to 37.0 percent between 2010/11 and 2018/19, while the shares working in industry and services decreased (Figure 8). This provides further evidence that structural transformation has been in reverse in Nigeria, and it shows that informality and precarity in the labor market has proliferated. The role of two crises, the 2016 oil-price recession and the ongoing COVID-19 crisis, in shaping these changes in the labor market will be explored in more detail in Section 4.

Figure 8. Structural transformation in reverse, 2010-2019: more workers in agriculture, fewer in services and industry



Source: GHS and World Bank estimates.

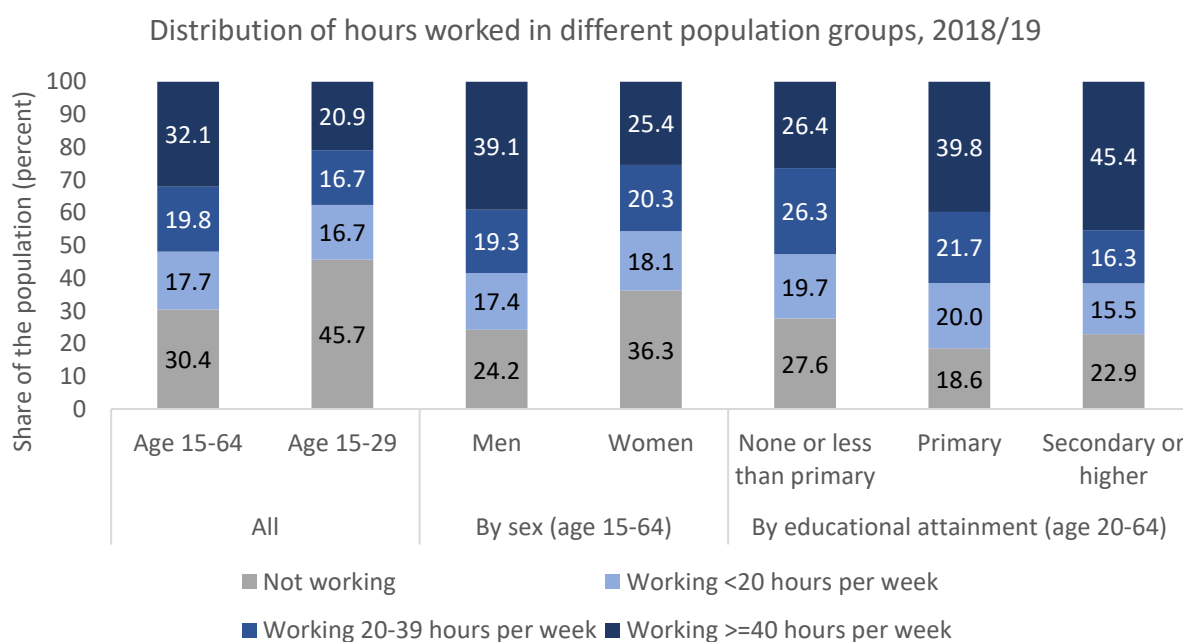
Notes: Since information on hours worked is not available in earlier GHS waves, an alternative hierarchical definition of the primary job is used, which prioritizes wage work, then household agriculture, then non-farm household enterprises, in that order. Estimates averaged across post-planting and post-harvest visits. Other or missing includes individuals who are identified as being in a sector explicitly named “Other” and working individuals with missing information on sector of work. Sample restricted to individuals with non-missing observations of working status, age, sex, and education across all waves of the GHS, so results differ from figures focusing only on 2018/19. Industry includes Mining, Manufacturing, Utilities, Construction, Postal/Transport industries; services include Professional and Technical Activities, Public Administration, Education, Health, Personal Services.

Many workers were underemployed

Pre-pandemic, a large share of working individuals worked less than 40 hours per week; this share was higher among youth, women, and those with lower levels of education. Among working-age individuals, a significant portion – some 37.5 percent – were working less than 40 hours a week in 2018/19 (Figure 9). Since nearly a third of the working-age population is not working, this means that more than half of those who were working worked less than 40 hours per week. Certain sub-groups were more likely to work less than 40 hours a week. Concentrating on those who work, groups relatively more likely to be working under 40 hours a week included: younger people, women, and those with lower levels of education. About 60 percent of working youth and working women worked less than 40 hours per week, a significantly larger share than among non-youth and men, respectively. The fact that working women worked fewer

hours than working men may partly reflect the challenge of juggling work and household responsibilities.¹⁰ Similarly, 63.6 percent of working individuals with less than primary education were working less than 40 hours per week, a larger relative share than among people with higher educational attainment.¹¹ Nonetheless, even among those with secondary attainment or greater, a full 41.2 percent of working individuals still worked less than 40 hours per week. Insofar as jobs in which fewer hours are worked are more precarious, these patterns suggest that youth, women, and the less educated were more likely to be in precarious working situations. This is consistent with the information on job types and sectors showing more widespread precarity among these sub-groups.

Figure 9. Youth, women, and those with lower educational attainment were more likely to work less than 40 hours per week



Source: 2018/19 GHS and World Bank estimates.

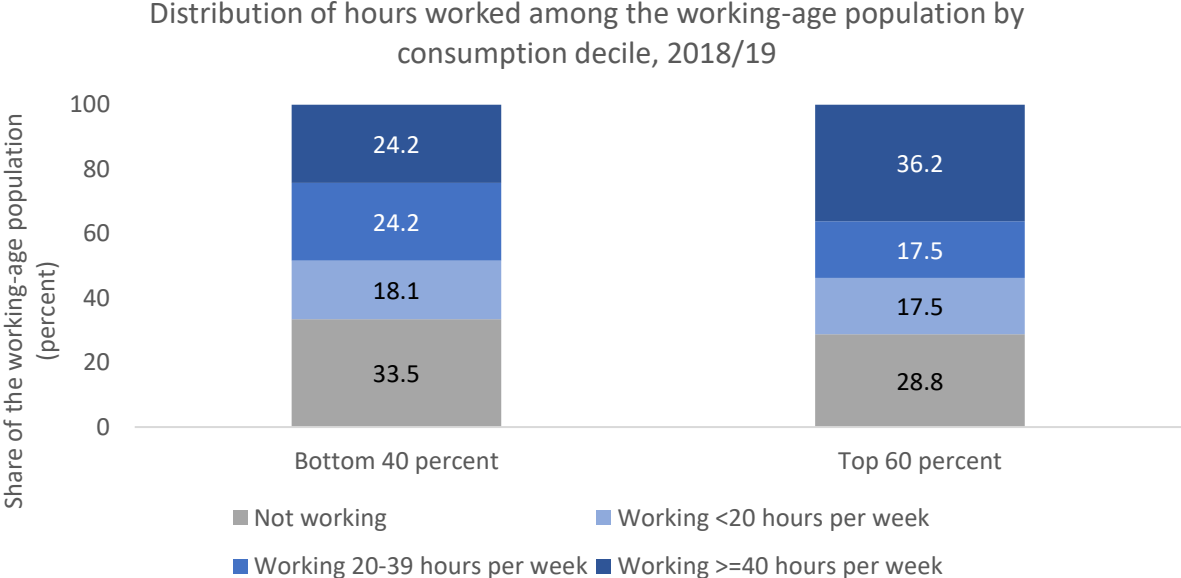
Notes: Estimates averaged across post-planting and post-harvest visits. Education sub-groups focus on cohorts aged 20-64, because almost all secondary education, if ever completed, is completed before age 20. Sample for this figure (and all figures with only 2018/19 data) is limited to those in the specified age range with non-missing information on sex, age, and education.

¹⁰ Early marriage – which is widespread, especially in rural areas – and family formation play a crucial role in determining women’s labor market outcomes in Nigeria (Johansson de Silva 2016). This is apparent even in the 2019/19 GHS data on hours worked: about 64.6 percent of working women in households with children under 5 worked less than 40 hours per week, compared with 56.5 percent of working women in households without children under 5. For working men, by contrast, there was very little difference between those in households with and without children under 5 in terms of whether they worked less than 40 hours per week. Nevertheless, regardless of whether children under 5 were present in the household, working women were still more likely to work fewer hours than working men.

¹¹ The breakdowns by education focus on those aged 20-64 years, because by age 20, most individuals who would ever finish secondary education would have finished.

People from poorer households were more likely to be underemployed, suggesting that working fewer hours is a marker of labor market precarity. Around 42.3 percent of people from households in the bottom 40 percent of the consumption distribution worked less than 40 hours a week, compared with 35.0 percent of those from the top 60 (Figure 10). Of those who were actually working, this means about 63.6 percent from the bottom 40 percent of the consumption distribution worked less than 40 hours a week, compared with 49.2 percent of those in the top 60.

Figure 10. More underemployment for poorer Nigerians



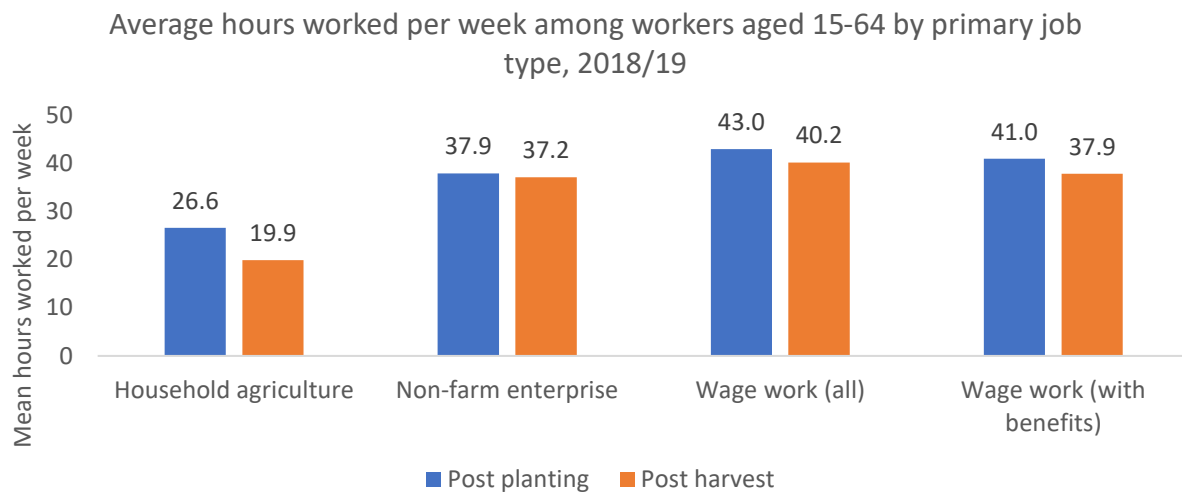
Source: 2018/19 GHS and World Bank estimates.

Notes: Estimates averaged across post-planting and post-harvest visits. Sample for this figure (and all figures with only 2018/19 data) is limited to those in the specified age range with non-missing information on sex, age, and education.

People working in more formal jobs generally worked longer hours.¹² Figure 11 shows that individuals working in wage work worked more hours per week on average in 2018/19 than those working in household agriculture or non-farm household enterprises. If these additional hours are adequately remunerated, this further suggests that wage work may be less precarious than work in farm and non-farm household enterprises (Fox and Gandhi 2021). However, those wage workers with in-work benefits – namely pensions and health insurance – worked *fewer* hours than those in wage work without benefits. This suggests that the relationship between job formality and precarity and number of hours worked is not always straightforward.

¹² For simplicity, these comparisons focus only on individuals working one type of job. Figure 38 in Annex 3 shows that about 35.6 percent of the working population aged 15-64 worked more than one job type. Nevertheless, individuals with multiple different types of job tend to work more hours, as Figure 39 in Annex 3 shows.

Figure 11. Wage work often meant more work hours per week than household agriculture or non-farm household enterprises



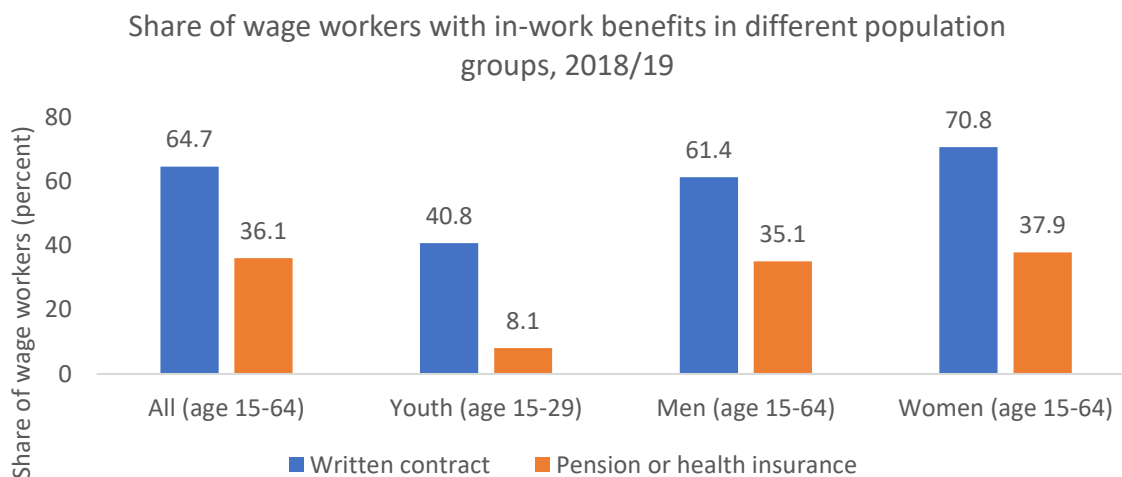
Source: 2018/19 GHS and World Bank estimates.

Notes: Chart focuses only on those individuals who report working only one job type. Wage work with benefits is defined here as wage work jobs that offer a pension or health insurance. Sample for this figure (and all figures with only 2018/19 data) is limited to those in the specified age range with non-missing information on sex, age, and education.

Even wage jobs often lacked certain markers of formality – especially for younger workers

Only a small share of wage workers had jobs with in-work benefits; this share was even smaller among young wage workers. Just 36.1 percent of wage workers in the working age population as a whole had jobs with a pension or health insurance, and this share was even smaller for young people, at just 8.1 percent of wage jobs (Figure 12). A much larger share of wage workers had written contracts (64.7 percent) but they were far from ubiquitous. Interestingly, in-work benefits appeared to be more widespread for wage-employed women than wage-employed men. However, this is likely related to sample selection, as the share of working-age women in wage employment in the first place is around half the share of working-age men (Figure 3).

Figure 12. In-work benefits were less prevalent for younger wage workers



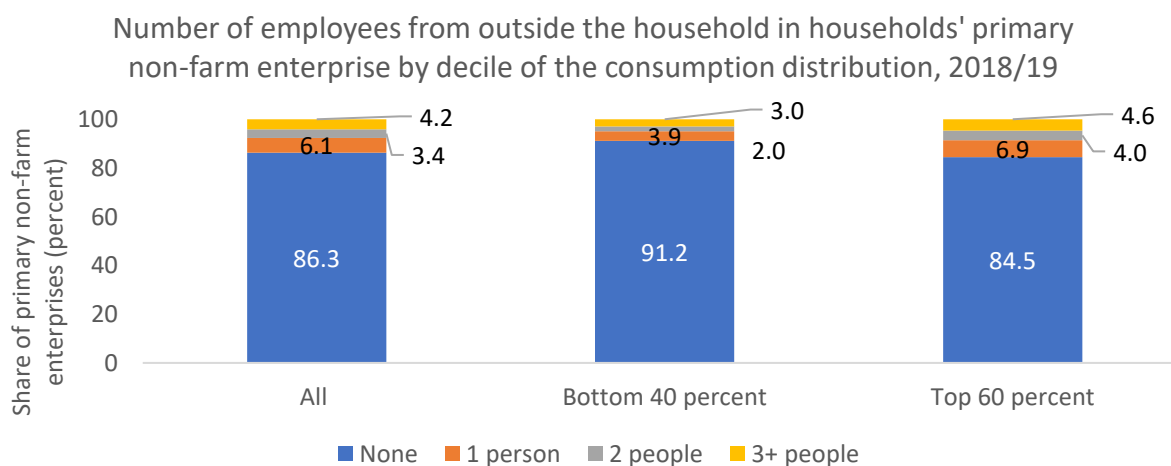
Source: 2018/19 GHS and World Bank estimates.

Notes: Estimates averaged across post-planting and post-harvest visits. The sample consists of individuals who hold any type of wage job.

Non-farm enterprises were typically very small scale

Pre-COVID data show that non-farm household enterprises in Nigeria were almost all very small, suggesting that their activities were both low productivity and precarious. About 86.3 percent of Nigeria’s non-farm household enterprises did not hire any employees from outside the household, instead relying on the unpaid labor of household members (Figure 13). Among the few enterprises that did engage outside workers, most hired only one or two. Moreover, enterprises from poor households were even less likely to have external employees; this suggests that small-scale enterprises are less able to generate the earnings required to lift people out of poverty.

Figure 13. Most non-farm household enterprises are small scale, with no external employees, especially in poor households

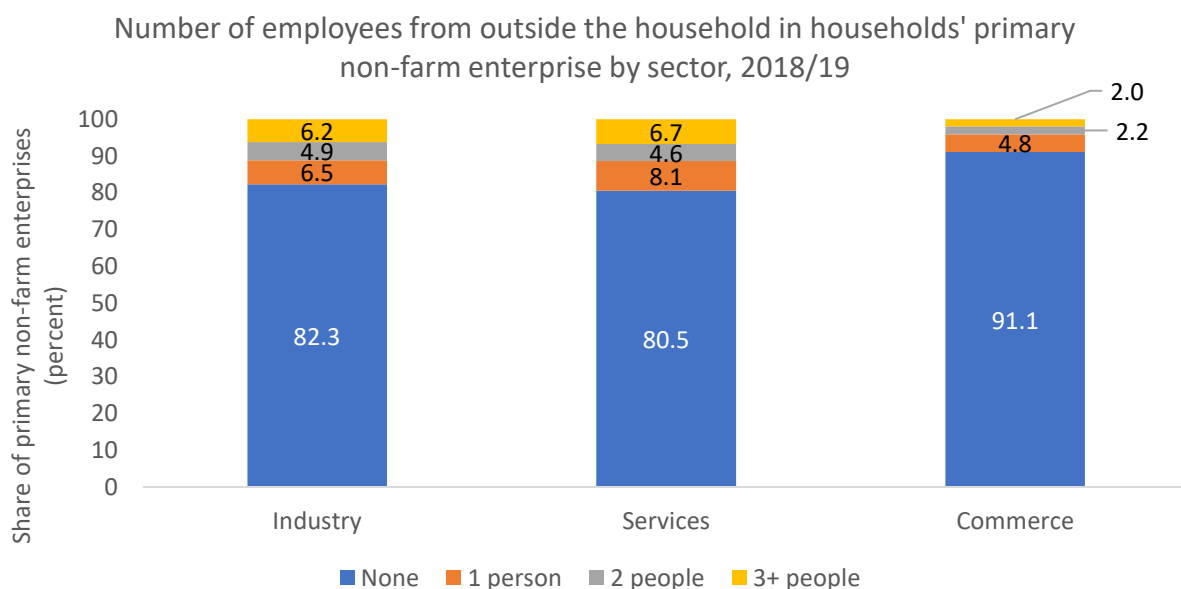


Source: 2018/19 GHS and World Bank estimates.

Notes: Estimates averaged across post-planting and post-harvest visits.

Non-farm household enterprises engaged in commerce were especially likely to be small scale. Around 91.1 percent of commerce enterprises¹³ did not employ anyone outside the household compared with 82.3 percent in industry and 80.5 percent in services (Figure 14). This suggests that these types of commerce activities may be particularly precarious.

Figure 14. Non-farm enterprises that engaged in commerce were smaller scale, on average, than those engaged in industry and services



Source: 2018/19 GHS and World Bank estimates.

Notes: Estimates averaged across post-planting and post-harvest visits. Less than 2 percent of non-farm enterprises engaged in agricultural activities, so these are not shown. Industry includes Mining, Manufacturing, Utilities, Construction, Postal/Transport; Services include Professional and Technical Activities, Public Administration, Education, Health, Personal Services.

Education did not guarantee a pathway out of precarity

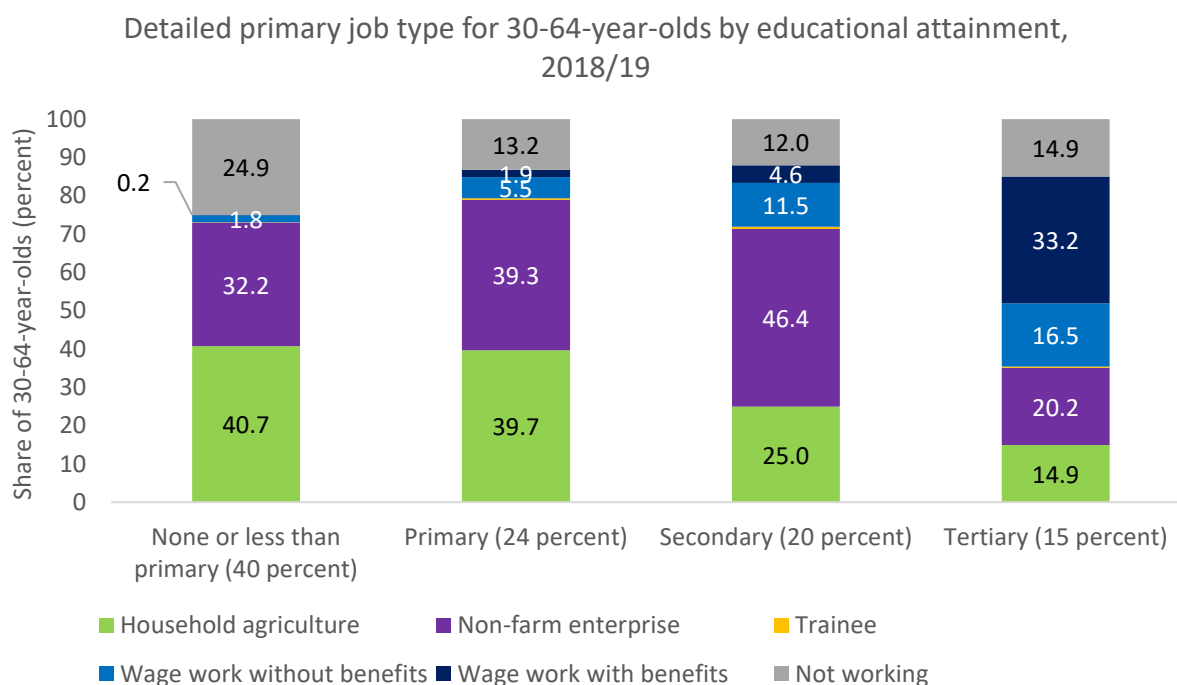
Gaining education does not assure people a wage job – those jobs that are associated with less labor market precarity. The share holding a wage job was just 16.1 percent in 2018/19 for those with secondary education, but was 49.7 percent for those who had completed tertiary education (Figure 15). For all lower educational categories, the share holding a wage job was even lower. Perhaps even more notable, even among Nigerians who had completed tertiary education, 41.2 percent of those working were still not working in wage jobs, and not all wage jobs had benefits like pensions or health insurance. This is also consistent with the finding that more-educated Nigerians were spending longer periods unemployed and searching for a job.¹⁴ This suggests that, before the COVID-19 crisis, Nigeria already faced a shortage of

¹³ Around 49.5 percent of non-farm enterprises were engaged in commerce in 2018/19. Of these, 9.6 percent were in “Wholesale and retail trade and repair of motor vehicles”, 2.9 percent were in “Wholesale trade, except of motor vehicles”, and 87.5 percent were in “Retail trade, except of motor vehicles.”

¹⁴ While higher unemployment rates among the more highly-educated may seem counter-intuitive, evidence from other countries and in this brief shows that being able to not work and take the time to search is a relative luxury;

high-quality jobs, and that the jobs landscape was not adjusting to any increase in human capital associated with rising educational attainment.

Figure 15. Low labor-market returns to secondary education



Source: 2018/19 GHS and World Bank estimates.

Notes: The percentage shown for each educational category indicates the proportion of the sample of 30-64-year-olds who were in that category. Age is restricted to over 30 years in this particular sample, unlike other samples, to capture individuals that could have finished tertiary education. Estimates focus on primary job, defined as the job in which the individual worked the most hours. Estimates averaged across post-planting and post-harvest visits. Sample for this figure (and all figures with only 2018/19 data) is limited to those in the specified age range with non-missing information on sex, age, and education.

Section 3. Leaving school, seeking work: risky trade-offs for youth in crisis times

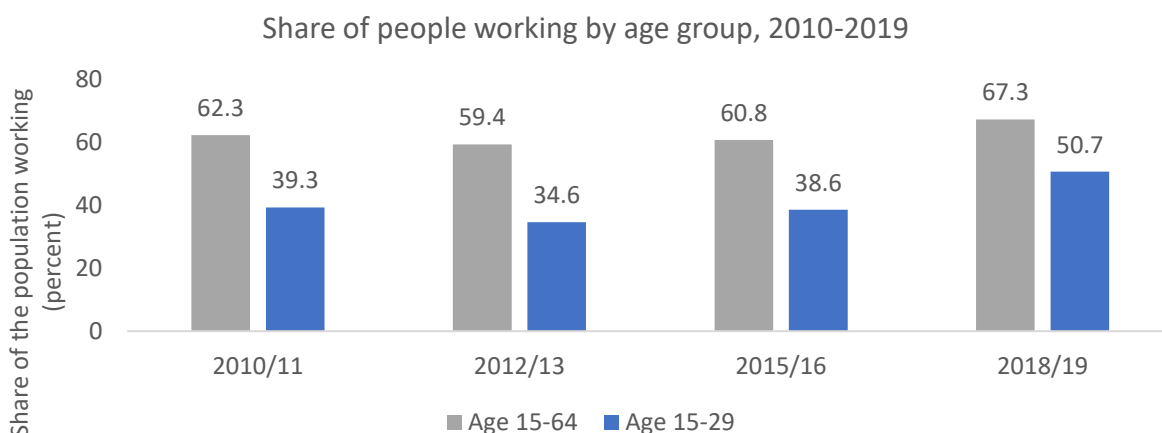
Since precarious jobs are widespread, as shown in Section 2, many Nigerian households are vulnerable to economic shocks. This section shows how people have responded to two recent shocks – Nigeria’s 2016 oil-price recession and the ongoing COVID-19 crisis. The analysis focuses in particular on the trade-off young people face during an economic downturn; specifically, between entering the labor market early versus staying in school. Learning about labor-market responses after the 2016 oil recession can offer policy insights for the current COVID-19 crisis.

when households are hit by economic shocks, they tend to work more. Thus, to the extent that more highly-educated people come from richer households, they can spend more time not working to search for better jobs.

Following the 2016 oil-price shock, many young Nigerians cut their schooling short

Overall, the share of working-age Nigerians who were working increased in response to the country's 2016 recession, especially among young people. The proportion of Nigeria's working-age population that was working increased from 60.8 percent in 2015/16 to 67.3 percent in 2018/19 (Figure 16). The post-recession rise in working rates was even more pronounced for young people: from 2015/16 to 2018/19, youth working rates increased from 38.6 to 50.7 percent, a surge of 12.1 percentage points.

Figure 16. Working rates increased after the 2016 oil recession, particularly among youth



Source: GHS and World Bank estimates.

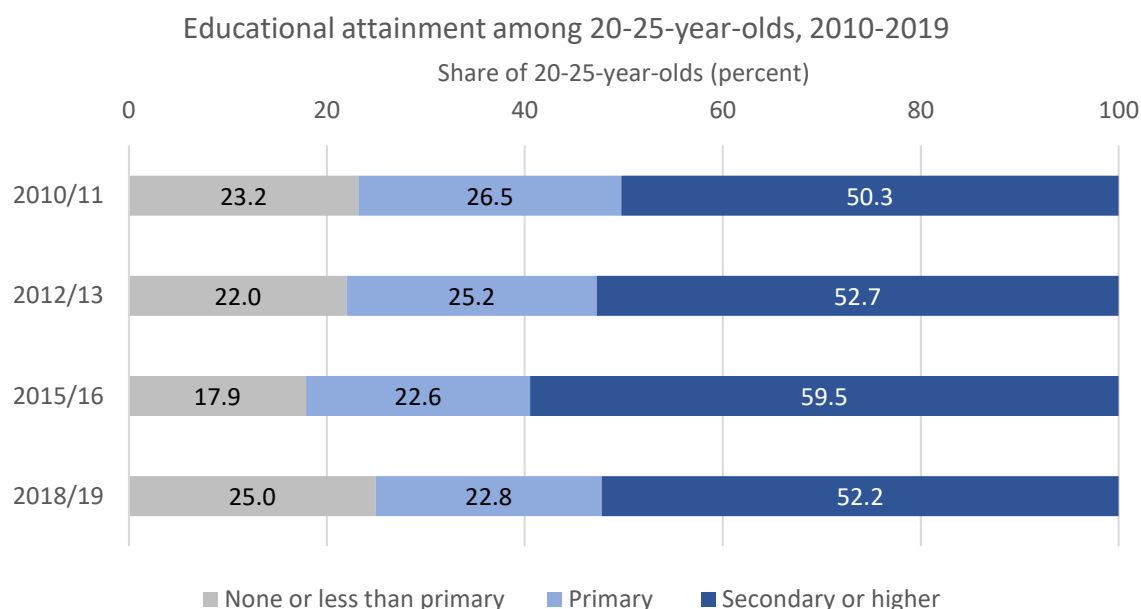
Notes: Estimates averaged across post-planting and post-harvest visits. In this figure, trainees and unclassified individuals are classified as working so that the share of people not working is consistent with previous figures. Sample restricted to individuals with non-missing observations of working status, age, sex, and education across all waves of the GHS, so results differ from figures focusing only on 2018/19.

The rise in working rates among young people following the 2016 oil recession corresponded to less time in school, accelerated labor-market entry, and hence lower attainment of secondary education. While secondary educational attainment among 20-25-year-olds increased from 2010/11 to 2015/16, it dropped substantially between 2015/16 and 2018/19 (Figure 17).¹⁵ Focusing on this age range provides an accurate picture of secondary educational attainment among young people, since almost all Nigerians who complete secondary education do so by age 20.¹⁶ This result appears to be independent of ongoing conflict shocks, which may have been occurring at the time and could also have contributed to declining educational attainment. When zones that typically experience more violence and conflict are excluded from the analysis, the drop in secondary educational attainment rates among 20-25-year-olds between 2015/16 and 2018/19 is, if anything, slightly larger (see Figure 40. in Annex 3).

¹⁵ Figure 17 suggests that the 2016 recession had an immediate impact on school dropout, but this took time to feed through fully to attainment. For example, if 16-year-olds are pushed out of education by a shock, this will not be reflected in the attainment rates of 20-25-year-olds until four years later.

¹⁶ Additional Calculations from the 2018/19 GHS show that virtually all of those who ever complete secondary or higher education complete their secondary education between the ages of 15 and 20.

Figure 17. Stocks of human capital among young people declined after 2015/16



Source: GHS and World Bank estimates.

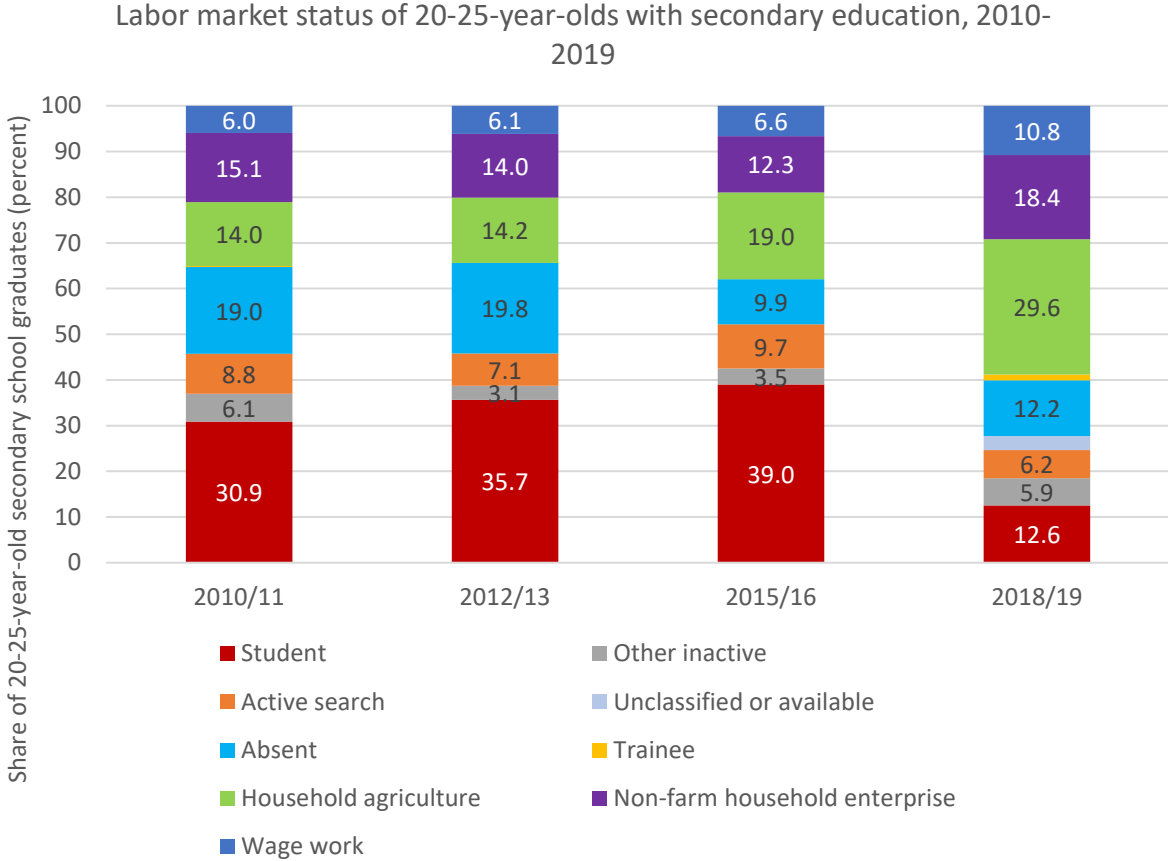
Notes: “None or less than primary” refers to individuals who have not fully attained primary education. “Primary” refers to attainment of at least full primary education but not full secondary education. “Secondary or higher” refers to attainment of senior secondary completion or higher. Chart focuses on those aged 20-25 years because almost all Nigerians who complete secondary education do so before age 20. Estimates averaged across post-planting and post-harvest visits.

That the share of 20-25-year-olds with less than primary education rose following the 2016 oil recession is likely an artifact of the sharp decline in primary enrollment that took place in the late 2000s. The drop in secondary attainment among 20-25-year-olds between 2015/16 and 2018/19 was accompanied by a 6.4-percentage point increase in the share with less than primary education, with the share who had attained primary education (but less than secondary) rising much more modestly, by 1.4 percentage points. On the face of it, this is somewhat puzzling; if individuals paused secondary education around the time of the 2016 oil recession, they should still have attained primary education. The sharp rise in the share of 20-25-year-olds with less than primary education can, however, be explained by events prior to the 2016 oil recession. Those who were aged 20-25 in 2018/19 would be making constrained decisions around primary school completion 10 (or more) years earlier, when they were aged 10-15. Given the patterns shown in Figure 17, it is therefore unsurprising that primary school enrollment dropped sharply around 2008 according to UNESCO Institute for Statistics data. Specifically, the net primary school enrollment rate fell from 70.3 to 63.4 percent between 2007 and 2008.¹⁷ Thus, the drop in secondary school attainment among 20-25-year-olds following the 2016 recession was accompanied by the legacy of patterns in primary schooling in the late 2000s.

¹⁷ See <https://data.worldbank.org/indicator/SE.PRM.NENR?locations=NG> for UNESCO Institute for Statistics data. Similar patterns emerge looking at the Nigeria Demographic and Health Survey data for 2003, 2008, and 2013 (see <https://www.statcompiler.com/en/>). The GHS data on which the remainder of the report rely cannot be extended before 2010/11.

Following the 2016 oil recession, secondary school graduates were more likely to seek work than continue their education. Whereas from 2010 to 2016 the share of 20-25-year-old secondary school graduates who were still in education increased from about 30.9 to 39.0 percent, this share subsequently contracted significantly, dropping to 12.6 percent in 2018/19 (Figure 18). Meanwhile, the share of recent secondary school graduates working in household enterprises – both agricultural and non-farm enterprises – hovered between 29.1 and 31.3 percent during the 2010-2016 period but increased to 48.0 percent in 2018/19. Similarly, the share of 20-25-year-olds engaged in wage work, which had been stable at 6-7 percent, increased to 10.8 percent in 2018/19.

Figure 18. Secondary-school graduates after the oil recession: less likely to continue their education, more likely to work in household enterprises

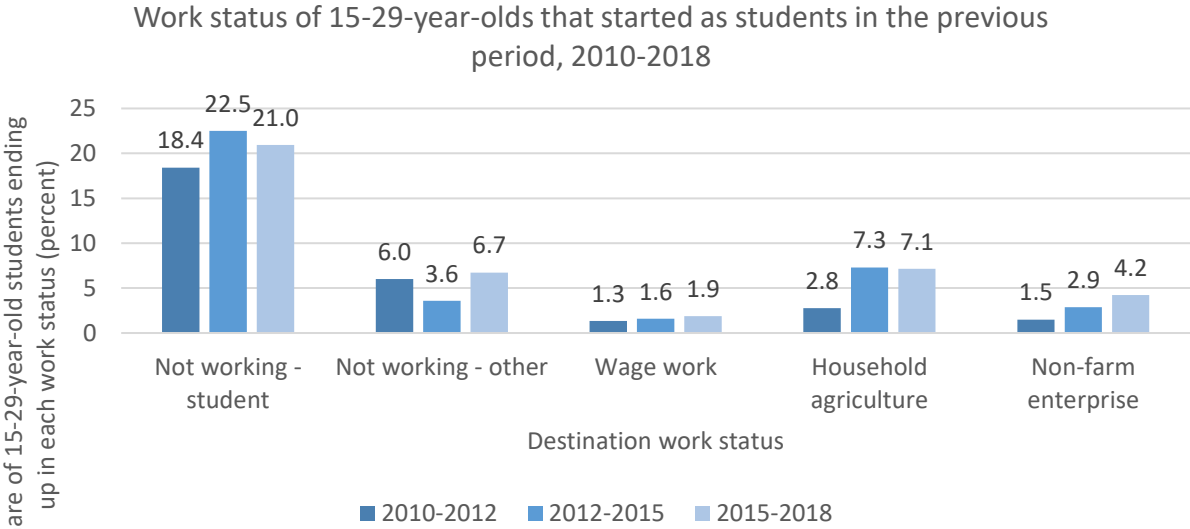


Source: GHS and World Bank estimates.

Notes: Chart focuses on those aged 20-25 years because almost all Nigerians who complete secondary education do so before age 20. Since information on hours worked is not available in earlier GHS waves, an alternative hierarchical definition of the primary job is used, which prioritizes wage work, then household agriculture, then non-farm household enterprises, in that order. Estimates averaged across post-planting and post-harvest visits. “Available” individuals are those who indicate they are available for work but are not working, not searching, not absent, and not inactive. “Unclassified” individuals are those who remain unclassified after a hierarchical classification of job status. Sample restricted to individuals with non-missing observations of working status, age, sex, and education across all waves of the GHS, so results differ from figures focusing only on 2018/19.

Transitions from school into work for all young people began increasing around the time of the 2016 oil recession. Figure 19 shows the probabilities associated with transitioning from school into different working situations. For each time period shown, a panel of individuals is created, focusing on the subsample of 15-29-year-olds who were in school in the first period. The probability of moving from schooling into household agriculture increased from 2.8 percent for the 2010-2012 period to 7.1 percent for the 2015-2018 period. Flows from schooling into non-farm household enterprises also increased. The pattern of individuals’ responding to the 2016 oil recession by reducing schooling is consistent with the observed drop in educational attainment among 20-25-year-olds, as most young people complete secondary school around ages 15-18.

Figure 19. Tough trade-offs between school and work: rising transition rates from school to the labor market after 2015/16



Source: GHS and World Bank estimates.

Notes: Estimates calculated using data from post-planting visit only. The sample for each time period consists of the subset of individuals aged 15-29 who are in school at the beginning of the period. This figure compares the probability of transitioning from student status to different working situations by the next wave.

Together, the previous three figures illustrate the difficult trade-off between education and work facing Nigerian households during times of economic crisis. In the face of a negative economic shock, compounded by rising food and commodity prices, credit-constrained households may not have the resources to continue allowing children and youth to go to school. Not only might there be direct costs associated with going to school – such as school fees, learning materials, and uniforms – but, also, households often face an opportunity cost, since children in full-time education will not be able to spend as much time helping the household earn income through supporting household agricultural and non-farm enterprise activities. As discussed below, this observed decline in schooling has long-term implications for Nigeria’s structural transformation and inclusive growth.

“Counterfactual” analysis suggests that young people’s switch into work at the expense of education stems primarily from the 2016 recession, rather than from other changes that took place between 2015 and 2019. One concern with the preceding analysis is that other factors, including demographics and

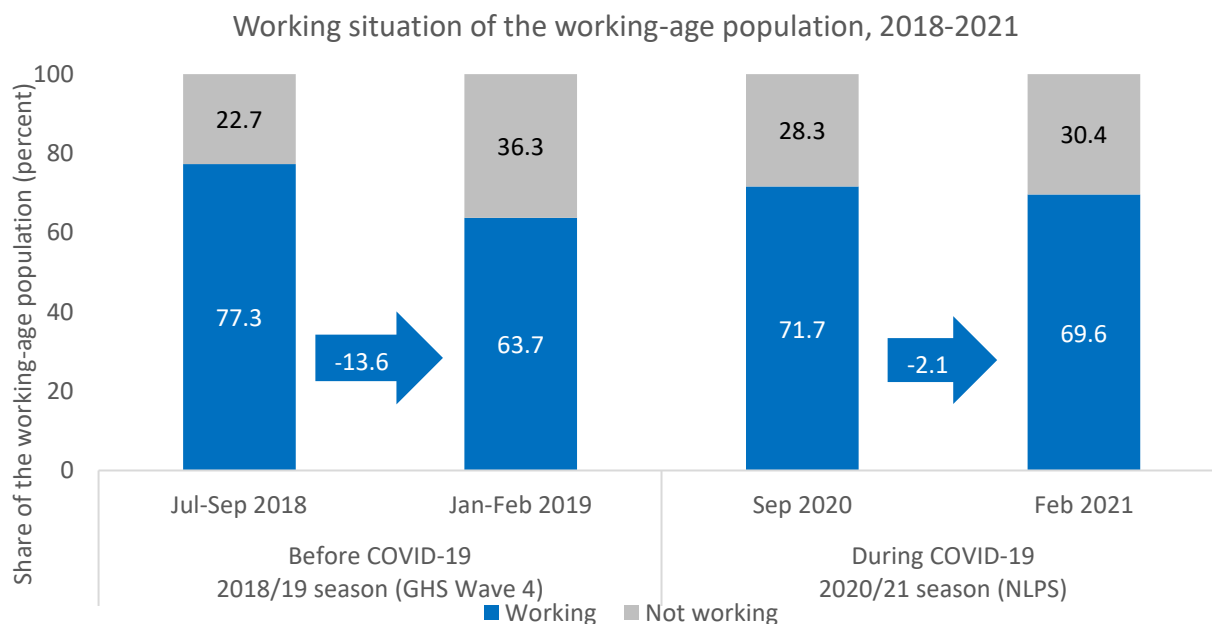
migration, may have changed independently of – but at the same time as – the oil recession, so the effects on the trade-off between working and schooling are not a product of the recession per se. However, using detailed individual-level information from the GHS makes it possible to control for these other changes in order to isolate the impact of the recession. This analysis, which is described in Annex 2, indicates that changes in observable individual characteristics, and any other unobserved characteristics that are correlated with such observed characteristics, cannot explain the large changes in education and labor market outcomes for a particular youth cohort of 20-25-year-olds. This “counterfactual” analysis therefore suggests that it was indeed the oil recession that pushed Nigerians out of school and into precarious work. In line with Figure 17, the counterfactual analysis suggests that oil recession led to around an 8-percentage point drop in the share of 20-25-year-olds reaching secondary educational attainment between 2015/16 and 2018/19. The counterfactual analysis also suggests that the oil recession increased the labor force participation rate of 20-25-year-olds in 2018/19 by as much as 20 percentage points. This reinforces the difficult trade-off between education and work facing Nigerian youth during times of economic crisis.

Higher working rates and withdrawal from education during COVID-19

More recent data show large increases in working rates during the COVID-19 crisis. This can be seen by comparing how the share of people working evolved in two agricultural cycles; one before COVID-19 and one after the pandemic hit.¹⁸ Each agricultural cycle consists of a “post-planting” season around July-September – when demand for agricultural labor would typically be higher – and a “post-harvest” season in January-February – when demand for agricultural labor would typically be lower. In the 2018/19 agricultural cycle, before COVID-19, working rates sharply decreased, from 77.3 percent in July-September 2018 to 63.7 percent in January-February 2019, a decline of some 13.6 percentage points (Figure 20). However, in the 2020/21 cycle, working rates only fell by about 2.1 percentage points, from about 71.7 percent in September 2020 to about 69.6 percent in January 2021. This seasonal decline is much lower than the corresponding pre-COVID drop, suggesting elevated working rates during the 2021 post-harvest period.

¹⁸ The two surveys had different modalities: the GHS was an in-person survey, while the NLPS was conducted over the phone. As such, within-survey changes are compared where possible, rather than directly comparing estimates from the two different surveys.

Figure 20. Higher working rates during the 2021 post-harvest season, amid COVID-19

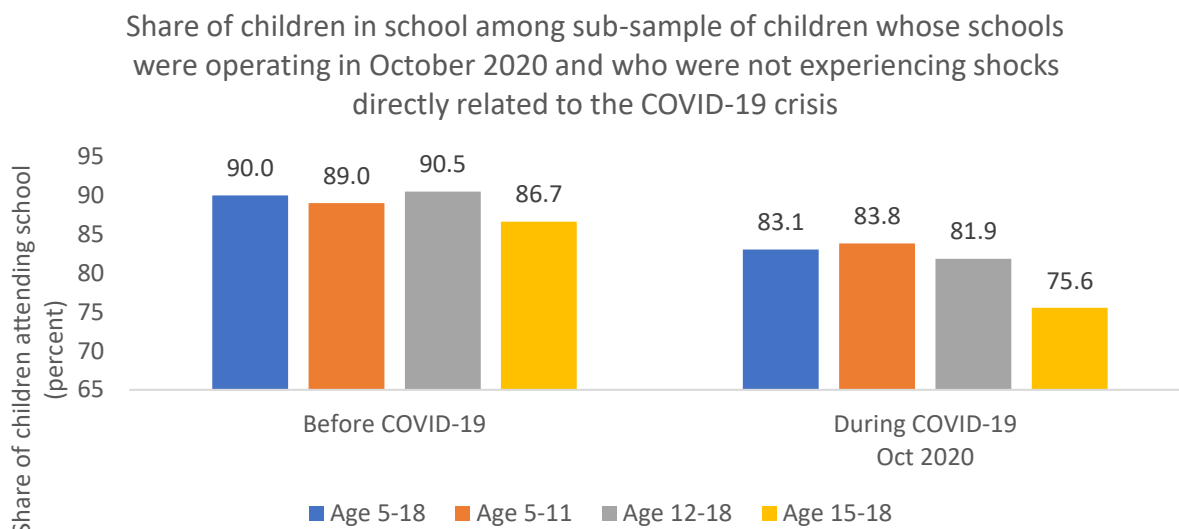


Source: 2018/19 GHS, NLPS, and World Bank estimates.

Notes: The sample is a panel of individuals observed across the relevant 2018/19 GHS visits and NLPS rounds.

The increase in working rates following the COVID-19 crisis coincides with a decrease in the share of children going to school, particularly older children. Among a sub-sample of eligible students whose schools were operating in October 2020 and who were not experiencing shocks not directly related to the COVID-19 crisis, the share of children going to school was still significantly lower in October 2020 – even after many of Nigeria’s COVID-19 lockdown restrictions were relaxed – compared with January-February 2019 (Figure 21, excerpted from Dessy et al. (2021)). While there is no way to directly measure the extent to which this decline stems from regular seasonal changes in schooling rates, as the data come from different months, it is notable that the drop in schooling rates is concentrated among older children, particularly in the 15-18 age group. Since schooling is not compulsory for this age group, it may be that older children did not return to school so they could contribute to earning income for the household.

Figure 21. An overall drop in school rates, largest among older children



Source: Excerpted from Table 2 in Dessy et al. (2021), based on GHS and NLPS.

Notes: As per Dessy et al. (2021), individuals who attributed non-attendance in October 2020 to (1) their schools still being closed, (2) still being on holiday, (3) being afraid of contracting COVID-19, and (4) waiting for admission were excluded from the sample. Individuals are classified as attending school before COVID-19 if: (1) the respondent attended school at any time during the 2019-2020 school year; (2) the respondent attended classes on-site or remotely since schools reopened; or (3) at the time of the survey the respondent attended school during the 2020-2021 academic year.

What do higher working rates tell us?

Higher working rates might seem like good news, as they could imply more income; yet they can also reflect a last-ditch coping mechanism for households during a crisis. In the Nigerian labor market, increasing working rates are likely to represent a coping mechanism to deal with negative shocks to household income, rather than a response to improving job conditions. Indeed, most Nigerians lack access to private or public safety nets, so they cannot afford to be unemployed or to spend long periods searching for good jobs. Instead, they largely engage in household agriculture and non-farm household enterprise activities, which may be precarious and informal; these jobs were widespread even before the oil recession and the COVID-19 crisis. The opportunity cost of higher working rates is particularly salient for the youth – instead of going to school and accumulating human capital, young people are forced to enter the labor market to cope with negative economic shocks to their household. To further explore this issue, the next section analyzes how precarity – proxied by job types and sectors of work – evolved during the oil recession and the COVID-19 crisis.

Section 4. Growing labor-market precarity, especially among youth

Section 2 presented evidence pointing to the widespread precarity of jobs before the COVID-19 crisis, and Section 3 showed that working rates increased in response to both the 2016 oil recession and the ongoing COVID-19 crisis at the expense of continued schooling for the youth population. This section demonstrates that the increase in labor supply – and hence working rates – corresponds to an increase in the already widespread precarity of jobs, which provides supporting evidence for an increase in labor supply driving the increase in working rates, rather than an increase in the demand for labor. Insofar as agriculture

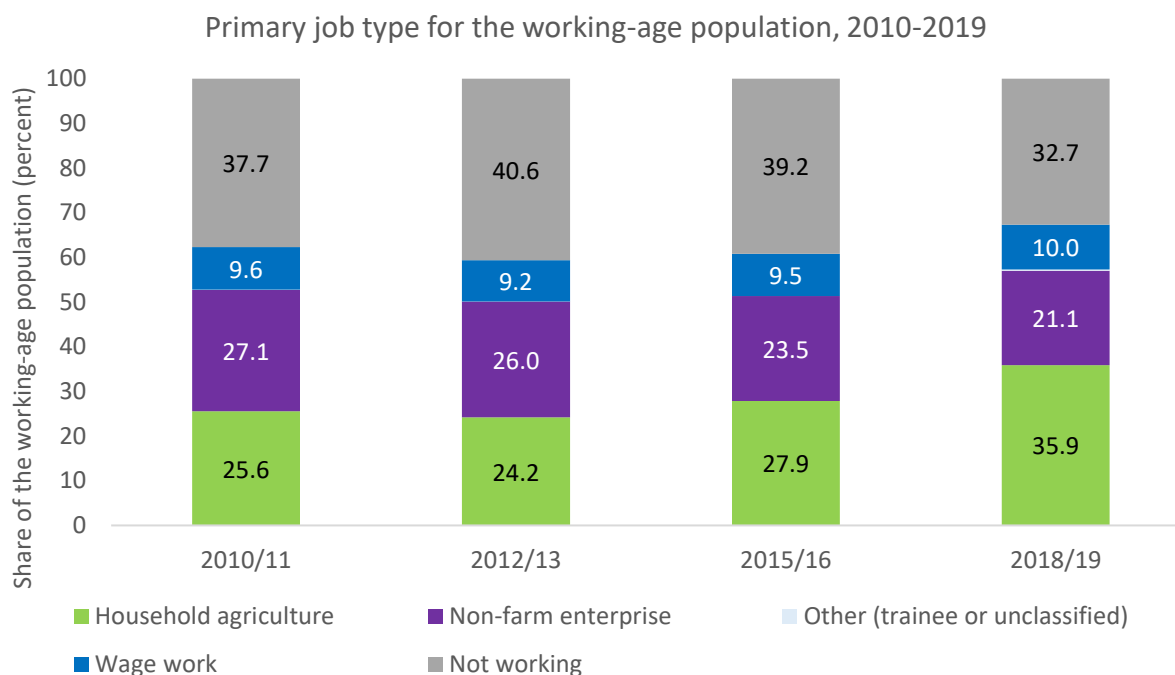
becomes a more important source of jobs, this means that any progress on structural transformation in the Nigerian labor market could be reversed.

Expanding precarity and informality after the 2016 shock

The share of Nigerians working in agriculture began increasing in 2015/16 and has continued to expand.

Between 2010/11 and 2012/13, the share of Nigerians working in household agriculture was stable, even slightly decreasing from 25.6 to 24.2 percent (Figure 22). By 2015/16, the proportion had risen slightly, to 27.9 percent. Between 2015/16 and 2018/19, however – following the oil recession – the share of Nigerians working in household agriculture jumped to 35.9 percent. Similar results emerge when looking at the labor market’s sectoral composition, with the share of workers engaged in agriculture rising at the expense of industry and commerce between 2015/16 and 2018/19 (Figure 23). This resonates with the macroeconomic data from this period, which demonstrate that the 2016 recession affected real GDP growth in industry and services significantly more than agriculture (World Bank 2021).

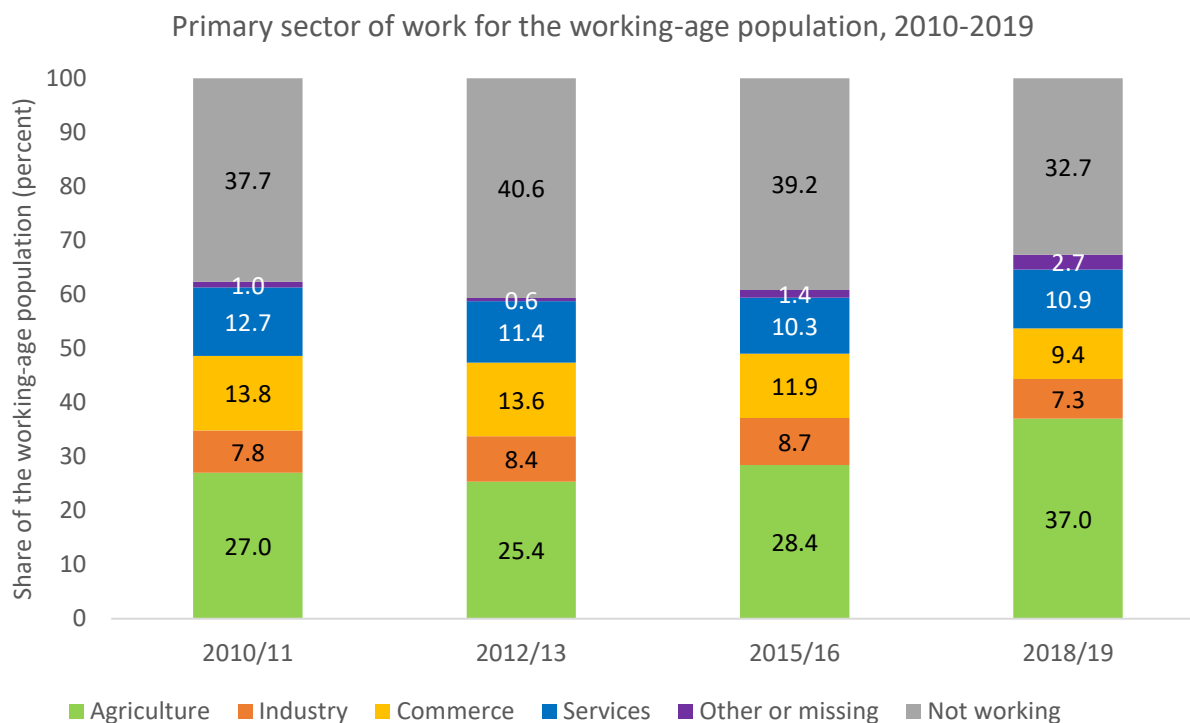
Figure 22. The share of Nigerians engaged in household agriculture jumped after the 2016 oil recession



Source: GHS and World Bank estimates.

Notes: Since information on hours worked is not available in earlier GHS waves, an alternative hierarchical definition of the primary job is used, which prioritizes wage work, then household agriculture, then non-farm household enterprises, in that order. Estimates averaged across post-planting and post-harvest visits. The “Other” categories include trainees from the alternative hierarchical definition and working individuals who are not classified in the alternative definition. Sample restricted to individuals with non-missing observations of working status, age, sex, and education across all waves of the GHS, so results differ from figures focusing only on 2018/19.

Figure 23. In a reversal of structural transformation trends, the share of working individuals in the agricultural sector increased after the 2016 oil recession



Source: GHS and World Bank estimates.

Notes: Since information on hours worked is not available in earlier GHS waves, an alternative hierarchical definition of the primary job is used, which prioritizes wage work, then household agriculture, then non-farm household enterprises, in that order. Estimates averaged across post-planting and post-harvest visits. Other or missing includes individuals who are identified as being in a sector explicitly named “Other” and working individuals with missing information on sector of work. Sample restricted to individuals with non-missing observations of working status, age, sex, and education across all waves of the GHS, so results differ from figures focusing only on 2018/19. Industry includes Mining, Manufacturing, Utilities, Construction, Postal/Transport industries; services include Professional and Technical Activities, Public Administration, Education, Health, Personal Services.

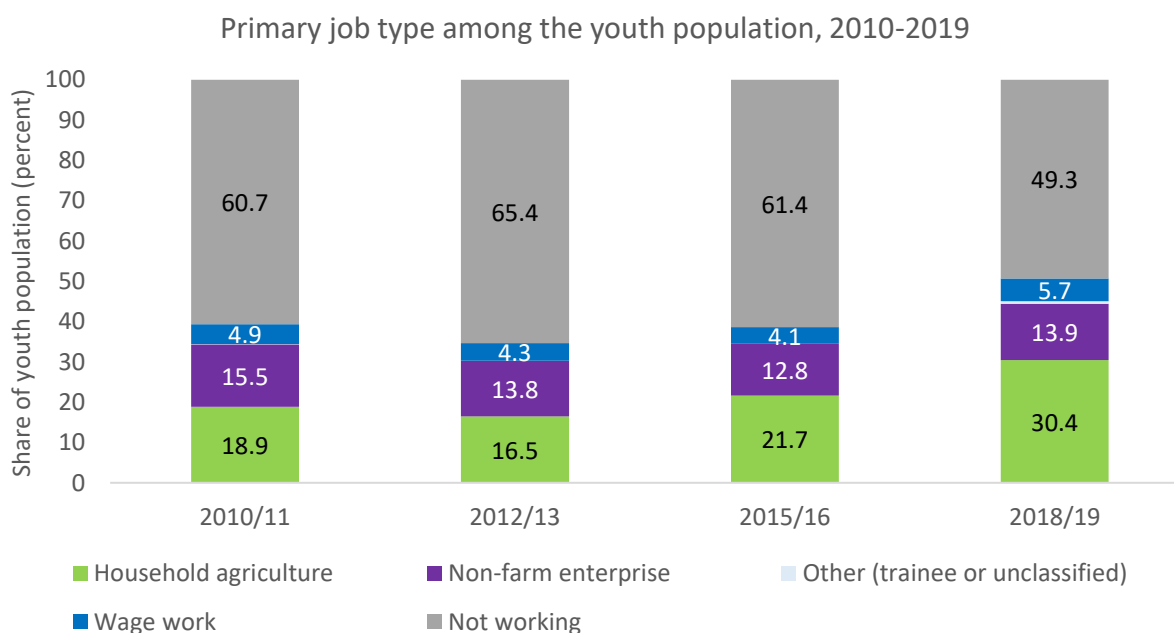
The workers turning to agriculture following the 2016 oil recession were not only new labor market entrants; they also flowed in from other activities, demonstrating churn in the labor market. By taking advantage of the longitudinal nature of the GHS, it is possible to trace how individuals transitioned between different labor market situations between 2010 and 2019. Focusing on the post-planting data, around 23.4 percent of those engaged in non-farm enterprises in 2015/16 and 11.6 percent of wage workers had switched into household agriculture by 2018/19 (see the transition matrices in Annex 4).¹⁹ This flow was significantly higher than in previous years: about 8.8 percent of those engaged in non-farm enterprises in 2010/11 and 8.7 percent of wage workers had switched into household agriculture by 2012/13. Thus, labor market churn appeared to intensify following the 2016 oil recession: this could reflect individuals seeking income-generating opportunities to cope with the economic shock, even if not in the activities to which they were best suited.

¹⁹ Similar results emerge when using the post-harvest data to construct the transition matrices.

Rising precarity and informality for young people after the 2016 recession

The relative increase in the share of youth working in household agriculture was even larger than for the general working-age population. Between 2010/11 and 2012/13, the share of youth engaged in household agriculture dropped from 18.9 to 16.5 percent (Figure 24). Yet by 2015/16, the share of youth working in household agriculture had increased to 21.7 percent, and by 2018/19 – following the oil recession – it had jumped to 30.4 percent. In relative terms, this represents a larger increase than for the full working age population, as the share of young people engaged in household agriculture was lower to begin with.

Figure 24. Among youth, increases in working rates after the 2016 recession were also concentrated in household agriculture



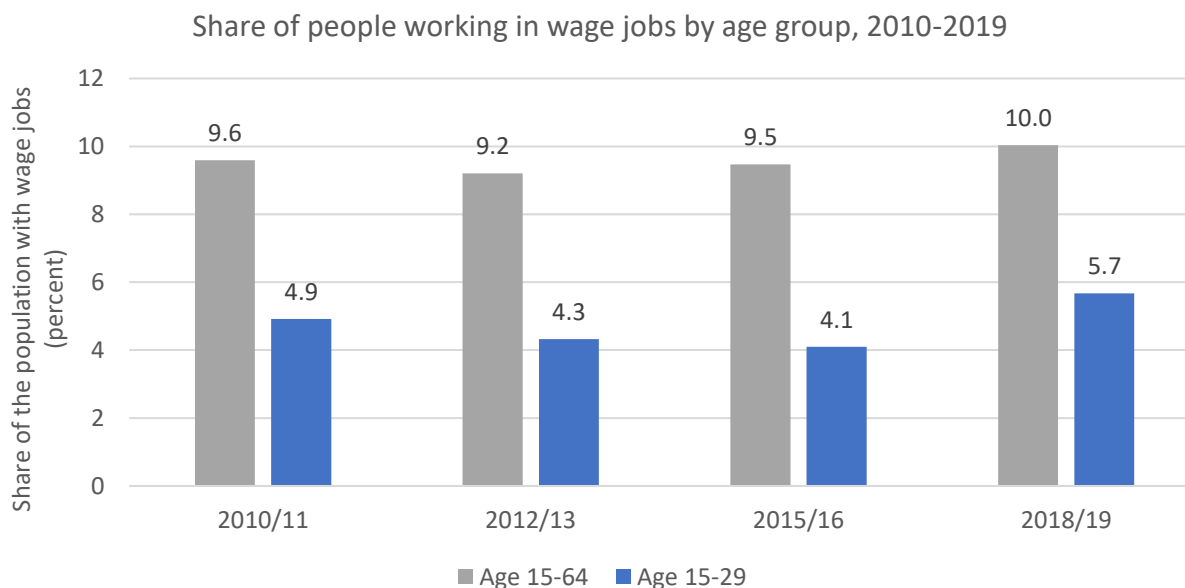
Source: GHS and World Bank estimates.

Notes: Since information on hours worked is not available in earlier GHS waves, an alternative hierarchical definition of the primary job is used, which prioritizes wage work, then household agriculture, then non-farm household enterprises, in that order. Estimates averaged across post-planting and post-harvest visits. The “Other” categories include trainees from the alternative hierarchical definition and working individuals who are not classified in the alternative definition. Sample restricted to individuals with non-missing observations of working status, age, sex, and education across all waves of the GHS, so results differ from figures focusing only on 2018/19.

Expanding wage work?

The share of Nigerians engaged in wage work actually increased slightly following the oil recession, especially among young people. Between 2015/16 and 2018/19, the share of working-age Nigerians doing wage work – which appears to be less precarious than other job types, all other things equal – increased slightly, from 9.5 to 10.0 percent (see Figure 25). Over the same period, the share of the youth population engaged in wage work rose from 4.1 to 5.7 percent. However, this says nothing about the *quality* of the additional wage jobs.

Figure 25. Large increases in wage work among youth

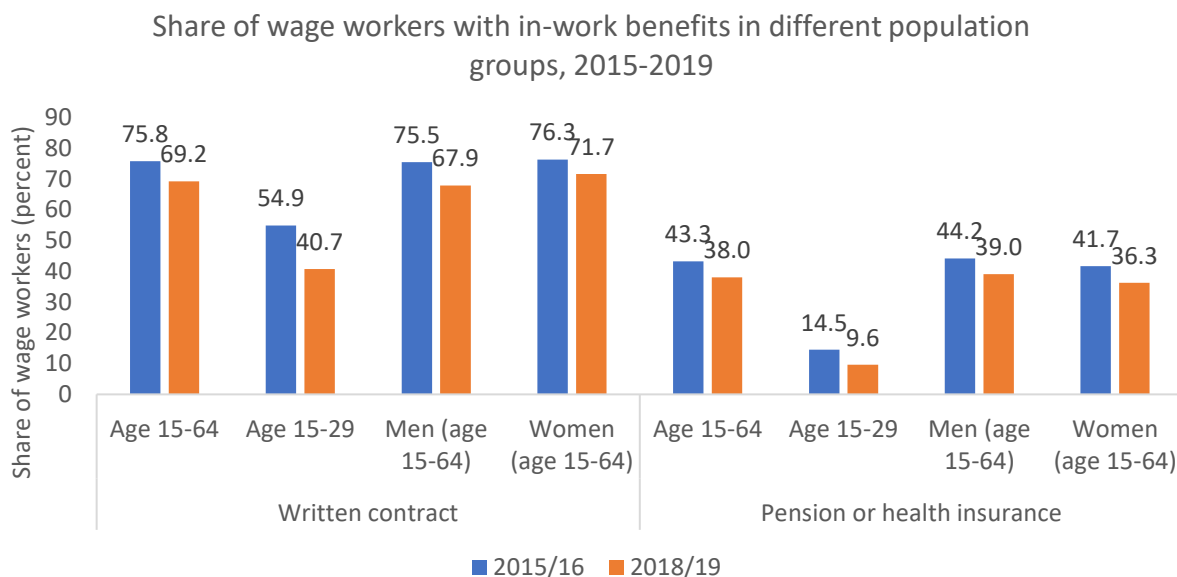


Source: GHS and World Bank estimates.

Notes: Since information on hours worked is not available in earlier GHS waves, an alternative hierarchical definition of the primary job is used, which prioritizes wage work, then household agriculture, then non-farm household enterprises, in that order. Estimates averaged across post-planting and post-harvest visits. The “Other” categories include trainees from the alternative hierarchical definition and working individuals who are not classified in the alternative definition. Sample restricted to individuals with non-missing observations of working status, age, sex, and education across all waves of the GHS, so results differ from figures focusing only on 2018/19.

While increases in the share of people engaged in wage work, however slight, might look like progress, measures of in-work benefits among wage workers tell a different story. The share of wage workers with written contracts or pension or health insurance decreased between 2015/16 and 2018/19 (Figure 26). Moreover, the drop in the prevalence of in-work benefits was larger among youth wage workers, for whom the share with written contracts fell from 54.9 to 40.7 percent, and the share with pensions or health insurance fell from 14.9 to 9.6 percent.

Figure 26. In-work benefits for wage workers became less prevalent after the 2016 recession



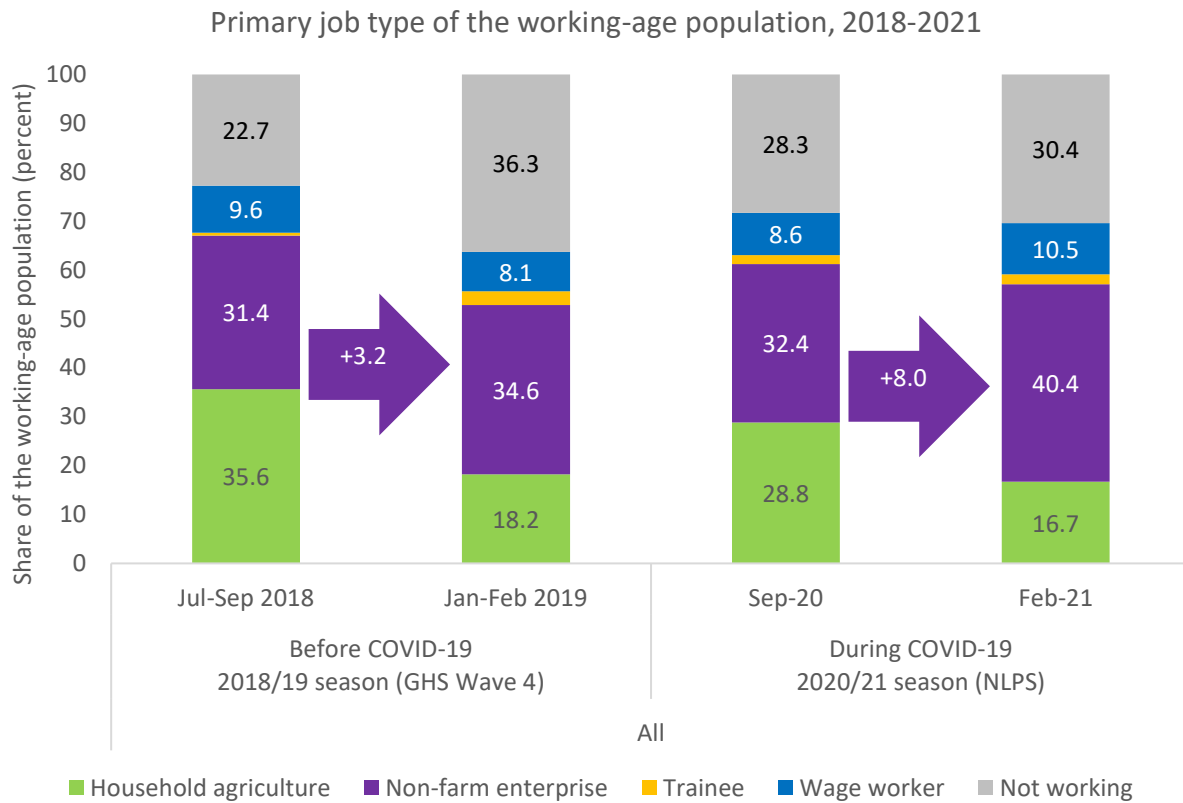
Source: 2018/19 GHS and World Bank estimates.

Notes: Estimates averaged across post-planting and post-harvest visits. The sample consists of individuals who hold any type of wage job.

Post COVID-19, a new pattern of even greater precarity?

Many Nigerians have turned to non-farm household enterprises engaged in services and commerce in order to cope with the effects of the COVID-19 crisis. Once again, this can be seen by comparing how the share of people working in different sectors evolved in two agricultural cycles, before and after the pandemic struck. Before the pandemic, comparing people’s job types between July-September 2018 and January-February 2019, the share of working-age Nigerians engaged in non-farm household enterprises rose by 3.2 percentage points. Then, after the pandemic began, between September 2020 and February 2021, this share rose by 8.0 percentage points (Figure 27). Turning to sectoral shares, between July-September 2018 and January-February 2019, the share of working-age people engaged in services decreased by about 2.6 percentage points. Yet between September 2020 and February 2021, this share *increased* by 2.5 percentage points (Figure 28). Between July-September 2018 and January-February 2019, the share of working-age people engaged in commerce rose by 2.8 percentage points, yet between September 2020 and February 2021 the share increased much more, by around 6.7 percentage points. These patterns therefore differ from the changes in job type and economic sector observed after the 2016 recession, when more people engaged in agriculture at the expense of services.

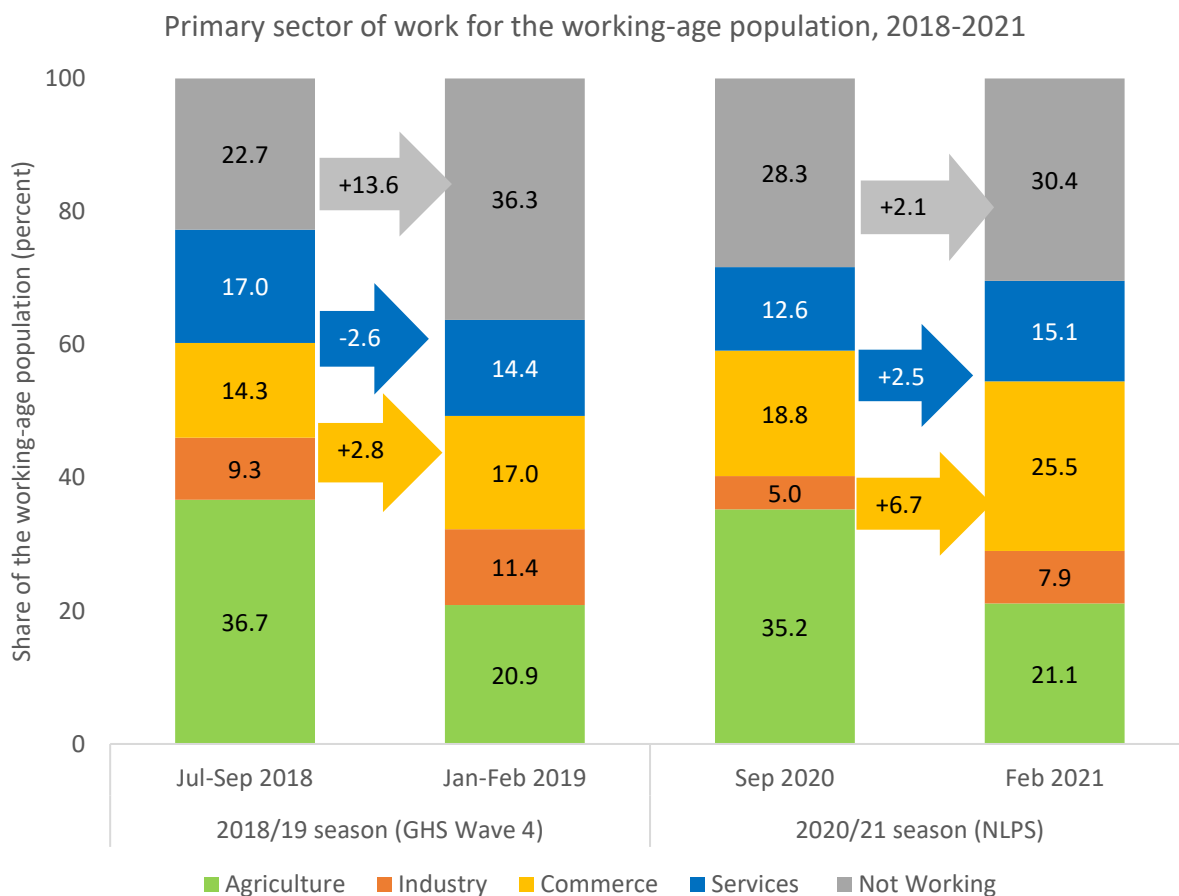
Figure 27. Rising participation in non-farm household enterprises during the COVID-19 crisis



Source: 2018/19 GHS, NLPS, and World Bank estimates.

Notes: Estimates focus on primary job, defined as the job in which the individual worked the most hours. The sample is a panel of individuals observed across the relevant 2018/19 GHS and NLPS rounds.

Figure 28. Sectoral shifts amid COVID-19: a jump in services and commerce

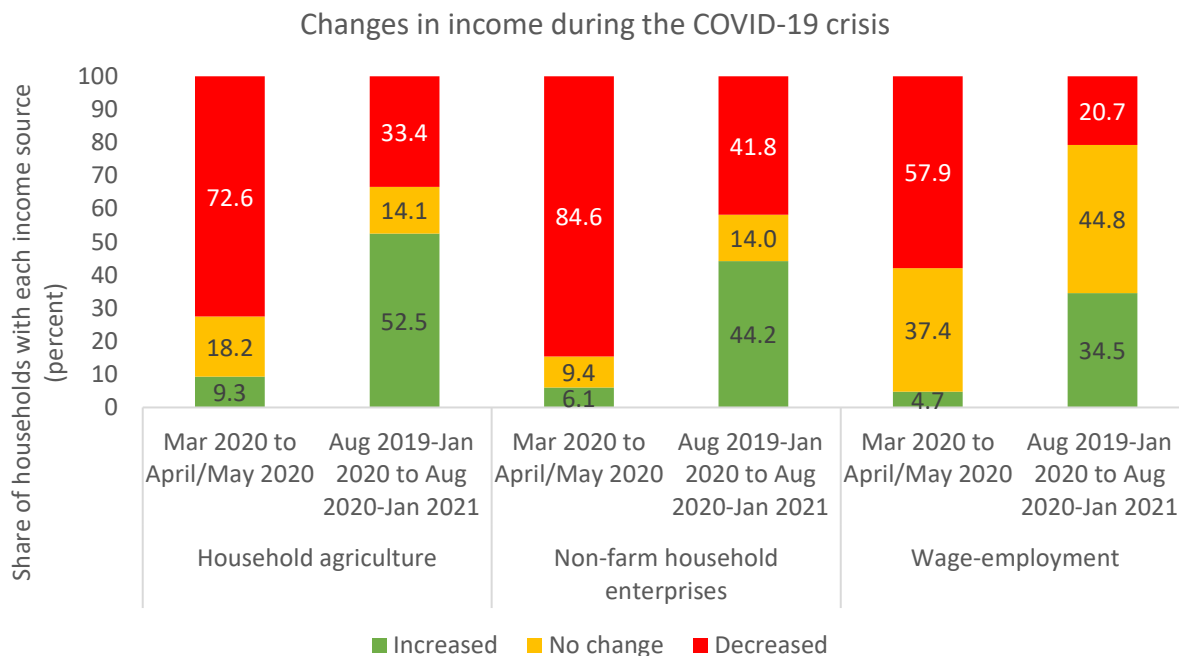


Source: 2018/19 GHS, NLPS, and World Bank estimates.

Notes: Estimates focus on primary job, defined as the job in which the individual worked the most hours. The sample is a panel of individuals observed across the relevant 2018/19 GHS visits and NLPS rounds with non-missing information on sector. In this figure, Industry includes Mining, Manufacturing, Utilities, Construction, Postal/Transport industries and Professional. Services include Public Administration, Education, Health, Personal Services, Business services.

Non-farm enterprise incomes appear to be most threatened by the COVID-19 crisis, so the expansion of these jobs could mark a new form of labor market precarity. With the onset of the pandemic there was widespread stress on all income sources. Yet by January 2021, incomes from several sources had begun to recover for many households: between August 2019-January 2020 and August 2020-January 2021, agricultural incomes had increased or stayed the same for 66.6 percent of agricultural households while wage incomes had increased or stayed the same for 79.3 percent of households with wage-employed members (Figure 29). However, over the same period, non-farm enterprise incomes had still decreased for 41.8 percent of households with non-farm enterprises. As such, the growth in these jobs during the COVID-19 crisis does not seem to represent improved income and productivity from this sector, suggesting no progress towards structural transformation. Instead, individuals are seeking non-farm enterprise work to boost household incomes – potentially in vain, given that such work appears to be less lucrative – in order to try and cope with the effects of the COVID-19 crisis.

Figure 29. Incomes from non-farm household enterprises remained the most precarious as the COVID-19 crisis continued



Source: NLPS and World Bank estimates.

Notes: Estimates capture the share of households with each income source in the starting period, that is, in March 2020 and in August 2019-January 2020.

While the share of people working increased during the oil-price recession and the COVID-19 crisis, this appears to be because Nigerians were taking on more precarious work; yet this begs the question of who was most affected. In both crises, more individuals were “pushed” into the labor force and increased their labor supply in order to cope with the economic shocks; there is little evidence that more job creation or better wages and benefits, an indication of increased demand for labor, “pulled” workers into the labor force. If such an increase in the demand for labor existed, the number of people in wage jobs would be expanding without a decrease in job quality, and non-farm enterprise income would be more stable. The analysis above suggests that the crises have particularly exacerbated job precarity among Nigeria’s young people; yet youth are not the only population sub-group disproportionately impacted. To further explore these dynamics, Section 5 considers wealth and gender differences in the response to Nigeria’s recent economic shocks.

Section 5. Differential impacts of economic crises on the poor and on women and girls

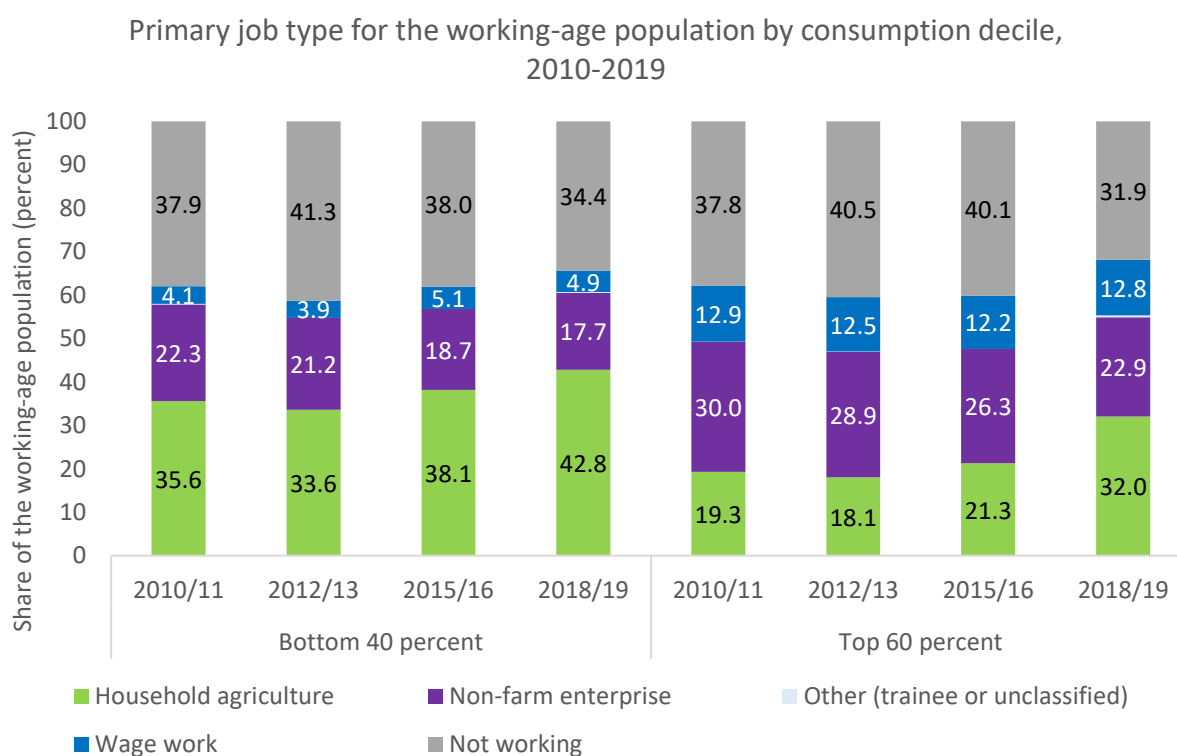
This section examines how the labor-market and education effects of the 2016 oil recession and the COVID-19 crisis differed for Nigerians from poor and non-poor households, and for women and girls as compared with men and boys. The analysis builds on and refines the broader picture presented in Sections 2, 3, and 4.

Labor-market impacts of the 2016 oil-price crisis were largest among non-poor households

The impact of the 2016 oil recession on the share of people working – especially on the share working in household agriculture – was larger for Nigerians in the top 60 percent of the consumption distribution.

Between 2015/16 and 2018/19, the share of working-age people in the bottom 40 percent of the consumption distribution who were working increased from 62.0 to 65.6 percent, with the share engaged in household agriculture rising from 38.1 to 42.8 percent (Figure 30). Over the same period, the share of working-age people in the top 60 percent of the consumption distribution who were working increased from 59.9 to 68.1 percent, with the share engaged in household agriculture rising substantially, from 21.3 to 32.0 percent.

Figure 30. After the oil recession, working rates increased most among non-poor Nigerians



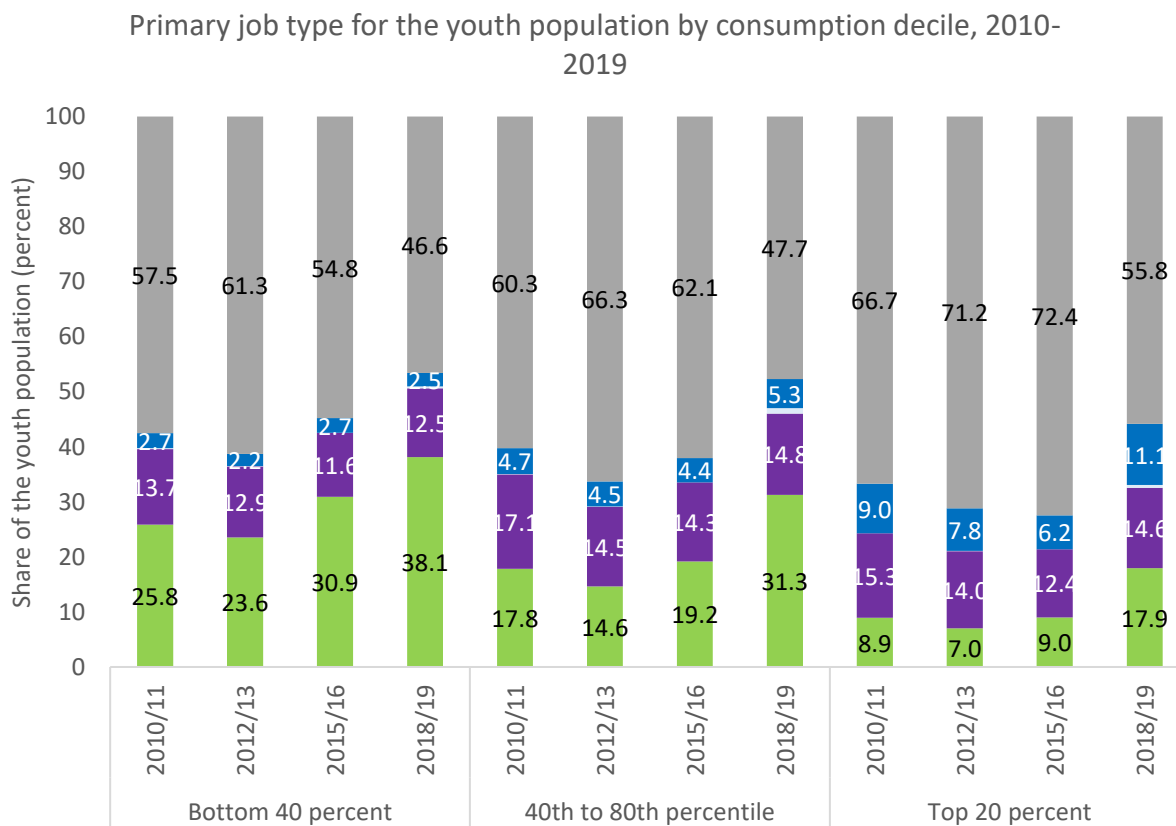
Source: GHS and World Bank estimates.

Notes: Since information on hours worked is not available in earlier GHS waves, an alternative hierarchical definition of the primary job is used, which prioritizes wage work, then household agriculture, then non-farm household enterprises, in that order. Estimates averaged across post-planting and post-harvest visits. The “Other” categories include trainees from the alternative hierarchical definition and working individuals who are not classified in the alternative definition. Sample restricted to individuals with non-missing observations of working status, age, sex, and education across all waves of the GHS, so results differ from figures focusing only on 2018/19.

The differential impacts of the oil recession across the consumption distribution were even starker for young people, especially those in the top 20 percent. Between 2015/16 and 2018/19, the share of young Nigerians in the bottom 40 percent of the consumption distribution who were working rose from 45.2 to 53.4 percent (Figure 31). For young people in the top 20 percent of the consumption distribution, the corresponding share increased more steeply, from 27.6 to 44.2 percent. Once again, this increase was

starkest when focusing on the share of people working in household agriculture. Indeed, the share of young Nigerians in the top 20 percent who worked in household agriculture almost doubled between 2015/16 and 2018/19. The trade-off between working versus continuing education may have been sharper for young people from richer households; meanwhile, young people from poorer households were not planning to continue education even before the 2016 oil recession occurred, resulting in less change in their labor market participation.

Figure 31. Young people from non-poor households increased their working rates most after the 2016 oil recession



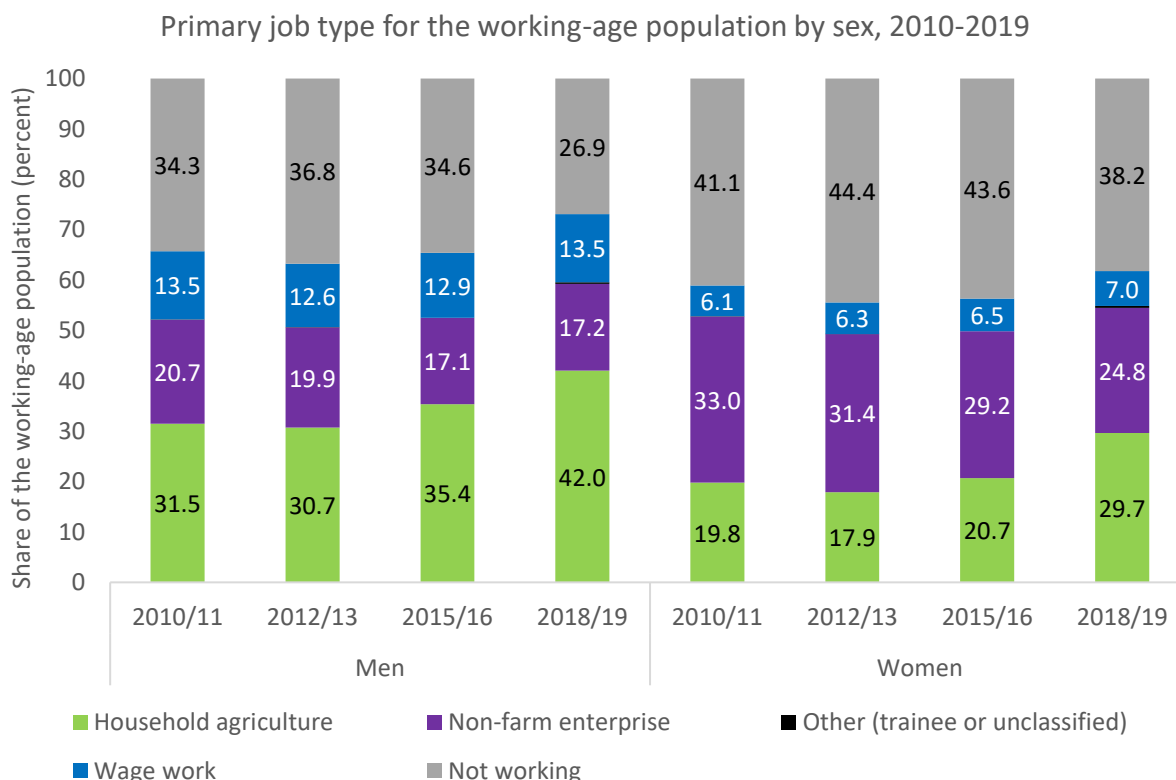
Source: GHS and World Bank estimates.

Notes: Since information on hours worked is not available in earlier GHS waves, an alternative hierarchical definition of the primary job is used, which prioritizes wage work, then household agriculture, then non-farm household enterprises, in that order. Estimates averaged across post-planting and post-harvest visits. The “Other” categories include trainees from the alternative hierarchical definition and working individuals who are not classified in the alternative definition. Sample restricted to individuals with non-missing observations of working status, age, sex, and education across all waves of the GHS, so results differ from figures focusing only on 2018/19.

The shares of women and men who were working, especially in household agriculture, both increased by comparable amounts following the 2016 oil recession. The share of women who were working increased from 56.4 to 61.8 percent between 2015/16 and 2018/19, with the share engaged in household agriculture rising from 20.7 to 29.7 percent (Figure 32). Increased engagement in household agriculture came at the expense of non-farm household enterprises, with the share of women working in non-farm household enterprises dropping from 29.2 to 24.8 percent over the same period. The share of men who

were working rose from 65.4 to 73.1 percent between 2015/16 and 2018/19, with the share engaged in household agriculture increasing from 35.4 to 42.0 percent.²⁰ However, there was no analogous drop in the share of men working in non-farm household enterprises.

Figure 32. The share of both women and men working, especially in household agriculture, increased after the 2016 oil recession



Source: GHS and World Bank estimates.

Notes: Since information on hours worked is not available in earlier GHS waves, an alternative hierarchical definition of the primary job is used, which prioritizes wage work, then household agriculture, then non-farm household enterprises, in that order. Estimates averaged across post-planting and post-harvest visits. The “Other” categories include trainees from the alternative hierarchical definition and working individuals who are not classified in the alternative definition. Sample restricted to individuals with non-missing observations of working status, age, sex, and education across all waves of the GHS, so results differ from figures focusing only on 2018/19.

An epidemic of inequality: COVID-19 is disproportionately affecting labor-market outcomes for the poor and for women

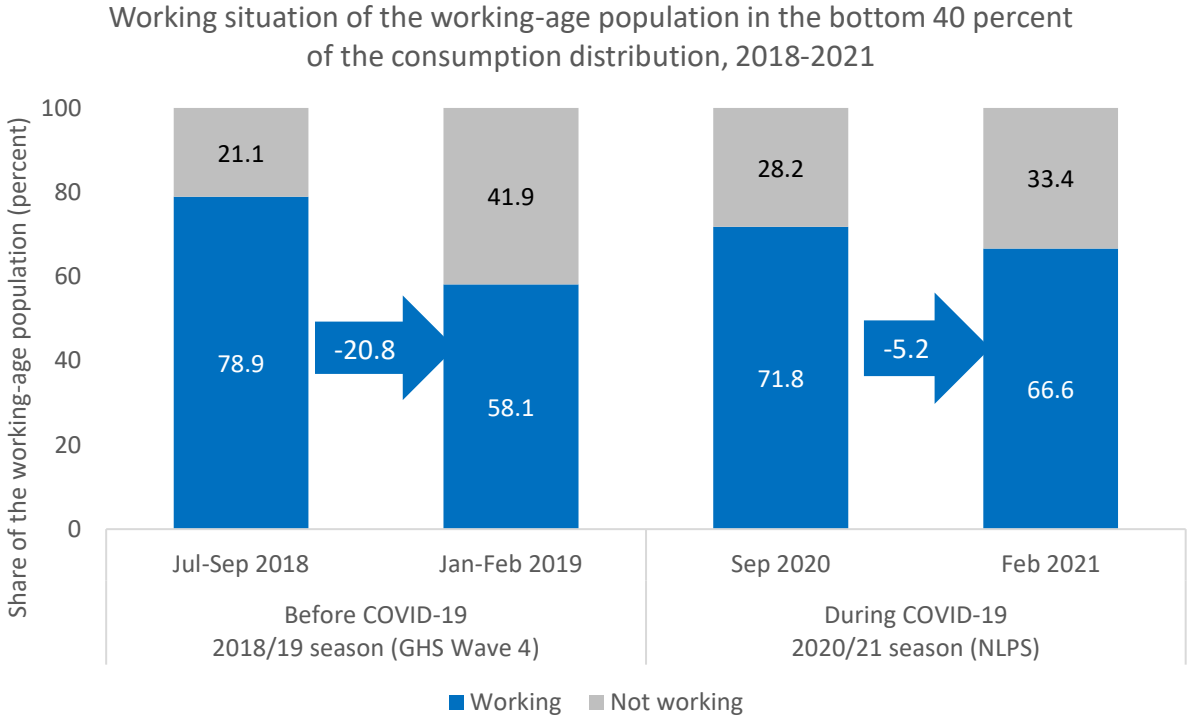
Changes in working situations during the COVID-19 crisis differ across the consumption distribution.

The season-adjusted increase in working rates was larger among the poorest households. Comparing agriculture cycles before and during the COVID-19 crisis demonstrates this effect. Between July-

²⁰ Similar gender patterns were observed, even more starkly, when focusing only on young people. The share of young women who were working rose from 34.9 percent to 45.7 percent between 2015/16 and 2018/19, with the share engaged in household agriculture rising from 14.4 percent to 23.4 percent. Over the same period, the share of young men who were working rose from 42.1 percent to 55.5 percent, with the share engaged in household agriculture rising from 28.5 percent to 37.1 percent.

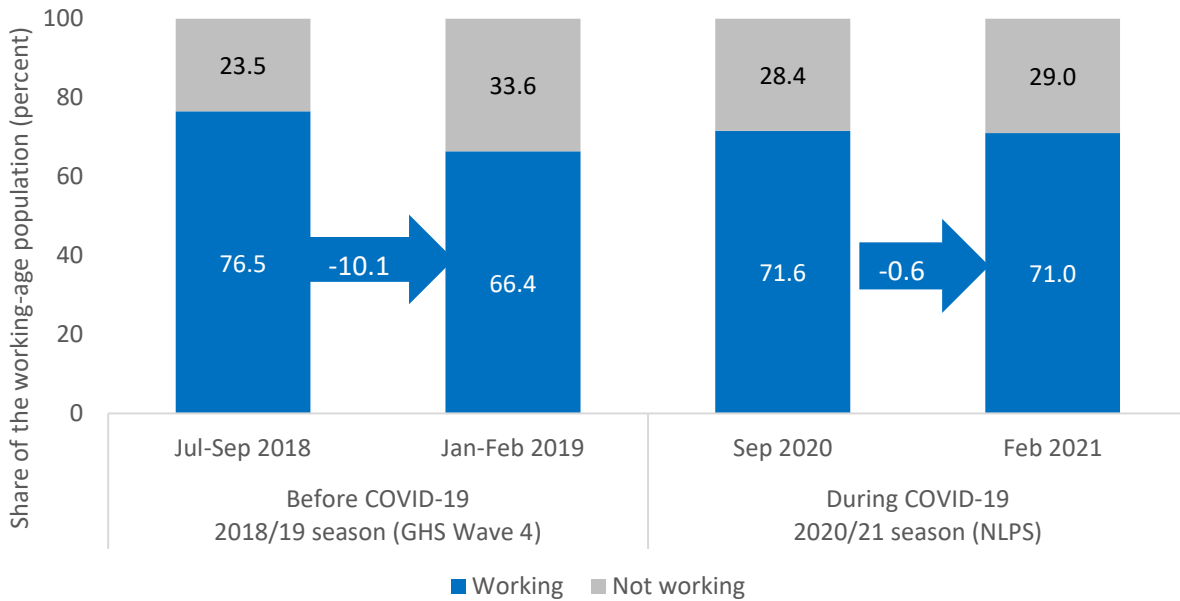
September 2018 and January-February 2019, the share of people in the bottom 40 percent of the consumption distribution who were working dropped by 20.8 percentage points, while between September 2020 and February 2021, the decline was just 5.2 percentage points (see Figure 33). For those in the top 60 percent of the consumption distribution, the share of people who were working dropped by a far more modest 10.1 percentage points between July-September 2018 and January-February 2019, and by around 0.6 percentage points between September 2020 and February 2021. As such, the absolute magnitude of the seasonal contraction in the share of people working narrowed far more sharply among Nigerians in the bottom 40 percent of the consumption distribution than among those in the top 60 percent.²¹ These patterns may arise because widespread price increases observed through the COVID-19 crisis – see Figure 41. in Annex 3 – could affect poorer households more, forcing members of poorer households to work more in order to cope.

Figure 33. Poorer Nigerians increased their labor supply more during the COVID-19 crisis



²¹ Nevertheless, in relative terms, the seasonal contraction in the share of people working was actually larger among non-poor households. The seasonal contraction in the share of poor individuals who were working between September 2020 and February 2021 was about one quarter of the contraction between July-September 2018 and January-February 2019. Yet the seasonal contraction in the share of non-poor individuals who were working between September 2020 and February 2021 was about one tenth of the contraction between July-September 2018 and January-February 2019.

Working situation of the working-age population in the top 60 percent of the consumption distribution, 2018-2021



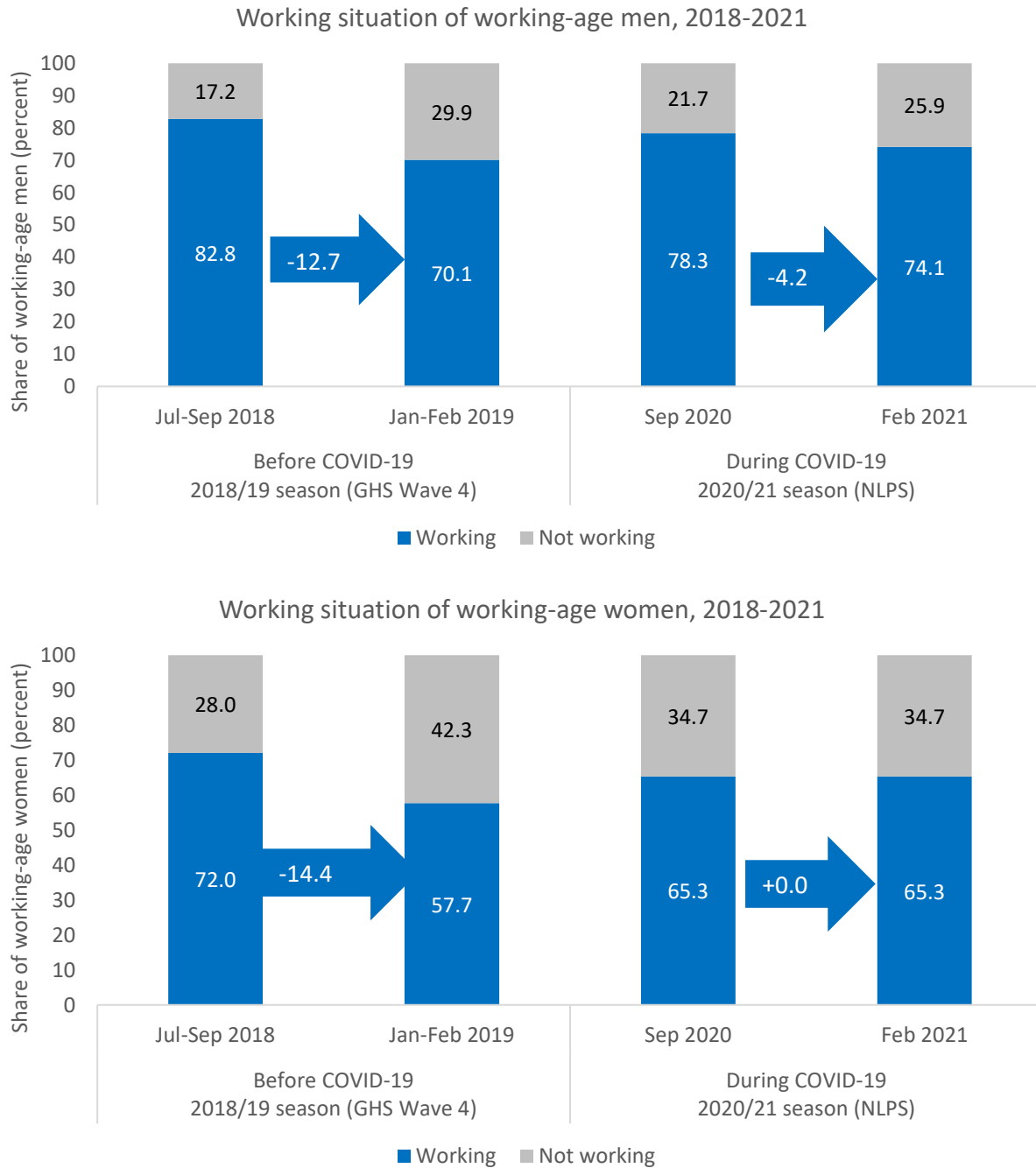
Source: 2018/19 GHS, NLPS, and World Bank estimates.

Notes: The sample is a panel of individuals observed across the relevant 2018/19 GHS visits and NLPS rounds.

Unlike the 2016 oil recession, the COVID-19 crisis affected the working status of women more than men.

It appears that the elevated working rates observed in February 2021 were disproportionately concentrated among women. The share of men who were working decreased by 12.7 percentage points between September-July 2018 and January-February 2019 and by 4.2 percentage points between September 2020 and February 2021 (Figure 34). The share of women who were working decreased by 14.3 percentage points between September-July 2018 and January-February 2019, prior to COVID-19, yet there was virtually *no decrease* in women’s working rates between September 2020 and February 2021. These gender differences are even starker than those observed for the 2016 oil recession (Figure 32). The relatively larger labor supply response among women during the COVID-19 crisis is reminiscent of an “added worker effect,” whereby households increase their overall labor market participation in order to cope with economic shocks. That this type of added worker effect was not observed in the 2016 oil recession marks an important difference between the two crises. However, the data from 2018/19 may have been collected too long after the oil recession first hit to capture these impacts fully.

Figure 34. Women increased their seasonally-adjusted working rates more than men as the COVID-19 crisis continued



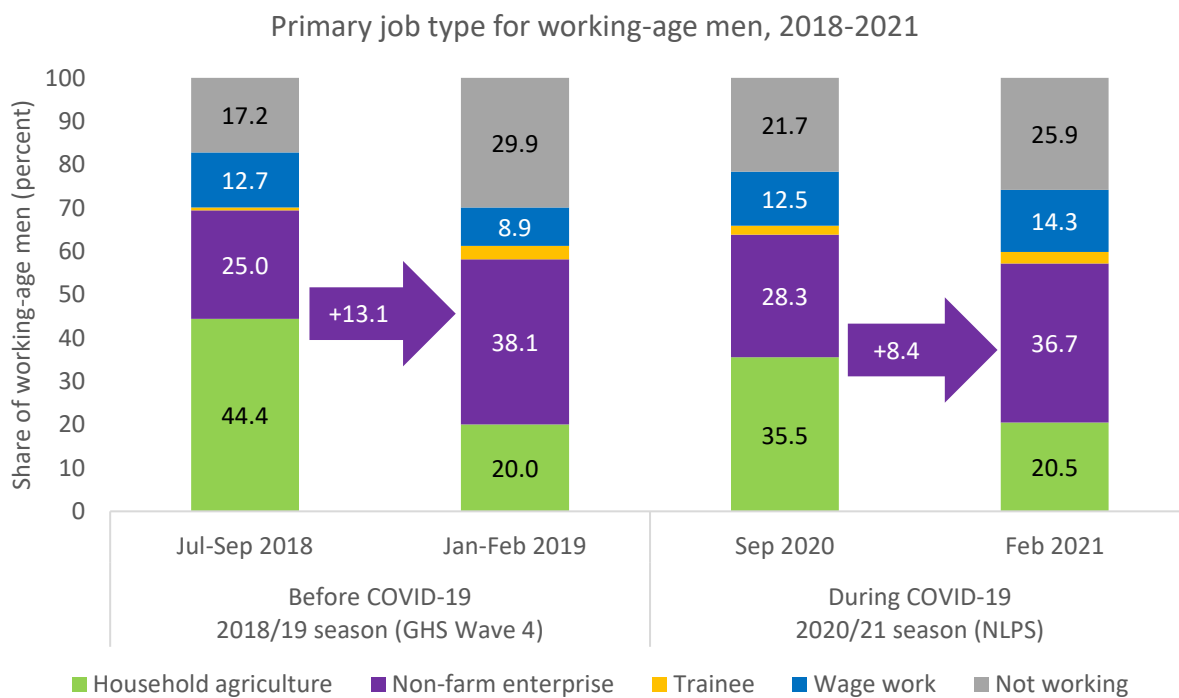
Source: 2018/19 GHS, NLPS, and World Bank estimates.

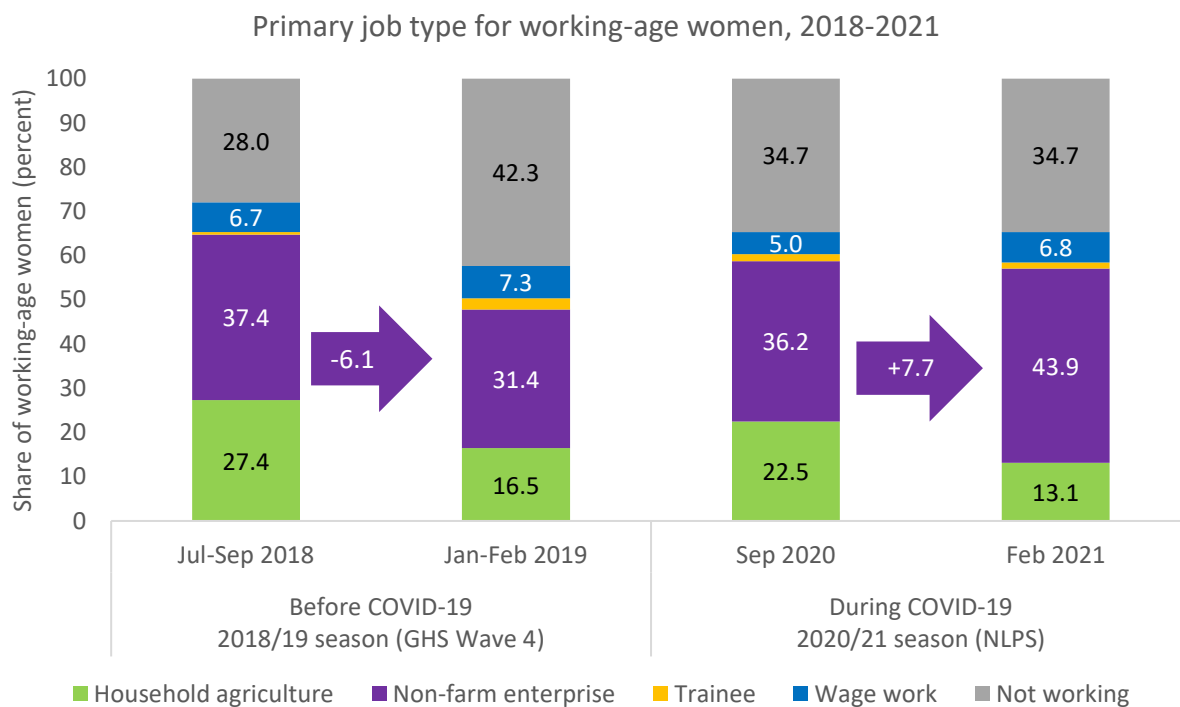
Notes: The sample is a panel of individuals observed across the relevant 2018/19 GHS visits and NLPS rounds.

In contrast to the 2016 oil-price recession, women were much more likely to enter non-farm-enterprise work during the current crisis. Figure 35 shows the seasonal shifts in type of work for women and men for seasonal cycles before and during the COVID-19 crisis. Between July-September 2018 and January-

February 2019, the share of women engaged in non-farm household enterprises actually fell by 6.1 percentage points, but between September 2020 and February 2021, the share *increased* by 7.7 percentage points. For men, by contrast, the share engaged in non-farm enterprises increased by 13.1 percentage points between July-September 2018 and January-February 2019 and also increased by 8.4 percentage points between September 2020 and February 2021. Thus, in seasonally-adjusted terms, women’s participation in non-farm household enterprises has been elevated during the COVID-19 crisis. This is consistent with the larger shifts towards commerce and services seen for women (see Figure 42. in Annex 3). Thus, overall, women have been driving much of the shift towards non-farm household enterprises in commerce and services witnessed during the COVID-19 crisis. Given the previous results showing the decline of income from non-farm enterprises, this suggests that women are entering even more precarious jobs.

Figure 35. Women have been entering non-farm household enterprises during the COVID-19 crisis





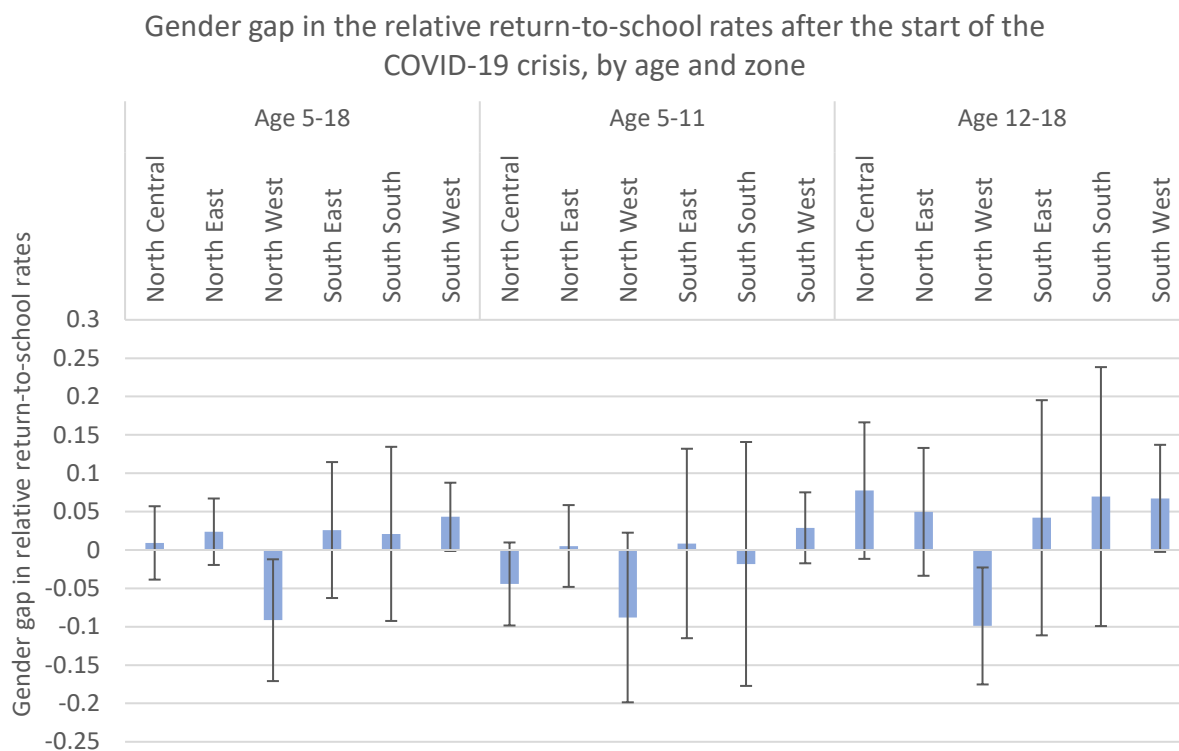
Source: 2018/19 GHS, NLPS, and World Bank estimates.

Notes: Estimates focus on primary job, defined as the job in which the individual worked the most hours. The sample is a panel of individuals observed across the relevant 2018/19 GHS and NLPS rounds.

In some regions, girls and young women have been less likely to return to education during the COVID-19 crisis

Higher female working rates could be linked to the declines in schooling rates among girls and young women in some parts of Nigeria during the COVID-19 crisis. Figure 36 shows Dessy et al.'s (2021) estimates of the zone-specific gender difference in return-to-school rates among those aged 5-18 after schools re-opened. While there is no *overall* gender difference in return-to-school rates, females in the North West zone were more likely to return to school. This is especially true for those aged 12-18 years. As discussed in Dessy et al. (2021), this could indicate that the increase in school-leaving among older girls is linked to child marriage, as early female marriage is more prevalent in the North West zone.

Figure 36. Return to schooling after COVID-19: divergences by gender, age, and zone



Source: Excerpted from Table 5 in Dessy et al. (2021), based on GHS and NLPS.

Notes: This figure gives estimates of the gender gap in relative return-to-school rates after the COVID-19 crisis began. A positive value indicates that boys are relatively less likely than girls to return to school. A negative value indicates that girls are relatively less likely than boys to return to school. The 95 percent confidence intervals are included. The figure indicates that the decrease in return to schooling is relatively larger among specific sub-groups (girls age 5-18 in the North West zone and boys age 12-18 in the South West zone).

Risks for Nigeria’s economic future – and a window to respond

These uneven effects have implications for Nigeria’s future growth prospects. Nigeria’s human capital stock has suffered negative shocks from two economic crises in close succession, with evidence of a decline in educational attainment in response to both crises. From the 2016 oil recession, the evidence suggests that the drop in educational attainment was concentrated among wealthier individuals with more resources. Meanwhile, from the latest data on rates of return to school following COVID-19, the decreases in return-to-school seem to be concentrated among females in an early-marriage-prone region and among males in the wealthier urban zone of Nigeria.

Several mechanisms may now complicate Nigeria’s economic growth and structural transformation.

First, an *aggregate* decrease in the stock of human capital will slow growth, as greater human capital increases productivity. Second, any *uneven* effects that induce greater inequality in the stock of human capital could slow economic growth even further.²² Third, underinvestment in human capital may lead to lower education for women and girls, which – when combined with an ongoing shortage of productive jobs – could hinder a fertility transition by encouraging earlier fertility. Specifically, the negative economic

²² See, for example, Galor and Moav (2004).

shocks from these crises might lead poorer and more economically stressed households to encourage young women to head into early marriage, at the expense of education, as a coping strategy. Girls and young women who leave school earlier are in general at higher risk of earlier fertility (Amin, Ahmed, et al. 2016, 2018). Thus, economic crises could slow the fertility transition and dilute future gains from economic growth.

Section 6. Taking action for good jobs: policy options

This section presents three broad areas of policy guidance, based on the analysis presented above: investing in human capital; reforms to boost job creation; and helping enterprise grow.

Investing in human capital

Nigeria's investment in its human capital has long been insufficient, and two successive crises may further impede progress. According to the 2020 Human Capital Index, a child born in Nigeria that year will grow up to achieve just 36.1 percent of the productivity she could have attained, if she had enjoyed full health and education; this is lower than the averages for Sub-Saharan Africa and for all lower-middle-income countries (World Bank 2020). Nigeria has also lost about half a year in learning-adjusted years of schooling due to the COVID-19 crisis (Azevedo, et al. 2020, UNESCO 2021). These patterns are even more concerning, given the evidence presented above that households struggling to cope with income shocks have responded to recent economic crises by prioritizing work over education for young people.

Underinvestment in human capital may prevent Nigeria from exploiting its demographic dividend through two main channels: by limiting productivity and by increasing fertility. Without tailored, high-quality education, Nigeria's workers may lack the skills needed to prosper in the labor market, notwithstanding the current lack of wage jobs. Yet making the most of the country's demographic dividend is not just about matching good workers with good jobs. Nigeria also needs a fertility transition, so that the proceeds of growth and any good jobs created will be shared around among fewer people. This is far less likely with children – and especially girls – out of school.

Reversing education losses suffered during the COVID-19 crisis presents the most immediate priority. Schools were shut down across Nigeria during 2020 (AllSchool 2020). Since remote learning methods may have limited applicability in Nigeria, especially for poorer households (see Siwatu et al. (2020)), recouping the learning lost during the COVID-19 crisis will require safe and appropriate ways to bolster in-person schooling. Nigerian households themselves favor adding more hours to the school day, repeating the missed school period, and delivering lessons during the typical school holidays (Siwatu, et al. 2020). “Low tech” approaches that seek to engage parents and teachers – through mobile phones, where appropriate – could also support learning given the ongoing uncertainty around whether schools will be able to stay open (Carvalho, et al. 2020). Monitoring progress on schooling during the upcoming school year will be essential to ensure that losses incurred when schools were closed are effectively regained.

Reforms to boost job creation

While essential, human capital investment alone is not enough. Pre-COVID-19 crisis, Nigerians with tertiary education were by far the most likely to hold wage jobs. Yet even tertiary education did not guarantee such a job, while returns to primary and secondary education were even lower in terms of boosting people's chances of securing a wage job; most Nigerians engaged in farm and non-farm enterprise activities, offering less chance of escaping poverty. This not only means that any investments

in education could be wasted but may also discourage future generations from investing in human capital. Indeed, this policy brief has shown how the recent economic shocks that Nigerians faced led to youth dropping out of school earlier.

Reforms are needed to ensure that good jobs are available for young Nigerians so that education pays off. Structural transformation has proved slow and was even reversed by the 2016 oil recession, when the share of workers in agriculture increased. While the COVID-19 crisis instead appears to have spurred additional engagement in non-farm enterprises in commerce and services, incomes from these jobs appear to be precarious too. Among the key priorities to support job creation will be promoting diversification of the economy away from oil, which has represented more than 80 percent of Nigeria’s total exports every year since the 1970s. Broader macroeconomic reforms to exchange rate policy, trade, and fiscal policy – including redirecting spending towards infrastructure and pro-poor social protection policies – may also support growth and help spark job creation.²³

Helping enterprises grow

Waiting for wage jobs to be widely available will take a long time, so alleviating constraints on growth for Nigeria’s small enterprises will be crucial in the short and medium term. Even with reforms, it may take years or decades before wage jobs – especially those with job security and in-work benefits – are widely available in Nigeria: “informal will be normal” (Fox and Gandhi 2021). Policies to support farm and non-farm enterprises will therefore be essential: these could provide employment not only for their owners but also for employees from other households if they can become more productive and grow. For farms, research that develops more resilient and productive crop and livestock varieties as well as public investment to support storage, transport, and market access could help boost agricultural productivity (Beegle and Christiaensen 2019). This is especially important, given current low levels of commercialization of agriculture in Nigeria and lack of access to key inputs (Oseni and Winters 2009, FAO 2018, Ecker and Hatzenbuehler 2021). For non-farm enterprises, recent analysis suggests that cash grants – administered through a national business competition – have large positive effects on firm survival, profitability, and firm size (see McKenzie (2017), for example). As such, policies that loosen firm credit constraints would improve firm productivity, profits, and job creation, even among small enterprises. This could complement policies that build the infrastructure and markets on which small businesses rely (Filmer and Fox 2014).

New data will help policy makers understand how to boost firm growth and invigorate the demand side of the labor market. In particular, Nigeria’s establishment census and sample survey will provide detailed information on the activities in which Nigerian firms engage and the constraints on their growth. This, in turn, may help design initiatives to support firms and create more productive jobs.

The labor data agenda could also benefit from more regularity and a different focus for Nigeria’s labor force survey. In recent years, the main analysis stemming from Nigeria’s labor force survey has typically focused on measuring unemployment; the share of the labor force that is not working but is actively searching and available for work. Yet in countries like Nigeria, where wage jobs are scarce and social protection is limited, unemployment may not be the best metric to ascertain the state of the labor market. As this brief demonstrates, information on the job types and the sectors in which Nigerians engage, as well as other markers of job quality, provide policymakers with clearer guidance. This type of detailed

²³ See World Bank (2021) for further details on the macroeconomic reform agenda.

information is already collected in Nigeria's labor force survey, so it just remains to ensure that such data are gathered *regularly* and that these important indicators are analyzed and widely disseminated.

Getting the most from Nigeria's demographic dividend

Policy action in the three areas described will be critical to lift Nigeria to a demographic-dividend success story. Nigeria's young population embodies the nation's promise. To deliver on that promise requires bold action now. The evidence distilled in this brief provides directions for policymaking to accelerate skills investment and job creation for Nigeria's youth. The approaches described have the power to bolster human capital, boost quality job creation, and improve returns to education, notably in terms of female labor force participation. These measures will help advance both Nigeria's economic transformation and the fertility transition the country needs. Two economic shocks in rapid succession have tested the nation's endurance. But Nigeria's leaders can harness the crisis as an opportunity to drive new gains in human capital and labor-market transformation. Ensuring good jobs for youth will enable Nigeria to seize the demographic dividend of its young population and lay strong foundations for future inclusive growth.

Annex 1: Definitions and data sources

Annex 1.1. What is a job in Nigeria?

When discussing jobs, this report *directly* adopts the definitions used in a previous report studying Nigeria’s labor market (World Bank 2015).

A **job** is defined here as a work activity that is remunerated in cash or in kind, and does not violate human rights (World Bank 2012). The definition includes labor activities that generate income for the household, even if income cannot be assigned specifically to individual household members, such as for household farming or household nonfarm enterprises. It includes goods produced for final consumption of the household (food from the family plot, for example), but excludes services consumed by the household itself (such as looking after children, cooking, fetching water, and so on). It does not include employment that goes against fundamental rights (ILO 1998). Forced labor, or child labor, is not a job.

A **productive job** is a broad term used to indicate a higher “quality” job with a greater capacity for productivity and higher earnings. Productivity generally refers to the value-added each worker generates. From the perspective of poverty reduction, productive jobs can be considered employment opportunities that generate income to bring people out of poverty and contribute to productivity growth in the economy.

The **working-age population** encompasses the adult population between 15 and 64 years of age.

The **youth** refers to those aged between 15 and 29 years.

The **labor force** includes the employed and unemployed.

The **working share**, or the **employed**, are those who reported, in the relevant survey, having worked for pay or for profit for at least one hour in the previous week.

Wage workers are those who work for someone else in exchange for a salary, daily wage, or “per-task” pay.

To be **self-employed** is to work for oneself, making income from the profits of one’s activity. Since the distinction can be blurred in a household between self-employment and unpaid, contributing family workers, the report considers as self-employed *all* workers reporting to be employers, own-account, or contributing family workers in a household enterprise.

Unemployment is defined according to the approach established by the ILO and includes those who do not hold a job but are actively looking for one. **Unemployment rates** are the share of unemployed people in the active population. The ILO’s definition of unemployment is widely seen as problematic in developing country settings – where access to social protection is low – in revealing the share of people who are not working but want to work. It is seen as more applicable to high-income settings where the vast majority of work entails wage/salaried jobs for which active search is necessary.

The **inactive** are those who do not work and who are not looking for work.

Annex 1.2. Informal work in Nigeria

In general, “informal” work is work that is neither taxed nor monitored or regulated by any form of government, especially in terms of labor law regulating employment relationships. More precise definitions of informal work have been given by the ILO and other organizations (ILO 2017). Such

organizations typically define informal employment to include: own-account workers and employers in their own informal-sector enterprises; contributing family workers; members of informal producers' cooperatives; and employees holding informal jobs.

In the context of Nigeria, informal workers correspond to the self-employed (own-account workers, unpaid family workers, or employers) who work in enterprises, whether in agriculture or non-agriculture, that are not registered with the authorities. Since subsistence farming is prevalent, and most non-farm household enterprises are home-based, small-scale activities, informality tends to result from the small-scale nature of the activities rather than from an active choice to avoid working within the legal framework. Around 96 percent of the self-employed working on their own farm and 84 percent of the self-employed in the non-farm sector are not registered with the authorities (World Bank 2015).

This definition of informal work also closely coincides with the characterization of precarious work presented in Box 2.

[Annex 1.3. Background and description of the Nigeria General Household Survey \(GHS\) Panel](#)

Nigeria's General Household Survey (GHS) Panel, collected by Nigeria's National Bureau of Statistics (NBS) in collaboration with the World Bank, is one of the main data sources used for this brief. The GHS-Panel contains core labor indicators that are generally captured in a way consistent with international standards.

The GHS-Panel consists of four waves collected in 2010/2011, 2012/2013, 2015/2016, and 2018/19. The data are longitudinal, making it possible to track the labor market outcomes of the same individuals and households over time.

To account for the fact that agricultural employment in Nigeria is highly seasonal, GHS data were collected during two visits to the same household in each wave. A "post-planting" visit was carried out, usually between July and September, and a "post-harvest" visit was carried out, usually between January and February of the following calendar year. The labor market indicators for each wave presented in this brief often correspond to averages across the post-planting and post-harvest visits.

The GHS-Panel data are representative at the national, zone, and urban-rural level.

[Annex 1.4. Background and description of the Nigeria COVID-19 National Longitudinal Phone Survey \(NLPS\)](#)

The Nigeria COVID-19 National Longitudinal Phone Survey (NLPS) is a monthly survey implemented by NBS in collaboration with the World Bank, which was initiated in early 2020 to monitor the impacts of the COVID-19 crisis. The survey is conducted over the phone with a subset of respondents from the GHS: this sampling approach makes it possible to trace the same individuals and households before and during the COVID-19 crisis. The survey covers important topics including knowledge and concerns about the pandemic, access to food and other basic needs, and crucially the labor market.

Since the NLPS is drawn from a subset of individuals and households captured by the GHS, it is possible to construct sample weights that produce nationally-representative estimates of key labor market indicators. Excluding households with no access to a mobile phone or who could not be interviewed despite several call attempts could introduce bias. However, drawing on the extensive set of variables available in the

2018/19 GHS alongside publicly-available phone survey weights makes it possible to correct this potential source of bias.

Annex 2: Estimating the impact of the 2016 oil recession on working and schooling for young Nigerians

Demographic, regional, or time trends unrelated to the oil recession might also influence the large changes in schooling rates and labor market outcomes for Nigerians between 2015 and 2019. Depending on the nature of these other “confounding” factors, the actual impact of the oil recession might be larger or smaller than the impact that can be inferred from simply inspecting time trends and comparing the 2015/16 GHS with the 2018/19 GHS.

Constructing a more rigorous “counterfactual” – that is, an alternative scenario in which the oil recession never occurred – can address these concerns. Comparing youth education and labor market outcomes in this counterfactual with what *actually* happened can deliver a more robust estimate of the impact of the oil recession. This annex develops a detailed counterfactual of the education and labor market outcomes of 20-25-year-olds that accounts for possible shifts in individual-level characteristics that might also explain the sudden change in outcomes before and after the oil recession.

This approach attempts to control for any potential differences in *observable* individual characteristics of the new cohorts – that is, those before and those after the recession hit – such as differences in family resources or regional shocks unrelated to the oil recession (such as climate or conflict shocks). In so doing, the approach also controls for other *unobserved* potential confounders that are closely correlated with these observable characteristics.

For the treatment effects presented below, counterfactual outcomes for the relevant sample of individuals in 2018/19 are created by estimating a model for the outcome of interest using information from the waves of the GHS before the impact of the oil recession could be measured. Thus, for the outcomes modeled here – secondary educational attainment and active labor market status of 20-25-year-olds – the *first three waves* of the GHS are used to estimate the model. Active labor market status refers to both those who are working and those who are available and searching for work.

This model is then used to predict the counterfactual probability of attaining secondary education or being active in the labor market – that is, the probability of each outcome if the oil recession had not occurred – for each individual in the relevant 2018/19 sample. The “treatment effect” for each individual is simply the difference between the actual realized outcome and the predicted outcome from the counterfactual model. Then “Average Treatment Effects” (ATEs) are calculated by averaging individual treatment effects across the relevant sample. The standard errors of the ATEs are calculated using bootstrap simulations.

To model the counterfactual for each outcome, a set of “proximate causal” factors are chosen that are both available in the data and thought to be important for that outcome. The proximate causal factors of gender, zone, urban-rural, and father’s education are included in the model. Zone and urban-rural are also interacted with time period, to help control for regional shocks in climate and conflict that might further influence the labor and educational outcomes of interest. A linear time trend is included to reflect secular trends in the outcome over time.

For this modeling exercise, causal factors are added sequentially in a simple linear model (with no interactions) and 10-fold cross-validation is used to evaluate the predictive performance of the model. A model is considered “better” at predicting “out of sample” if the variance of the R-squared statistics is lower, holding constant the mean of the R-squared. Similarly, a model is preferred if the mean R-squared

is higher, holding constant the variance of the R-squared statistics. For each outcome, the “best” model, using these criteria, is highlighted in gray in the tables below.

Results from a modified LASSO approach are also included to see how the estimates might change if the covariates are chosen simply to maximize prediction accuracy. In this exercise, the LASSO is implemented on the full set of interactions of the causal factors chosen from the “best” model described above, and the mean and standard deviation of the generated pseudo R-squared are reported. In general, the LASSO estimates suffer from weaker out of sample prediction ability. In both tables below, the LASSO model has both greater prediction ability but weaker stability of out of sample fit, illustrating the usual bias-variance trade off prediction models.

To examine whether the estimates are robust to different functional form assumptions, the predictions are calculated using both a linear probability model (LPM) and a linear discriminant model (LPM-LDM) transformation that constrains predictions to be within the range of 0 to 1. The <predict_ldm> package in Stata was used to calculate the LPM-LDM transformation.

Table 1 reports the estimated treatment effects of the different models described above for the outcome of secondary educational attainment. The sample is people aged 20-25 years, as almost all Nigerians that complete secondary education do so by age. Column 5 shows the ATE using the predictions from the LPM, while Column 7 shows the ATE using predictions from the LPM-LDM.

These results suggest that the oil recession decreased the share of 20-25-year-old Nigerians who had attained secondary education in 2018/19 by around 8 percentage points. This is close to the change in secondary educational attainment observed by simply inspecting the time trend and comparing the 2015/16 and 2018/19 GHS data. Models 4 and 6 are selected as the “best” models through comparing the mean and standard deviation of the R-squared calculations from the 10-fold cross validations (Columns 9 and 10). However, comparing the ATEs across all the models reported in Columns 5 and 7 shows that the estimates do not vary widely, ranging from 6 to 8 percentage points. The LASSO model – which includes a full set of interactions of all the variables present in Model 6 – also produces similar estimates of the ATE. The stability of these estimates provides some reassurance that omitted variable bias is not substantially affecting the estimates (Altonji, Elder and Taber 2005).

Table 1. Impact of the 2016 oil recession on secondary educational attainment of 20-25-year-olds in 2018/19, Average Treatment Effects (ATEs) from counterfactual model predictions

(1)	(2)	(3)	(4)	(5) (6)		(7) (8)		(9)	(10)
Model	Model Covariates	Rsqr	AdjRsqr	LPM		LPM-LDM		KFV R2 Mn	KFV R2 SD
				ATE	SE	ATE	SE		
1	t	0.219	0.215	-0.072	0.010	-0.073	0.010	0.181	0.023
2	t x Urb-Rur	0.255	0.251	-0.060	0.009	-0.061	0.009	0.217	0.026
3	t x Urb-Rur x Gender	0.281	0.276	-0.062	0.009	-0.062	0.009	0.237	0.036
4	t x Urb-rur x Gender x FatherEduc	0.278	0.273	-0.076	0.009	-0.081	0.009	0.240	0.019
5	t x Urb-Ryr x Gender x FatherEduc; t x Zone	0.280	0.274	-0.076	0.010	-0.079	0.010	0.239	0.026
6	t x Urb-Ryr x Gender x FatherEduc; t x Zone x Urb/Rur	0.294	0.287	-0.074	0.009	-0.079	0.009	0.243	0.025
LASSO	61 Covariates (not shown)	--	0.292	-0.081	0.010	-0.077	0.010	0.273	0.180

Source: GHS and World Bank estimates.

Notes: t is a linear time trend. Columns 5 and 6 give ATE estimates and their standard errors for a linear probability model; Columns 7 and 8 give ATE estimates and their standard errors for linear discriminant model transformation.

Table 2 reports the results of a similar exercise for the outcome of active labor market status of 20-25-year-olds. For parsimony, the models reported in this table only use the post-planting visit of each GHS wave. Once again, Column 5 shows the ATE using the predictions from the LPM, while Column 7 shows the ATE using predictions from the LPM-LDM.

The results suggest that the oil recession increased the likelihood that 20-25-year-old Nigerians were active in the labor market in 2018/19 by about 20 percentage points. Model 5 is selected as the “best” model because of its high mean R-squared. Yet, once again, the estimates are all relatively stable, ranging from 19 to 24 percentage points across the LPM and LPM-LDM approaches. These results are consistent with the decline in secondary educational attainment; an individual aged 20-25 years who is not in school is likely to be working or looking for work. While not reported in Table 2, conducting a similar exercise using the post-harvest visit for each GHS suggests that the oil recession increased the likelihood that 20-25-year-olds were active in the labor market in 2018/19 by about 6 percentage points.

Table 2. Impact of the 2016 oil recession on active labor market status of 20-25-year-olds in 2018/19 post-planting Season, Average Treatment Effects (ATEs) from counterfactual model predictions

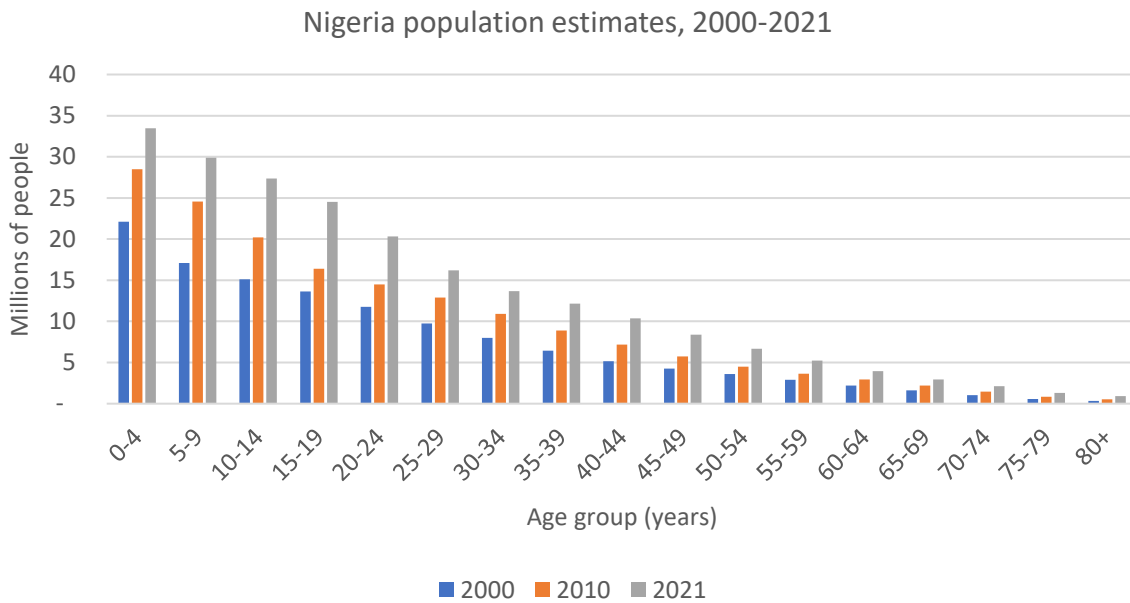
(1)	(2)	(3)	(4)	(5) LPM		(7) LPM_LDM		(9)	(10)
Model	Model Covariates	Rsq	AdjRsq	ATE	SE	ATE	SE	KFV R2 Mn	KFV R2 SD
1	t	0.0333	0.0311	0.2355	0.0103	0.2182	0.0108	0.0297	0.0133
2	t; Zone	0.0550	0.0522	0.2222	0.0095	0.1985	0.0098	0.0502	0.0130
3	t; Zone x Urb-Rur	0.0531	0.0496	0.2190	0.0101	0.1986	0.0109	0.0507	0.0158
4	t; Zone x gender	0.0624	0.0590	0.2130	0.0097	0.1910	0.0100	0.0562	0.0164
5	t; Zone x HH Size	0.0774	0.0714	0.2040	0.0193	0.2000	0.0193	0.0616	0.0183
LASSO	63 covariates (not shown)	--	0.1191	0.1940	0.0174	0.1980	0.0174	0.0983	0.2171

Sources: GHS and World Bank estimates.

Notes: t is a linear time trend. Columns 5 and 6 give ATE estimates and their standard errors for a linear probability model; Columns 7 and 8 give ATE estimates and their standard errors for linear discriminant model transformation.

Annex 3: Additional figures

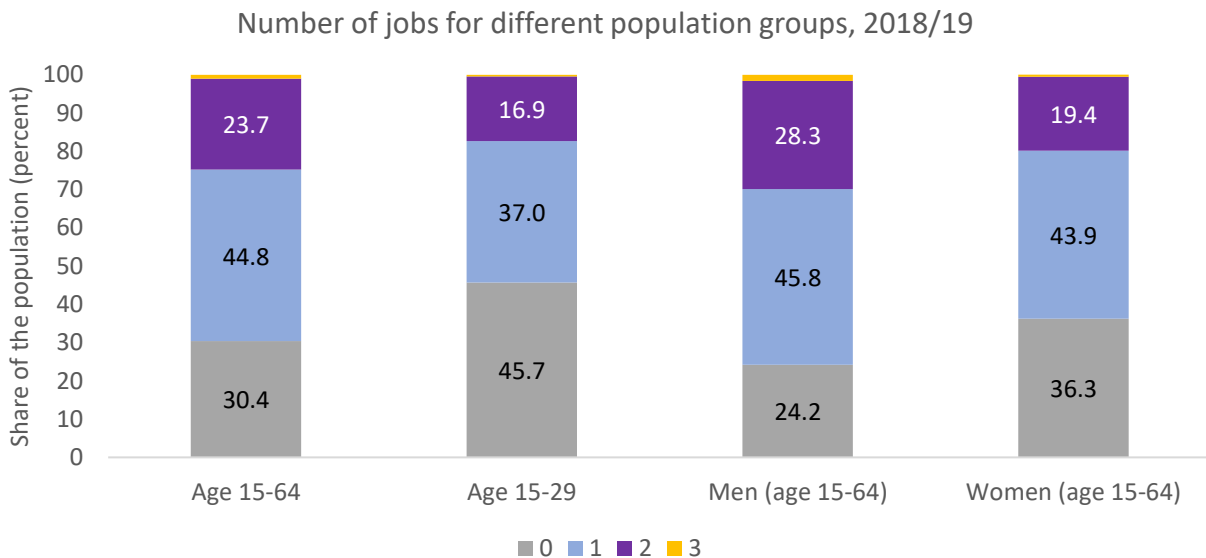
Figure 37. Nigerian population, US Census International Bureau estimates



Source: US Census Bureau, International Database and World Bank estimates.

Notes: 2021 figures are estimates calculated by the US Census. See US Census Bureau International database for details.

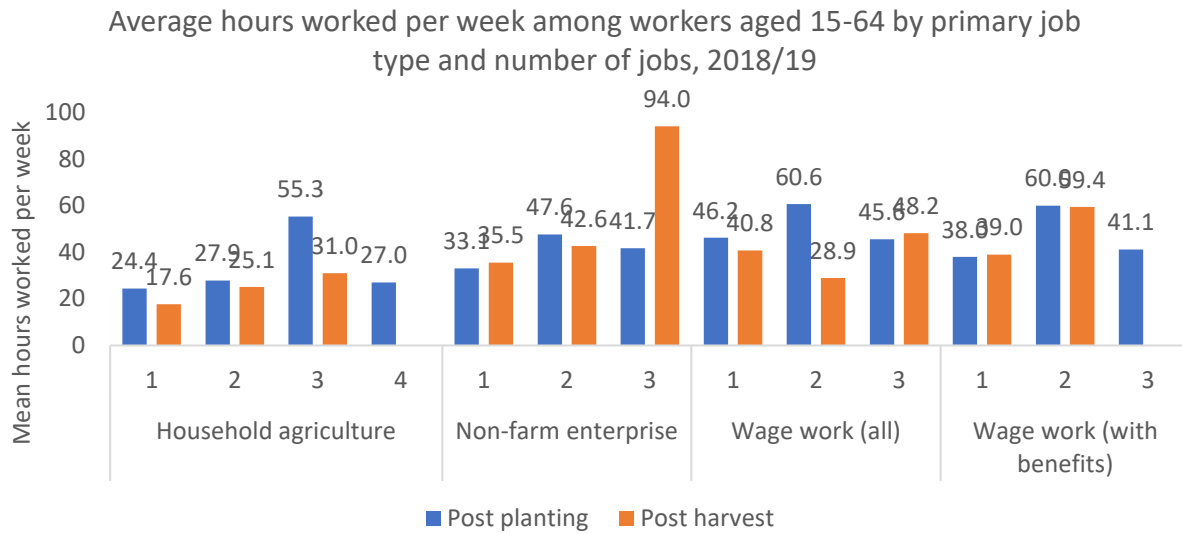
Figure 38. Number of job types per individual, 2018/19



Source: 2018/19 GHS and World Bank estimates.

Notes: Estimates averaged across post-planting and post-harvest visits. Sample for this figure (and all figures with only 2018/19 data) is limited to those in the specified age range with non-missing information on sex, age, and education.

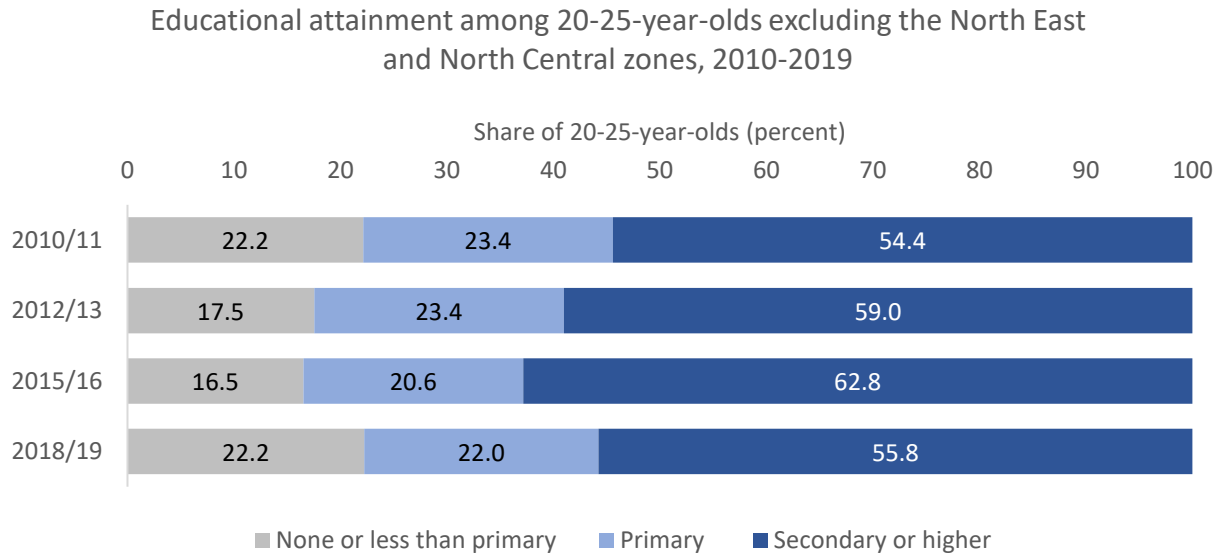
Figure 39. Average hours per week, by primary job type and number of job types



Source: 2018/19 GHS and World Bank estimates.

Notes: Wage work with benefits is defined here as wage work jobs that offer a pension or health insurance. Sample for this figure (and all figures with only 2018/19 data) is limited to those in the specified age range with non-missing information on sex, age, and education.

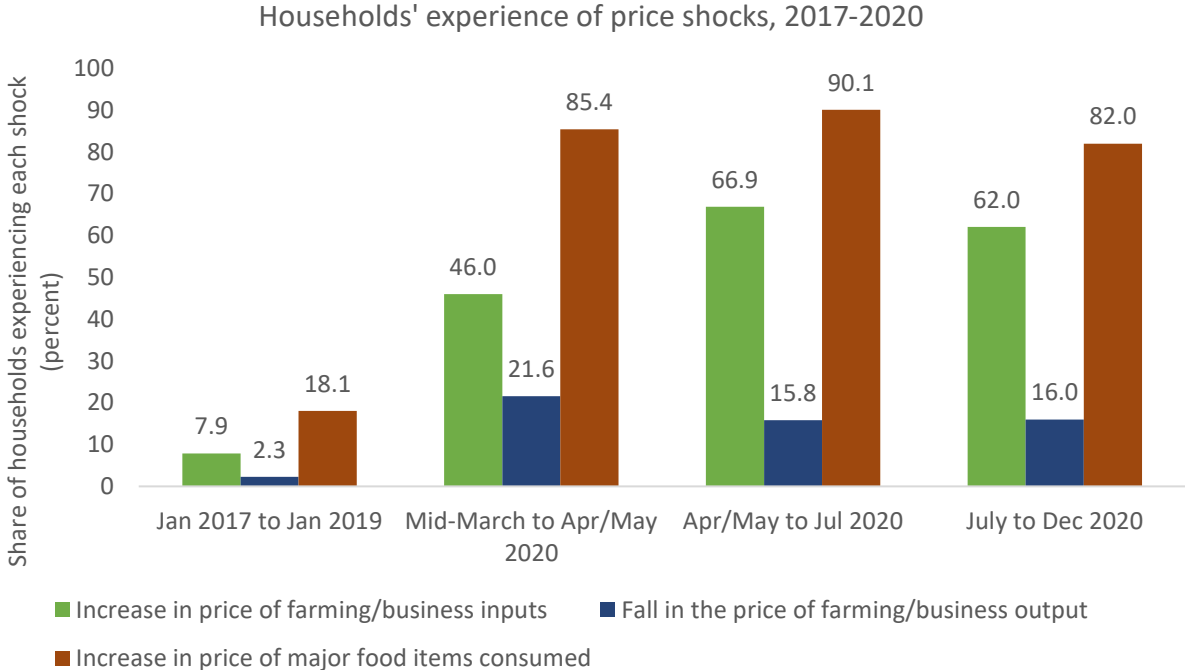
Figure 40. Educational attainment, people aged 20-25, excluding North East and North Central zones



Source: GHS and World Bank estimates.

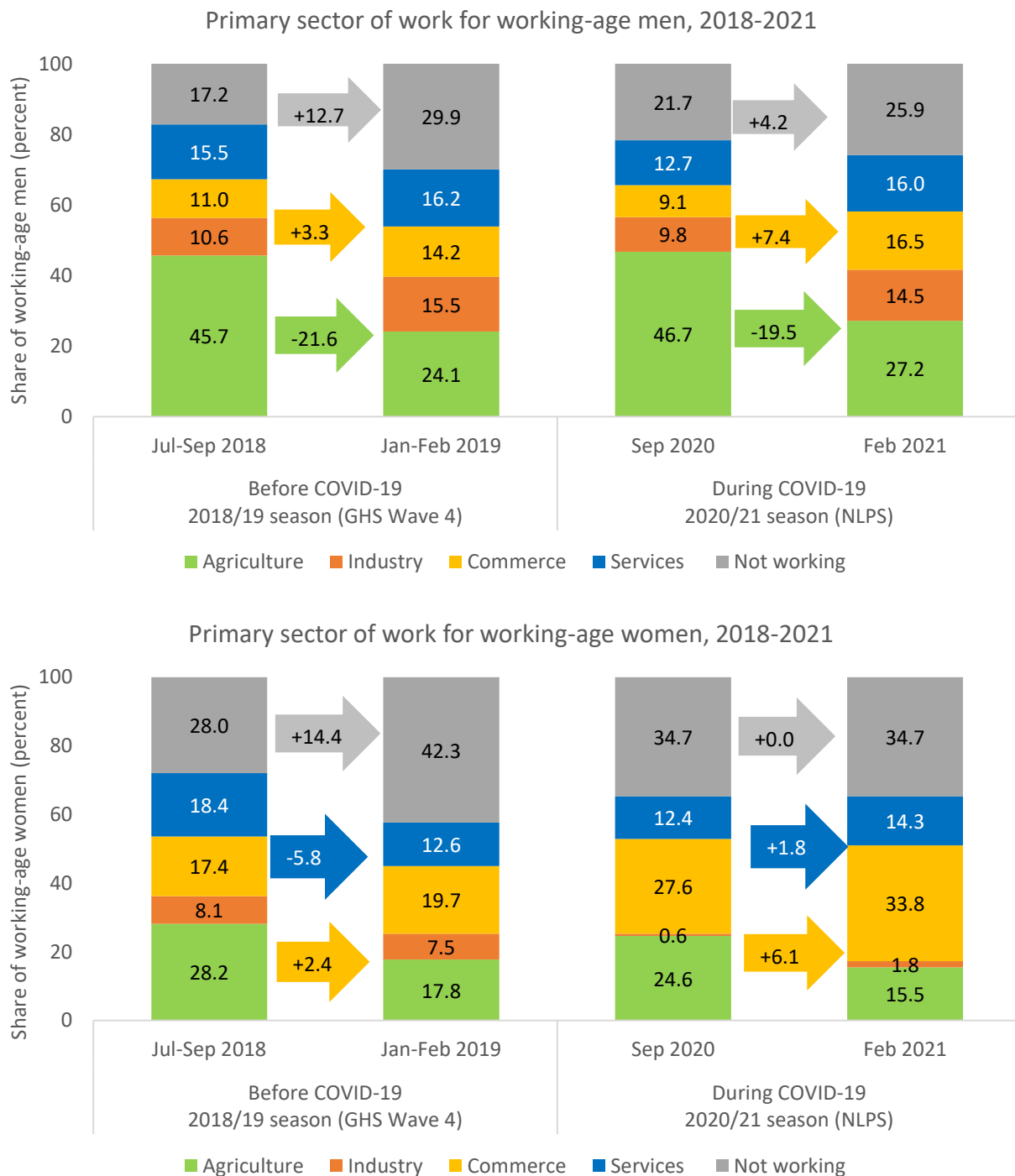
Notes: “None or less than primary” refers to individuals who have not fully attained primary education. “Primary” refers to attainment of at least full primary education but not full secondary education. “Secondary or higher” refers to attainment of senior secondary completion or higher. Chart focuses on those aged 20-25 years because almost all Nigerians who complete secondary education do so before age 20. Estimates averaged across post-planting and post-harvest visits.

Figure 41. Prevalence of price shocks experienced by Nigerian households



Source: GHS, NLPS, and World Bank estimates.

Figure 42. Shift in the share of people engaged in different sectors before and during the COVID-19 crisis, by gender



Source: 2018/19 GHS, NLPS, and World Bank estimates.

Notes: Estimates focus on primary job, defined as the job in which the individual worked the most hours. The sample is a panel of individuals observed across the relevant 2018/19 GHS visits and NLPS rounds with non-missing information on sector. In this figure, Industry includes Mining, Manufacturing, Utilities, Construction, Postal/Transport industries and Professional. Services include Public Administration, Education, Health, Personal Services, Business services.

Annex 4: Additional tables

Table 3. Transition matrix for job type, post-planting visit, 2010/11 to 2012/13

		2012/13				
		Not working	Wage work	Household agriculture	Non-farm household enterprise	Total
2010/11	Not working	22.5	1.8	3.6	4.2	32.2
	Wage work	1.4	5.9	0.8	0.9	9.0
	Household agriculture	5.6	0.8	21.6	3.6	31.6
	Non-farm household enterprise	5.3	0.8	2.4	18.7	27.2
	Total	34.8	9.3	28.4	27.4	100.0

Source: GHS and World Bank estimates.

Notes: Since information on hours worked is not available in earlier GHS waves, an alternative hierarchical definition of the primary job is used, which prioritizes wage work, then household agriculture, then non-farm household enterprises, in that order. Trainees and working individuals who cannot be classified by the hierarchical definition of primary job are excluded. Sample focuses on those individuals with non-missing job type in 2010/11 and 2012/13.

Table 4. Transition matrix for job type, post-planting visit, 2012/13 to 2015/16

		2015/16				
		Not working	Wage work	Household agriculture	Non-farm household enterprise	Total
2012/13	Not working	21.9	1.9	6.1	6.2	36.1
	Wage work	1.3	6.1	0.7	1.1	9.1
	Household agriculture	3.1	0.8	23.0	1.5	28.3
	Non-farm household enterprise	3.9	1.1	5.4	16.1	26.5
	Total	30.2	9.8	35.1	24.9	100.0

Source: GHS and World Bank estimates.

Notes: Since information on hours worked is not available in earlier GHS waves, an alternative hierarchical definition of the primary job is used, which prioritizes wage work, then household agriculture, then non-farm household enterprises, in that order. Trainees and working individuals who cannot be classified by the hierarchical definition of primary job are excluded. Sample focuses on those individuals with non-missing job type in 2012/13 and 2015/16.

Table 5. Transition matrix for job type, post-planting visit, 2015/16 to 2018/19

		2018/19				
		Not working	Wage work	Household agriculture	Non-farm household enterprise	Total
2015/16	Not working	16.1	1.7	6.7	6.2	30.7
	Wage work	1.4	7.0	1.2	1.0	10.6
	Household agriculture	3.2	1.5	25.4	2.1	32.3
	Non-farm household enterprise	5.0	1.6	6.2	13.6	26.4
	Total	25.7	11.8	39.5	22.9	100.0

Source: GHS and World Bank estimates.

Notes: Since information on hours worked is not available in earlier GHS waves, an alternative hierarchical definition of the primary job is used, which prioritizes wage work, then household agriculture, then non-farm household enterprises, in that order. Trainees and working individuals who cannot be classified by the hierarchical definition of primary job are excluded. Sample focuses on those individuals with non-missing job type in 2015/16 and 2018/19.

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