NIGERIA POVERTY ASSESSMENT 2022

A Better Future
for All Nigerians

WORLD BANK GROUP

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1. Introduction: Tackling poverty amid wide-ranging development challenges

Section 1 key messages

- *Even before COVID-19, Nigeria had not achieved the sustainable, inclusive growth the country needs to strongly reduce poverty*

- *Macroeconomic conditions and policy choices have constrained inclusive growth in Nigeria, but analysis needs to look beyond macroeconomic factors*

- *Coming atop climate and conflicts shocks, COVID-19 and rising inflation pose fresh threats to poverty reduction*

- *New microdata analyzed in this assessment can demonstrate Nigeria's pathways out of poverty*

The introductory section of this poverty assessment lays out the broad development challenges that Nigeria faces, which constrain the country's poverty reduction. The discussion provides the backdrop for the detailed analysis presented in later parts of the report. First, this introductory section links Nigeria's macroeconomic performance with its prospects for poverty reduction, emphasizing that the country may be struggling to stimulate *inclusive* growth: that is, growth that would benefit Nigerians across the welfare distribution. Second, the section examines the proliferating climate and conflict shocks that Nigeria faces, which further complicate poverty reduction. Third, the section describes how the "double shock" of COVID-19 has affected Nigeria— through both health and economic impacts—and discusses the recent acceleration in inflation. Finally, this introduction considers Nigeria's data landscape, explaining how new microdata offer vital insights into the country's pathways out of poverty.

1.1. Macroeconomic context: sustainable, inclusive growth remains elusive

Nigeria's growth performance was declining even before the COVID-19 crisis. Between 2000 and 2014, Nigeria enjoyed a period of sustained expansion, during which the economy grew by around 7 percent per year, outstripping the estimated annual population growth rate of 2.6 percent. Yet real GDP growth dropped to 2.7 percent in 2015, then -1.6 percent in 2016, as the decline in global oil prices induced Nigeria's first recession in almost two decades (Figure 1). Growth has not recovered subsequently. It lies below population growth *and* the growth performance of peer countries over the same period. This weakening overall growth performance makes it significantly harder to reduce poverty.

Nigeria's dependence on oil exports is one of the leading causes of its frail growth prospects; it may also prevent any growth from being broad-based. In 2019, while oil represented just 10 percent of GDP, it accounted for more than 80 percent of Nigeria's total exports. Indeed, this has been true in every year since the 1970s. This leaves Nigeria's economy extremely exposed to movements in global oil production and global oil prices. Moreover, despite oil's importance for exports, extractive industries are not a large employer in Nigeria. This means any growth due to oil production would not necessarily be shared among workers and households: less than 1 percent of working Nigerians are employed in mining and extractives, with the share being even smaller among those from poor households.

Figure 1. Economic growth and population growth in Nigeria, 2001–2019

Real GDP and population growth rate (percent)

Note: Real GDP deflated using the GDP deflator.
Source: Nigerian National Bureau of Statistics (NBS) and World Bank estimates.

Conditions that weaken poverty reduction

Other distortionary policies—especially on exchange rates and trade—could further weaken Nigeria's prospects for inclusive growth and poverty reduction. Nigeria's multiple exchange rates for different types of transactions and the country's trade restrictions—including bans on certain goods and the 2019 border closure—may reduce investor confidence. This, in turn, could limit foreign direct investment (FDI) and competition, factors required to support firms and the job creation needed for broad-based growth. Such policies can also have immediate negative effects on poverty reduction through the price channel, as trade restrictions can make the goods that poor households consume—especially food items—more expensive, reducing people's purchasing power and welfare in turn. Spotlight 1 describes how trade policy distortions affect household welfare in more detail.

Low revenue mobilization also leaves Nigeria fiscally constrained, making it more difficult for the government to invest in the infrastructure, human capital, and social protection needed to promote inclusive growth. In 2019, just prior to the COVID-19 crisis, Nigeria's public revenues were very low, at just 8 percent of GDP, with only half of these revenues coming from non-oil sources. Public expenditures represented only 12 percent of GDP—significantly lower than in peer countries—and spending on health, education, and infrastructure was hampered, as resources were diverted towards subsidies for electricity and fuel, which benefit richer Nigerians relatively more than poorer people. Thus, the pro-poor government spending that could broaden the base of growth is currently lacking in Nigeria.

Looking beyond macroeconomic factors

Focusing on the macroeconomy alone is insufficient, as poverty reduction depends intrinsically on how welfare is *distributed* and on the opportunities that households have to improve their wellbeing. Global evidence increasingly suggests an overall story of convergence in GDP per capita, with poorer countries catching up to richer ones (Kremer, Willis, & You, 2021). Yet this has not corresponded with convergence in poverty rates (Ravallion, 2012). In part, this is because growth is not being distributed to poor households. Labor markets are not sharing the proceeds of growth as well as they did in the past, while the ongoing COVID-19 pandemic could weaken democratic processes in some settings, further undermining the institutions that can lead to redistribution (Pande & Enevoldsen, 2021). Relatedly, public investment in human capital and infrastructure may be needed to create the opportunities for income generation that ensure that growth reaches all households.

The *spatial* distribution of poverty in Nigeria, as in other high-poverty middle-income countries, is a key element of poverty reduction. As shown in detail throughout this report, poverty—measured in various different ways—is clustered in northern Nigeria and in rural areas. This type of clustering of poverty occurs in similar countries: as Pande and Enevoldsen (2021) show using data from the World Income Inequality Database, the income shares of the top 1 percent are high and increasing in many high-poverty middle-income countries. Given these intra-country spatial patterns, poverty reduction in Nigeria depends strongly on reducing inequality between different regions of the country and between rural and urban areas: this requires an active role for the government in redistribution.

Addressing spatial inequality hinges on Nigeria's federal structure; states and local governments are at the frontline of delivering key public services, which are crucial for poverty reduction. Since 1999, Nigeria has been governed through a federal system, comprised of the federal government, 36 state governments (plus the Federal Capital Territory (FCT) in Abuja), and 774 Local Government Areas (LGAs). While the federal government is responsible for spending for some functions of government—including defense, law enforcement, and large-scale transport such as shipping, federal trunk roads, and aviation—many public services are implemented by sub-national governments at the state and LGA levels. In particular, state governments are at least partially responsible for providing education and healthcare while LGAs are responsible for municipal services and local economic planning (Khemani, 2003; World Bank, Forthcoming). All other things equal, devolving spending on basic health and education services to the states could ensure that the specific needs of different parts of Nigeria are identified and addressed quickly.[1]

Despite their large role in implementing key programs, states and local governments rely on revenue collected at the federal level; sub-national data on poverty and welfare could help ensure this federal system adequately addresses the different development challenges faced across Nigeria. While state and local governments implement almost half of government spending, the majority of their revenues are statutory transfers from the federal government (World Bank, 2017). It is not uncommon for sub-national governments to rely on national governments for funding, but the *extent* of this reliance is stronger in Nigeria than in many other countries (World Bank, 2017; World Bank, Forthcoming). This may give less incentive to ensure spending is

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1   Nevertheless, some elements of basic health and education service provision still rest with the federal government—including setting standards—which may introduce coordination challenges.

directed carefully to poverty-reducing causes and could leave states susceptible to overall shocks to the federal budget, as in the 2016 recession and the COVID-19 crisis. Moreover, the formula for distributing federal funds to the states only partly accounts for states' different needs; much of the federal funding transferred to states is simply distributed equally to each state.[2] Against this backdrop, this poverty assessment seeks to highlight heterogeneity in the development challenges faced across Nigeria by providing statistics on poverty—and other welfare indicators—at the state level. This could help to ensure that Nigeria's fiscal federalism fosters poverty reduction.

This poverty assessment looks to microdata for a more detailed understanding of poverty reduction in Nigeria. While many macroeconomic data are released fairly regularly in Nigeria—with GDP data and price data published at least every quarter—the microdata needed to measure welfare and poverty and to tackle distributional issues are far less frequent. This makes linking macro and micro issues more challenging. Yet, as described in detail below, new microdata collected just before, and then during, the COVID-19 crisis present a unique opportunity to take a more rounded look at poverty reduction in Nigeria.

1.2. Climate and conflict shocks could increasingly hamper poverty reduction

Compounding macroeconomic frailties, shocks and uncertainty may blight Nigeria's progress on poverty reduction; climate change could intensify shocks, further limiting opportunities to spread the proceeds of growth. Many non-poor Nigerians are only one small shock away from falling into poverty, while those who are already poor could be pushed into even deeper deprivation. Climate-related shocks—such as floods and droughts—are particularly harmful because they threaten the rain-fed agricultural and pastoral activities that are common among households living below or just above the poverty line. This issue is discussed in detail in Section 5. Uncertainty about when such shocks may hit, combined with a lack of coping or insurance mechanisms, can trap households in poverty by discouraging the adoption of high-risk, high-reward technologies or investment in human and physical capital (see, for example, Dercon (2002)). This problem may currently be getting worse: climate change threatens to make floods and droughts more frequent and more severe, compounding this challenge for poverty reduction in Nigeria. Given the influence of shocks on income generation, it becomes even harder for any growth to percolate to Nigerian households and raise their living standards.

Alongside increasing climate shocks, conflict events have proliferated, displacing populations, disrupting markets, and interrupting Nigerians' livelihoods. Fatal conflict events have become more widespread across Nigeria in the past two decades, especially in the country's north (Figure 2).[3] This corresponds to the onset of the Boko Haram insurgency in 2009 in Nigeria's North East zone, the rise of criminal gangs and banditry in the North West, and growing political violence and vigilante groups in the south (Felbab-Brown, 2021; International Crisis Group, 2021). The knock-on effects on forced displacement have been sizeable: for example, across the Lake Chad region (including Nigeria as well as Cameroon, Chad, and Niger), the Boko Haram insurgency had already left 2.5 million people as refugees or internally displaced by 2016, cutting off their access to livelihoods and income (World Bank and UNHCR, 2016). Growing evidence from within Nigeria also documents how agricultural markets, and in turn food security, have been disrupted by conflict events (Awodola & Oboshi, 2015; Van Den Hoek, 2017; Jelilov, Ozden, & Briggs, 2018; Blankespoor, 2021). Thus, in line with global evidence, conflict is a severe constraint on poverty reduction in Nigeria (Corral, Irwin, Krishnan, Mahler, & Vishwanath, 2020).

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2   Of the federal funds that are transferred to states, 40 percent are shared equally across states, 30 percent are shared according to states' populations, 10 percent are shared according to landmass and terrain, 10 percent are shared according to social development outcomes, and 10 percent are shared according to each state's own independently-generated revenue (to reward state-level revenue collection); this formula is based on the 1981 Revenue Allocation Act (Mered, 1997).

3   Overall, there were actually more conflict events in Nigeria's south, but a smaller share of these events were fatal.

Figure 2. Conflict events with fatalities in Nigeria, 2000–2020

Note: Maps focus on fatal conflict events.
Source: ACLED and World Bank estimates.
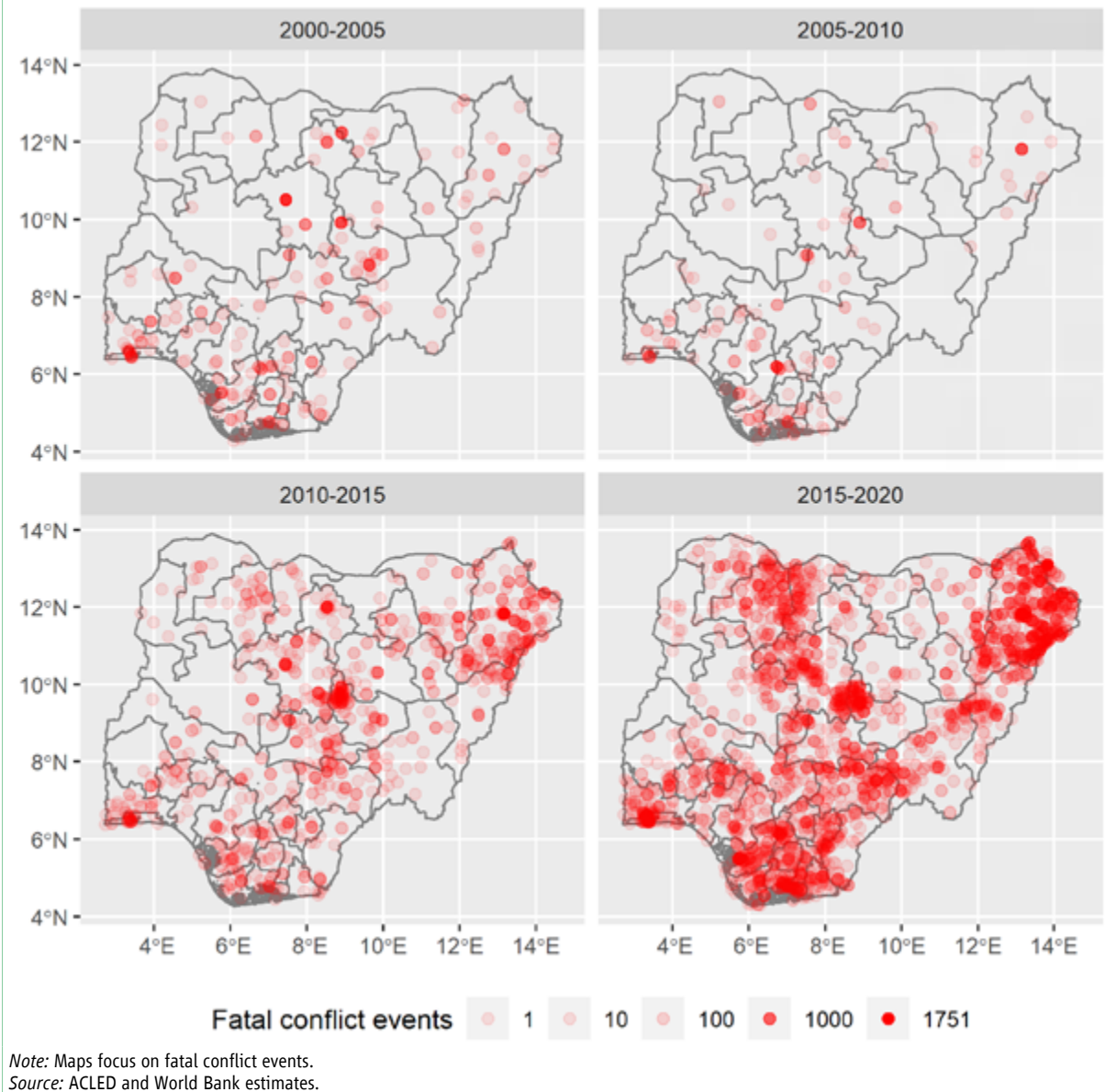
Conflict events appear to be related to seasonal pressure on resources, suggesting Nigeria may confront a nexus between conflict, climate, and poverty. In particular, conflict appears to be inherently seasonal. For example, among Nigeria's Fulani community[4]—whose livelihoods depend primarily on agriculture and especially on pastoralism—fatal conflict events appear to be more prevalent in the lean season, when water for forage to feed animals and for rain-fed crops is less available (see Section 4 for details on seasonality, and see Panel A, Figure 3). Indeed, satellite imagery demonstrates that this seasonal spike in fatal conflict events directly corresponds to the part of the year when vegetation is sparsest (Panel B, Figure 3). Conflict also disrupts agricultural production—by impeding access to inputs and to fields for planting and harvesting—and restricts the water sources that are available for livestock herders, further intensifying pressure on resources (Adelaja & George, 2019; FAO, 2020). This can set up a vicious cycle involving conflict, the resources needed for agriculture and pastoralism, and poverty.

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4   Within Nigeria, the ACLED database, which records conflict events, references the Fulani Ethnic Militia (based in Nigeria or Chad) as a specific actor.

Figure 3. Seasonality and conflict events among Fulani communities in Nigeria in the past decade

Panel A: Monthly variation in fatal conflict events among Fulani in Nigeria, 2010–2020

Fulani events with fatalities
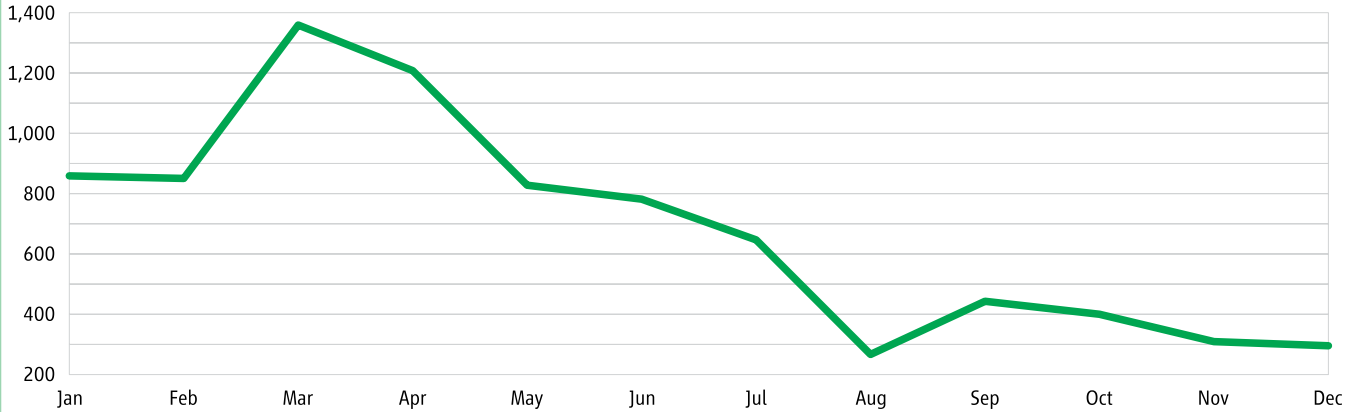
Panel B: Month-by-month fatal conflict events among Fulani in Nigeria and vegetation
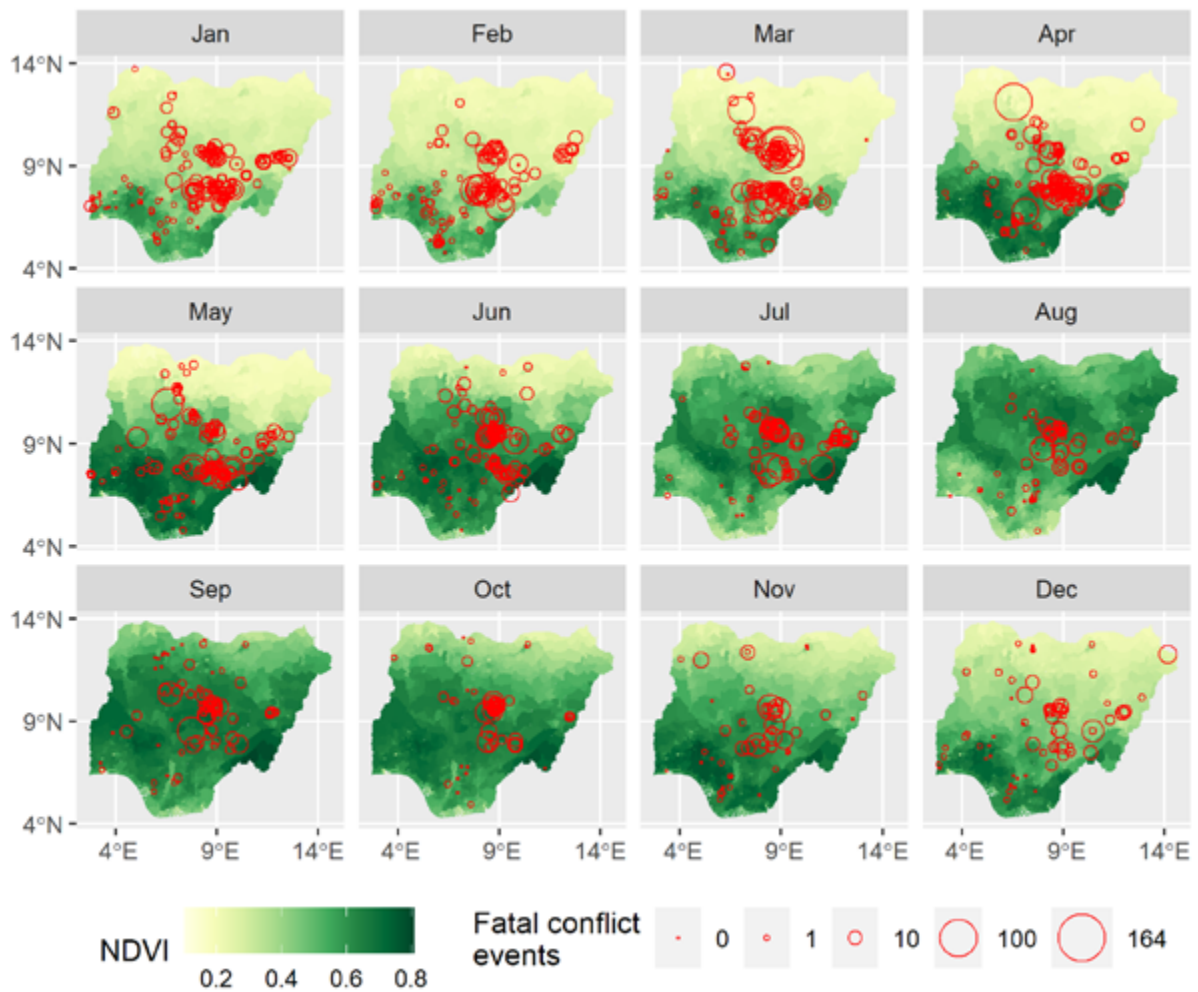
Note: NDVI = Normalized Difference Vegetation Index, a measure assessing the extent of vegetation in a given area. Panel B reports fatal conflict events. Conflict data cover the period 2010–2020. NDVI data cover the period 2001–2020.
Source: ACLED (for conflict data), MOD13A2 (Version 6) Terra Vegetation Indices 16-Day Global 1km (for NDVI data), and World Bank estimates.

1.3. COVID-19 and inflation pose added threats to poverty reduction

The health impacts of COVID-19 have not spared Nigeria. The country recorded its first case of COVID-19 on February 27, 2020, and has subsequently already suffered at least three distinct waves of infection, peaking in June 2020, January 2021, and August 2021 (Panel A, Figure 4). The proliferation of the omicron variant is leading to a fourth wave of infections, as of January 2022. Health and safety measures—including inter-state and international travel bans, restrictions on mass gatherings, and school closures—have waxed and waned with case numbers, as the federal government has sought to contain the spread of the virus.

Many of the primary effects of the COVID-19 crisis have been economic, rather than health related, partly due to Nigeria's pre-crisis conditions. The early part of the COVID-19 crisis ushered in Nigeria's deepest recession since the 1980s, with services and industry hit especially hard (Panel D, Figure 4). This partly stemmed from lockdown measures restricting people's ability

Figure 4. The changing nature of the COVID-19 crisis in Nigeria

Panel A: COVID-19 cases and government response
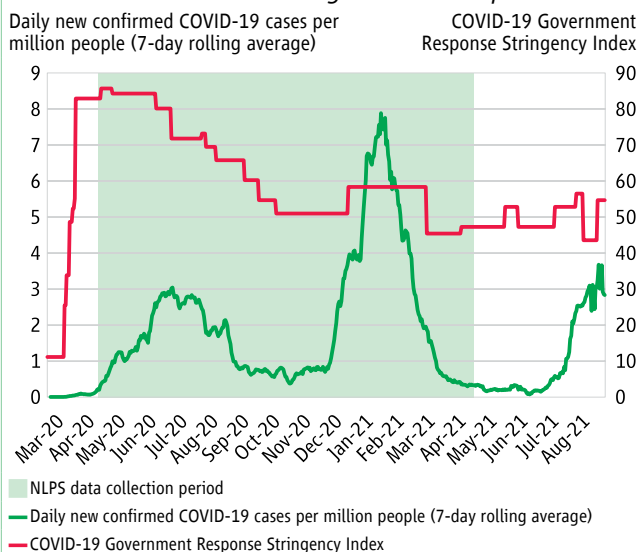
Panel B: Mobility changes
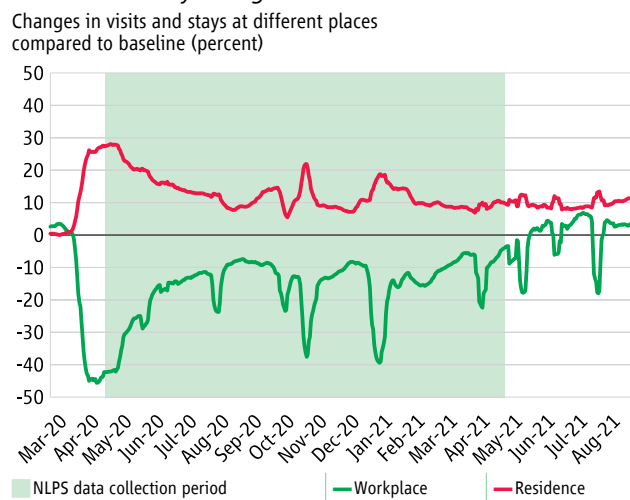
Panel C: Inflation and oil prices
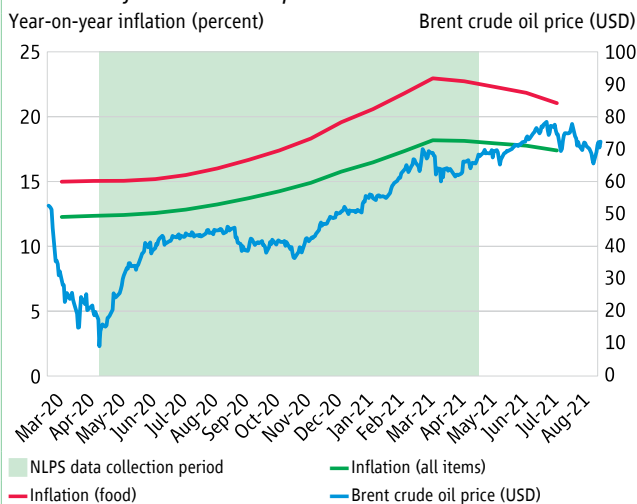
Panel D: Sectoral GDP growth
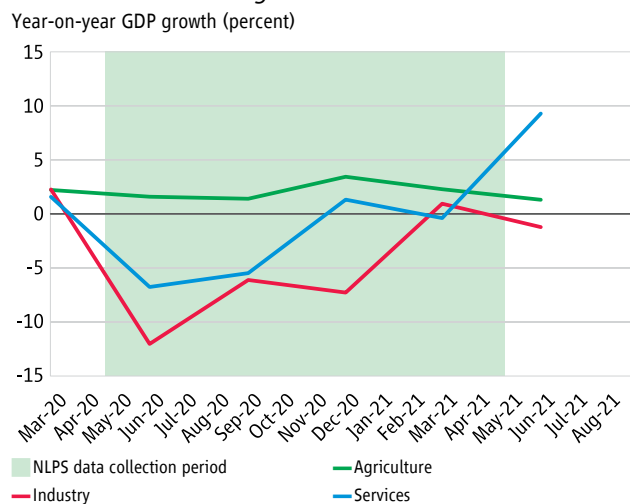
Note: Baseline for mobility data comes from median value over the five-week period from January 3 to February 6, 2020 Inflation data posted monthly. GDP data posted quarterly.
Source: Our World in Data (for case numbers), Oxford COVID-19 Government Response Tracker (for Stringency Index), Google Mobility Reports, Macrotrends (for oil prices), and Nigerian National Bureau of Statistics (NBS; for inflation and GDP data).

to go to work (Panel B, Figure 4). Yet Nigeria's long-standing dependence on oil clearly affected how the country fared during the pandemic, as the recession was sparked by the sharp drop in the price of oil, which tumbled more than 60 percent between February and May 2020 (Panel C, Figure 4). In the more recent stages of the COVID-19 crisis, even though economic activity began to recover, inflation started to accelerate, especially for food items that are crucial for consumption among the poor and vulnerable (Panel C, Figure 4). By disrupting markets, the crisis has exacerbated pre-existing structural distortions—including trade restrictions, such as Nigeria's 2019 border closure—which were already driving up prices and eroding purchasing power before the pandemic.

This poverty assessment aims to characterize what the COVID-19 crisis may mean for poverty reduction in Nigeria, but deep uncertainties remain. Data collected just before and then during the COVID-19 crisis provide a recent perspective on how human capital, livelihoods, and welfare evolved for Nigerian households as the pandemic advanced. Yet the epidemiology of new variants, the true magnitude of economic damage, and the degree to which wealthier countries will share vaccines and other vital resources with poorer nations remain open questions. This is therefore a pivotal moment for providing the policy insights that could help Nigeria emerge from the COVID-19 crisis and build back better.

1.4. New microdata can inform Nigeria's pathways out of poverty

Just prior to the COVID-19 crisis, Nigeria produced its first official estimates of welfare and poverty in almost a decade, through the 2018/19 Nigerian Living Standards Survey (NLSS). The 2018/19 NLSS heralded a concerted effort by Nigeria's National Bureau of Statistics (NBS)—in collaboration with the World Bank—to improve the country's microdata landscape. It not only provides the data on monetary consumption needed to measure poverty, using recent best international practices to construct an accurate estimate, but also provides key information on health, education, basic infrastructure such as water and electricity access, the labor market, and shocks and social protection. The 2018/19 NLSS is representative at the national, urban-rural, and state levels, which is essential given Nigeria's federal structure and its patterns of spatial inequality. The 2018/19 NLSS can provide crucial high-level policy insights, and thus forms the backbone of this poverty assessment.

Nevertheless, the 2018/19 estimates of poverty in Nigeria cannot technically be compared with the country's previous official poverty estimates, making it difficult to construct a poverty trend. As discussed in detail in Section 2, improvements to the questionnaire and survey modality made for the 2018/19 NLSS mean that it cannot be directly compared with the 2009/10 Harmonised Nigerian Living Standards Survey (HNLSS), on which Nigeria's previous poverty estimates were based. This means that alternative methods are needed to assess how poverty evolved in the decade prior to the COVID-19 crisis. Section 2 also describes how back-casting and survey-to-survey imputation methods may be used to construct a poverty trend for Nigeria, despite these data constraints.

New tools provide insights into COVID-19's impacts on poverty

Through the Nigeria COVID-19 National Longitudinal Phone Survey (NLPS), it is possible to monitor how the COVID-19 crisis has actually affected households' human capital, livelihoods, and welfare. The NLPS resulted from a partnership between NBS, the Bill and Melinda Gates Foundation (BMGF), the United States Agency for International Development (USAID), and the World Bank. It collected key socioeconomic information from Nigerian households for each month between April 2020 and April 2021, thus producing 12 rounds of high-frequency data *during* the COVID-19 crisis. The nationally-representative sample was drawn from an existing panel survey—the General Household Survey (GHS)—which had been collected in Nigeria in four waves in 2010/11, 2012/13, 2015/16, and 2018/19. Thus, the NLPS provides real-time insights into Nigeria's prospects for poverty reduction during the COVID-19 crisis, without relying on models or simulations.

1.5. Structure of the poverty assessment

This poverty assessment represents the culmination of the World Bank's ongoing engagement on poverty- and inequality-relevant data and analytics in Nigeria. Throughout the past two years, the World Bank has generated a series of policy notes, blogs, presentations, and other documents to provide an evidence base for poverty reduction policies in Nigeria. One key aim of this poverty assessment is to synthesize the findings from across this long-standing engagement, providing additional oxygen to the key policy messages that have emerged.

The poverty assessment also introduces new analysis, which could strengthen the evidence base for Nigeria's poverty reduction policies. In particular, the poverty assessment brings in deeper analysis on the relationship between the labor market and poverty, climate shocks, and the role of social protection in poverty reduction. The report also features three "spotlights": these are mini-case studies on specific policy debates that are ongoing in Nigeria. Spotlight 1 tackles trade distortions and household welfare, Spotlight 2 examines food insecurity, and Spotlight 3 considers fuel subsidy reform and Nigeria's political economy.

Given Nigeria's federal structure, the poverty assessment aims to disaggregate the results by state where possible, applying an explicitly geospatial lens. Socioeconomic outcomes differ dramatically between Nigeria's states, especially between those in the north and those in the south. Nigeria's fiscal federalism—as described above—also leaves Nigeria's states at the frontline of delivering key public services (World Bank, 2020). Providing data at the state level is therefore crucial for guiding the design and implementation of policies that can reduce poverty in Nigeria.

The poverty assessment is organized as follows. Section 2 describes the headline poverty and inequality statistics for Nigeria from just before the COVID-19 crisis. Section 3 considers non-monetary deprivation and multidimensional poverty. Section 4 explores the crucial role of the labor market for long-term, sustainable poverty reduction in Nigeria. Section 5 assesses how shocks, especially climate-related shocks, limit Nigeria's prospects for poverty reduction and explains the importance of social protection. Section 6 turns to policy, mapping out the key decisions facing Nigeria's leaders and potential pathways to poverty reduction.

2. Poverty is high in Nigeria, and the country is spatially unequal

Section 2 key messages

- *In 2018/19, before COVID-19, some 40.1 percent of Nigerians were living in poverty, about 82.9 million people; poverty reduction had stagnated since 2015*

- *Poverty in Nigeria is distributed unequally across the country; dramatic spatial welfare differences separate the country's rural and urban areas and its northern and southern states*

- *The COVID-19 crisis may push more than 5 million more Nigerians into poverty by 2022*

- *Around 1 in 5 poor people in Sub-Saharan Africa live in Nigeria, making the country's progress in poverty reduction crucial for overcoming poverty in the region and the world*

This section of this poverty assessment describes Nigeria's headline poverty and inequality statistics from just before the COVID-19 crisis; it then marshals recent data on how the pandemic is impacting poverty. The section first considers the extent of poverty and inequality in Nigeria, using data from the 2018/19 Nigerian Living Standards Survey (NLSS), collected just before COVID-19 struck. The analysis gives special attention to spatial inequality, considering how poverty was distributed across the country, an important concern given Nigeria's federal structure. Building on this, the section also provides a simple "poverty profile," detailing which Nigerians are most likely to be in poverty. Later parts of the section highlight Nigeria's exceptional importance for regional and global poverty reduction. The section concludes by presenting projections of how poverty and welfare in Nigeria may be changing as the COVID-19 crisis unfolds.

2.1. How poverty is measured in Nigeria

The most recent estimates of poverty and welfare in Nigeria rely on high-quality data collected through the 2018/19 NLSS. These data were collected by Nigeria's National Bureau of Statistics (NBS), in collaboration with the World Bank, between September 2018 and October 2019. By spanning 12 months, the 2018/19 NLSS data are balanced across different seasons. This is important, as a large proportion of Nigerians still work in agriculture (see Section 4). The 2018/19 NLSS sample was designed to be representative at the national, zonal, and state level. While the survey is not explicitly stratified by urban and rural areas, urban and rural estimates can be obtained for Nigeria as whole.[5] This facilitates geographical disaggregation of the results, especially important in a federation like Nigeria. The survey captured a wide range of socioeconomic indicators, including modules on household demographics, education, health, labor, farm and non-farm enterprises, household assets, access to safety nets, housing conditions, exposure to shocks, and—crucially—expenditures on food and non-food goods. The 2018/19 NLSS data allowed the NBS to launch the first official estimates of poverty and inequality in Nigeria in almost a decade, in May 2020.

Poverty and welfare are measured using data on consumption rather than income in Nigeria, as in many other countries at similar levels of economic development. The 2018/19 NLSS contains detailed information on consumption of both food and non-food items. As such, the "consumption aggregate"—the main proxy for welfare used in this poverty assessment—incorporates seven key components: (1) non-purchased food (from own production or gifts); (2) purchased food; (3) meals consumed outside the home; (4) schooling and education expenditures; (5) expenditures related to healthcare of household members; (6) housing expenditures; and (7) expenditures on other non-food goods and services, including transport, fuel, electricity, household items, and clothing. While some elements of income are captured by the 2018/19 NLSS, the methodology for measuring consumption was far more rigorous.[6] In settings, like Nigeria, where savings are rare, the difference between income and consumption may be small, so choosing the best-measured indicator of the two is the most tenable approach.

To facilitate comparisons across space and time, and to enable comparisons with the poverty line, the consumption aggregate is spatially and temporally deflated and converted to per capita terms. The prices that Nigerian households faced in 2018/19 may have differed, depending on where they lived and the time at which data were collected; year-on-year CPI inflation in Nigeria in October 2019—just after the survey finished—stood at 11.6 percent. To account for this, an internationally-recognized approach is used to construct a price deflator; this is then applied to the nominal values of household consumption to create

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5   The only exception is Borno state. Some parts of Borno state were inaccessible when the NLSS was collected. Only 530 households were reached, corresponding to 15 Local Government Areas (LGAs) out of the 27 LGAs that were originally sampled. Thus, the statistics that are reported for the whole of Nigeria do not include Borno, which accounted for around 2.5 percent of the country's population in 2018/19.

6   The incomes and revenues from wage jobs, non-farm enterprises, and agriculture were collected through separate modules, but not in a consistent way across the different sources. There are also gaps in potential income sources in the 2018/19 NLSS: for example, the agriculture module focuses only on the main crop sold. This makes it more difficult to measure income and use it as a proxy for welfare.

"deflated values," which can be compared across time and space.[7] Additionally, since some households are larger than others, household-level deflated consumption is converted to per capita terms by dividing by household size.[8]

Spatial inequalities in consumption: urban and rural, north and south

Consumption patterns differ between urban and rural areas and across different regions in Nigeria. In urban areas, median deflated per capita consumption is significantly higher, with a smaller share coming from own-produced food, than in rural areas (Figure 5). This means a larger share of urban households' consumption basket is devoted to education, housing, and other non-food items.[9] Similar differences arise between Nigeria's northern zones and its southern zones. While the collection of the 2018/19 NLSS was not stratified temporally, differences in consumption patterns between different quarters of data collection—especially in terms of shares of the consumption basket—appear to be far more minor.

Figure 5. Consumption patterns in Nigeria by urban-rural, quarter of data collection, and zone in 2018/19

Panel A: By urban-rural

Panel B: By quarter

Panel C: By zone

Own-produced food · Purchased food · Meals outside the home · Education · Health · Housing · Other non-food · Total consumption

Note: Estimates exclude Borno.
Source: 2018/19 NLSS and World Bank estimates.
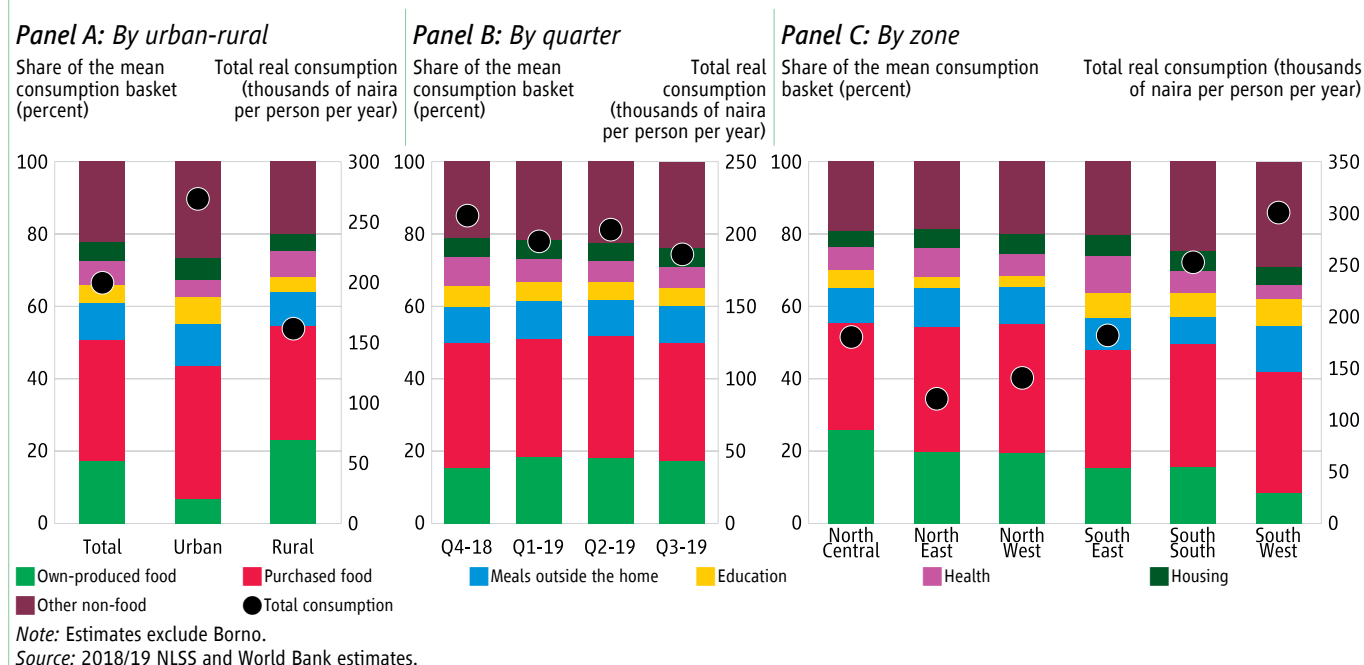
Nigeria's national poverty line was calculated using a "cost of basic needs" approach, based on estimates of the money needed to maintain a basic level of welfare. This was done through three key steps. First, the per capita caloric requirement for Nigeria was calculated using information on the demographic make-up of the country, since caloric requirements differ by age and sex. This yields an average caloric requirement of 2,251 calories per person per day. Second, the monetary expenditure needed to obtain 2,251 calories was calculated using information on food expenditure and caloric intake for those households with per capita consumption from the second through the fifth consumption deciles. This gives the so-called "food poverty line." Third, an amount is added for non-food items, given by the average consumption of non-food items among those households whose per capita food expenditure is close to the food poverty line. Adding the food poverty line to this allowance for non-food items gives the national poverty line of 137,430 naira per person per year; this equates to roughly 1.93 USD 2011 PPP per person per day.[10]

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7   Specifically, a Paasche index was created using unit values of food items collected in the 2018/19 NLSS consumption module itself.

8   In Nigeria's northern zones, the average household size was 6.4 in 2018/19. In the country's southern zones, it was 4.1.

9   Interestingly, the share of the consumption basket devoted to health is larger in rural areas—at 7.3 percent—than urban areas—4.9 percent.

10   Nigeria's national poverty line is therefore very close to the international poverty line of 1.90 USD 2011 PPP per person per day. This international poverty line is used for making cross-country comparisons, which feature below.

2.2. Poverty was widespread in Nigeria, even before COVID-19

Just prior to the outbreak of COVID-19, around 4 in 10 Nigerians were living in poverty. Comparing the deflated per capita consumption aggregate with the poverty line—as described above—makes it possible to calculate the share of Nigerians living in poverty: this is the "poverty headcount rate." In 2018/19, around 40.1 percent of Nigerians lived on less than the national poverty line of 137,430 naira per person per year (see Figure 6).[11] This means that some 82.9 million Nigerians were living in poverty.[12] Poverty was more concentrated in rural areas, where 52.1 percent of the population were poor, than urban areas, where 18.0 percent of the population were poor. Some 84.1 percent of poor Nigerians lived in rural areas. This, in itself, is a marker of Nigeria's spatial inequality.

Figure 6. Poverty headcount rate and number of poor people in Nigeria in 2018/19, by urban-rural

Panel A: Poverty headcount rate
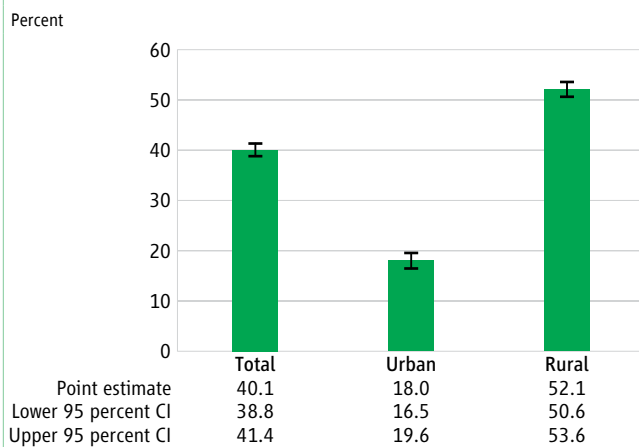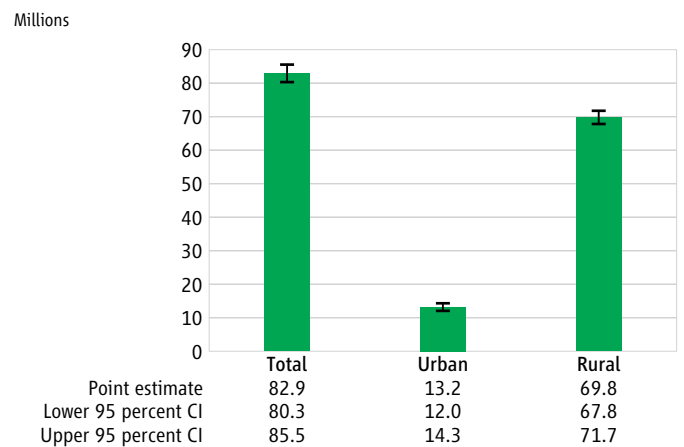
Percent

	Total	Urban	Rural
Point estimate	40.1	18.0	52.1
Lower 95 percent CI	38.8	16.5	50.6
Upper 95 percent CI	41.4	19.6	53.6

Panel B: Absolute number of poor

Millions

	Total	Urban	Rural
Point estimate	82.9	13.2	69.8
Lower 95 percent CI	80.3	12.0	67.8
Upper 95 percent CI	85.5	14.3	71.7

Note: CI = confidence interval. Estimates exclude Borno. Poverty rate calculated using Nigeria's national poverty line.
Source: 2018/19 NLSS and World Bank estimates.

Stark consumption differences between rich and poor

The consumption patterns of poor and non-poor Nigerian households differ sharply. The share of consumption devoted to food (combining both purchased and non-purchased sources) is much higher among poor households—comprising 57.1 percent of their consumption basket—than non-poor households—comprising 46.5 percent of their consumption basket (see Figure 7). This means consumption patterns in Nigeria follow Engel's Law. A reasonable portion of expenditure also goes towards meals consumed outside the home, for both poor households (8.1 percent of the consumption basket) and non-poor households (11.5 percent

Figure 7. Consumption patterns among poor and non-poor households in Nigeria in 2018/19
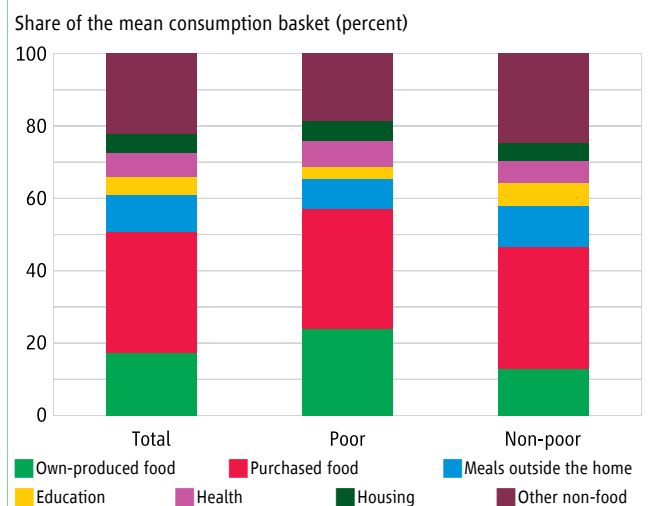
Share of the mean consumption basket (percent)

■ Own-produced food ■ Purchased food ■ Meals outside the home
■ Education ■ Health ■ Housing ■ Other non-food

Note: Estimates exclude Borno. Poverty status assigned using Nigeria's national poverty line.
Source: 2018/19 NLSS and World Bank estimates.

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11 Nigeria's poverty numbers were first published by NBS in May 2020 (see NBS (2020)).

12 As with the majority of statistics in this report, this estimate excludes Borno state.

of the consumption basket). Additionally, both poor and non-poor households incur out-of-pocket expenditures on education and health, as well as a range of other non-food items, including transport, fuel, electricity, household items, and clothing.

Detailed consumption data are useful beyond just estimating poverty; they can help assess the welfare impacts of fiscal, trade, and other policies directly. Data on the consumption and expenditure of food and non-food items are crucial for assessing how different policies affect the poor as well as households across the consumption distribution. For example, fiscal policy may influence welfare because taxes or subsidies applied to a particular good will affect that good's price and, in turn, influence households' purchasing power. Trade policies can also alter the prices that households' face and the income-generating activities that are available to them. Spotlight 1—at the end of this section—examines the distributional impact of distortions in trade policy using the detailed consumption data from the 2018/19 NLSS and novel analytic techniques to account not only for the price impacts of trade on consumption but also the effects on labor and income.

2.3. Nigeria's poverty reduction likely stagnated before the pandemic

Improvements made to the 2018/19 NLSS mean that it cannot be compared with the last official poverty estimates for Nigeria, from the 2009/10 Harmonised Nigeria Living Standards Survey (HNLSS). Not only was the 2018/19 NLSS conducted using Computer-Assisted Personal Interviewing (CAPI), rather than paper, but the questionnaire for the 2018/19 NLSS was also adapted to increase the accuracy with which consumption was measured. The most important change was that food consumption was recorded using seven-day recall in the 2018/19 NLSS, whereas in the 2009/10 HNLSS respondents were asked to fill out a daily diary of food consumption, which was then collected on four separate occasions throughout the course of one month.[13] Thus, comparisons of welfare and poverty estimates between these two surveys are not technically feasible.

Nevertheless, two specialized analytical techniques can be used to try and triangulate how poverty has evolved over the last decade: back-casting and survey-to-survey imputations. First, back-casting techniques involve taking the consumption distribution for 2018/19, then applying past sector-specific real GDP growth and population growth through a simple micro-macro model to estimate what the consumption distribution—and hence poverty—would have been in previous years. Second, survey-to-survey imputations construct a model for the relationship between monetary consumption and a series of non-monetary variables using the 2018/19 NLSS, then use this to impute the level of monetary consumption into a previous survey that contains the same non-monetary variables, namely the 2010/11 General Household Survey (GHS). Further details on these methods can be found in Lain, Schoch, and Vishwanath (Forthcoming).

Since these calculations form part of the effort to monitor global poverty, two specific adjustments are made to the approach, marking a departure from the national poverty statistics on which this report and NBS focus. First, the international poverty line of 1.90 USD 2011 PPP per person per day is used, slightly below the national poverty line of approximately 1.93 USD 2011 PPP per person per day (137,430 naira per person per year). Second, the harmonized poverty data use population estimates taken from the United Nations, via the World Development Indicators, rather than using the Nigeria-specific population estimates.

Two techniques, one result: lagging poverty reduction after 2015

Poverty reduction in Nigeria appears to have stalled in the last decade, according to both back-casting and survey-to-survey imputation techniques. The best estimates from the back-casting approach suggest that the poverty headcount rate—at the

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13   Along with this key change to the approach for measuring consumption, there were other differences between the 2018/19 NLSS and 2009/10 HNLSS, including the treatment of: (1) meals consumed outside the home; (2) own-produced food; and (3) consumption of durable goods. The previous poverty assessment in Nigeria also documented some anomalies in the consumption data of the 2009/10 HNLSS (see World Bank (2016)).

international poverty line—was 42.8 percent in 2010 (see Figure 8). This is only slightly below the analogous estimate from imputing into the 2010/11 GHS, 43.5 percent. With poverty dropping by at most a few percentage points over the last decade, the absolute number of poor people is likely to have climbed, given Nigeria's rapid population growth. Since the back-casts provide yearly estimates, they also suggest that poverty may have started declining in the first part of the 2010s, but that this trend halted and then reversed around 2015. This is unsurprising—and indeed is hardwired into the back-casting model through real GDP growth estimates—given the 2016 recession, brought about by weakening oil prices. Qualitatively similar results emerge from imputing into the 2012/13 and 2015/16 GHSs, with poverty declining slightly until around the time of the recession, and subsequently increasing. That two fundamentally different methodologies produce such similar results adds significant robustness to the finding that poverty reduction stalled in Nigeria in the decade prior to the COVID-19 crisis.

Figure 8. Estimated trends in poverty in Nigeria, 2010–2019

Panel A: Poverty headcount rate

Panel B: Number of poor

Note: Estimates exclude Borno. Poverty rate calculated using the international poverty line of 1.90 USD 2011 PPP per person per day. Population estimates taken from the United Nations, via the World Development Indicators. Further details on back-casting and survey-to-survey imputations provided in Lain, Schoch, and Vishwanath (Forthcoming).
Source: 2018/19 NLSS, GHS, and World Bank estimates.

When Nigeria was growing, richer households benefited more

The survey-to-survey imputation results further suggest that the growth Nigeria experienced in the early part of the 2010s disproportionately benefited non-poor Nigerians; welfare in richer households was far more closely aligned with Nigeria's macroeconomic performance. Since the survey-to-survey imputations produce the entire consumption distribution for previous years, they can be used to assess how growth was shared across different households in Nigeria. Over the *entire* pre-COVID-19 decade it appears that poor Nigerians benefited slightly more than non-poor Nigerians, with the "growth incidence curve" sloping gently downwards for this period (see Figure 9). However, this picture is severely distorted by what happened following the 2016 recession: the imputations suggest that richer households lost out significantly more than poorer ones when this economic shock hit. This is in line with the labor market effects observed over the same period, also captured by the GHS (see Jenq, Lain, and Vishwanath (2021)). However, during the first part of the decade when Nigeria was growing more strongly, the gains were relatively larger for richer Nigerians, that is, those higher in the consumption distribution. The growth incidence curve for this period sloped upwards. Thus, the changing tilt of the growth incidence curve between the first and second half of the 2010s was mainly driven by richer Nigerians; their fate, rather than the fate of the poor, was far more strongly linked to Nigeria's growth. This analysis reinforces the point that growth alone may not be enough to lift people out of poverty: the distribution matters.

Figure 9. Growth incidence curves estimated using survey-to-survey imputations for Nigeria, 2010–2019

Annualized consumption growth rate (percent)
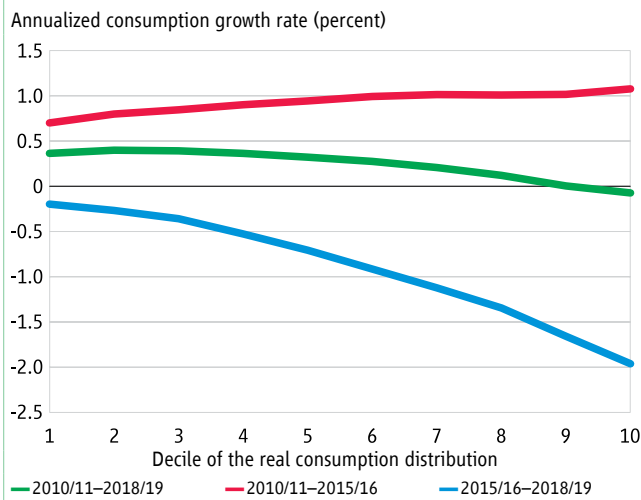
Note: Estimates exclude Borno. Further details on survey-to-survey imputations provided in Lain, Schoch, and Vishwanath (Forthcoming).
Source: 2018/19 NLSS, GHS, and World Bank estimates.

Figure 10. Distribution of consumption, poverty, and vulnerability in Nigeria, 2018/19

Cumulative distribution
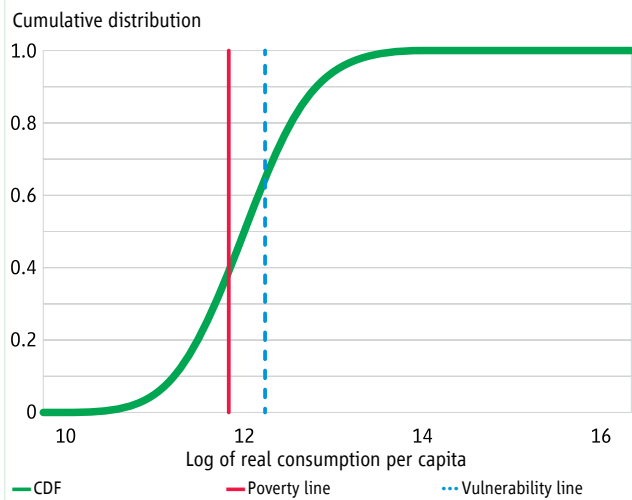
Note: Estimates exclude Borno. CDF = cumulative distribution function. Poverty rate calculated using Nigeria's national poverty line. Vulnerability line is set to 1.5 times the poverty line.
Source: 2018/19 NLSS and World Bank estimates.

2.4. Many non-poor Nigerians were vulnerable before COVID-19

Many Nigerians were living just above the poverty line in 2018/19, leaving them vulnerable to falling into poverty when shocks occur. The distribution of consumption in Nigeria was relatively flat around the poverty line (see Figure 10). This means that setting a slightly higher standard of living—higher than the poverty line—drastically increases the share of the population living below that standard. One useful yardstick to consider alongside the poverty line is the "vulnerability line," which includes those who are non-poor but who stand a significant chance of falling back into poverty. For this poverty assessment, the vulnerability line is set at 1.5 times the poverty line: 206,145 naira per person per year or 2.90 USD 2011 PPP per person per day.[14] In 2018/19, around 25.4 percent of the population—some 52.6 million people—had consumption levels between 1 and 1.5 times the poverty line. This underscores that many non-poor Nigerians are only "one shock away" from falling into poverty.

Given the properties of the consumption distribution, overall inequality—captured by the Gini coefficient—is moderate in Nigeria; yet this masks substantial geographical inequality. Based on the 2018/19 NLSS, the Gini coefficient for Nigeria was 35.1, a figure lower than many other middle-income countries and regional comparators (see Figure 11).[15] The Gini coefficient was 31.9 for urban areas and 32.8 for rural areas. The fact that these values are both lower than the overall Gini coefficient suggests that much inequality in Nigeria is *between* rather than *within* urban and rural areas: this in itself indicates that the country may be spatially unequal.

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14   In the previous Nigeria World Bank Poverty Assessment (2016), two vulnerability lines were used, at 1.4 and 1.8 times the poverty line. Panel data from other countries has shown that households between 1 and 1.5 times the poverty line are vulnerable, in the sense that they have at least a 10 percent chance of falling back into poverty each year (see, for example, "Aspiring Indonesia—Expanding the Middle Class" (World Bank, 2019)). Additionally, the World Bank's international "lower-middle-class" line of 3.20 USD 2011 PPP per person per day is around 1.7 times the World Bank's international poverty line of 1.90 USD 2011 PPP per person per day.

15   One potential issue with these results is that household surveys have a tendency to underestimate top incomes (see, for example, Alvaredo (2011)).

Figure 11. Gini coefficient in Nigeria and its aspirational and regional peers

Note: Data taken from latest available year in PovcalNet.
Source: PovcalNet and World Bank estimates.
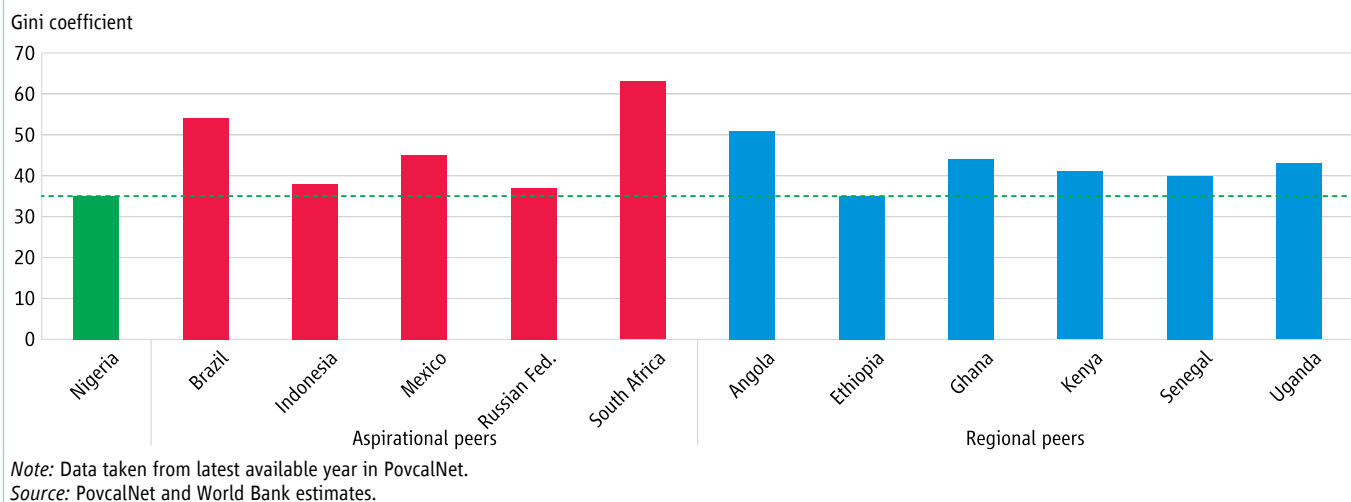
2.5. Poverty in Nigeria: wide and deep

Understanding the depth of poverty—through the poverty gap index and the squared poverty gap index—is vital for guiding policy. While the poverty headcount rate provides a useful marker of the extent of poverty, it does not incorporate information on how far below the poverty line households and individuals are. This means that the poverty headcount rate is insensitive to transfers from those just below the poverty line to those a long way below the poverty line. Moreover, it may give policymakers the incentive to try to lift those who are just below the poverty line above it, rather than helping those a long way below the poverty line. Two additional measures may combat this concern. First, the poverty gap index measures the average difference between the consumption of the poor and the poverty line: this is the average shortfall that would need to be addressed in order to eliminate poverty. Second, the squared poverty gap considers inequality among the poor: it improves with transfers from those just below the poverty line to those a long way below the poverty line.[16]

Pre-COVID, rural poverty was especially deep

The poverty gap index for Nigeria is 0.129, so vast resources are required to eliminate poverty in the country, especially in rural areas (see Figure 12). Multiplying the poverty gap index by the poverty line and by Nigeria's population shows that eliminating poverty in Nigeria would take almost 3.7 trillion naira per year (or 18.7 billion USD 2011 PPP per year). Additionally, it turns out that poverty is not only more widespread in rural areas than urban areas, but it is also deeper. The poverty gap index is 0.174 for rural areas but just 0.045 for urban areas, while the squared poverty gap index is 0.078 for rural areas but just 0.017 for urban areas.

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16 The poverty headcount rate is given by: $FGT_0 = H/N'$ where H is the number of poor and N is the total population. The poverty gap index is given by $FGT_1 = 1/N \sum_{(i=1)}^{H} ((z-y_i)/z)$, where z is the poverty line and y_i is the consumption level of individual i. The squared poverty gap index is given by $FGT_2 = 1/N \sum_{(i=1)}^{H} ((z-y_i)/z)^2$.

Figure 12. Poverty gap index and squared poverty gap index in Nigeria in 2018/19, by urban-rural

Panel A: Poverty gap index
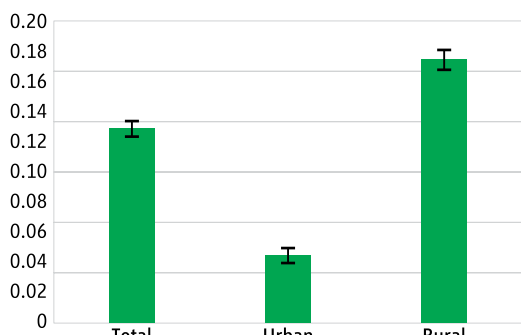
Panel B: Squared poverty gap index

	Total	Urban	Rural		Total	Urban	Rural
Point estimate	0.129	0.045	0.174	Point estimate	0.056	0.017	0.078
Lower 95 percent CI	0.123	0.040	0.168	Lower 95 percent CI	0.053	0.014	0.074
Upper 95 percent CI	0.134	0.050	0.181	Upper 95 percent CI	0.059	0.019	0.082
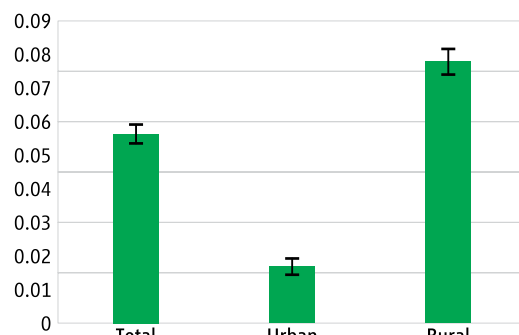
Note: CI = confidence interval. Estimates exclude Borno. Poverty gap index and squared poverty gap index calculated using Nigeria's national poverty line.
Source: 2018/19 NLSS and World Bank estimates.

Figure 13. Median consumption and poverty headcount rate in Nigeria in 2018/19, by state

Panel A: Median consumption (deflated naira per person per year)
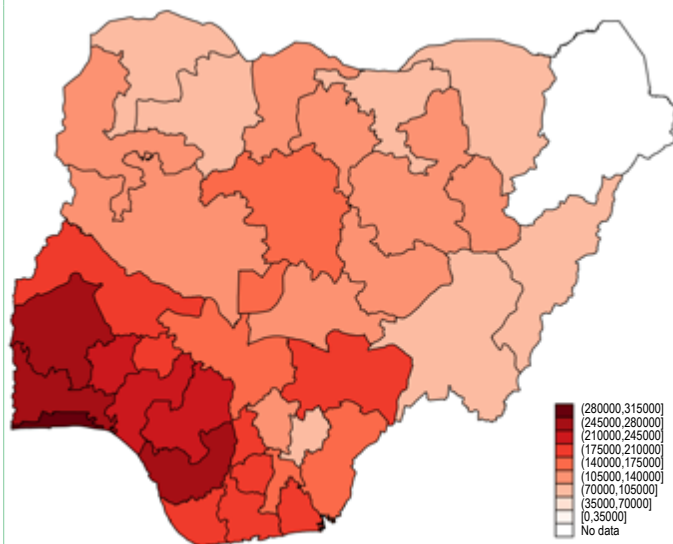
Panel B: Poverty headcount rate (percent)
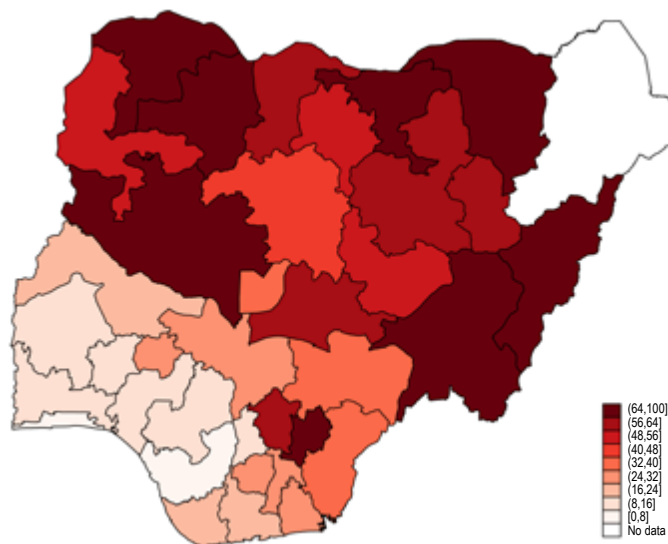
Note: Estimates exclude Borno. Consumption spatially and temporally deflated to allow for cross-state comparisons. Poverty rate calculated using Nigeria's national poverty line.
Source: 2018/19 NLSS, Humanitarian Data Exchange (for map shape files), and World Bank estimates.

2.5. Taking a spatial lens to inequalities

Despite its moderate Gini coefficient, Nigeria was characterized by dramatic differences in welfare between the country's northern and southern states. In 2018/19, median consumption was lower and poverty far more widespread in states in the north of Nigeria (see Figure 13). This marks another dimension of spatial inequality in Nigeria, over and above the rural-urban divide. The poverty rate for the north as a whole (pooling the North Central, North East, and North West zones) was 57.9 percent in 2018/19, compared with 20.3 percent for the south (pooling the South East, South South, and South West zones). Indeed, the poverty rate is almost 20 times higher in Sokoto—the state with the highest poverty rate, at 87.7 percent—compared to

Lagos—the state with the lowest poverty rate, at 4.5 percent. As such, it is crucial to approach analysis of poverty in Nigeria with a spatial lens, which the remainder of this report aims to do. State-level statistics are particularly important, given Nigeria's federal structure: the states play a key role in revenue raising and spending. Key state-level statistics on poverty and inequality are provided in Annex 2.1.

Differences in poverty do not perfectly follow state boundaries; even in Nigeria's richer states, there were still pockets of poverty in 2018. Using the 2018 Demographic and Health Survey (DHS), in combination with geospatial "Big Data" sources and specialized machine learning techniques, it has been possible to produce a "poverty map" that shows wealth levels in Nigeria at the ward level—two administrative levels below the state (Chi, Fang, Chatterjee, & Blumenstock, 2021).[17] With this level of disaggregation, it emerges that there are some relatively poor wards, even in richer states like Lagos (see Figure 14). This has key implications for targeting poverty-reducing programs, especially social protection (see Section 5).

2.6. Which Nigerians are most likely to be monetarily poor?

As well as understanding spatial variation in poverty in Nigeria, it is also helpful to know the household- and individual-level characteristics most associated with poverty; the "poverty profile." Knowing the key correlates of poverty can help to target poverty-reducing interventions effectively. Section 3 also considers the relationship between monetary poverty and non-monetary deprivations to extend this analysis further.

The poor are disproportionately young and undereducated

Young people and those with lower levels of education were more likely to live in poor households. Around 48.3 percent of children (those aged 14 years or less) lived in households below the poverty line in 2018/19, compared with 34.6 percent of working-age individuals (those aged 15–64 years) and 27.2 percent of seniors (those aged 65 or more; see Panel A of Figure 15).[18] This is likely to be because fertility—and hence household size—are strongly correlated with poverty, so poverty is concentrated among those children that make up large households (see Panel B of Figure 15). Moreover, life expectancy is likely to be higher for non-poor individuals, explaining why relatively few seniors are poor. There was also a strong relationship between education levels and poverty: around 58.4 percent of those aged 16 or more without education lived in poor households, compared with 10.0 percent of those with tertiary or post-secondary education.

Poverty may impact men and women differently

While there was no overall gender difference in the poverty rate in 2018/19, this masks important differences between males and females at different points in the lifecycle. First, during the years when they are most likely to have children (between 20 and 44), women were more likely to be poor than men of the same age (see Figure 16). This suggests that childcare and other household responsibilities may limit women's economic opportunities, leaving them more prone to poverty. Second, divorced, separated, or widowed women were far more likely to be in poverty than men with the same marital status. Losing a spouse may be especially difficult for women, if they are still responsible for supporting their family, but have lost the economic means or the productive assets through which to do so.

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17   This approach produces estimates of welfare based on assets rather than consumption, marking a difference with the remainder of this chapter. Nevertheless, the 2018 DHS-based results were validated using information on assets from the 2018/19 NLSS. See Blumenstock, Lain, Smythe, and Vishwanath (2021).

18   Poverty is calculated at the household level, not the individual level, in Nigeria. These statistics are calculated by looking at the composition of poor and non-poor households.

Figure 14. Concentration of poverty below the state level in Nigeria, 2018

Panel A: Ward-level poverty map for Nigeria
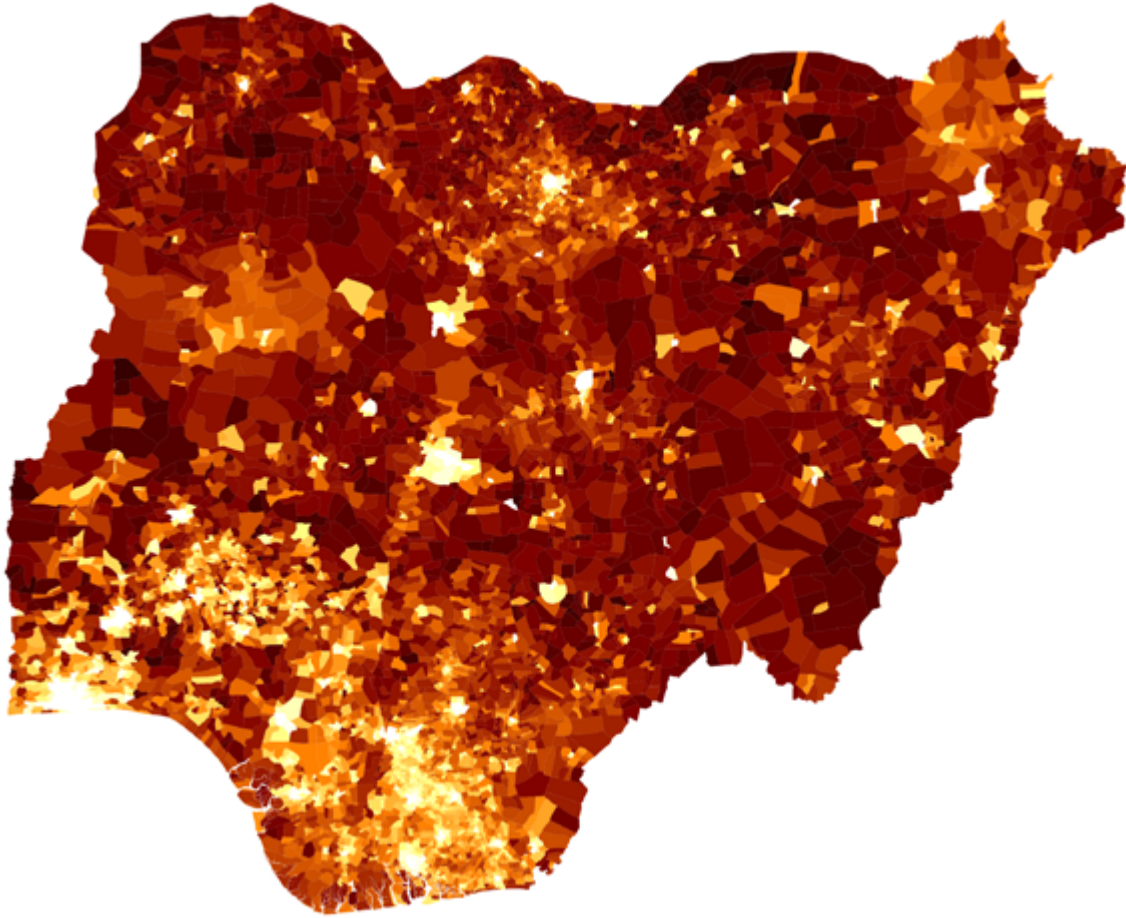
Panel B: Pockets of poverty in Lagos state
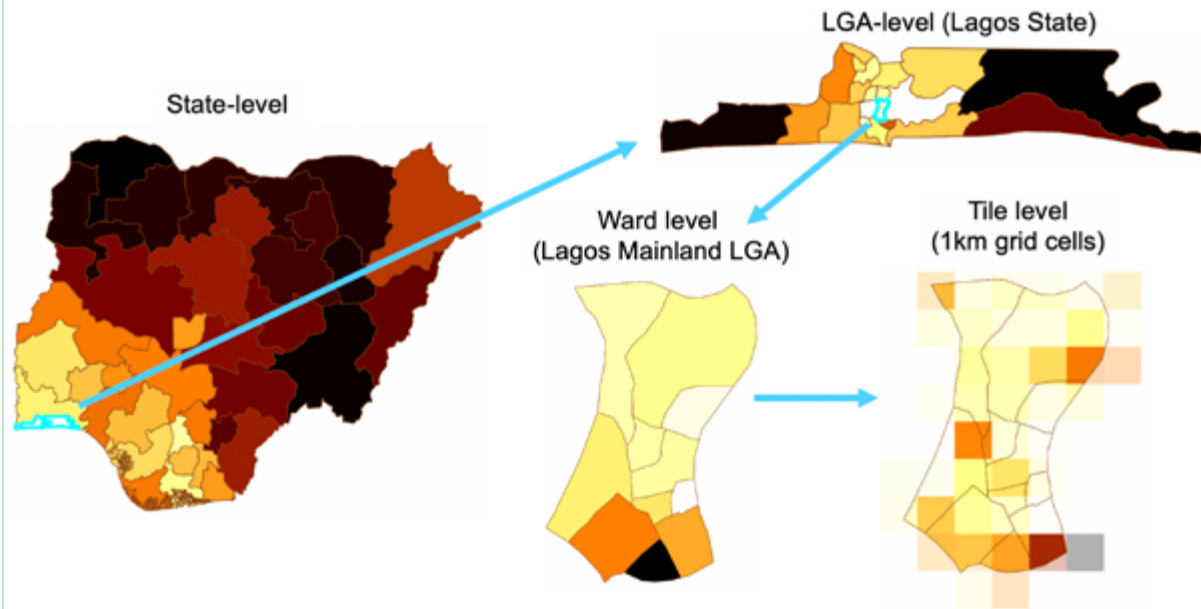
Note: LGA = local government area. Darker areas have a higher concentration of poverty.
Source: 2018 DHS, 2018/19 NLSS, National Social Safety Nets Coordinating Office for shape file, and Chi, Fang, Chatterjee, and Blumenstock (2021) for poverty estimates.

Figure 15. Poverty headcount rate for different individual characteristics and by household size in Nigeria in 2018/19

Panel A: Individual characteristics
Poverty headcount rate (percent)
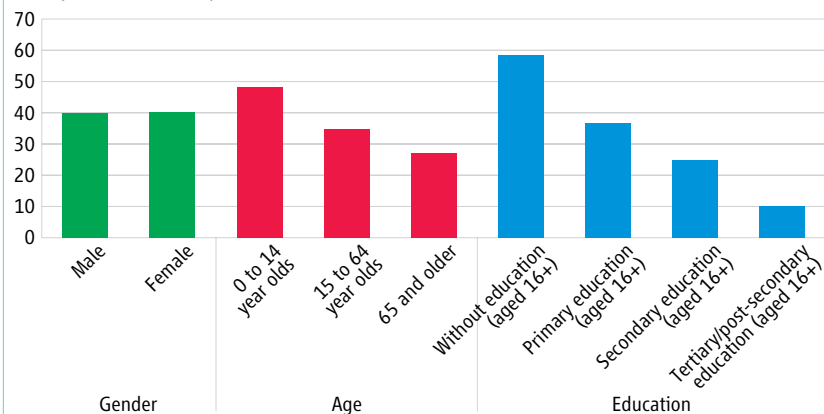
Panel B: Household size
Poverty headcount rate (percent)
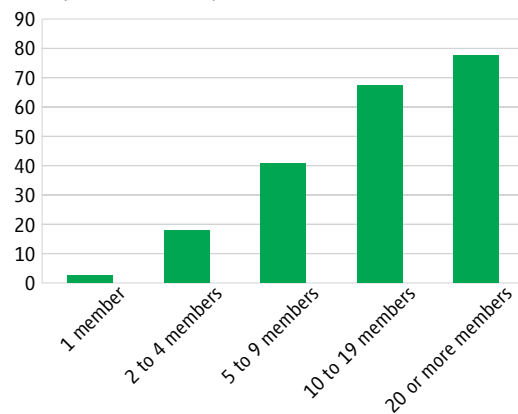
Note: Estimates exclude Borno. Poverty rate calculated using Nigeria's national poverty line. Primary, secondary, and tertiary/post-secondary education may be either complete or incomplete.
Source: 2018/19 NLSS and World Bank estimates.

Figure 16. Gender-poverty breakdown by age and marital status in Nigeria in 2018/19

Panel A: By age
Poverty headcount rate (percent)
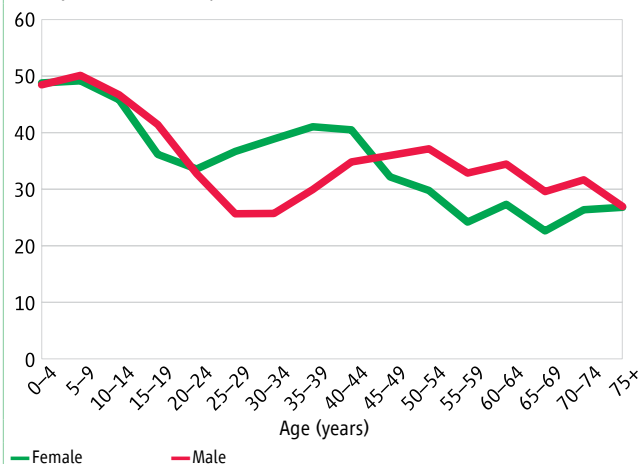
Panel B: By marital status
Poverty headcount rate (percent)
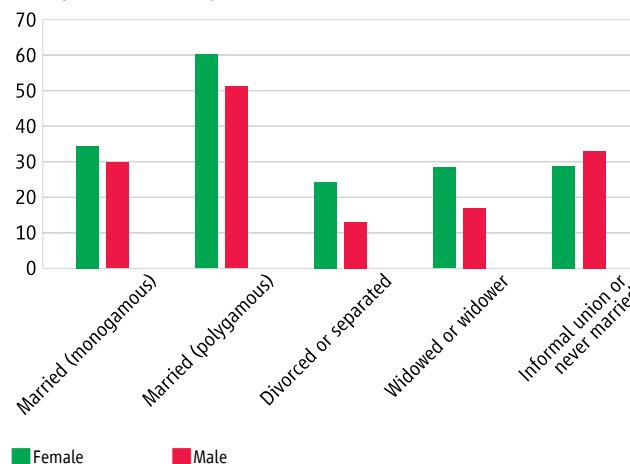
Note: Estimates exclude Borno. Poverty rate calculated using Nigeria's national poverty line. Panel B focuses only on women and men aged 15 or more.
Source: 2018/19 NLSS and World Bank estimates.

Agriculture and poverty are closely tied

Households that relied more on agricultural activities were more likely to live in poverty in 2018/19. Around 56.7 percent of Nigerians that lived in a household where the head engaged primarily in agriculture were poor, compared with 23.9 percent of those in a household where the head engaged primarily in wage work and 32.2 percent of those in a household where the head engaged primarily in non-farm enterprise work (see Figure 17). Further information on the relationship between poverty and labor market outcomes is provided in Section 4.

Figure 17. Poverty headcount rate broken down by household head characteristics in Nigeria in 2018/19
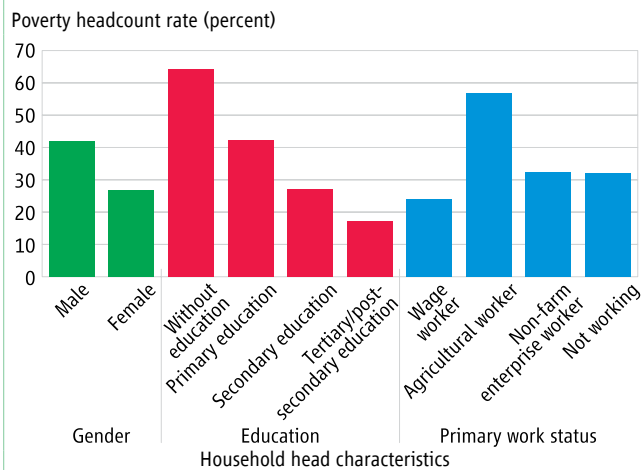
Poverty headcount rate (percent)

Note: Estimates exclude Borno. Poverty rate calculated using Nigeria's national poverty line.
Source: 2018/19 NLSS and World Bank estimates.

Figure 18. Number of poor people in Sub-Saharan African countries in 2018
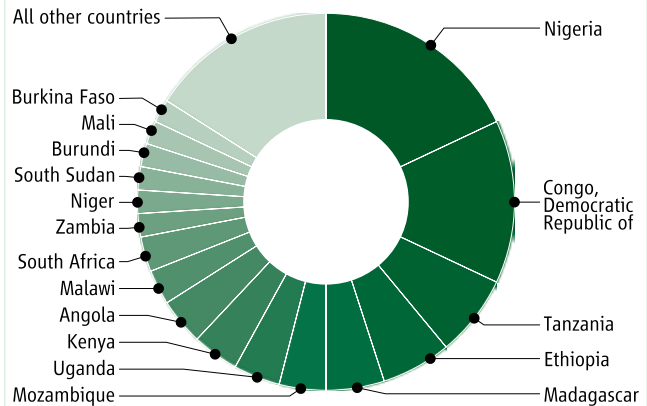
Note: Segments represent the share of poor people in Sub-Saharan Africa in 2018. Poverty calculated using the international poverty line of 1.90 USD 2011 PPP per person per day. Population data for cross-country comparisons taken from United Nations projections, via the World Development Indicators. Estimates exclude Eritrea, Somalia, and Equatorial Guinea.
Source: PovcalNet and World Bank estimates.

2.7. Nigeria was the largest contributor to poverty in Sub-Saharan Africa

Making the same adjustments used when estimating Nigeria's poverty trend, the data may be harmonized across different countries, allowing poverty in Nigeria to be compared with the rest of Sub-Saharan Africa. As above, this involves: (1) using the international poverty line of 1.90 USD 2011 PPP per person per day—slightly below the national poverty line of approximately 1.93 USD 2011 PPP per person per day (137,430 naira per person per year)—and (2) taking population estimates taken from the United Nations, via the World Development Indicators, rather than using the Nigeria-specific population estimates.

Regional and global poverty reduction depends on Nigeria: around 1 in 5 poor people in Sub-Saharan Africa live in Nigeria. While estimating the largest contributor to *global* poverty is difficult due to data constraints in India, estimates suggest that almost two-thirds of the global poor live in Sub-Saharan Africa (World Bank, 2020). In 2018, some 18.5 percent of people living on less than 1.90 USD 2011 PPP per person per day in Sub-Saharan African lived in Nigeria (see Figure 18). Thus, lifting Nigerians out of poverty is vital for "moving the needle" on both regional and global poverty.

2.8. The COVID-19 crisis threatens to push millions more Nigerians into poverty

Combining macroeconomic forecasts with the latest microdata, it is possible to simulate how welfare and poverty may be evolving during the COVID-19 crisis. To do this, sectoral GDP growth data and forecasts (for agriculture, industry, and services) are mapped to the consumption data in the 2018/19 NLSS,[19] and then consumption distributions for subsequent years are projected and compared with the poverty line. Two scenarios are compared. The "main prediction" draws on the latest available macroeconomic forecasts, which incorporate the downturn from the COVID-19 crisis and projections for 2021 and 2022. A

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19   The mapping was done according to the primary sector in which the household head worked.

"counterfactual" scenario then uses the growth forecasts that were in place before the COVID-19 outbreak. Details of the modelling approach and the key caveats are provided in World Bank (2020).

The COVID-19 crisis is driving up Nigeria's poverty rate, pushing more than 5 million additional people into poverty by 2022. With real per capita GDP growth being negative in all sectors in 2020, poverty is projected to have deepened for the current poor, while those households that were just above the poverty line prior to the COVID-19 crisis would be likely to fall into poverty. Were the crisis not to have hit (the counterfactual scenario), the poverty headcount rate would be forecast to remain virtually unchanged, with the number of poor people set to rise from 82.9 million in 2018/19 to 85.2 million in 2020 and 90.0 million in 2022, due largely to natural population growth (see Figure 19). Given the effects of the crisis, however, the poverty headcount rate is instead projected to jump from 40.1 percent in 2018/19 to 42.0 percent in 2020 and 42.6 percent in 2022, implying that the number of poor people was 89.0 million in 2020 and would be 95.1 million in 2022. Taking the difference between these two scenarios, the crisis alone is projected to have driven an additional 3.8 million Nigerians into poverty in 2020, with an additional 5.1 million living in poverty by 2022. While these results are less pessimistic than previous projections[20]—due to upward revisions in growth estimates and forecasts—they still highlight the dramatic magnitude of COVID-19's effects on welfare.

Figure 19. Projected poverty headcount rate and absolute number of poor people, throughout the COVID-19 crisis

Panel A: Poverty headcount rate

Panel B: Absolute number of poor

Note: Estimates exclude Borno. Poverty rate calculated using Nigeria's national poverty line. Pass-through from per capita real GDP growth to household consumption set to 1.
Source: 2018/19 NLSS, United Nations population projections, and World Bank estimates.

The next step: developing a multidimensional picture of poverty

Nevertheless, simple GDP-based poverty forecasts may underestimate the true impacts of crises like COVID-19; this highlights the importance of focusing on other aspects of wellbeing. In reality, there are many channels through which the pandemic may have affected—and may still be affecting—welfare (World Bank, 2020). With this in mind, the next section examines multidimensional poverty in Nigeria, considering patterns in non-monetary poverty from before the pandemic and examining how COVID-19 may be influencing health, education, and other key non-monetary markers of welfare.

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20   See, for example, World Bank (2020).

Spotlight 1: Trade distortions and household welfare

A number of policies restrict Nigeria's trade, including the closure of the country's land border in 2019; trade is therefore front and center of current policy debates, including around Nigeria's involvement in the African Continental Free Trade Area (AfCFTA). Throughout the past two decades, Nigeria has implemented import bans, tariffs, and foreign exchange restrictions for certain goods, restricting the flow of imports into the country. Trade was restricted further in August 2019, when Nigeria closed its land border for trade in all goods, purportedly in response to: (1) the illegal export of subsidized fuel from Nigeria; (2) the import of goods that were banned or goods for which Nigeria was aiming to increase domestic production; and (3) security concerns related to criminal activity (World Bank, 2020). There are therefore several serious policy questions around trade policy for Nigerian policy makers to consider, especially as the country assesses its involvement in the AfCFTA, which seeks to reduce trade frictions across Africa (World Bank, 2021).

The effects of trade policies go beyond growth; they may also have distributional impacts on household welfare especially through consumption and jobs, underlining the importance of analyzing microdata. As discussed in Section 1, trade policy influences the investment environment, technology transfer, and competition, all vital ingredients for growth (Frankel & Romer, 1999). Yet trade policies can have more direct impacts on households through two key channels. First, trade policies determine the prices that households face for the goods that they need to buy. Distortionary trade policies could drive prices up, reducing purchasing power and, in turn, welfare. Second, trade policies influence households' income-generating activities. Changing prices would alter the incomes of households that *produce* those goods while international competition may alter the mix of jobs that are available in the economy (Engel, Kokas, Lopez-Acevedo, & Maliszewska, 2021). Estimating the importance of these channels relies on microdata on consumption, incomes, and jobs (Atkin, Faber, Fally, & Gonzalez-Navarro, 2020).

Nigerians' exposure to the impacts of trade policies like the 2019 border closure could differ across the consumption distribution; this is clear from descriptive statistics from the 2018/19 NLSS. Virtually all Nigerians are exposed to movements in food prices, because they purchase at least some of their food.[21] However, the specific types of foods that Nigerians consume—from different food groups, different brands, or imported or local varieties—differ across the consumption distribution. Taking one food item as an example, the consumption of imported varieties of rice is far more widespread among non-poor Nigerians, while consumption of local varieties is more common among poor Nigerians (see Panel A of Figure 20).[22] Trade policies influence the prices of these varieties differently, producing distinct effects on purchasing power. For example, following the closure of Nigeria's land border in 2019, the price of imported rice increased far more, potentially exposing non-poor Nigerians—including those just above poverty line who could be at risk of falling into poverty—to a larger impact on their purchasing power (see Panel B of Figure 20). Nevertheless, as external and domestic markets are interlinked, it emerges that local rice prices increased after the 2019 border closure too; domestic markets are not fully insulated from the potential knock-on effects of trade policies.

Pushing these descriptive statistics further demonstrates how distortionary trade policies—like the 2019 border closure—could decrease overall purchasing power and increase poverty. One way to estimate the welfare losses associated with higher prices and reduced purchasing power is by calculating the money needed to maintain household welfare at the same level, even as prices rise—this is the "compensating variation." This can be calculated by multiplying the change in prices for each good—from NBS price data—by the share of the consumption basket devoted to purchasing that good—taken from the 2018/19 NLSS.[23] While not fully attributable to the 2019 border closure, the overall increase in prices observed between Q2 2019 and

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21   While a larger share the consumption basket is devoted to food in poor households than in non-poor households, the share of consumption coming from *purchased* food is actually similar—at around one-third—in both poor and non-poor households (see Section 2).

22   Rice is the only food item for which imported and local varieties are separated out in the 2018/19 NLSS food consumption module.

23   In previous analysis, including in the Nigeria Development Updates from June 2020 and June 2021 (see World Bank (2020) and World Bank (2021)), purchased food and own-produced food were not separated out. However, here the analysis focuses on purchased food only. This is because only purchases would be exposed to price shocks.

Q2 2020 may have meant that households would need to spend around 1.8 percent more to maintain their welfare at the same level; this serves as a proxy for lost welfare (Panel A of Figure 21). These welfare losses could have increased poverty by around 1.1 percentage points (Panel B of Figure 21).[24] Nevertheless, this approach carries several key caveats, not least the fact that it only focuses on household consumption and not on production or incomes.[25]

Figure 20. Consumption and price movements for local and imported rice in Nigeria

Panel A: Consumption of local and imported rice

Share of Nigerians purchasing each type of rice (percent)

■ Local rice   ■ Imported rice
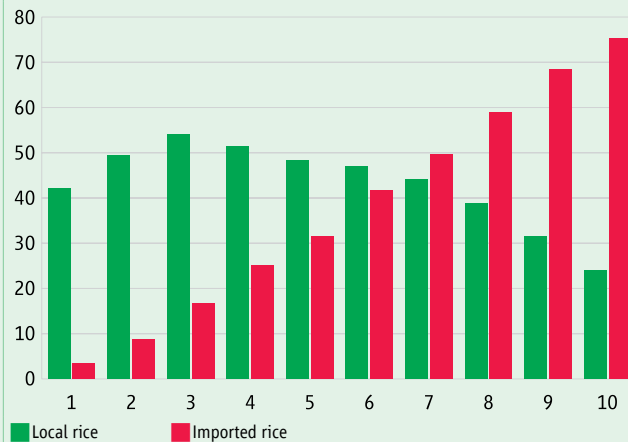
Panel B: Price movements for local and imported rice

Price of 1kg of rice (naira)

── Border closure   ── Local   ── Imported
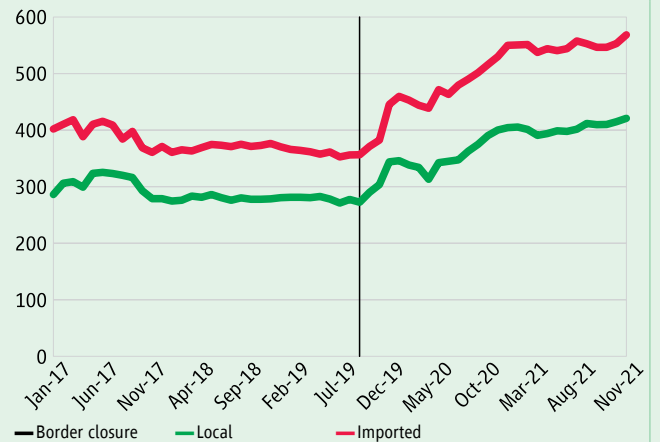
Note: Panel A shows the share of Nigerians purchasing any quantity of local and imported price; it does not include own-produced rice. Consumption data do not include Borno. Panel B shows price movements for the goods labelled "Rice local sold loose" and "Rice, imported high quality sold loose" in NBS price data.
Source: 2018/19 NLSS (for consumption data), NBS (for price data), and World Bank estimates.

Figure 21. Changes in welfare and poverty linked to price changes in Nigeria, Q2 2019 to Q2 2020

Panel A: Average compensating variation

Compensating variation (percent)

■ Petrol   ■ Dairy   ■ Fish   ■ Other meat
■ Poultry and eggs   ■ Vegetables   ■ Oils and fat   ■ Pulses, nuts, seeds
■ Strachy roots, tubers, plaintains   ■ Other grains/bread/maize
■ Imported rice   ■ Local rice   ● Total compensating variation
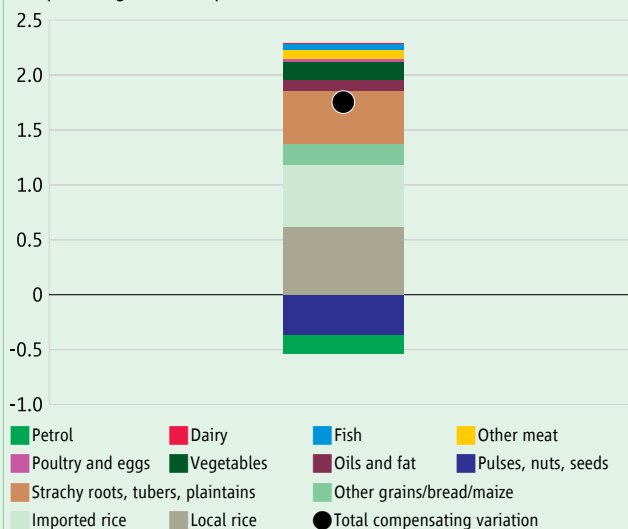
Panel B: Changes in the poverty headcount rate

Poverty headcount rate (percent)

■ Before price shock   ■ After price shock
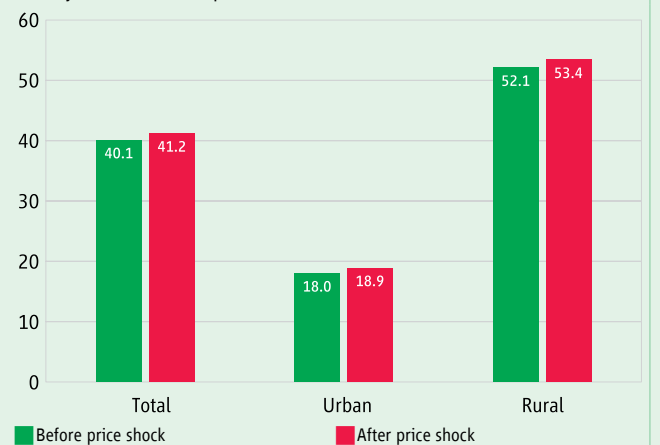
Note: Estimates exclude Borno. Welfare losses calculated for purchased goods only; own-produced items are excluded from the calculations.
Source: 2018/19 NLSS (for consumption data), NBS (for price data), and World Bank estimates.

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24   Decile-specific welfare losses are calculated then reapplied to the original consumption distribution in the 2018/19 NLSS to assess how poverty would change.

25   There are two further key caveats. First, the analysis focuses solely on 43 food items and petrol, as these are the items for which price data are made publicly available. Second, households may substitute between different goods as prices rise; altering their consumption basket in this way could mute the effect of rising prices.

Figure 22. State-level changes in welfare and poverty if trade were fully liberalized in Nigeria

Panel A: State-level changes in average welfare
Percent
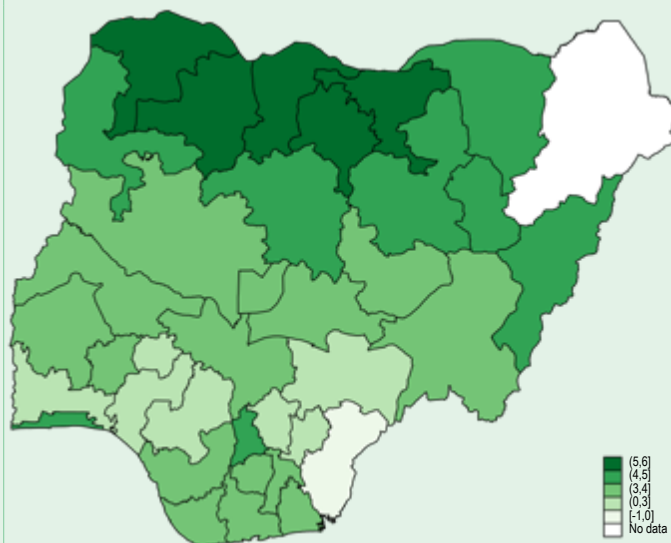
Panel B: State-level changes in the poverty headcount rate
Percentage point change
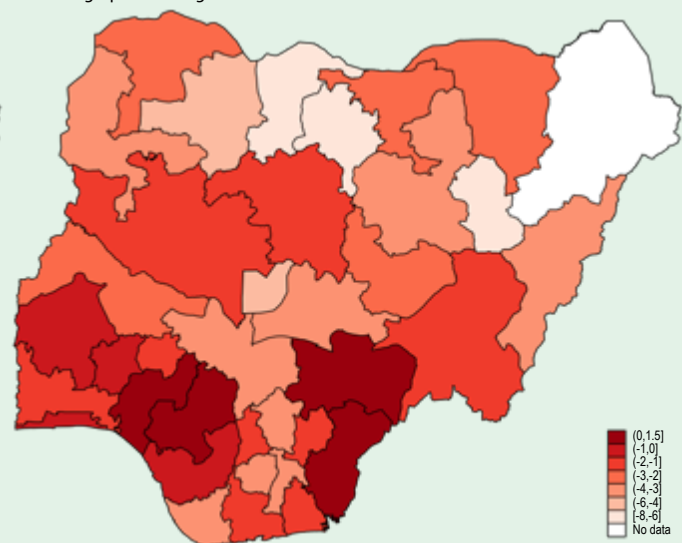
Note: Estimates exclude Borno. Poverty calculated using Nigeria's national poverty line. Welfare and poverty changes were calculated using the HIT model, in which 2018/19 NLSS data were incorporated. NBS price data from 2015 to 2017 and information on previous trade policies were used to estimate the pass-through from trade policies to prices.
Source: 2018/19 NLSS (for consumption data), NBS (for price data), Humanitarian Data Exchange (for map shape files), and World Bank estimates.

More adequately estimating the effects of trade policies on welfare requires accounting for household income-generating activities, as well as consumption. The 2018/19 NLSS contains basic information on wage jobs, non-farm enterprises, agriculture, and other income sources (such as pensions, rent, and inter-household transfers), which can be used to estimate the shares of household income coming from each activity.[26] This makes it possible to apply the "Household Impacts of Tariffs" (HIT) model, a simple tool for assessing how trade-policy-induced changes in prices affect both household consumption and income-generation activities (see Artuc, Porto, and Rijkers (2021) for more detail). This gives a more balanced picture of the distributional effects of trade.

Preliminary analysis from the HIT model suggests that reducing trade restrictions would likely improve average welfare in Nigeria, even after accounting for the *negative* effects on income-generating activities *due to a decline in prices*, but there would be "winners and losers" from liberalizing trade. While full trade liberalization—removing all tariffs—may be unlikely in Nigeria in the short run, comparing welfare under the current trade restrictions with welfare under a fully liberalized scenario provides a useful benchmark for the effects of trade policy.[27] The HIT suggests that average welfare could increase by 3.8 percent if trade were fully liberalized, with the poverty rate dropping by 2.3 percentage points (Artuc, Falcone, Porto, & Rijkers, 2021). Overall, the gains to purchasing power stemming from goods being cheaper to buy outweigh any incomes losses. Yet these average effects belie crucial state-level differences, which indicate that not all Nigerians would necessarily benefit from trade liberalization. Average welfare is predicted to increase in all states except Cross River, but poverty is predicted to increase in four states: Benue, Cross River, Edo, and Ondo (Figure 22). This suggests that trade liberalization could negatively impact the welfare of those just above the poverty line in those states, even if welfare for the average Nigerian household is raised. Thus, trade

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26   Since the absolute values in the income data are noisy, overall household income is fixed to be the same as overall household consumption. The modules on income-generating activities are only used to calculate the shares of overall household income coming from each activity.

27   The HIT calculates the knock-on effect on prices from removing trade restrictions. This step was improved in this analysis by incorporating information on how changing trade policies were passed through to domestic prices in Nigeria between 2015 and 2017.

liberalization produces "winners and losers," the latter of which may need specific government support if the overall gains from trade are to be realized. Additional data—on prices, trade, jobs, and households—may help better characterize these winners and losers in order to design adequate countervailing policies.[28]

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28 For a particularly detailed example using item bar-code- and store-level data in Mexico, see Atkin, Faber, and Gonzalez-Navarro (2018).

Annex 2.1. Supplementary tables

Table 1. State-level poverty and inequality statistics, 2018/19

	Poverty headcount rate (percent)	Poverty income gap	Squared poverty income gap	Gini coefficient	Median deflated consumption (naira per person per year)
1. Abia	30.7	0.071	0.026	24.5	164,905
2. Adamawa	75.4	0.276	0.132	27.8	103,469
3. Akwa Ibom	26.8	0.072	0.027	31.8	187,444
4. Anambra	14.8	0.032	0.011	25.0	208,277
5. Bauchi	61.5	0.205	0.091	26.5	117,454
6. Bayelsa	22.6	0.053	0.019	29.7	190,084
7. Benue	32.9	0.084	0.031	29.4	179,652
9. Cross River	36.3	0.097	0.036	30.7	164,146
10. Delta	6.0	0.009	0.002	29.8	274,993
11. Ebonyi	79.8	0.341	0.171	28.6	83,114
12. Edo	12.0	0.029	0.010	29.5	233,292
13. Ekiti	28.0	0.062	0.020	29.7	187,837
14. Enugu	58.1	0.160	0.063	25.0	127,715
15. Gombe	62.3	0.200	0.090	31.5	122,237
16. Imo	28.9	0.069	0.024	27.2	181,130
17. Jigawa	87.0	0.387	0.205	28.0	77,088
18. Kaduna	43.5	0.155	0.067	35.2	149,697
19. Kano	55.1	0.152	0.057	28.6	130,902
20. Katsina	56.4	0.162	0.065	24.6	128,795
21. Kebbi	50.2	0.151	0.062	29.6	136,832
22. Kogi	28.5	0.062	0.020	24.4	171,148
23. Kwara	20.4	0.045	0.015	25.1	190,825
24. Lagos	4.5	0.007	0.002	27.2	310,008
25. Nasarawa	57.3	0.169	0.066	25.6	126,409
26. Niger	66.1	0.217	0.091	27.6	109,255
27. Ogun	9.3	0.016	0.004	27.1	253,925
28. Ondo	12.5	0.023	0.006	25.5	222,666
29. Osun	8.5	0.014	0.004	25.1	227,322
30. Oyo	9.8	0.018	0.005	31.1	252,023
31. Plateau	55.0	0.178	0.076	40.2	129,431
32. Rivers	23.9	0.055	0.017	29.5	205,836
33. Sokoto	87.7	0.388	0.203	28.0	78,198
34. Taraba	87.7	0.424	0.244	32.2	75,356
35. Yobe	72.3	0.265	0.128	27.3	104,997
36. Zamfara	74.0	0.250	0.104	23.5	100,173
37. FCT	38.7	0.098	0.038	32.3	161,238

Note: Estimates exclude Borno. Poverty status assigned using Nigeria's national poverty line.
Source: 2018/19 NLSS and World Bank estimates.

3. Nigerians are poor across multiple dimensions

Section 3 key messages

- *Poverty affects many dimensions of people's lives; the World Bank's Multidimensional Poverty Measure (MPM) incorporates deprivations in education and basic infrastructure, alongside monetary poverty*

- *Before COVID-19, multidimensional poverty, like monetary poverty, was concentrated in northern Nigeria and rural areas*

- *Nigeria has achieved progress on some non-monetary poverty indicators, but little convergence between geographical areas*

- *High multidimensional poverty is linked to Nigeria's historically poor results in human capital; the COVID-19 crisis could further weaken the country's human capital, threatening future growth*

Since there are many key elements of welfare that money cannot buy, assessing monetary poverty alone is not enough; this section focuses primarily on multidimensional poverty. It is essential not to neglect the needs of those who have the means to exit poverty, but not the opportunity to access services—including education, health, and basic infrastructure—that intrinsically influence their wellbeing. To explore this issue, the section uses the World Bank's Multidimensional Poverty Measure (MPM), which incorporates deprivations in education and basic infrastructure, alongside monetary poverty. While there are many other multidimensional poverty indices, the World Bank's approach is unique in bringing together monetary and non-monetary metrics. This section also examines how different dimensions of poverty overlap. This gives vital information for targeting: can targeting the same households address multiple deprivations at the same time, or do different deprivations require different targeting strategies? While most of the section relies on the 2018/19 NLSS, it also assesses how the COVID-19 crisis is affecting human capital using high-frequency data collected *during* the pandemic.

Before turning to multidimensional poverty, however, this section first considers how monetary poverty and markers of non-monetary poverty are related. This extension of the "poverty profile" therefore describes the relationship between monetary and non-monetary indicators of poverty. It also illustrates which poverty-reduction interventions might work best and how to target them.

3.1. Non-monetary poverty measures of education and basic infrastructure are highly correlated with monetary poverty

Poverty is increasingly being understood as a multidimensional phenomenon. Even households who are not monetarily poor may still be unable to send their children to school or may have members who are malnourished. In participatory studies, poor people themselves say that non-monetary factors—including food security, housing, health, education, and security—matter directly for their wellbeing (see, for example, Moreno (2017)). Many of these factors cannot be accessed directly in the market, so measuring monetary income or consumption alone may not be enough (Bourguignon & Chakravarty, 2003). Moreover, human capital, housing, and basic infrastructure are key correlates of monetary poverty (Nguyen, Yoshida, Wu, & Narayan, 2020). As such, multidimensional poverty indicators are becoming increasingly widespread, gaining traction with both national and international policymakers: multidimensional poverty indicators have been adopted by governments in Mexico, Colombia, and elsewhere in Latin America and form the backbone of the United Nations Development Programme's (UNDP's) Human Development Index (Ferreira & Lugo, 2013).

This report deploys the World Bank's Multidimensional Poverty Measure (MPM), which incorporates deprivations in education and basic infrastructure, alongside monetary poverty measured using the international poverty line. The World Bank's MPM is unique among multidimensional poverty measures in including information on both monetary and non-monetary poverty. Two indicators are used to capture deprivation in terms of education, based on: (1) whether at least one school-age child (aged between 6 and 14 years) is not enrolled in school; and (2) whether no adult in the household (aged 15 or more) has completed primary education. Three indicators are used to capture deprivation in terms of basic infrastructure, based on whether or not the household lacks access to: (1) at least limited-standard drinking water; (2) at least limited-standard sanitation; and (3) electricity. The monetary poverty indicator for the MPM uses the international poverty line of 1.90 USD 2011 PPP per person per day, slightly lower than Nigeria's national poverty line: to maintain consistency and allow cross-country comparisons, the remainder of this section will also use the international monetary poverty line.

Many non-monetary poverty indicators are not included in the World Bank's MPM; one key additional indicator—food insecurity—is considered in Spotlight 2 below. While the World Bank's MPM captures some crucial aspects of non-monetary poverty, other multidimensional poverty approaches—including those used by UNDP and the European Union—also include information on housing, health, nutrition, and even employment (World Bank, 2020). These factors can have both immediate and

long-run implications for households' welfare (World Bank, 2018). In this sense, this section of the poverty assessment adopts a relatively narrow approach for assessing non-monetary poverty. Food insecurity represents a particularly important non-monetary indicator because it can provide an early marker of changes in welfare, especially during crises, and it is highly correlated with other aspects of welfare and human capital. The measurement of food insecurity in Nigeria is discussed in detail in Spotlight 2 below.

Links between monetary and non-monetary poverty can guide policy

Monetary poverty was strongly correlated with all dimensions of non-monetary poverty in 2018/19. Monetary poverty was significantly higher among households that were deprived in terms of educational enrollment, educational attainment, water, sanitation, and electricity access (see Figure 23). The largest gap arises for electricity access: around 65.4 percent of Nigerians that lacked access to electricity lived below the international poverty line, almost three times the share of Nigerians (23.6 percent) with access to electricity living below the international poverty line.

Measuring the associations between monetary poverty and non-monetary indicators can help guide policy priorities; investing in electricity access and education appears to offer the largest "bang for the buck" for monetary poverty reduction. A simple regression model can be used to the measure association between each of the non-monetary deprivations and monetary poverty, while also controlling

Figure 23. Poverty headcount rate broken down by non-monetary deprivations in Nigeria in 2018/19

Poverty headcount rate (percent)

■ Non-deprived ■ Deprived

Note: Estimates exclude Borno. Poverty rate calculated using international poverty line of 1.90 USD 2011 PPP per person per day.
Source: 2018/19 NLSS and World Bank estimates.

for differences in key household characteristics.[29] Applying this approach shows that the association with monetary poverty is largest for deprivation in terms of electricity access and educational enrolment. Using the model that controls as fully as possible for differences in household characteristics and location (see Column 4 of Table 2), it emerges that for two Nigerians living in households with otherwise similar characteristics, those without access to electricity would have been around 16.9 percentage points more likely to be monetarily poor than those with access in 2018/19. Similarly, those living in households deprived in terms of educational enrolment would have been around 9.7 percentage points more likely to be monetarily poor than those living in a household that is not deprived in terms of educational enrolment. These differences—also known as "marginal effects"—can be read directly from the coefficients reported in Table 2.[30] Even though not every aspect of non-monetary poverty is captured by these indicators, these results still provide useful information for guiding policy priorities.

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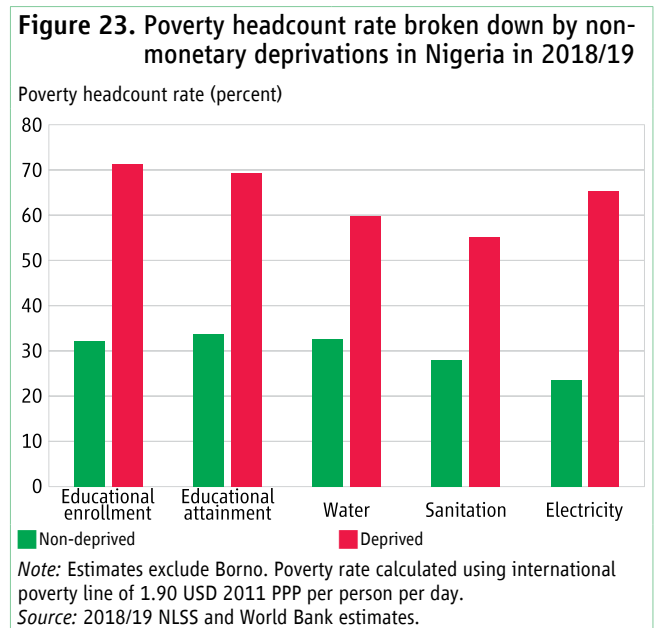
29 Specifically, a linear probability model is used, as monetary poverty—the dependent variable—is binary.

30 These coefficients cannot be given a causal interpretation per se. In other words, they do *not* show what would happen if the educational enrolment deprivation were addressed or if electricity access were suddenly made available to households. Nevertheless, the coefficients still reveal the partial correlation between each non-monetary indicator and monetary poverty, when controlling for each of the other non-monetary indicators and basic household and location characteristics.

Table 2. Linear probability model of monetary poverty on non-monetary deprivation indicators in Nigeria in 2018/19

	No controls	*Basic controls*	*Location controls*	*All controls*
Educational enrolment deprivation	0.2413***	0.1014***	0.1923***	0.0968***
	(0.0136)	(0.0137)	(0.0131)	(0.0133)
Educational attainment deprivation	0.0994***	0.0489***	0.0414***	0.0253*
	(0.0140)	(0.0151)	(0.0138)	(0.0151)
Drinking water deprivation	0.0807***	0.0420***	0.0417***	0.0242*
	(0.0136)	(0.0128)	(0.0127)	(0.0124)
Sanitation deprivation	0.0714***	0.0450***	0.0665***	0.0484***
	(0.0112)	(0.0107)	(0.0105)	(0.0104)
Electricity deprivation	0.2807***	0.2165***	0.1929***	0.1690***
	(0.0136)	(0.0125)	(0.0137)	(0.0128)
N	21580	21580	21580	21580
R-squared	0.2419	0.3285	0.3057	0.3588

Note: Estimates exclude Borno. Dependent variable is a dummy capturing whether the household is monetarily poor, calculated using the international poverty line of 1.90 USD 2011 PPP per person per day. Basic controls capture household size, the number of dependents, and the gender, education, and main job type for the household head. Location controls comprise dummy variables for urban areas and five out of Nigeria's six zones. Standard errors in parentheses, clustered at the enumeration area level. * $p<0.10$; ** $p<0.05$; *** $p<0.01$.
Source: 2018/19 NLSS and World Bank estimates.

3.2. Multidimensional poverty is high and spatially unequal

Almost half of Nigeria's population were multidimensionally poor in 2018/19. Using the World Bank's MPM, a household is classified as multidimensionally poor if it is deprived in at least one-third of the weighted multidimensional poverty indicators.[31] Using this measure, around 47.3 percent of Nigerians lived in multidimensional poverty in 2018/19. By construction, this significantly exceeds the monetary poverty rate (as per the international poverty line) of 39.1 percent, because if a household is classified as monetarily poor, it will automatically be classified as multidimensionally poor. The multidimensional poverty *rate* in Nigeria is comparable to that of similar countries in Sub-Saharan Africa (see Figure 24). Yet, given its large population, Nigeria is one of the largest contributors to multidimensional poverty both regionally and globally: using the population weights from the 2018/19 NLSS, some 97.8 million Nigerians were multidimensionally poor, more than the entire population of the Democratic Republic of Congo.[32]

Stark deprivations in the north and rural areas

Like monetary poverty, multidimensional poverty was concentrated in northern Nigeria. The overall multidimensional poverty rate for the north (pooling the North Central, North East, and North West zones) was 67.3 percent in 2018/19, compared with 25.0 percent for the south (pooling the South East, South South, and South West zones; see Panel A of Figure 25). Counting the number of indicators over which households were deprived also reveals a significant north-south divide (see Panel B of Figure 25). In northern Nigeria, 71.8 percent of people were deprived in two or more indicators, and 35.3 percent were deprived in four or more indicators. In southern Nigeria, 27.8 percent of people were deprived in two or more indicators, and just 4.8 percent were deprived in four or more indicators.

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31 Each dimension—monetary poverty, education, and basic infrastructure—is given equal weight, and each indicator within these dimensions is given equal weight. This means the respective weights for each of the six indicators are: (1) monetary poverty, 1/3; (2) educational enrolment, 1/6; (3) educational attainment, 1/6; (4) water, 1/9; (5) sanitation, 1/9; and (6) electricity, 1/9.

32 Qualitatively, this comparison to the Democratic Republic of Congo remains valid when using population estimates from the World Development Indicators.

Figure 24. Monetary and multidimensional poverty in Nigeria and comparator countries

Poverty rate (percent)

Note: Estimates for Nigeria exclude Borno. Monetary poverty rate calculated using international poverty line of 1.90 USD 2011 PPP per person per day. Multidimensional poverty defined according to the World Bank Poverty and Shared Prosperity Report 2020.
Source: Global Monitoring Database, 2018/19 NLSS, and World Bank estimates.
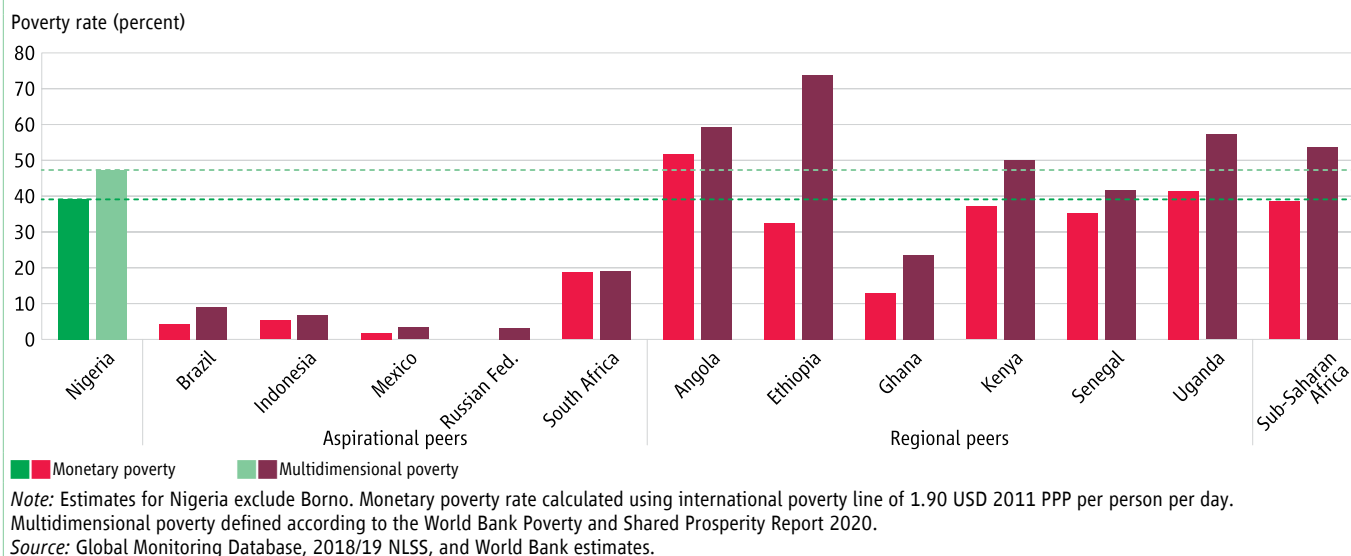
Figure 25. Multidimensional poverty across Nigeria in 2018/19

Panel A: State-level multidimensional poverty rate

Percent
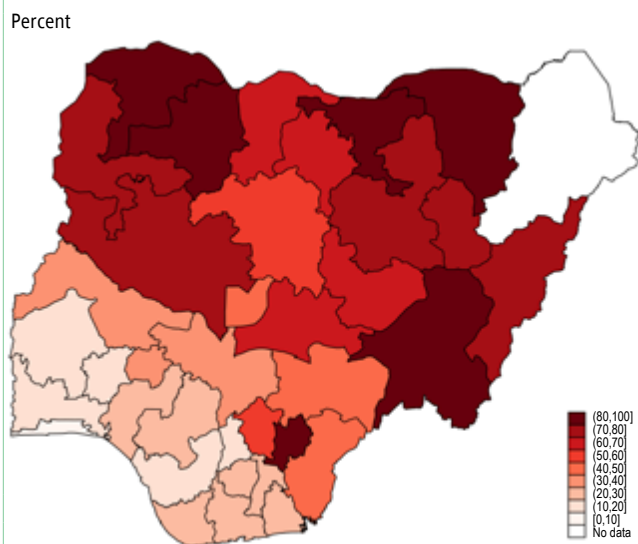
Panel B: Number of deprivations over which households are deprived by zone
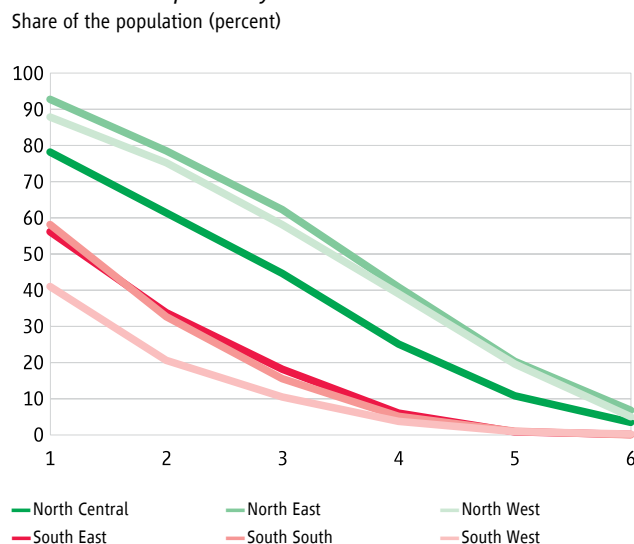
Share of the population (percent)

Note: Estimates exclude Borno. Monetary poverty rate calculated using international poverty line of 1.90 USD 2011 PPP per person per day. Multidimensional poverty defined according to the World Bank Poverty and Shared Prosperity Report 2020.
Source: 2018/19 NLSS and World Bank estimates.

Northern Nigeria was more deprived than southern Nigeria across all six multidimensional poverty indicators. In relative terms, the gap was largest for the education deprivation indicators: in 2018/19, around 31.9 percent of northern Nigerians were deprived in terms of educational enrollment, compared to 7.4 percent of southern Nigerians, while 29.1 percent of northern Nigerians were deprived in terms of educational attainment, compared to 4.7 percent of southern Nigerians (Figure 26). Yet the north-south divide was large for basic infrastructure measures too: for example, 57.4 percent of northern Nigerians lacked access to electricity, compared to 19.5 percent of southern Nigerians.

Figure 26. Dashboard of multidimensional poverty indicators for Nigeria in 2018/19, broken down by zone
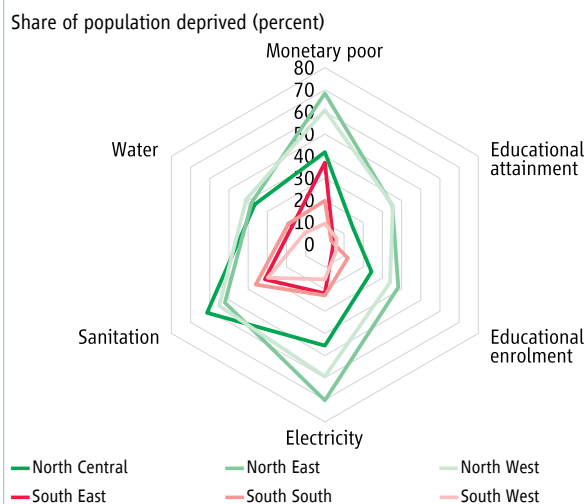
Share of population deprived (percent)

— North Central   — North East   — North West
— South East   — South South   — South West

Note: Estimates exclude Borno. Monetary poverty rate calculated using international poverty line of 1.90 USD 2011 PPP per person per day. Multidimensional poverty defined according to the World Bank Poverty and Shared Prosperity Report 2020.
Source: 2018/19 NLSS and World Bank estimates.

Figure 27. Dashboard of multidimensional poverty indicators for Nigeria in 2018/19, broken down by urban-rural
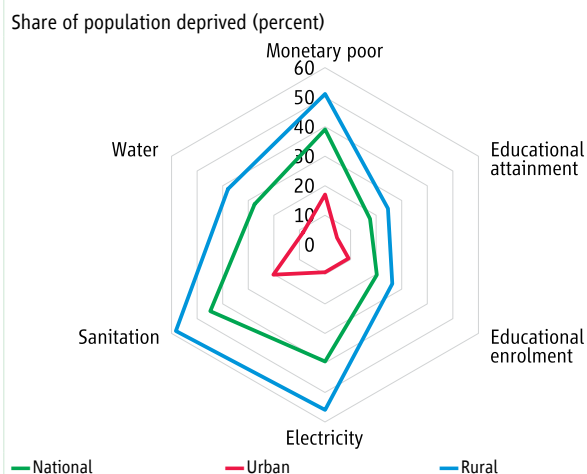
Share of population deprived (percent)

— National   — Urban   — Rural

Note: Estimates exclude Borno. Monetary poverty rate calculated using international poverty line of 1.90 USD 2011 PPP per person per day. Multidimensional poverty defined according to the World Bank Poverty and Shared Prosperity Report 2020.
Source: 2018/19 NLSS and World Bank estimates.

Multidimensional poverty was also far more widespread in rural areas than in urban areas. Around 63.0 percent of rural Nigerians were multidimensionally poor in 2018/19, compared with 18.4 percent of urban Nigerians. These urban-rural differences persisted across all deprivation indicators but were largest for electricity access: around 55.9 percent of rural dwellers lacked access to electricity, compared to 9.2 percent of urban dwellers (see Figure 27).

Multidimensional poverty persisted even in states where monetary poverty was relatively low, underlining the importance of accounting for non-monetary measures of welfare. This is demonstrated by looking at the gap between the multidimensional poverty rate and the monetary poverty rate in each state. The absolute gap is generally larger in northern states, where both multidimensional and monetary poverty are more widespread. Yet even in several southern states—including Delta, Ondo, and Osun—the multidimensional poverty rate exceeded the monetary poverty rate by more than 10 percentage points (see Figure 28).[33] These are the areas where different dimensions of multidimensional poverty may overlap less, so dimension-specific targeting strategies may be needed, as the next sub-section describes.

3.3. Poverty dimensions overlap more in northern and rural areas—with implications for targeting

Since many households were deprived across multiple indicators, targeting poverty-reducing policies also relies on knowing the extent to which different dimensions of poverty overlap. When overlaps are small, different interventions—be they for education, infrastructure, or monetary consumption—need different targeting strategies. However, when overlaps are large, different interventions can target essentially the same households. Indeed, in some countries, conditional cash transfer policies—such as Prospera in Mexico or Bolsa Família in Brazil—explicitly try to address multiple dimensions of poverty for the same households at the same time.

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33   Further state-level statistics on multidimensional poverty are provided in Annex 2.1.

Figure 28. State-level differences between multidimensional and monetary poverty, 2018/19
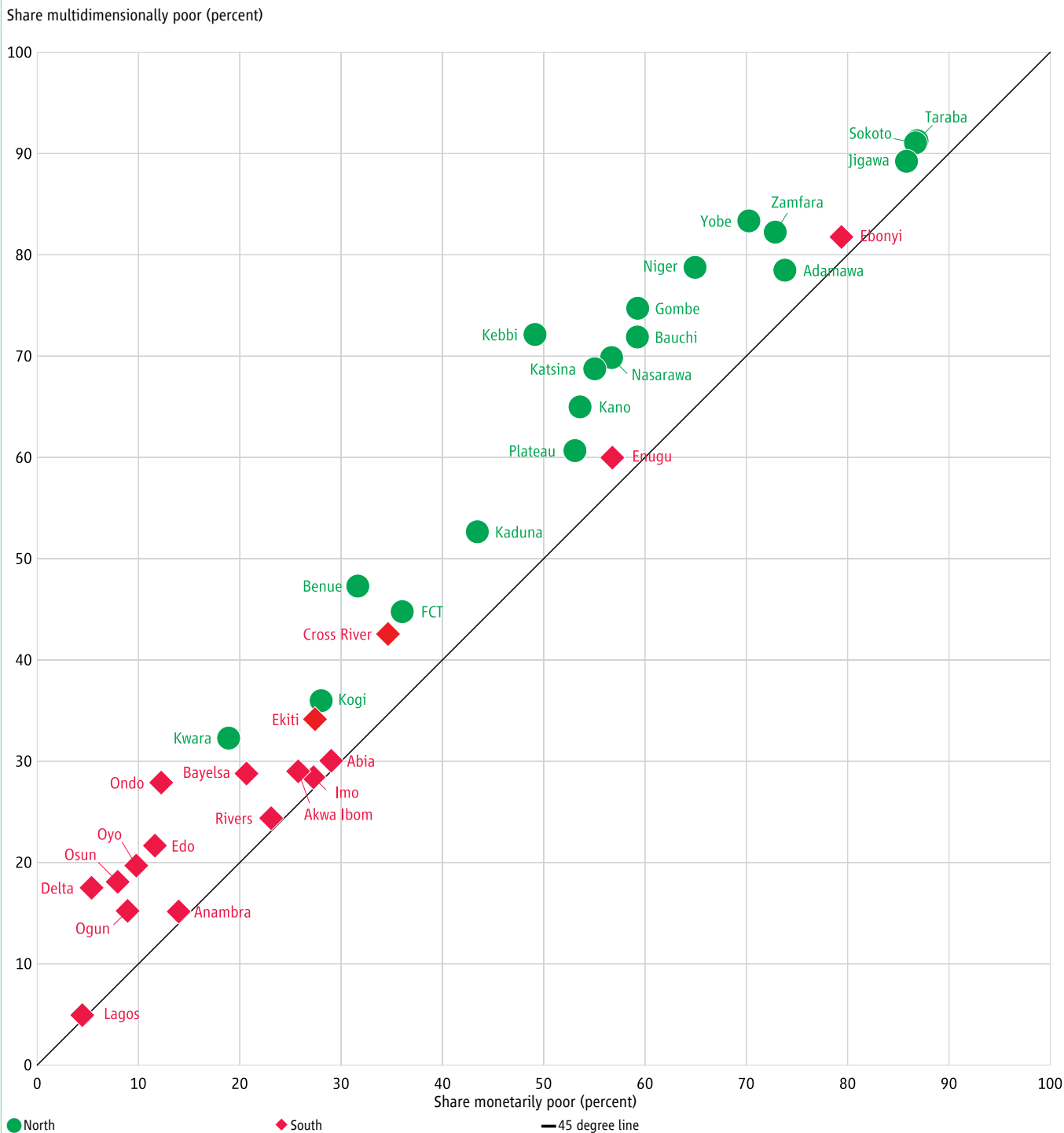
Share multidimensionally poor (percent)

Note: Estimates exclude Borno. Monetary poverty rate calculated using international poverty line of 1.90 USD 2011 PPP per person per day. Multidimensional poverty defined according to the World Bank Poverty and Shared Prosperity Report 2020.
Source: 2018/19 NLSS and World Bank estimates.

The largest overlaps between monetary and non-monetary poverty arose in northern Nigeria as well as in rural areas in 2018/19. This echoes the global finding that different dimensions of poverty overlap more in poorer regions, and especially in Sub-Saharan Africa (Schoch, Lakner, Nguyen, & Tetteh Baah, 2020). Around 31.9 percent of northern Nigerians were deprived across all three dimensions—monetary poverty, education, and basic infrastructure—compared to just 2.9 percent of southern Nigerians (see Figure 29). Similarly, around 26.3 percent of rural dwellers were deprived across all three dimensions, compared to 3.3 percent of urban dwellers.

Figure 29. Overlaps between different dimensions of poverty in Nigeria in 2018/19, split by north-south and urban-rural

Share of the population deprived (percent)

Panel A: South
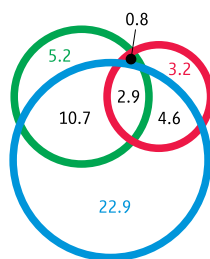
Panel B: North
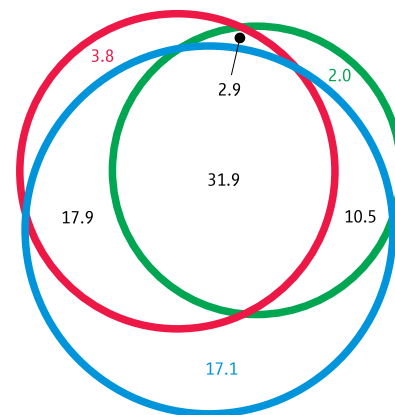
Panel C: Urban
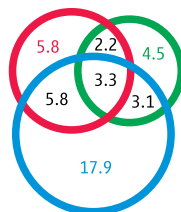
Panel D: Rural
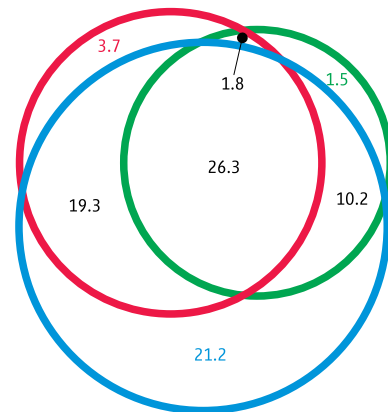
━ Monetary poor   ━ Education deprived   ━ Infrastructure deprived

Note: Estimates exclude Borno. Numbers correspond to the share of the population in each cell (in percent). Size of circles in Venn diagrams not perfectly to scale. North comprises the North Central, North East, and North West zones. South comprises the South East, South South, and South West zones. Multidimensional poverty defined according to the World Bank Poverty and Shared Prosperity Report 2020. Monetary poverty calculated using the 1.90 USD 2011 PPP per person per day poverty line.
Source: NLSS 2018/19 and World Bank calculations.

3.4. Tackling non-monetary poverty: some gains, but little convergence

The Demographic and Health Survey (DHS) can be used to track progress on non-monetary poverty indicators over time. As discussed in Section 2, the NLSS cannot be used to draw trends in monetary poverty due to improvements in the survey instrument used to collect monetary consumption. Yet the DHS data for Nigeria—available for 2003, 2008, 2013, and 2018—allow such comparisons to be made for key education and basic infrastructure variables, at the national, zonal, and urban-rural level.[34]

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34   The DHS does not contain information on monetary consumption, so a complete analysis of trends in monetary and multidimensional poverty is not possible.

Mixed results in education

Secondary-school attendance and primary-education attainment increased in Nigeria between 2003 and 2018—mainly in the early part of that period—but there was little change in primary-school attendance, while gender gaps on all these education indicators remain. Between 2003 and 2018, the net secondary-school attendance rate rose from 37.3 percent to 46.6 percent for females and from 43.7 percent to 52.1 percent for males (see Figure 30). Over the same period, primary-school attainment increased from 50.1 percent to 60.8 percent for females and from 72.1 percent to 76.0 percent for males. Most of this improvement occurred between 2003 and 2008. This means that the decade prior to the COVID-19 crisis was largely marked by stagnation, in line with the back-casted and imputed monetary poverty trends shown in Section 2. This lack of improvement between 2008 and 2018 contrasts with broader regional patterns: for example, according to the World Development Indicators, the net secondary school enrollment rate rose from 28.9 percent to 35.6 percent and the primary school completion rate rose from 65.0 percent to 70.4 percent for Sub-Saharan Africa as a whole over the same period.[35] Also, despite progress on these indicators, many Nigerian children are still not attending primary or secondary school, and gender gaps, especially for primary-education attainment, are still large. Primary-school attendance also changed little between 2003 and 2018 for both girls and boys.

Figure 30. Change in key education indicators in Nigeria between 2003 and 2018

Panel A: Primary-school attendance
Net primary school attendance rate (percent)

Panel B: Secondary-school attendance
Net secondary school attendance rate (percent)

Panel C: Primary-education attainment
Share of people aged 15–49 with at least primary education (percent)

Note: The indicators for primary- and secondary-school attendance capture the share of primary- and secondary-school-age children attending primary and secondary school. Primary education attainment covers 15–49-year-old women and men.
Source: DHS and World Bank estimates.

Improvements in infrastructure—but a long way to go

While many Nigerians remain deprived, access to basic infrastructure appears to have improved between 2003 and 2018. Access to sanitation has improved the most, with the share of the population enjoying improved sanitation rising from 16.0 percent in 2003 to 53.4 percent in 2018, although once again most of that progress occurred between 2003 and 2008 (see Figure 31).[36]

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35 The World Development Indicators on education are taken from the United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics. These statistics combine both girls and boys. The approach taken to measure attendance/enrolment and attainment/completion is slightly from the approach used by the DHS.

36 Data from the World Development Indicators—which draw on the World Health Organization (WHO) and United Nations Children's Fund (UNICEF) Joint Monitoring Programme (JMP) for Water Supply, Sanitation, and Hygiene—suggest that the share of the population using at least basic sanitation services in Sub-Saharan Africa increased from 26.4 percent to 31.8 percent between 2008 and 2018. Thus, Nigeria's stagnation in terms of sanitation access over this period appears to contrast with regional trends.

Any expansion in access to electricity, in contrast, has been much slower, with 51.2 percent of Nigerians having electricity access in 2003, compared with 56.5 percent in 2018. This is striking, given the strong relationship between electricity access and monetary poverty described above (see Table 2).

Spatial disparities persist

Even for non-monetary indicators that have improved steadily in recent years, there has been little convergence between Nigeria's zones. For example, overall improvements in secondary-school attendance and access to improved drinking water were witnessed across all of Nigeria's six zones. Thus, the north-south divide in terms of non-monetary deprivation has persisted (see Figure 32).

Similarly, convergence between rural and urban areas has been minimal; some indicators have even shown growing rural-urban divergence. The gap between urban and rural areas in the share of the population with access to improved drinking water shrank between 2003 and 2018, falling from 41.7 percentage points to 32.4 percentage points (see Figure 33). Yet for secondary-school attendance rates, the urban-rural gap widened over the same period, increasing from 18.1 percentage points to 27.3 percentage points. Given such divergence, additional policy effort is needed to ensure that rural areas are not left behind in Nigeria's development journey.

Figure 31. Change in key basic infrastructure indicators in Nigeria between 2003 and 2018

Share of population with access (percent)

— Improved drinking water   — Improved sanitation   — Electricity
Source: DHS and World Bank estimates.
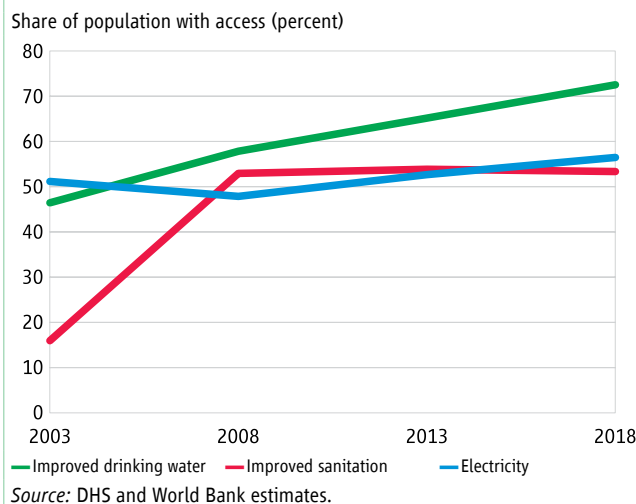
Figure 32. Change in secondary-school attendance and access to improved drinking water in Nigeria between 2003 and 2018, by zone

Panel A: Secondary-school attendance
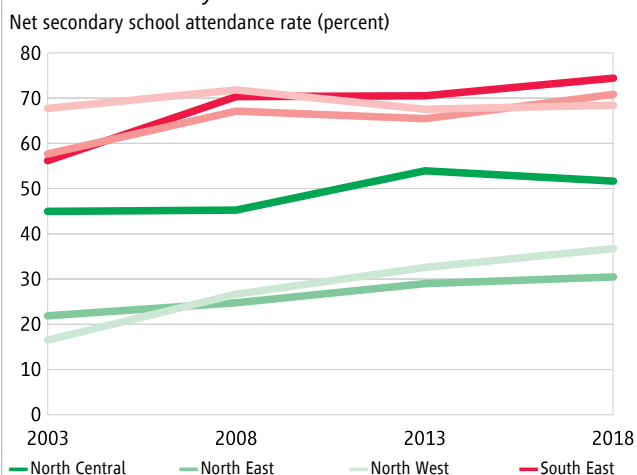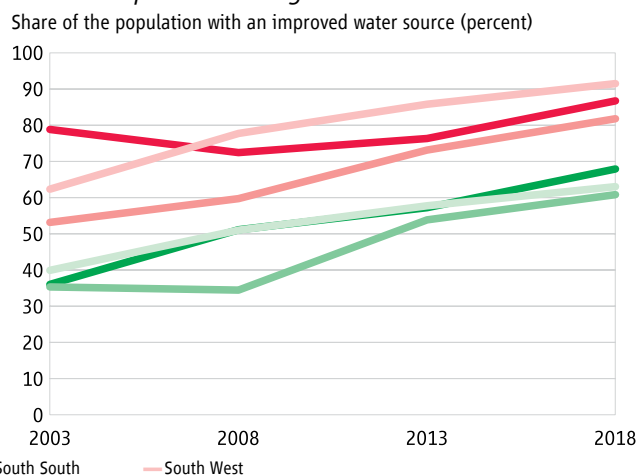
Net secondary school attendance rate (percent)

Panel B: Improved drinking water

Share of the population with an improved water source (percent)

— North Central   — North East   — North West   — South East   — South South   — South West

Note: The indicator for secondary-school attendance captures the share of secondary-school-age children attending secondary school.
Source: DHS and World Bank estimates.

Figure 33. Change in secondary-school attendance and access to improved drinking water in Nigeria between 2003 and 2018, by urban-rural

Panel A: Secondary-school attendance
Net secondary school attendance rate (percent)

Panel B: Improved drinking water
Share of the population with an improved water source (percent)

National   Urban   Rural

Note: The indicator for secondary-school attendance captures the share of secondary-school-age children attending secondary school.
Source: DHS and World Bank estimates.

3.5. COVID-19 could further weaken Nigeria's human capital, both short and long term

In keeping with its high levels of multidimensional poverty, Nigeria had among the worst human-capital outcomes in the world just prior to the pandemic. This can be seen by looking at the Human Capital Index (HCI), which incorporates information on: (1) probability of survival to age 5; (2) expected years of schooling; (3) harmonized educational test scores; (4) learning-adjusted school years; (5) adult survival rate; and (6) children's healthy growth (as measured by the not-stunted rate) (World Bank, 2021). According to the 2020 HCI, a child born in Nigeria that year will grow up to achieve just 36 percent of the productivity she could have attained, if she had enjoyed full health and education (World Bank, 2020). This is below the average for Sub-Saharan Africa (40 percent) and among the lowest in the world; just six countries have lower HCI scores. Nigeria's poor HCI performance was driven in particular by low harmonized test scores and a low probability of survival to age 5.

The pandemic's impacts in health and education

The Nigeria COVID-19 National Longitudinal Phone Survey (NLPS) collected data from Nigerian households throughout 2020 and 2021, making it possible to track how human-capital outcomes—and other indicators—evolved during the COVID-19 crisis. The NLPS was collected monthly between April 2020 and April 2021, through a close collaboration between the World Bank and NBS. The NLPS sets Nigeria apart from other developing countries in terms of the extent of its phone-survey data collected during the COVID-19 crisis (World Bank, 2020). The sample was nationally representative, having been drawn from Nigeria's General Household Survey (GHS), implemented face-to-face in 2018/19. Further details on the NLPS can be found in Oseni et al. (2020).

Along with the direct health threat posed by the virus, the COVID-19 crisis has also weakened the delivery of other key health services in Nigeria. With health systems stretched by COVID-19 and lockdown measures preventing or discouraging patients from attending health facilities, the pandemic may have displaced other health services. For example, in July 2020, around 21.0 percent of households with children 0–5 years old who needed or were due for immunizations were not able to get their children vaccinated. Even by January 2021, about 14.2 percent of households that needed adult health services reported not being able to access treatment. This echoes direct evidence on service utilization—especially outpatient consultations and child vaccinations—provided by health facilities themselves (Shapira, et al., 2021).

School shutdowns reduced attendance and may have exacerbated pre-COVID-19 educational inequalities, with potential long-lasting consequences for educational attainment. Nigerian schools were closed for around half the 2020/21 academic year; schools were shut in March 2020, while a staggered reopening began in September 2020. Consequently, even as schools were reopening in October 2020, just 63.7 percent of school-age[37] children who had attended school in January–February 2019 (51.3 percent of all school-age children) were attending school either in person or remotely (see Figure 34). Dropout was higher for older children, who are unlikely to come back to school. As Dessy et al. (2021) demonstrate, this was not purely an artifact of children's having exceeded the age for mandatory schooling. Attendance had recovered for some—though not all—children by March 2021, but learning was already lost. Using the NLPS data in conjunction with data on the timing of school closures suggests that Nigerian children lost 0.29 Learning Adjusted Years of Schooling, due to both increased dropouts and imperfect mitigation of school shutdowns. Moreover, given that access to technologically-intensive remote learning sources—including televisions, smartphones, and computers—was worse for children from poorer households, the COVID-19 crisis likely exacerbated pre-pandemic inequality in education.

Figure 34. School attendance by sex, urban-rural, and age, 2019–2021

Share of children aged 7–18 in March 2021 tracked in all three surveys (percent)

■ Attending in Jan–Feb 2019   ■ Attending in Jan–Feb 2019 and Oct 2020   ■ Attending in Jan–Feb 2019 and Mar 2021

Note: All bars include only those who were attending school in January–February 2019. Sample restricted to children who were aged 7–18 in March 2021; these children would have been of school age (5–18 years) throughout 2019–2021.
Source: GHS, NLPS, and World Bank estimates.

The next step: focus on the labor market

The effects of COVID-19 on human capital are closely related to its effects on the labor market, to which this poverty assessment now turns. Human capital may be compromised if households adopt negative coping strategies, such as taking children out of school or limiting consumption of nutritious foods. This is far more likely if the labor market is not resilient to shocks, jobs are insecure, and household incomes are uncertain. Moreover, households may be unwilling to invest in human capital if it is not rewarded in the labor market: without good jobs, returns to education may be minimal. The next section therefore considers the various channels through which the labor market influences poverty reduction in Nigeria.

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37 For the NLPS analysis, this means those aged 7-18 years in March 2021. These children would have been at least five years old in January-February 2019.

Spotlight 2: Measuring food insecurity and food access in Nigeria

Tracking food insecurity matters in and of itself, but there are two additional reasons why indicators of food insecurity may be important for policymakers. First, many indicators of food insecurity are highly correlated with other welfare indicators (Headey & Ecker, 2012). This means that changes in food insecurity can provide an "early marker" of what is happening to monetary and non-monetary poverty, even during crises when complete consumption data cannot be collected. Second, food insecurity can have long-run consequences for broader human capital development; cognitive function and learning rely on having sufficient access to micro- and macro-nutrients (Salaam-Blyther & Hanrahan, 2009; Mani, Mullainathan, Shafir, & Zhao, 2013; World Bank, 2018). Therefore, tracing indicators of food security—or, specifically, food access—over time and space can provide policymakers with vital information about the types of initiatives that may support poor and vulnerable Nigerians, as well as where and how such initiatives should be targeted.

Basic indicators of food insecurity jumped as COVID-19 hit, at least at the national level, showing how the crisis put Nigerian households' welfare under pressure. The GHS and NLPS periodically collected data on three indicators of food insecurity, adapted from the Food and Agriculture Organization's (FAO's) Food Insecurity Experience Scale (FIES). Notwithstanding the effects of seasonality, the share of households in which an adult skipped a meal (in the previous 30 days) almost tripled between January–February 2019 and April/May 2020, as the COVID-19 crisis first hit (Figure 35). While this dramatic impact had waned somewhat by November 2020, food insecurity remained more widespread than before the pandemic. Qualitatively similar trends were observed for the share of households that ran out of food and the share in which an adult went a whole day without eating. These findings echo households' experience of food price shocks during the COVID-19 crisis (see Section 5), demonstrating that these pressures on purchasing power directly impact welfare.

Figure 35. Movements in indicators of food insecurity in Nigeria, 2018–2020

Share of households experiencing each issue over the last 30 days (percent)

— Adult skipped a meal   — Household ran out of food
— Adult went whole day without eating
Source: NLPS and World Bank estimates.
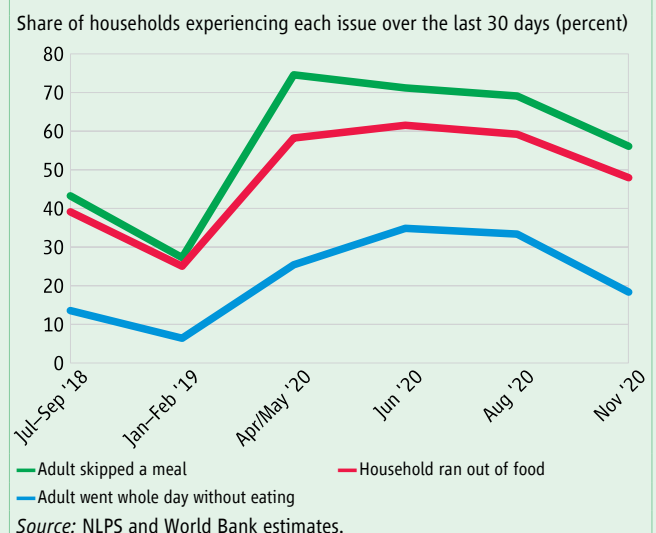
Nevertheless, food insecurity indicators need to provide information on where and who the neediest Nigerians are in order to be useful to policymakers. Tracking food insecurity over time at the national level can serve as a vital call to action, especially during deep crises like COVID-19. Yet targeting policies—including social protection and direct food assistance—requires more detailed information on which Nigerians are suffering from food insecurity and shocks to welfare more broadly.

Some indicators of food insecurity—especially those based on dietary diversity—appear to match geographical and distributional patterns in monetary and non-monetary welfare, making them potentially useful for targeting purposes. One example is the Food Consumption Score (FCS), which captures the frequency with which different food groups were consumed over the previous seven days. This is used by the World Food Program (WFP) to target food assistance around the world. Much like monetary and non-monetary poverty, poor or borderline food insecurity, as captured by the FCS module in the 2018/19 NLSS, was clearly more concentrated in northern Nigeria (see Panel A of Figure 36).[38] This chimes with evidence from outside the 2018/19

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38   Poor or borderline food access corresponds to those with FCS values less than or equal to 42.

NLSS, including Fraym's Localized Food Insecurity Index, which combines survey data and satellite imagery (Fraym, 2020). Moreover, the share of people with a poor or borderline FCS was much higher among lower deciles of the consumption distribution (see Panel B of Figure 36). This demonstrates the potential of some food insecurity measures for supporting government targeting.

Figure 36. Distribution of poor or borderline food insecurity, as per the FCS, by state and decile of the real consumption distribution, in 2018/19

Panel A: Share of the population with poor or borderline FCS by state

Percent
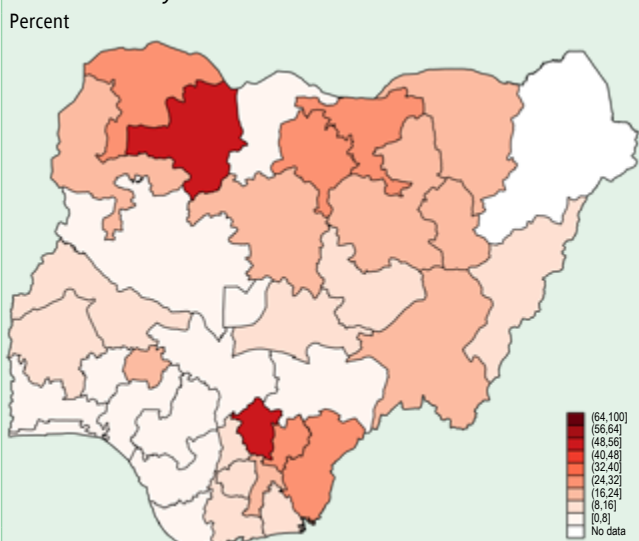
Panel B: Share of the population with poor or borderline FCS by decile

Percent

Decile of the real consumption distribution
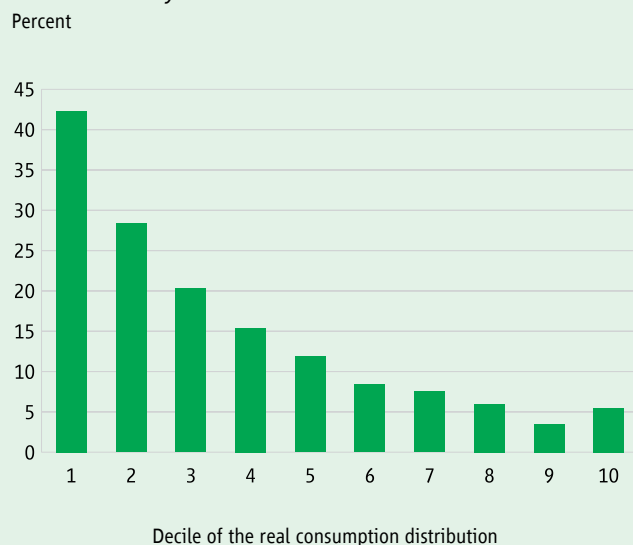
Note: Estimates exclude Borno. FCS = Food Consumption Score. Poor or borderline food security corresponds to those with FCS values less than or equal to 42.
Source: 2018/19 NLSS, Humanitarian Data Exchange (for map shape files), and World Bank estimates.

Figure 37. Distribution of severe food insecurity as per the FIES, by state and decile of the real consumption distribution, in 2018/19

Panel A: Share of the population with severe food insecurity as per the FIES by state

Percent
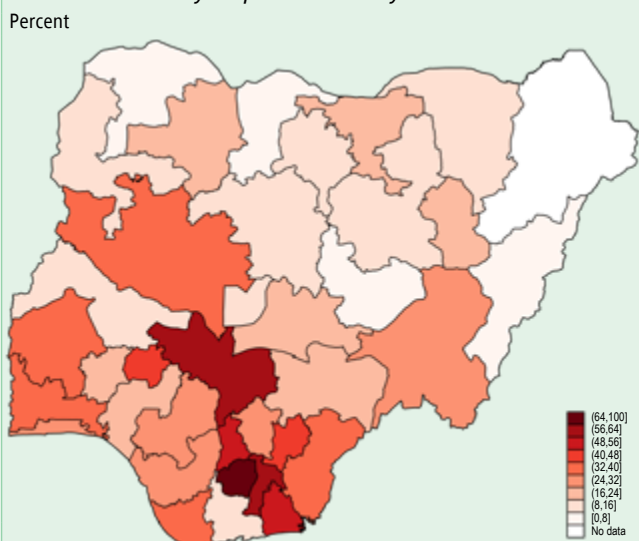
Panel B: Share of the population with severe food insecurity as per the FIES by decile

Percent

Decile of the real consumption distribution

Note: Estimates exclude Borno. FIES = Food Insecurity Experience Score. Severe food insecurity refers to those with a FIES raw score of 7 or 8.
Source: 2018/19 NLSS, Humanitarian Data Exchange (for map shape files), and World Bank estimates.

However, other food insecurity indicators—especially those based on subjective experience questions—do not yield patterns that match poverty and non-monetary poverty indicators, calling into question whether they should be used on their own for targeting. The FIES suffers from this issue in Nigeria, even though some of its constituent questions appear to capture temporal variation in food insecurity. In 2018/19, the share of Nigerians facing severe food insecurity according to the FIES—meaning that their FIES raw score was 7 or 8—did not show the same north-south patterns as other poverty metrics, nor the same differences between richer and poorer deciles shown by the FCS (see Panels A and B of Figure 37).[39] This makes it difficult to target policies and programs to counteract food insecurity in Nigeria using the FIES alone.[40]

Given the challenges associated with some indicators, it may be beneficial to use a mix of measures of food insecurity—alongside other welfare metrics—for targeting policies to support food access in Nigeria. Constraints on survey length may limit the number of questions available for measuring food insecurity, especially in high-frequency surveys and during crises like COVID-19. Yet combining different *types* of indicators—even if they are few in number—will be crucial for adequately targeting programs to support Nigerians' food access and ensuring they reach those most in need of support. This complements the broader discussion of social protection targeting in Section 5. Finding a mix of indicators to accurately track food insecurity will also be vital for monitoring Nigeria's progress towards Goal 2 (Zero Hunger) of the Sustainable Development Goals (SDGs), which currently relies directly on the FIES—indeed, this issue may well affect countries beyond Nigeria.

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39   Using the FIES raw score to classify households is a tenable approach if the underlying data satisfy the basic requirements of the Rasch model (Cafiero, et al., 2016). This is the case for the 2018/19 NLSS, where the infit statistics for each of the 8 FIES elements range from 0.85 to 1.15 and the Rasch reliability statistic is 0.77.

40   These results do not appear to stem solely from using the raw score instead of the Rasch model to calculate the prevalence of food insecurity. When applying the Rasch model separately at the zone level with the <RM.weights> package in R, including the "equating" step, severe food insecurity still appears to be more widespread in the South South and South West zones than in the North East and North West zones.

Annex 3.1. Supplementary tables

Table 3. State-level multidimensional poverty statistics, 2018/19

	Monetary poor using international poverty line (percent)	Multi-dimensionally poor (percent)	Share deprived on non-monetary poverty measures (percent)				
			Educational attainment	Educational enrollment	Electricity	Sanitation	Drinking water
1. Abia	29.1	30.0	3.3	3.2	6.6	20.0	9.4
2. Adamawa	73.9	78.5	15.3	25.8	66.3	38.7	26.8
3. Akwa Ibom	25.8	28.9	4.7	16.4	26.9	26.0	12.4
4. Anambra	14.0	15.1	2.2	0.9	6.9	11.6	8.8
5. Bauchi	59.3	71.9	40.8	37.8	70.7	52.6	35.0
6. Bayelsa	20.7	28.7	2.8	7.7	24.8	73.5	29.9
7. Benue	31.7	47.3	6.3	22.0	56.3	58.8	33.0
9. Cross River	34.7	42.5	5.8	7.2	44.8	40.0	45.4
10. Delta	5.4	17.5	3.3	14.7	21.1	38.6	18.6
11. Ebonyi	79.5	81.7	8.7	15.8	58.6	79.8	22.0
12. Edo	11.7	21.6	2.8	5.3	17.4	30.0	22.9
13. Ekiti	27.5	34.1	5.4	5.3	22.0	53.0	18.4
14. Enugu	56.8	59.9	7.4	2.2	23.8	49.0	40.8
15. Gombe	59.3	74.7	40.9	44.7	60.4	47.1	56.6
16. Imo	27.3	28.4	2.3	2.9	26.5	18.6	8.1
17. Jigawa	85.9	89.2	35.8	33.5	70.8	63.7	7.4
18. Kaduna	43.5	52.6	20.3	15.8	48.1	44.4	43.9
19. Kano	53.6	65.0	26.9	41.5	48.6	55.7	45.5
20. Katsina	55.1	68.7	38.0	42.9	67.1	60.1	42.1
21. Kebbi	49.2	72.1	46.6	38.7	64.0	63.3	41.1
22. Kogi	28.1	35.9	8.5	8.5	25.5	60.5	26.4
23. Kwara	18.9	32.3	20.2	21.3	24.4	60.8	15.8
24. Lagos	4.5	4.9	2.1	3.7	0.9	10.8	2.2
25. Nasarawa	56.7	69.8	11.4	29.3	59.0	76.0	48.9
26. Niger	65.0	78.8	36.0	56.4	49.5	66.9	57.3
27. Ogun	9.0	15.2	6.8	3.5	14.0	25.3	10.3
28. Ondo	12.3	27.8	5.6	10.6	31.6	46.5	28.0
29. Osun	8.0	18.0	7.6	4.4	25.5	36.8	10.5
30. Oyo	9.8	19.6	11.5	9.0	22.0	39.1	10.5
31. Plateau	53.1	60.6	11.3	12.2	62.4	64.1	37.7
32. Rivers	23.1	24.3	1.5	14.1	12.1	31.0	4.6
33. Sokoto	86.8	91.1	55.6	37.6	57.5	68.2	61.9
34. Taraba	86.9	91.3	22.7	33.9	80.3	55.4	59.6
35. Yobe	70.3	83.4	55.0	52.7	74.1	69.7	20.7
36. Zamfara	72.9	82.2	49.4	20.6	80.3	29.5	39.4
37. FCT	36.1	44.7	6.2	12.9	37.4	47.2	30.7

Note: Estimates exclude Borno. Monetary poverty rate calculated using international poverty line of 1.90 USD 2011 PPP per person per day. Multidimensional poverty defined according to the World Bank Poverty and Shared Prosperity Report 2020.
Source: 2018/19 NLSS and World Bank estimates.

4. Nigeria's labor market offers few pathways out of poverty

Section 4 key messages

- *Working, in itself, is not a pathway out of poverty in Nigeria; the vast majority of poor Nigerians are working, though many are underemployed*

- *The wage jobs best able to lift people out of poverty are rare and unevenly distributed in Nigeria; most poor Nigerians hold household farm and non-farm jobs that cannot translate their hard work into an exit from poverty*

- *Wide gender inequality in Nigeria's labor market further constrains poverty reduction*

- *Nigerians have responded to recent crises by working more, but mostly in precarious jobs; crisis conditions have forced young people to sacrifice education*

- *Given persistent shock risks, social protection could be a crucial pillar for poverty reduction in Nigeria*

The fourth section of the poverty assessment examines Nigeria's labor market, assessing the extent to which jobs can help Nigerians out of poverty. Labor is the main asset for the world's—and Nigeria's –poorest people. This means that the labor market is the primary vehicle through which the proceeds of economic growth are spread to households and individuals. Understanding the labor market is therefore crucial for lifting people out of poverty. The section examines the roles of both the extensive margin—whether or not people work—and the intensive margin—how much they work and the characteristics of the work they do—emphasizing that the latter plays a far more important role in determining people's welfare outcomes in Nigeria. The section also explains how the majority of Nigerians, but especially the poor, work in precarious and informal jobs, typically in small-scale farm or non-farm enterprises. This has left them even more vulnerable to shocks, including the 2016 recession, sparked by the drop in global oil prices, and the COVID-19 crisis.

4.1. Exploiting Nigeria's demographic dividend requires providing good jobs for young people

The labor market is the main vehicle through which any proceeds from growth—and any losses from economic crises—are shared to Nigerian households. Labor is the main asset for the world's poorest people (Fields, 2019). Given the extent of poverty of Nigeria, it is therefore unsurprising that most income in Nigeria comes from labor (Sagesaka, Contreras-Gonzalez, & Durazo, 2020). Thus, understanding Nigeria's labor market is vital for guiding poverty-reducing policies.

Nigeria's young population: resource and risk

Nigeria has an extremely young population, so finding jobs for the millions of young people that enter the labor market each year is crucial for exploiting the country's demographic dividend. More than two-thirds of Nigerians are under 30; the age distribution has remained largely unchanged since at least 2000 and is projected to persist through 2030 (see Figure 38). While the share of young people in the working-age population is high across Sub-Saharan Africa, it has peaked in some countries—like Ghana, Ethiopia, and Kenya—where fertility rates have declined; but this is not the case in Nigeria (Fox & Gandhi, 2021). If the share of young people seeking jobs each year remains the same, this means there would have been more than 30 million young labor market participants in 2021 (Jenq, Lain, & Vishwanath, 2021). Meeting this daunting demand for jobs and exploiting the demographic dividend not only has dramatic implications for inclusive growth, but frustration in the labor market may also fuel conflict and violence (Cramer, 2010).

Figure 38. Age distribution in Nigeria, past, present, and future

Source: World Bank DataBank and World Bank estimates.
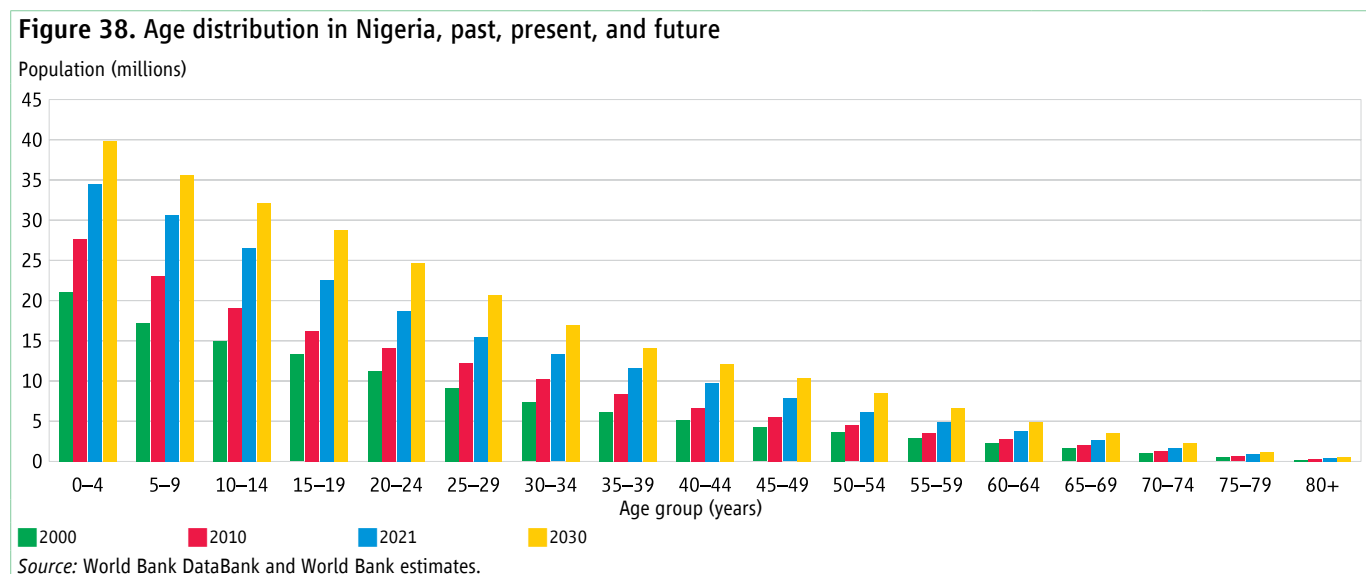
The data for exploring Nigeria's labor market are rich and varied. In keeping with the rest of this poverty assessment, this section mainly draws on the 2018/19 NLSS: this provides basic labor market information alongside data on household consumption, making it possible to assess the role of jobs in household consumption. Some key labor market statistics—especially official measures of unemployment—are also provided by Nigeria's labor force survey. While these data have not been collected regularly each quarter since 2017, the microdata for Q3 2018 were made available and can be incorporated into the analysis. Finally, several job indicators were also collected in the GHS and NLPS, making it possible to construct a panel of individuals and assess labor market dynamics, especially during shocks like the 2016 oil-price recession and the COVID-19 crisis.

4.2. Working, in itself, is not a pathway out of poverty

Poverty in Nigeria is an *in-work* phenomenon. The share of people working—as per the 2018/19 NLSS—did not differ significantly across different deciles of the consumption distribution: around 67.7 percent of working-age[41] Nigerians from the bottom 40 percent of the consumption distribution were working in 2018/19, compared to 69.6 percent of working-age Nigerians from the top 60 (see Figure 39). This indicates that most poverty in Nigeria is *in-work* poverty, and that working in just any job does not guarantee a pathway out of poverty.

Poverty and employment in Nigeria: a counter-intuitive link?

Unemployment is more concentrated among non-poor Nigerians and in richer parts of the country. The unemployed are those who are not currently working but who are actively searching for work.[42] According to the 2018/19 NLSS, the unemployment rate for those in the top 60 percent of the consumption distribution was more than double the rate for those in the bottom 40 (see Figure 39). Similarly, looking at state-level statistics from the Q3 2018 labor force survey, unemployment was far more widespread in states where

Figure 39. Work and unemployment in Nigeria by decile in 2018/19

Note: Sample restricted to those of working age, that is, aged 15–64. In the 2018/19 NLSS, the unemployed are those who did not work in the past seven days, but who had taken action to find a paid job or start a business for pay or profit in the past four weeks. The unemployment rate is the share of those in the labor force (those working or unemployed) who are unemployed, so depends directly on information about job search.
Source: 2018/19 NLSS and World Bank estimates.

poverty was lower (see Figure 40). Unemployment may not be a suitable indicator for the health of the labor market in a setting like Nigeria where wage-employment is rare (see below) and social protection is limited (see Section 5). Indeed, openly searching and waiting for a good job to come along appears to be a practice only the non-poor can afford: unemployment is not synonymous with poverty.

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41 Working age is defined as those aged 15–64 years.

42 In the 2018/19 NLSS, search was measured in a very strict way, comprising those who had "taken any action to find a paid job or start a business for pay/profit" in the four weeks prior to the interview. In the labor force survey, the definition was far less strict, with respondents simply being asked "Are you looking for work?". This explains why the unemployment rate is estimated to be higher in the labor force survey data than in the 2018/19 NLSS.

Figure 40. Geographical distribution of unemployment across Nigeria in Q3 2018

Panel A: State-level unemployment rate

Percent

(23.1,36.0]
(16.0,23.1]
(10.5,16.0]
(5.9,10.5]
[0.9,5.9]
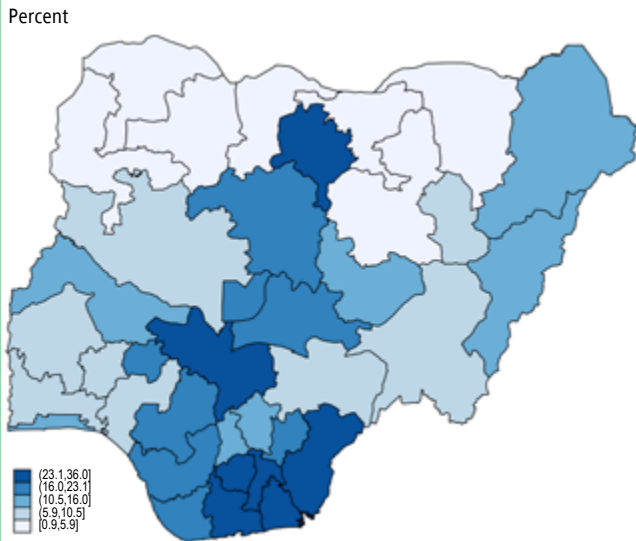
Panel B: Correlation between state-level poverty and unemployment

Poverty rate (percent)

Unemployment rate (percent)
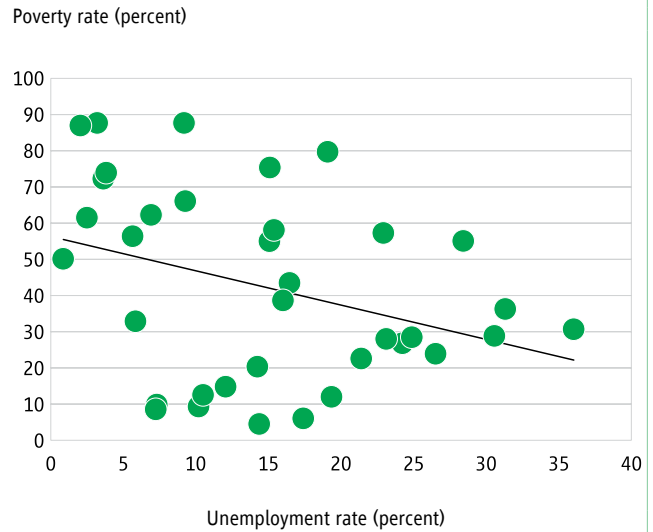
Note: Sample restricted to those of working age, that is, those aged 15–64 for unemployment statistics. In the labor force survey, the unemployed are those who were not working but who reported "looking for work" at the time of the interview. The unemployment rate is the share of those in the labor force (those working or unemployed) who are unemployed, so depends directly on information about job search. Poverty rates shown are for 2018/19.
Source: Nigerian Labor Force Survey, 2018/19 NLSS, and World Bank estimates.

Figure 41. Underemployment in Nigeria in 2018/19 by decile and job type

Panel A: By decile

Share of the working-age population (percent)   Underemployment rate (percent)

Decile of the real consumption distribution

■ Not working (LHS)
■ Working 20–40 hours per week (LHS)
● Underemployment rate, <20 hours per week (RHS)
● Underemployment rate, <40 hours per week (RHS)
■ Working <20 hours per week (LHS)
■ Working 40+ hours per week (LHS)
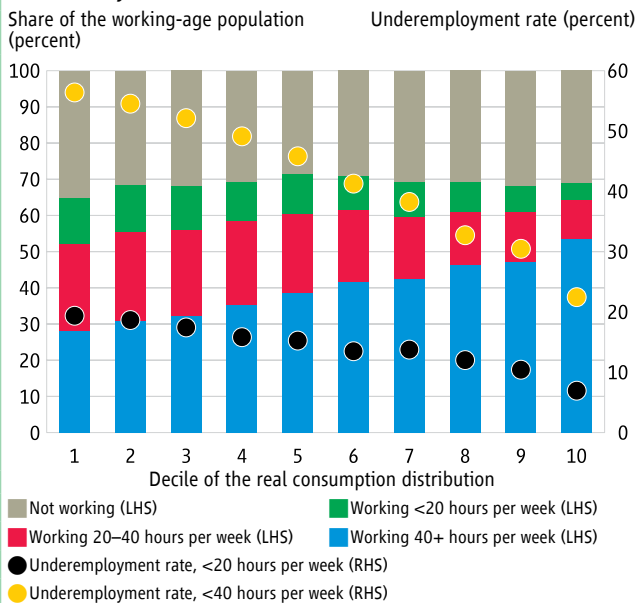
Panel B: By primary job type

Share of working people (percent)

■ Working <20 hours per week
■ Working 40+ hours per week
■ Working 20–40 hours per week
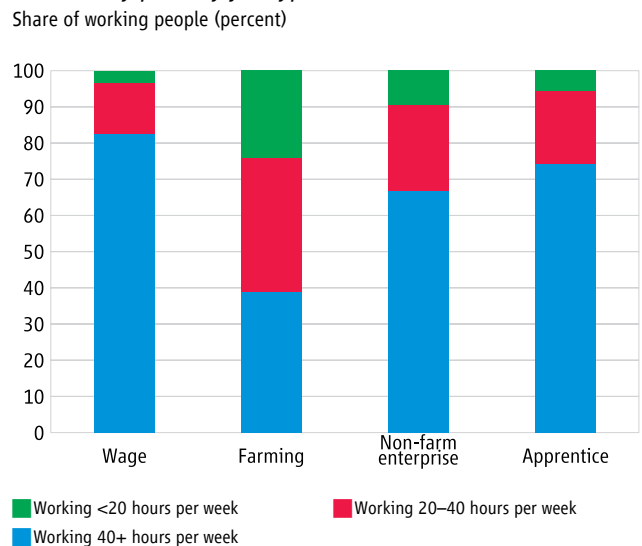
Note: Sample restricted to those of working age, that is, aged 15–64. Underemployment rate is the share of people working who worked either less than 20 or less than 40 hours per week. Primary job refers to the job that individuals spent the most hours doing in the last week.
Source: 2018/19 NLSS and World Bank estimates.

The poor are working, but often underemployed

However, underemployment—working but doing so for fewer hours—is more widespread among poorer Nigerians. About 17.8 percent of workers from the bottom 40 percent of the consumption distribution worked less than 20 hours per week, and a further 35.1 percent worked between 20 and 40 hours per week in 2018/19 (see Panel A of Figure 41). By contrast, 11.8 percent of workers from the top 60 worked less than 20 hours per week, and 22.7 percent worked between 20 and 40 hours per week. As such, underemployment was more widespread among the poor. In turn, this indicates that the *quality* of jobs is likely to be a key determinant of poverty, insofar as working fewer hours means generating less—or less secure—earnings. Underemployment also appears to be correlated with key job characteristics: for example, underemployment is more widespread in farming and work in non-farm enterprises than in wage work (see Panel B of Figure 41). It is these job characteristics to which this section now turns.

4.3. The jobs best able to lift people out of poverty are rare and distributed unevenly across Nigeria

Structural transformation has yet to advance significantly in Nigeria, and agricultural jobs are disproportionately concentrated among the poor. Around 11.7 percent of Nigerian workers were primarily engaged in jobs in industry in 2018/19, compared to 42.4 percent in agriculture and 45.9 percent in services (including retail and trade and other types of services; see Figure 42). This lack of progress on structural transformation is partly due to Nigeria's continued dependence on oil revenues—which have made up more than 80 percent of exports since the 1970s—and constraints on trade that limit export-led growth (see Section 1). Agriculture is far more prevalent among Nigeria's poor: some 60.0 percent of workers from the bottom 40 percent of the consumption distribution were primarily engaged in agriculture, compared to 33.1 percent of those from the top 60.

Moreover, state-level poverty is highly correlated with the dominant sectors of work in each state. States with higher shares of working-age people engaged in agriculture had higher poverty rates (see Panel B of Figure 43). By contrast, states with higher shares of working-age people engaged in industry had lower poverty rates (see Panel D of Figure 43). Thus, even geographically, the relative importance of the intensive margin—what jobs people do rather than whether they work at all—for poverty reduction is clear.

Figure 42. Primary sector of work among working Nigerians by decile in 2018/19

Share of working people (percent)

Decile of the real consumption distribution

■ Agriculture ■ Industry ■ Retail and trade ■ Other services

Note: Sample restricted to those individuals of working age (aged 15–64) who were working. Primary job refers to the job that individuals spent the most hours doing in the last week.
Source: 2018/19 NLSS and World Bank estimates.

Figure 43. Geographical distribution of workers in agriculture and industry across Nigerian states in 2018/19

Panel A: State-level share of working-age people primarily engaged in agriculture
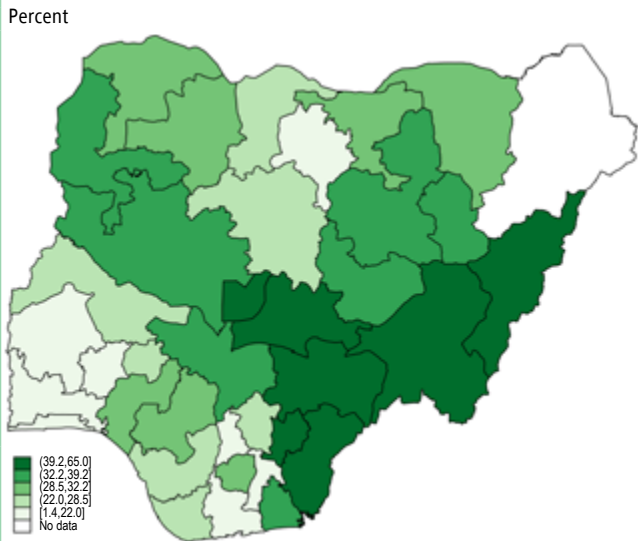
Percent

(39.2,65.0]
(32.2,39.2]
(28.5,32.2]
(22.0,28.5]
[1.4,22.0]
No data

Panel B: Correlation between state-level poverty and the share of people engaged in agriculture

Poverty rate (percent)

Share of the working-age population primarily engaged in agriculture (percent)
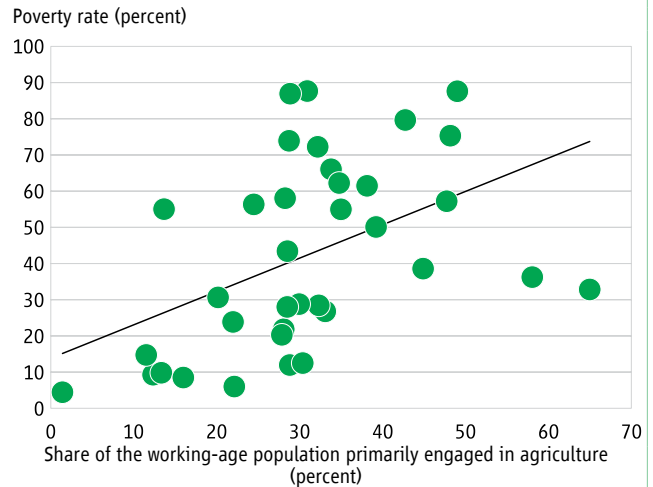
Panel C: State-level share of working-age people primarily engaged in industry

Percent

(8.5,17.6]
(7.3,8.5]
(5.9,7.3]
(4.2,5.9]
[0.5,4.2]
No data
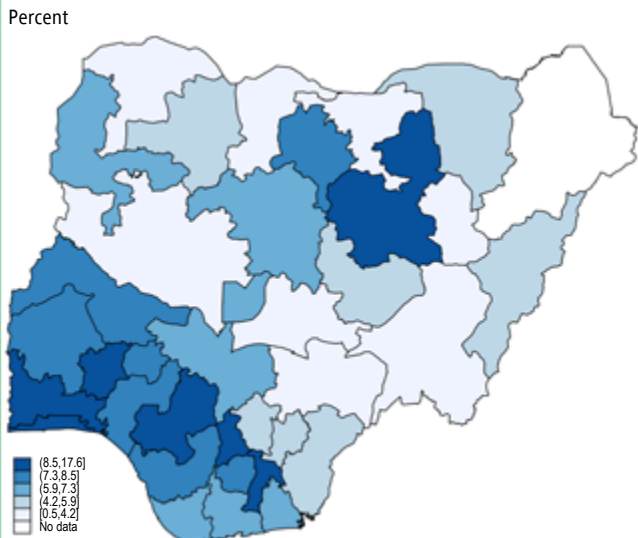
Panel D: Correlation between state-level poverty and the share of people engaged in industry

Poverty rate (percent)

Share of the working-age population primarily engaged in industry (percent)

Note: Sample restricted to those of working age, that is, those aged 15–64 for sector of work statistics.
Source: 2018/19 NLSS and World Bank estimates.

Wage jobs remain elusive for Nigerians—especially the poor

Relatedly, wage-employment comprises just a sliver of jobs in Nigeria, especially for the poor. Around 16.7 percent of working Nigerians held wage jobs in 2018/19, with the remainder mostly being split across farming (38.4 percent) and non-farm household enterprises (39.0 percent; see Figure 44). This is a further reflection of the slow progress towards structural transformation in Nigeria. The lack of wage jobs may have severe implications for poverty reduction, given that wage-employment tends to offer lower earnings risk, the potential for better working conditions—such as paid overtime, paid leave, and social insurance—and the foundations for careers with a longer-term commitment to the labor market and clearer pathways for advancement (Goldin, 2006; Fox & Gandhi, 2021). This bears out in the data, as the share of working Nigerians with wage jobs is almost three times higher among those from the top 60 percent of the consumption distribution compared to the bottom 40 percent.

Figure 44. Primary job type among working Nigerians by decile

Share of working people (percent)

Decile of the real consumption distribution

■ Wage   ■ Farming   ■ Non-farm enterprise   ■ Apprenctice

Note: Sample restricted to those individuals of working age (aged 15–64) who were working. Primary job refers to the job that individuals spent the most hours doing in the last week.
Source: 2018/19 NLSS and World Bank estimates.
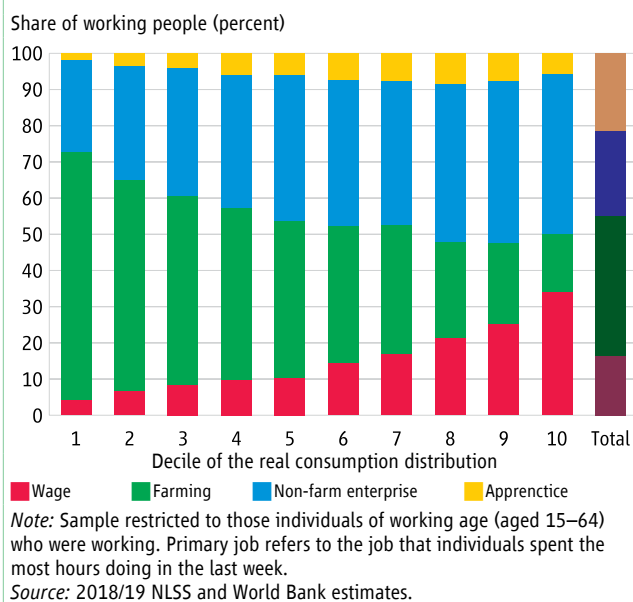
Nevertheless, even wage-employment was no guarantee of job security and in-work benefits. Around 27.5 percent of Nigerian wage workers had a pension, 19.9 percent had health insurance, and 35.5 percent had paid holiday in 2018/19 (see Panel A, Figure 45). These shares were all significantly lower for wage workers from the bottom 40 percent of the consumption distribution, compared to those in the top 60. Therefore, even if poor Nigerians can find a way to a wage job, it does not offer the same benefits enjoyed by non-poor wage workers. Similarly, wage workers from poorer households also tend to work at smaller firms, another key marker of productivity and formality (Falco, Kerr, Rankin, Sandefur, & Teal, 2011; Teal, 2021) (see Panel B, Figure 45).

Figure 45. In-work benefits and firm size among wage workers in Nigeria in 2018/19

Panel A: In-work benefits
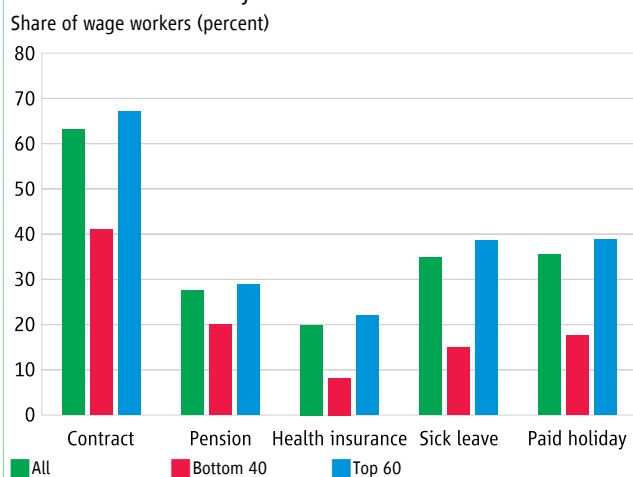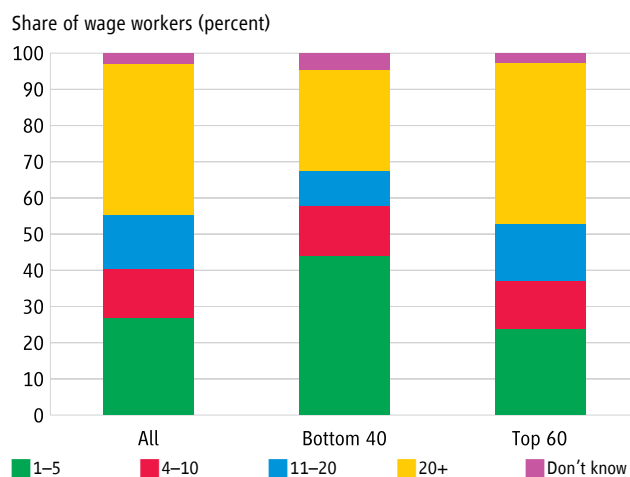
Share of wage workers (percent)

■ All   ■ Bottom 40   ■ Top 60

Panel B: Firm size

Share of wage workers (percent)

■ 1–5   ■ 4–10   ■ 11–20   ■ 20+   ■ Don't know

Note: Sample restricted to those individuals of working age (aged 15–64) who were primarily working in wage jobs. Primary job refers to the job that individuals spent the most hours doing in the last week.
Source: 2018/19 NLSS and World Bank estimates.

The jobs available to most Nigerians cannot lift them out of poverty

Work in farm and non-farm enterprises is very small scale and may not generate the income required to lift households out of poverty. Among those working primarily in farming in 2018/19, around 36.5 percent produced farm outputs that were only or mainly for sale, and this share was higher for those in the top 60 percent of the consumption distribution (40.7 percent) than for those in the bottom 40 (32.2 percent; see Panel A, Figure 46). This resonates with previous evidence from Nigeria that suggests commercialization of agricultural activities may not be widespread (Ecker & Hatzenbuehler, 2021). Similarly, non-farm enterprises were unlikely to employ people from outside the household: just 16.5 percent of non-farm enterprise workers engaged employees from outside the household, with this share being even lower for those from the bottom 40 percent of the consumption distribution, compared to the top 60 (see Panel B, Figure 46).

Figure 46. Farm sales and enterprise size in Nigeria in 2018/19

Panel A: Do farm workers produce goods for sale?

Share of farm workers (percent)
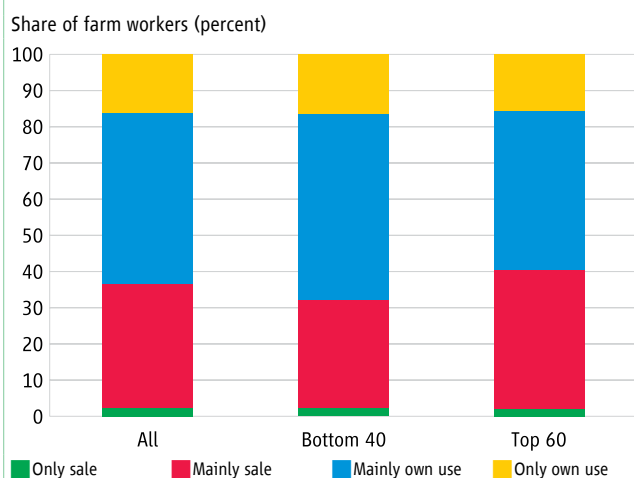
Panel B: Do household non-farm enterprises hire from outside?
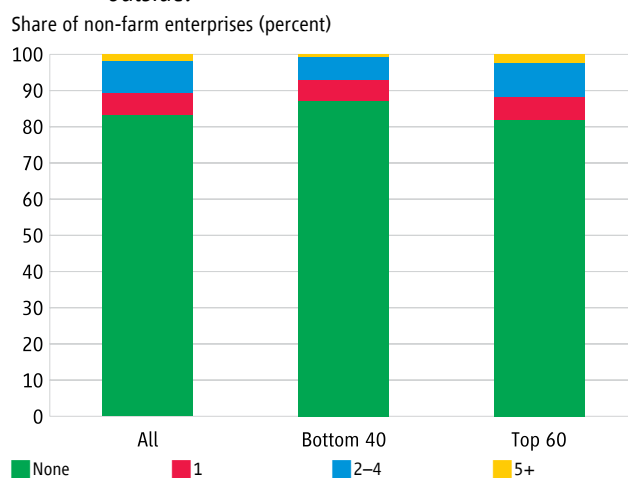
Share of non-farm enterprises (percent)

Note: Sample restricted to those individuals of working age (aged 15–64) who were primarily working in farming (Panel A) and non-farm enterprises (Panel B). Panel B refers to number of workers from outside the household. Both panels use individual weights. Primary job refers to the job that individuals spent the most hours doing in the last week. Statistics on non-farm enterprises taken for the main enterprise in each household.
Source: 2018/19 NLSS and World Bank estimates.

4.4. Gender inequality in Nigeria's labor market could further constrain poverty reduction

Women and men in the labor market: no level playing field

Women's and men's labor market participation and the sectors in which they work differ sharply in Nigeria. First, women were less likely to be working than men in 2018/19: around 62.5 percent of working-age women were working, compared with 75.9 percent of working-age men (see Panel A, Figure 47). Second, underemployment was more widespread among women than men: around 17.3 percent of working women worked less than 20 hours per week, compared with 10.7 percent of working men (see Panel B, Figure 47). Third, among those who worked, women were more likely to be engaged in retail and trade than men: around 34.5 percent of working women engaged primarily in retail and trade, compared with 15.8 percent of working men (see Panel C, Figure 47). Fourth, related to this sectoral breakdown, working women were more likely to be engaged in non-farm enterprises than working men (see Panel D, Figure 47).

Within different types of jobs, women earn less than men, in part because they lack access to key inputs, especially for agriculture. Estimates from the 2018/19 GHS suggest that, in Nigeria: output per hectare was about 30 percent lower for female-managed plots compared to male-managed plots; non-farm enterprise profits were about 66 percent lower for female-owned enterprises than male-owned enterprises; and female wage workers earned about 22 percent less than male wage workers (World Bank, 2022).[43] For farm and non-farm enterprises, this may be because women's access to key inputs is particularly constrained. Male farmers use 8 times more fertilizer and 50 percent more herbicide per hectare than female farmers. Labor used on male-managed plots is also more productive than labor used on female-managed plots, partially because hired agricultural workers tend to male-managed plots first in the day and because women's "household responsibilities" interfere with their ability to supervise hired labor (Pierotti, Friedson-Ridenour, & Olayiwola, 2022). Additionally, non-farm enterprises run by women are significantly less capitalized than those run by men: the value of equipment owned by women-operated enterprises is only

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43 Controlling for individual characteristics leaves the estimated gender earnings gap in non-farm enterprise jobs and wage-employment slightly but reduces the estimate gender gap in output per hectare from 30 percent to 16 percent.

16 percent of the total value for firms operated by men (World Bank, 2022). Therefore, finding ways to address the specific constraints on accessing factors of production that Nigerian women face could be a key element of improving productivity and earnings and hence reducing poverty.

Figure 47. Gender differences in labor market outcomes in Nigeria, 2018/19

Panel A: Working status
Share of working-age population (percent)

Panel B: Underemployment
Share of working-age population (percent)

Panel C: Sector of work
Share of working people (percent)

Panel D: Job type
Share of working people (percent)

Legend:
- Working
- Unemployed
- Out of the labor force
- Not working
- Working <20 hours per week
- Working 20–40 hours per week
- Working 40+ hours per week
- Agriculture
- Industry
- Retail and industry
- Other services
- Wage
- Farming
- Non-farm enterprise
- Apprentice

Note: For Panels A and B, sample restricted to people of working age, that is, aged 15–64. For Panels C and D, sample restricted to those of working age who were actually working.
Source: 2018/19 NLSS and World Bank estimates.

Women also end up working in less productive sub-sectors than men, which further constrains their productivity and earnings; this appears to be at least partly down to gender norms. For example, there are clear differences in the types of jobs that wage-employed women and men do: in particular, women are more than twice as likely as men to work in the education, but that is the lowest-paying wage-employment sub-sector in Nigeria (World Bank, 2022). Gender segregation is also stark within agriculture, where women are disproportionately more likely to enter relatively low-return activities, such as poultry farming. This appears to be related to social norms, especially in Nigeria's north, in at least three ways: (1) "household responsibilities" are distributed unequally limiting the time women have for income-generating activities; (2) in some parts of Nigeria there is a communal belief that women should not earn more than their husbands, curbing their aspirations; and (3) women's decision-making power within the household—which could influence their income-generating activities—may be limited (Das, Delavallade, Fashogbon, Ogunleye, & Papineni, 2021). Policy options to promote Nigerian women's participation in productive jobs must therefore also be sensitive to these kinds of gender norms.

Improving gender equity may accelerate poverty reduction

Gender inequality in the labor market could slow poverty reduction. Addressing gender inequality in the labor market is not only the right thing to do, but it can also improve overall productivity and inclusive growth and hence drive down poverty (Datta & Kotikula, 2017). If women do not have access to good jobs, there is a risk that investments in girls' and women's education could be wasted (see Section 3). Even in state-level data from the 2018/19 NLSS, the relationship between gender inequality in the labor market and poverty is apparent. While this association cannot be given a causal interpretation, states in which the gap between the share of women and the share of men working is larger tended to have higher poverty rates in 2018/19 (see Figure 48).

Figure 48. State-level inequality in the share of women and men who were working in 2018/19

Panel A: Gap between the shares of women and men working

Percentage points

(25.8,60.3]
(8.5,25.8]
(6.0,8.5]
(2.8,6.0]
(-3.1,2.8]
No data

Panel B: Correlation between state-level poverty and the gap between the shares of men and women working

Poverty rate (percent)

Difference between the share of men working and the share of women working (percentage points)
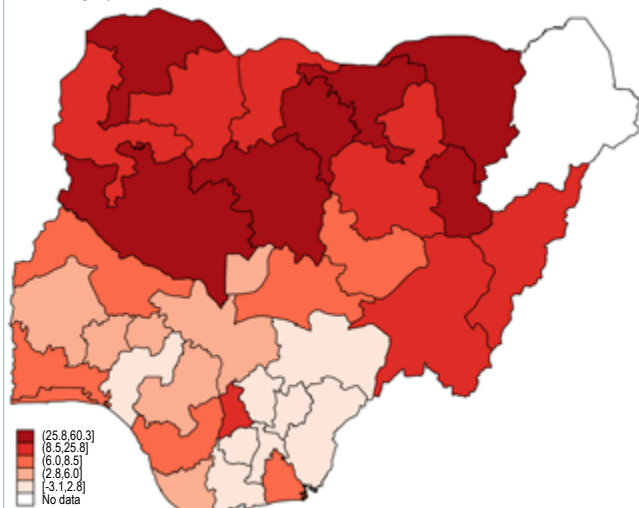
Note: Sample restricted to those of working age, that is, those aged 15–64 for employment statistics. Poverty rates shown are for 2018/19.
Source: 2018/19 NLSS and World Bank estimates.

4.5. Crisis times and the labor market: rising levels of precarity

Tracing workers' pathways through two crises—the 2016 oil-price recession and the COVID-19 crisis—illustrates the precarious nature of work in Nigeria. This is made possible by the GHS and NLPS, which track the same individuals at multiple points in time. The GHS observes *all* individuals in sampled households in both the post-planting and post-harvest seasons[44] in 2010/11, 2012/13, 2015/16, and 2018/19. While the NLPS was conducted 12 times between April 2020 and April 2021, it is only in Round 5 (September 2020) and Round 10 (February 2021) that the survey covered all working-age individuals within the household. Given the sampling approach, this makes it possible to construct a nationally-representative panel dataset of working-age individuals that straddles both the 2016 oil recession and the first year of the COVID-19 crisis.

Surviving the crisis—by sacrificing the future?

Following both crises, the share of Nigerians who were working eventually *increased*, indicating that pre-crisis jobs were insufficient to weather income shocks; for young people this often came at the expense of education. Between 2015/16 and 2018/19, following the oil-price recession, the share of working-age Nigerians who were working jumped from 60.8 percent to 67.3 percent, having hovered at around 60 percent for the previous six years (see Panel A, Figure 49). The jump was particularly large for those aged 15–29, among whom the share working increased from 38.6 percent to 50.7 percent between 2015/16 and 2018/19. Young people also experienced a decline in educational attainment over the same period—even after controlling for changes in other individual characteristics—underlining the sharp trade-off between work and education (Jenq, Lain, &

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44   The post-planting visit was usually carried out between July and September, and the post-harvest visit was usually carried out between January and February of the following calendar year.

Vishwanath, 2021). Similarly, notwithstanding the challenges associated with comparing the NLPS and GHS,[45] it appears that the share of people working was 5.9 percentage points *higher* in February 2021 than January–February 2019; this follows the initial drop in employment experienced during the most severe lockdown restrictions in early 2020 (see Panel B, Figure 49). Again, the rise in working rates during the COVID-19 crisis appears to have been accompanied by a drop in schooling—even after many schools reopened—for young people, especially children aged 15–18 (Dessy, Gninafon, Tiberti, & Tiberti, 2021).

Figure 49. Overall labor market responses to the 2016 oil recession and the COVID-19 crisis

Panel A: 2010–2019
Share of the working-age population (percent)

Panel B: 2018–2021
Share of the working-age population (percent)

■ Wage   ■ Farming   ■ Non-farm enterprise   ■ Apprentice or other   ■ Not working   ● All working

Note: Sample restricted to individuals of working age, that is, those aged 15–64. 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, in Panel A. Estimates averaged across post-planting and post-harvest visits in Panel A. Primary job refers to the job that individuals spent the most hours doing in the last week in Panel B. Sample restricted to a balanced panel of individuals observed throughout the period of interest in both Panel A and Panel B.
Source: GHS, NLPS, and World Bank calculations.

Disproportionate impacts on women and the poor

The labor market shifts observed during the COVID-19 crisis were larger for women and the poor. Between January–February 2019 and February 2021, the share of working-age women who were working increased by 7.7 percentage points, compared to an increase of 4.0 percentage points for working-age men. Similarly, the share of people from the bottom 40 percent of the consumption distribution who were working increased by 8.5 percentage points over the same period, compared to an increase of 4.6 percentage points among the top 60. These patterns are consistent with an "added worker effect," whereby households increase their overall labor supply in order to cope with income shocks.[46]

Crises have pushed people into precarious work

The types of work that Nigerians took on during the 2016 oil recession and the COVID-19 crisis appeared to be precarious. Farming was the main additional source of jobs following the 2016 oil recession: between 2015/16 and 2018/19, the share of

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45 Directly comparing labor market outcomes from the GHS and the NLPS is challenging for three key reasons. First, the GHS was carried out face-to-face, while the NLPS was conducted over the phone. Second, the GHS surveyed all working-age individuals in the household, while the NLPS surveyed up to six working-age individuals. Third, the dates of data collection for the post-planting visit of the 2018/19 GHS—July 18, 2018 to October 5, 2018—do not perfectly match the dates of data collection for Round 5 of the NLPS—September 7, 2020 to September 21, 2020. There is a similar but smaller disparity for the post-harvest visit of the 2018/19 GHS and Round 10 of the NLPS. One alternative approach is to compare how the typical seasonal drop in employment—stemming from seasonality in agriculture—fared before and after the COVID-19 crisis. The share of people working dropped far less between September 2020 and February 2021 than would be expected based on previous agricultural cycles, further reinforcing the idea that the COVID-19 crisis eventually led more people to work.

46 The gender and cross-quintile cuts for the oil recession tell a slightly different story. There were similar increases in the share of people working—and working in agriculture—for both women and men, while the expansion in agriculture was actually slightly larger for the top 60 than the bottom 40.

working-age Nigerians engaged in farming increased from 27.9 percent to 35.9 percent (see Panel A, Figure 49). In the COVID-19 crisis, workers instead turned to non-farm enterprises, with the share of working-age Nigerians engaged in non-farm enterprises rising from 34.6 percent in January–February 2019 to 40.4 percent in February 2021 (see Panel B, Figure 49). The majority of these new enterprise jobs were in small-scale retail and trade activities, while non-farm-enterprise incomes appeared to be among the least secure sources of income as the COVID-19 crisis continued (Oseni, et al., 2021). This further reinforces the notion that the expansion in the share of people working during these crises likely reflects households' attempts to cope with the economic shock, rather than there being an independent increase in productivity or labor demand.

Figure 50. Sectoral transitions for the primary job during the COVID-19 crisis

Share of the working-age population in January-February 2019 (percent)   Share of the working-age population in February 2021 (percent)
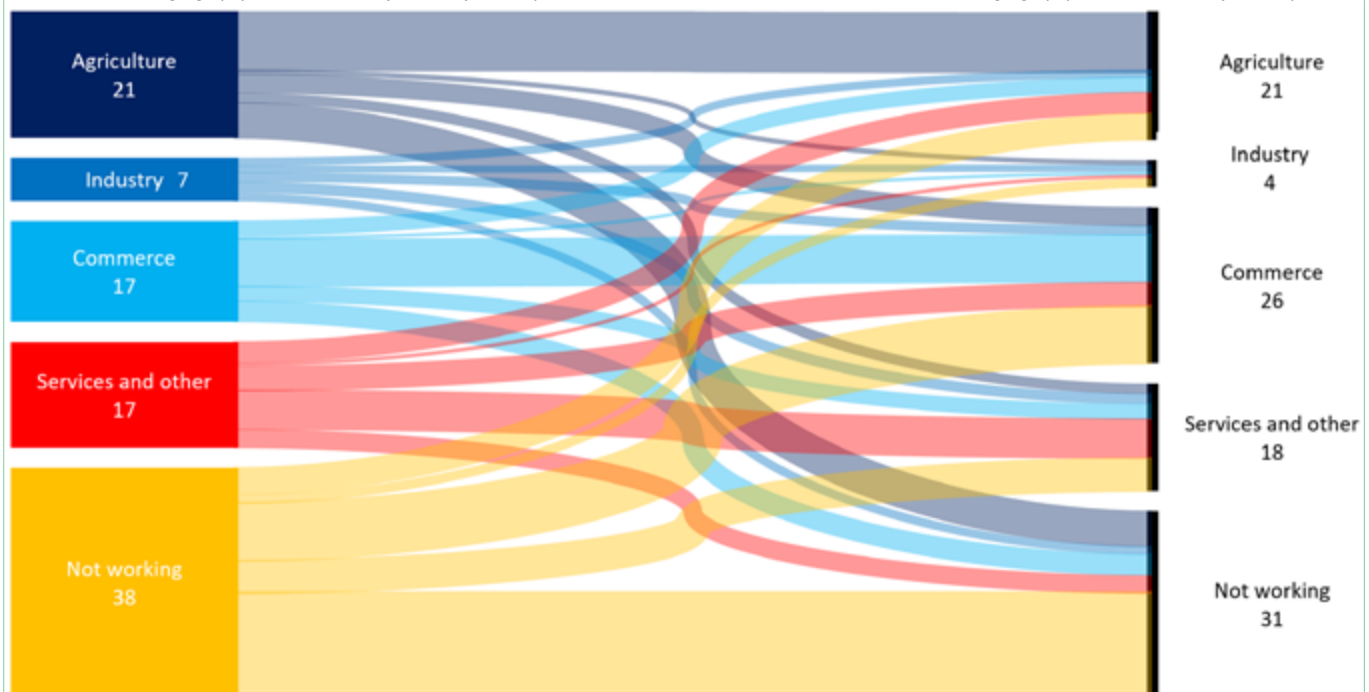
Note: Sample restricted to individuals of working age, that is, aged 15–64. Primary job refers to the job that individuals spent the most hours doing in the last week. Commerce refers to retail and trade activities. Sample restricted to a balanced panel of individuals observed throughout the period of interest. Source: GHS, NLPS, and World Bank calculations.

The overall shift towards non-farm-enterprise work in retail and trade during the COVID-19 crisis was accompanied by dramatic churn in Nigerians' labor-market activities. Using the panel dataset constructed from the 2018/19 GHS and the NLPS, it is possible to track how the *same* individuals transitioned between different labor-market activities over time. Many workers switched sectors between the pre-pandemic period and February 2021. Among those individuals who were working in retail and trade (also known as commerce) in February 2021, just 30.1 percent had been working in that sector in January–February 2019, with around 36.8 percent previously not working, and 33.2 percent flowing in from agriculture, industry, and other services (see Figure 50). The extent of this churning suggests that workers suffered from a lack of stability and security in their employment: instead, they were seeking to take on any feasible activities to help them cope with the COVID-19 crisis, even if those were not the activities in which they had comparative advantage.

The next step: how could social protection improve this picture?

Given the uncertainty Nigerian workers face when crises hit, social protection could be a crucial pillar for poverty reduction; yet it may also enable the reforms needed to boost the creation of productive jobs. The responses of the labor market to both the 2016 oil-price recession and to COVID-19 could represent negative coping strategies, which may impact human capital,

livelihoods, and welfare in the long run; social protection could protect against these shocks. At the same time, social protection may alleviate the impact on the poor and vulnerable of the difficult reforms needed to bolster structural transformation and create good jobs (see Spotlight 3 for a specific example on fuel subsidy reform and Section 6). Therefore, understanding the broader profile of shocks in Nigeria and the specifics of the social protection policies that may mitigate risk and uncertainty is crucial for providing pathways out of poverty. It is this topic to which the poverty assessment now turns.

5. Social protection could help households cope with widespread shocks

Section 5 key messages

- *Even before COVID-19, Nigerians were widely exposed to impoverishing shocks*

- *Climate shocks have disproportionately affected poor Nigerians in rural areas, whose livelihoods often depend on agriculture or livestock*

- *Shocks before and during COVID-19 have pushed millions of Nigerian households towards negative coping strategies, like reducing their food consumption*

- *Social protection was limited in Nigeria before the pandemic and has expanded little*

- *Innovative options exist to bolster Nigeria's social protection system for current and future crises; better social protection will speed poverty reduction and boost crisis resilience*

The fifth section of the poverty assessment explores Nigerians' exposure to shocks and examines the role that social protection may play in supporting households faced with risk and uncertainty. Exposure to shocks may have long-term consequences on households' prospects for escaping poverty: as well as setting back welfare in the short run, it could influence their investments in human capital and their decisions around undertaking potentially lucrative income-generating activities. This section first describes the profile of shocks that Nigerians face, showing in particular the threat that climate shocks pose for poor and vulnerable households, using geospatial data. The section then outlines the link between shocks and negative coping strategies, which could affect Nigerian households' welfare in the long run. Finally, the section considers the current state of social protection in Nigeria, outlining innovative ways that it could be expanded and improved to accelerate poverty reduction.

5.1. Even before COVID-19, Nigerians were widely exposed to shocks

According to the 2018/19 NLSS, two-thirds of Nigerians had experienced some kind of climatic or non-climatic shock in the three years prior to the survey's collection. Around 21.5 percent of Nigerians lived in a household that had been affected by at least one "climatic shock"—such as loss of harvest or property due to fire, poor rains, or flooding—while 64.3 percent of Nigerians lived in a household that had been affected by at least one "non-climatic shock"—including theft, death, or illness of a household member, or sudden price increases (Figure 51).[47] Shocks were more prevalent in rural areas than urban areas: 71.7 percent of rural dwellers had experienced a climatic or non-climatic shock in the three years prior to the 2018/19 NLSS, compared with 60.6 percent of urban dwellers. The urban-rural difference was even larger when considering climatic shocks alone. Thus, overall, even before COVID-19, Nigerians were exposed to shocks that could easily push them into poverty.

Figure 51. Share of Nigerians who experienced a climatic or non-climatic shock in the three years prior to 2018/19, urban and rural areas

Share of the population living in a shock-hit household (percent)

Note: Estimates exclude Borno.
Source: 2018/19 NLSS and World Bank estimates.

Figure 52. Share of Nigerians who experienced a climatic or non-climatic shock in the three years prior to 2018/19, by poverty status

Share of the population living in a shock-hit household (percent)

Note: Estimates exclude Borno. Poverty status assigned using the national poverty line. The vulnerable are those with consumption levels between 1 and 1.5 times the poverty line.
Source: 2018/19 NLSS and World Bank estimates.

47 The full list of climate shocks comprises: destruction of harvest by fire; poor rains that caused harvest failure; flooding that caused harvest failure; pest invasion that caused harvest failure or storage loss; and loss of property due to fire or flood. The full list of non-climate shocks comprises: death or disability of an adult working member of the household; death of someone who sends remittances to the household; illness of income earning member of the household; loss of an important contact; job loss; departure of income-earning member of the household due to separation or divorce; departure of income-earning member of the household due to marriage; non-farm business failure; theft of crops, cash, livestock, or other property; pest invasion that caused harvest failure or storage loss; loss of land; death of livestock due to illness; increase in price of inputs; fall in the price of output; and increase in price of major food items consumed.

5.2. Climate shocks have hit poor, rural Nigerians hard

The 2018/19 NLSS data indicate that poor Nigerians were more exposed to climatic shocks prior to COVID-19. The share of poor Nigerians who experienced a climatic shock in the three years prior to 2018/19 was 27.7 percent, compared to 22.5 percent of vulnerable Nigerians, and just 13.5 percent of those Nigerians who were neither poor nor vulnerable (Figure 52). Climate shocks could keep poor Nigerians below the poverty line or push them further below it. What accounts for this link between climate shocks and poverty? Turning to geospatial data can help disentangle the relationship.

Figure 53. Livelihood zones across Nigeria

Sokoto millet, cowpeas, groundnuts, and livestock
Kano-Katsina Sahelian: millet, sorghum, sesame, and livestock
Kano-Katsina Sudanian: sorghum, maize, rice, and groundnuts
North East Sahelian: millet, sesame, cowpeas, and livestock
Borno-Yobe-Bauchi millet, cowpeas, groundnuts, and sesame
Sokoto-Rima-Kano riverine flood plain rice and fishing
Komadugu-Yobe irrigated peppers with rice, millet, and vegetables
Lake Chad fishing, maize wheat, cowpeas, and vegetables
Chad Basin: masakwa flood-recession sorghum and wheat
Hadeija-Nguru wetlands: mixed cereals, vegetables, and fishing
North West sorghum, maize, soybeans, and rice
North West sorghum, maize, and cotton with cross-border trade
North West and Central maize dominant, with sorghum, sweet potatoes, and cowpeas
Central sorghum, maize, groundnuts, cowpeas, and sesame
North East maize dominant with rice, cowpeas, soybeans, and groundnuts
High plateau Irish potatoes, maize, acha (digitaria), and livestock
Lower plateau rice, sorghum, and cattle
Ginger and turmeric with maize, sorghum, yams, and acha (digitaria)

Benue River sugar cane, rice, and sugar estate labor
Central yams and maize belt, with cassava, rice, and soybeans
Niger and Benue Rivers flood rice with maize, vegetables, and livestock
Cassava dominant with maize, yams, and tree-crops
Citrus fruits with tubers, cereals, soybeans, and groundnuts
Cocoa dominant with oil palm, cereals, and tubers
Mambila highland: cattle, maize, Irish potatoes, tea, coffee, and kola nut
Cross River cocoa with oil palm, tubers, rice, and plantain
South East rice dominant with cassava, yams, and oil palm
South West cocoa with oil palm, tubers, and cereals
South West rice, cassava, and cattle with cross-border trade
Cashews with oil palm, tubers, and maize
Lagos peri-urban: fishing, poultry, piggeries, market gardening, and coconuts
Coastal strip and Niger Delta, fishing, cassava, plantain, oil palm, and rubber
South East cassava, cereals, and oil palm with extensive off-farm work and trade
North East cattle, small ruminants, and food crops with cross-border livestock trade
Niger-Benue Rivers fishing and food crops

Note: Further detail on the characteristics of each livelihood zone is available from FEWS NET (2018).
Source: FEWS NET (2018) and World Bank estimates.

Differences in climate-related vulnerability between north and south

Geographical variation in nature-dependent livelihoods—those involving agriculture or livestock—helps to explain why poor Nigerians are so exposed to climate shocks; rain-fed cereal crops and livestock herding are especially important for northern Nigeria. The types of agricultural and pastoral livelihoods that are practiced in different parts of Nigeria vary according to climate, natural endowments such as soil and terrain, and economic factors including market access and coping strategies. Considering these characteristics, FEWS NET (2018) provide a geographical typology of "livelihood zones," within which households have similar agricultural and pastoral livelihood activities. Livelihood zones differ significantly between northern and southern Nigeria (Figure 53). Nature-dependent livelihoods are more closely linked to: (1) cash crops (including but not limited to sesame, groundnuts, and palm oil) in southern states; (2) yams and cassava in central states; and (3) rain-fed cereals (including millet, sorghum, maize, and rice) as well as livestock herding in northern states. This north-south difference is highlighted by grouping livelihood zones into those that include *any* cereals, livestock, roots, and cash crops[48] (Figure 54).

Figure 54. Livelihood zones with specific mention of cereal crops, livestock, palm oil, or root crops
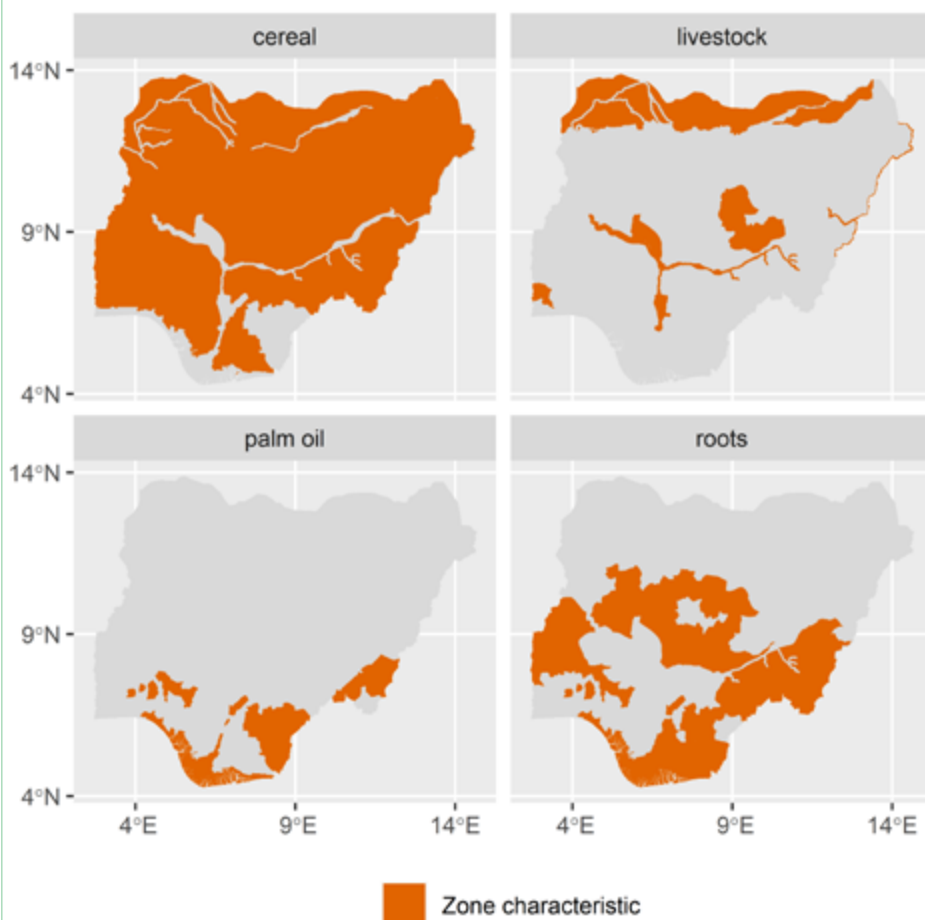
Note: Palm oil provides an archetypal example of a cash crop in Nigeria.
Source: FEWS NET (2018) and World Bank estimates.

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48   For simplicity, the map focuses on palm oil, an archetypal example of a cash crop in Nigeria.

Along with differences in livelihood zones, there is also sizeable variation in agricultural productivity between northern and southern Nigeria. In particular, it appears that northern parts of Nigeria fail to fulfil their potential agricultural output, after taking climate, soil, terrain, and other natural endowments into account. The gap between *potential* agricultural productivity for different crops—based on climate, soil, and other factors—and *actual* agricultural productivity, is significantly larger in Nigeria's north, especially for rain-fed cereals (see FAO and IIASA (2021), Fischer et al. (2021), and Figure 55). This could be due to constraints on access to key inputs—such as seeds and fertilizers—especially as irrigation is extremely rare across Nigeria (Oseni & Winters, 2009). Moreover, farms in the north may be smaller and less commercialized (Ecker & Hatzenbuehler, 2021; FAO, 2018).

Figure 55. Production gap for selected crops in Nigeria

Source: FAO GAEZ Version 4 and World Bank estimates.
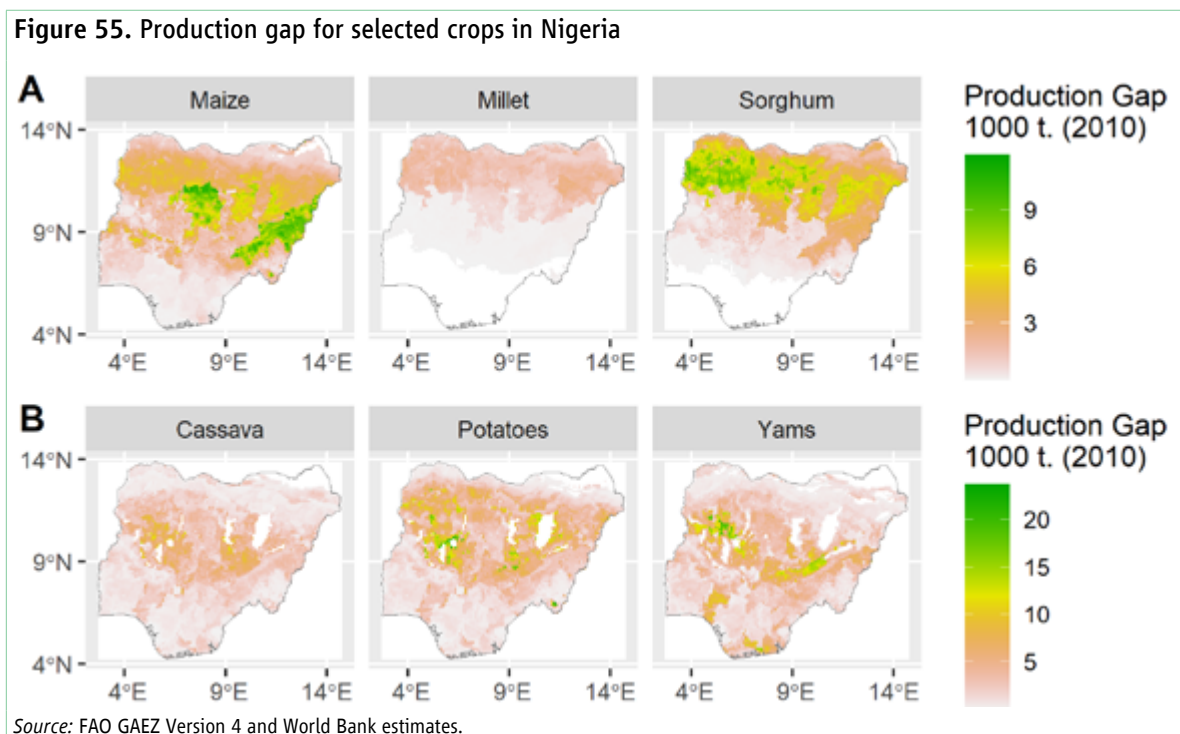
Climate shocks hinder agricultural and pastoral livelihoods, especially the rain-fed agriculture and livestock herding prevalent in northern Nigeria. The availability of water and the time at which it is available are essential for crop cultivation and for forage to feed livestock. Therefore, rainfall is a vital determinant—along with soil, terrain, and other factors—of productivity in nature-dependent livelihoods, including both crop cultivation and livestock herding. The climatological, hydrological, and meteorological data included in the Emergency Events Database demonstrate that shocks to the water supply—including floods and droughts—are prevalent in Nigeria (EM-DAT, 2021).[49] These data reveal that floods, droughts, and other similar shocks have affected millions of Nigerians: the 2012 Nigeria floods alone affected more than 7 million people. August and September are also the months that are most affected by flood events, which may coincide directly with the harvest season, depending on the specific crop (FAO, 2020).

Poor Nigerians face the greatest climate risks

Building on these livelihood patterns, granular geographical data show that poorer Nigerians are significantly more exposed to climatic shocks. Specifically, the poorest local government areas (LGAs) taken from Nigeria's poverty map (Figure 56, Panel

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49 The EM-DAT data suggest that the most common natural climatological, hydrological, or meteorological shock for Nigeria since 2000 has been flooding.

Figure 56. Poverty and risks of drought, river flooding, and urban flooding in Nigeria at the local government area (LGA) level
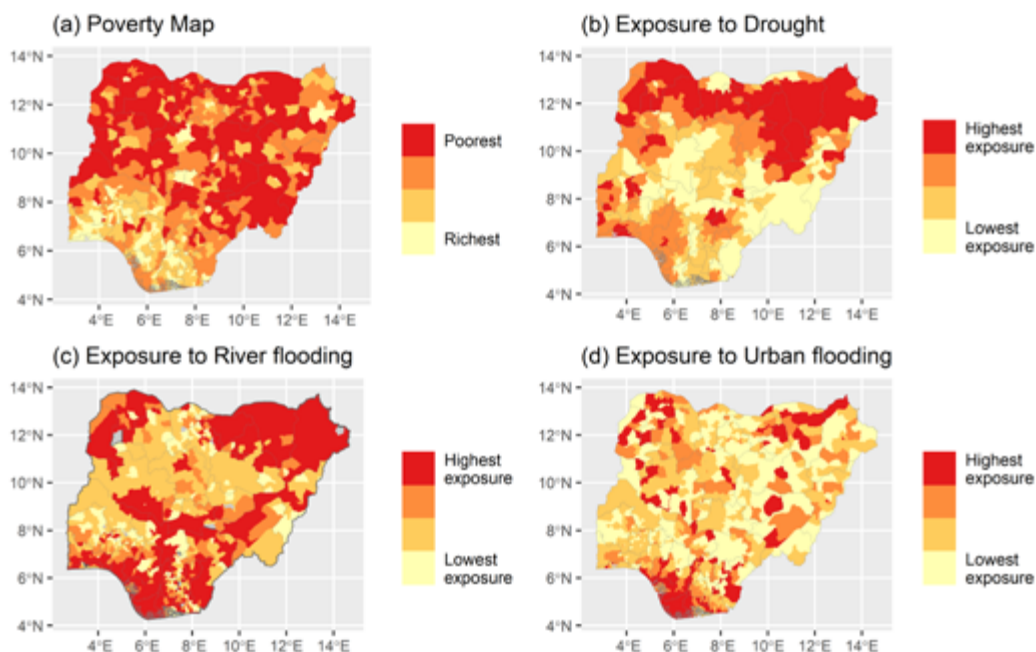
Note: Panel (a)—Colors in the map correspond to relative wealth, a proxy for poverty. Panel (b)—The drought hazard is measured by the output of the PCR-GLOBWB hydrological model, which takes into account water storage and water exchange, such as rainfall and evapotranspiration and reflects the time needed to recover the deficit of rainfall from an estimated drought intensity of a 1 in 50 year event (see Sutanudjaja et al. (2018)). Panels (c) and (d)—Exposure to (urban) flooding is measured by the expectation of a flood event with water depth above 0.5 meter returning in a time period from within 10 years (highest exposure) to within 10,000 years (very low exposure), as reported in the ThinkHazard! Database (ThinkHazard! (2021)). The analysis is based on the UF-GLOBAL-FATHOM Global flood model.
Source: Chi, Fang, Chatterjee, and Blumenstock (2021) and 2018 DHS for wealth estimates; Sutanudjaja et al. (2018) for drought exposure data; ThinkHazard! Database (ThinkHazard! (2021)), based on the output of the UF-GLOBAL-FATHOM Global flood model, for flooding data; and World Bank estimates.

A) overlap with areas highly exposed to droughts (Figure 56, Panel B) and flooding (Figure 56, Panels C and D). These areas are principally in the north of the country, where—as discussed above—nature-dependent livelihoods are centered around rain-fed cereal crops and livestock, making them even more sensitive to floods and droughts.[50] These findings resonate with the coarser state-level data from the 2018/19 NLSS, which also show that climate shocks were more prevalent in Nigeria's north: the share of the population in northern Nigeria exposed to a climatic shock in the three years prior to 2018/19 (29.2 percent) was more than double the share in southern Nigeria (12.9 percent; see Figure 57).[51]

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50   Evidence from Nigeria suggests that the likelihood of experiencing severe negative effects from natural disasters is higher for those with nature-dependent livelihoods, as well as for those lacking personal savings and with undiversified income sources (Daramola, Oni, Ogundele, & Adesanya, 2016).

51   Nevertheless, many southern states were prone to non-climate shocks—especially Akwa Ibom, Anambra, Delta—alongside northern states.

Figure 57. Share of Nigerians who experienced a climatic shock in the three years prior to 2018/19, by state

Percent
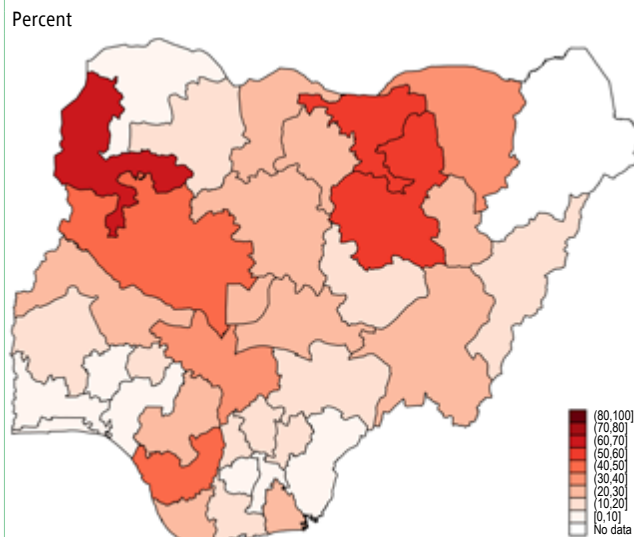
Note: Estimates exclude Borno. Colors represent the share of the population affected by climate shocks.
Source: 2018/19 NLSS, Humanitarian Data Exchange (for shapefiles), and World Bank estimates.

5.3. Shocks have pushed households toward negative coping strategies

In response to pre-COVID-19 shocks, households adopted negative coping strategies that could have severe implications for their long-term welfare; yet some households were able to rely on informal support mechanisms from friends and family. Around one-third of Nigerians who lived in a household that experienced any type of shock in the three years prior to the 2018/19 NLSS reduced their food consumption in order to cope (Figure 58). Reducing food consumption not only reduces current welfare but could also lead to stunting, potentially impacting long-term human capital development by compromising learning in the future (World Bank, 2018). Around 16.3 percent of shock-hit Nigerians reduced household savings in order to cope, while 17.0 percent sold household assets. Drawing down financial resources in this way could limit households' future investments in both physical and human capital. Nevertheless, some households also relied on support from family and friends—the third most-common coping strategy reported for pre-COVID shocks. This would not be possible during a covariate shock that affects all Nigerians. Thus, this strategy may be cut off during the COVID-19 crisis.

Figure 58. Share of shock-hit Nigerians who employed different types of coping strategies, by urban-rural, pre-COVID-19

Share of population that had experienced a shock in the past three years (percent)

■ Total ■ Urban ■ Rural

Note: Estimates exclude Borno. Sample restricted to those that experienced either a climate or non-climate shock (or both) in the previous three years.
Source: 2018/19 NLSS and World Bank estimates.
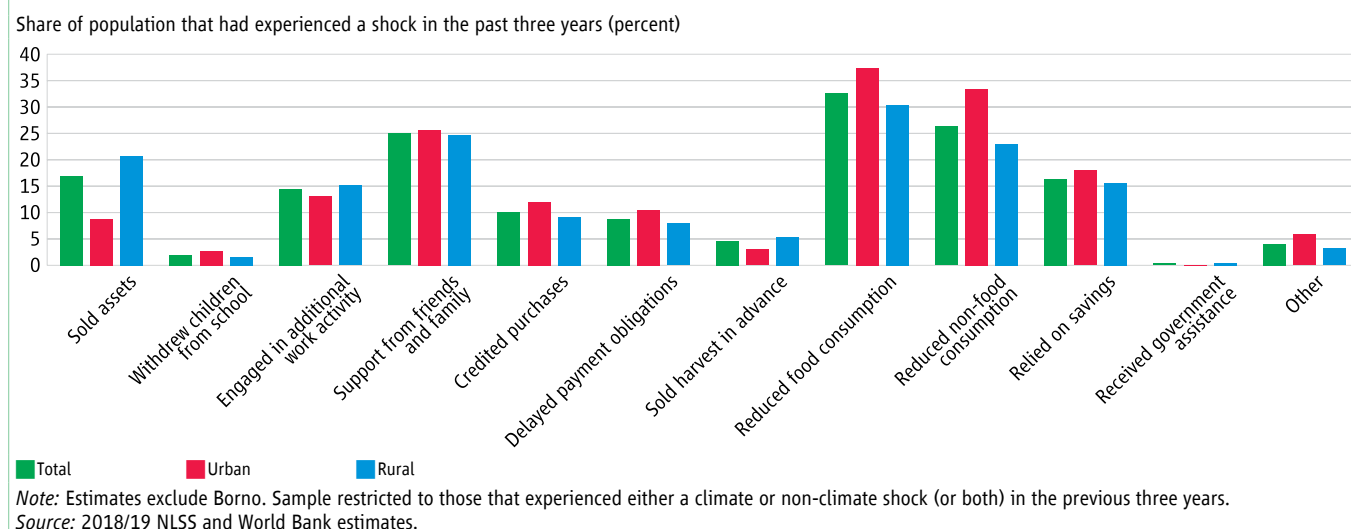
COVID-19's distinctive features may make coping harder

The COVID-19 crisis ushered in a series of covariate shocks that could affect all Nigerians; this could further reduce the set of coping strategies available. According to the NLPS, around 82.0 percent of households reported that the price of major food items they consumed had increased between July 2020 and December 2020. This compares to 18.1 percent reporting such price increases between January 2017 and January 2019, according to the GHS (Figure 59). Similar patterns were observed for the price of farming and business inputs. This upswing in prices—which subsequently accelerated further, according to 2021 inflation data—could reduce purchasing power and welfare and hence increase poverty across Nigeria (see World Bank (2021) for details). The previous sections already discussed the widespread disruptions to human capital and livelihoods that were experienced during the COVID-19 crisis.

As in pre-pandemic times, households responded to COVID-19-related shocks with several negative coping strategies; yet informal support from family and friends was relatively less common, limiting households' options further. Between April/May 2020 and July 2020, 69.7 percent of households that were hit by the shocks outlined above reduced their food consumption; this share was 58.3 percent between July and December 2020 (see Figure 60). Relying on savings was the second most-common coping strategy, deployed by around 30 percent of shock-hit households across all rounds of the NLPS where such information was collected. As described above, these types of coping strategies could have short- and long-run negative consequences on

Nigerian households. The reliance on these negative coping strategies may have been intensified because informal support from family and friends was not as tenable, given that the COVID-19 crisis was a covariate shock, affecting virtually all Nigerians. It is therefore unsurprising that receiving assistance from friends and family appears to be a relatively less prevalent coping strategy during the COVID-19 crisis, compared to before it.

Figure 59. Prevalence of shocks before and during the COVID-19 crisis in Nigeria

Source: NLPS, GHS, and World Bank estimates.
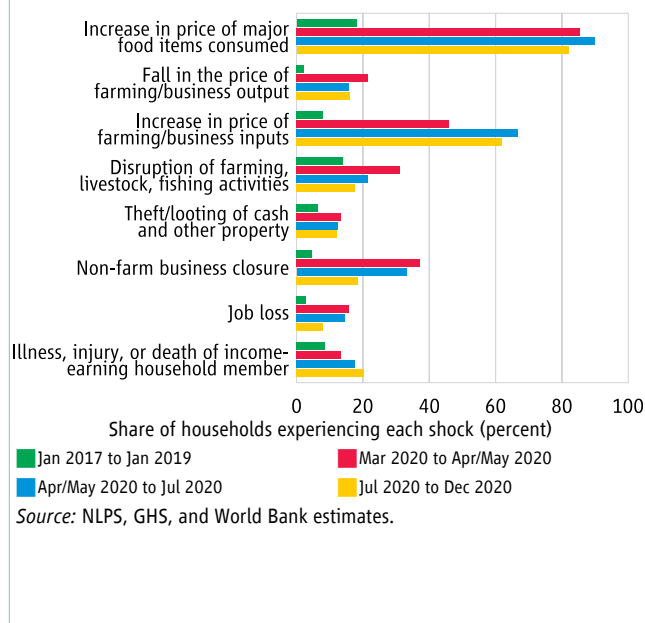
Figure 60. Prevalence of coping strategies among Nigerian households hit by shocks during the COVID-19 crisis, March to December 2020

Note: Sample restricted to households that were affected by shocks in the corresponding round of the NLPS. Option of "Reduce movement or transportation" was only present in the December 2020 questionnaire, so is not included in this chart.
Source: NLPS, GHS, and World Bank estimates.
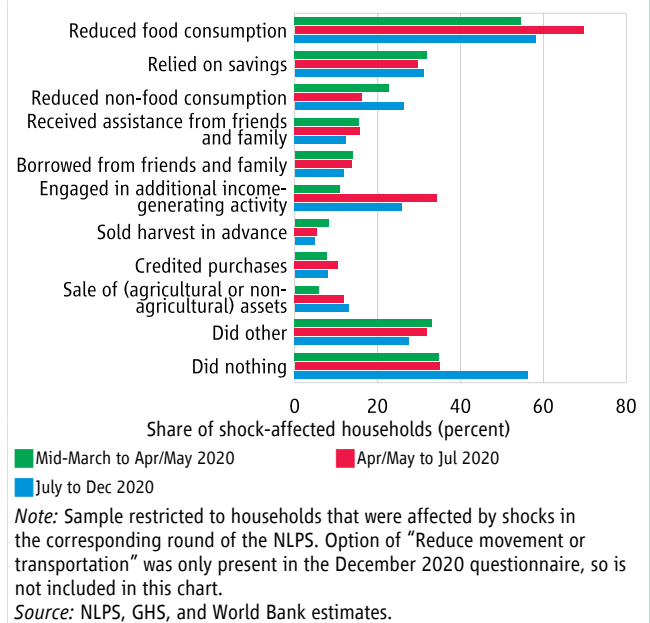
5.4. Social protection was limited in Nigeria before the pandemic and has expanded little during the COVID-19 crisis

Despite their widespread exposure to shocks, the vast majority of poor and vulnerable Nigerians were not covered by any social safety nets prior to the COVID-19 crisis. In 2016, Nigeria spent only about 0.3 percent of its GDP on safety net programs, much lower than the average for low- and middle-income countries, as well as comparator countries in the region (Beegle, Coudouel, & Monsalve, 2018). Relatedly, just 1.6 percent of Nigerians lived in a household that was enrolled in the National Social Safety Net Project (NASSP), and the share of households receiving social protection (in cash or in kind) from most other programs was even lower (see Figure 61). The only exception to this trend was the national school feeding program: 14.7 percent of all Nigerians lived in a household covered by the national school feeding program in the previous 12 months, meaning that the program covered 20.1 percent of children aged 5 to 13 years old (11.0 million children).

Figure 61. Share of Nigerians covered by social protection programs in 2018/19, urban and rural areas

Share of population living in an enrolled/a recipient household (percent)

Note: Estimates exclude Borno. NASSP = National Social Safety Net Project. For NASSP, figures focus on enrolment rather than receipts of social assistance. "All other programs" include YouWin, Inputs-For-Work Programme (FADAMA), E-Wallet Input Subsidy Programme, Growth Enhancement Scheme, N-Power, and all other federal, state, and local government assistance programs. Individual weights applied, so that the chart represents the population of Nigeria.
Source: 2018/19 NLSS and World Bank estimates.

Lack of government assistance fuels risky coping strategies

Given low coverage, very few households that were affected by shocks before the COVID-19 crisis used government assistance in order to cope. According to the 2018/19 NLSS, only 0.3 percent of shock-hit Nigerians reported that their household received government assistance as a coping mechanism (Figure 58). Lack of social assistance directly diverts households towards negative coping strategies, which could reduce their immediate and long-term welfare.

Coverage of social protection programs remained low throughout the COVID-19 crisis in Nigeria. The absence of pre-existing social protection systems has reduced the speed and scale at which poor and vulnerable households have been supported in the crisis, explaining why negative coping strategies remained widespread. Between March 2020 and March 2021, just 3.9 percent of households had received support from social safety net programs in the form of direct cash transfers from either federal, state, or local government (see Figure 62 and Lain et al. (2021) for further details). This is far less than the share of households that were poor or vulnerable before the pandemic hit and far less than the share experiencing shocks associated with the COVID-19 crisis. This lack of coverage before and during the crisis is consistent with weak pre-existing social protection systems and a low level of administrative reach.[52]

Figure 62. Coverage of social protection programs from federal, state, or local governments during the COVID-19 crisis

Share of population living in an enrolled/a recipient household (percent)

Legend: Food / Direct cash transfers / Other in-kind (not food) transfers

Source: NLPS and World Bank estimates.
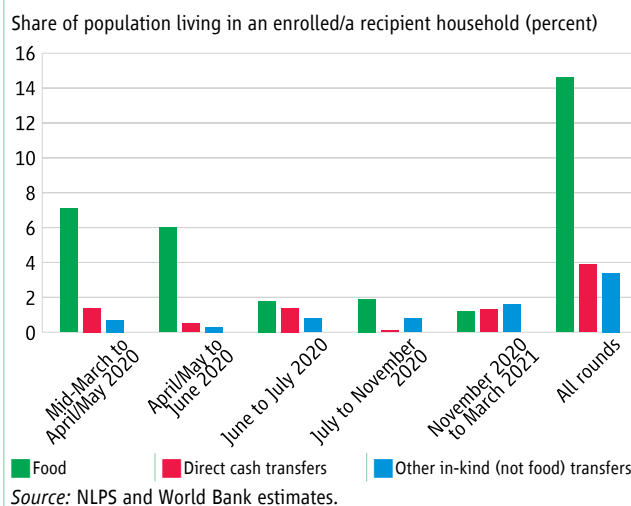
While the main issue is low coverage, the NASSP—Nigeria's flagship social protection program—appears to have been relatively well targeted prior to the COVID-19 crisis. The main sample of the 2018/19 NLSS does not allow a detailed analysis of the NASSP because it contains too few beneficiary households. Yet a special "oversample" of the 2018/19 NLSS—which collected information on a specific sample of NASSP recipients—makes it possible to compare the characteristics of NASSP beneficiaries with those in the bottom 60 percent of the monetary consumption distribution; these were the types of households that the NASSP sought to reach. Overall, the NASSP beneficiaries in the oversample closely resemble those households in the bottom 60 percent of the 2018/19 NLSS main sample. They have similar average monetary consumption levels and devote similar shares of their consumption baskets to food and non-food items, on average (Panels A and B of Figure 63). Additionally, the oversample and the bottom 60 percent of the main sample have similar demographic characteristics, and their household heads tend to work in similar occupations (Panels C and D of Figure 63).

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52   According to public estimates, Nigeria's National Social Registry included less than 10 million households as of October 1, 2021.

Figure 63. Comparison of household characteristics between NASSP recipients and the bottom 60 percent of the consumption distribution, 2018/19

Panel A: Overall consumption
Mean nominal naira per capita per year
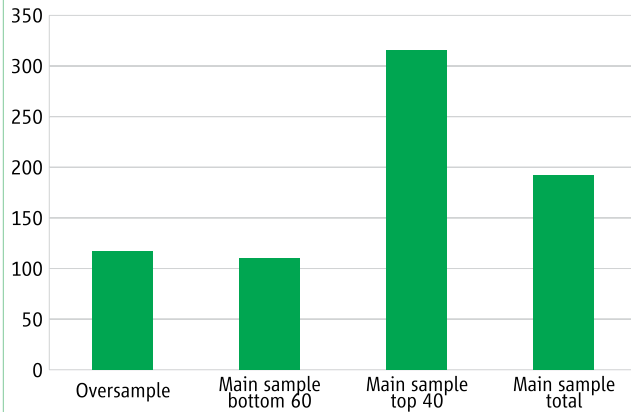
Panel B: Consumption basket shares
Share of the average consumption basket (percent)
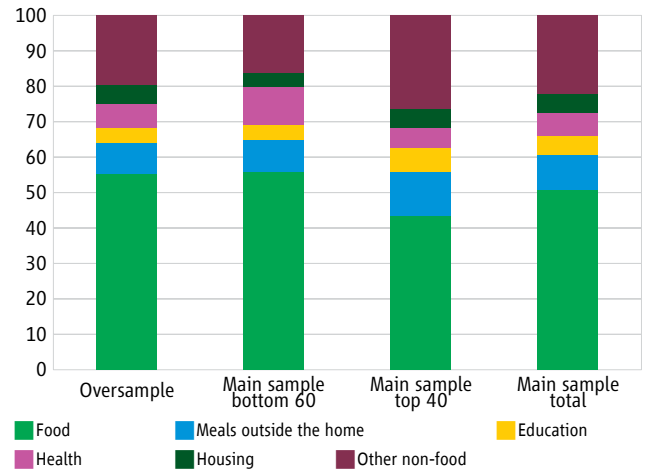
Panel C: Household demographics
Dependency ratio / Household size
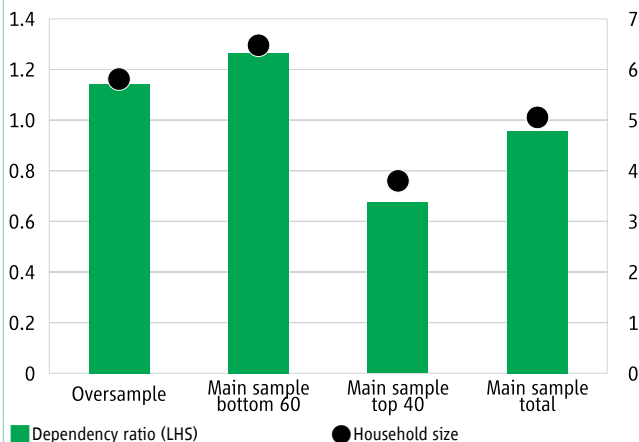
Panel D: Household head employment
Share of household heads that worked in that job in the last 7 days (percent)
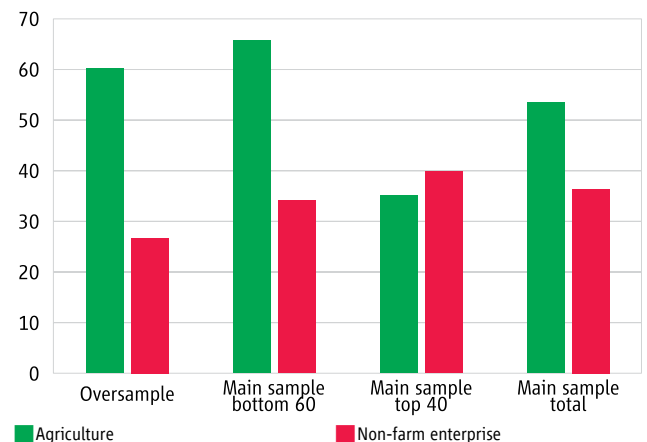
Note: Estimates exclude Borno. Oversample drawn from additional sample of households, all of whom were receiving government social assistance.
Source: 2018/19 NLSS and World Bank estimates.

5.5. Innovative approaches could help expand Nigeria's social protection system for current and future crises

Since poverty and vulnerability are widespread and shocks are common, Nigeria requires a social protection system that can adapt to challenges today and in the future. The COVID-19 crisis—and the concomitant shocks to livelihoods and prices—present an immediate need to scale-up the meagre coverage of social protection in Nigeria. However, the COVID-19 crisis will not be the last to hit the country. Nigeria needs a social protection system prepared to adapt to future shocks.

Improved social protection could strengthen poverty reduction and resilience

Existing evidence—from both before and after the onset of COVID-19—shows that expanding social protection could sustainably alleviate poverty and protect vulnerable households in Nigeria. Evidence from across Sub-Saharan Africa demonstrates the positive impacts that social safety nets may have on equity, resilience, and opportunities among the poor and vulnerable (see

Beegle, Coudouel, and Monsalve (2018)). Growing evidence from Nigeria itself points to similar positive effects for unconditional cash transfers, as discussed in detail in Box 6.1 in Section 6 (Carneiro, et al., 2021; Friedman, Goldstein, Gonzalez Martinez, & Papineni, 2021). Recent evidence from contexts similar to Nigeria also demonstrates that cash transfers can provide relief from the effects of the COVID-19 crisis. For example, experimental evidence from Ghana suggests that cash transfer programs helped households smooth consumption throughout the second half of 2020, increasing food consumption in particular (Karlan, et al., 2021).

Barriers to expanded social protection

Expanding social protection in Nigeria is difficult because many of the administrative prerequisites that could help the government reach households are lacking; this includes reliable identification. Currently, the majority of poor and vulnerable Nigerians are not registered in the country's social protection database, let alone actually receiving benefits from social protection programs. Underpinning this is the fact that identification—which could help register households into the social protection database—is rare. According to the 2018/19 NLSS, just 18.1 percent of poor and vulnerable Nigerians[53] have a National Identification Number (NIN) or National Identity Card, and only 36.7 percent have a birth certificate. Moreover, since the vast majority of Nigerian workers engage in informal jobs in farm and non-farm household enterprises (see Section 4), there is a dearth of administrative information on individual income. The foundations that support social protection systems in other countries are not currently present in Nigeria.

Nigeria's federal structure further complicates expanding social protection. Federal, state, and LGA governments play a role in both revenue collection and disbursement of cash—or other—transfers. Since the profiles of poverty and of shocks vary significantly between different parts of Nigeria, this means that states and LGAs have very different needs. Social protection systems need to be tailored accordingly.

Fresh options for targeting

Since Nigeria is fiscally constrained, resources for social protection have to be carefully directed towards those most in need. This means that, even after having registered households in the social protection system, some mechanisms are needed to accurately select the right poor and vulnerable households to receive transfers. It may not be possible to support every household that is registered.

Traditionally, household-level mechanisms like proxy means tests[54] (PMTs) have been used to target the poor and vulnerable, but these strategies are currently being re-examined in light of new evidence. The question of how to target households for social protection programs is not unique to Nigeria. The relative performance of different targeting tools—ranging from household-level solutions, like PMTs, to geographical targeting, where entire communities are targeted—has been widely studied (Coady, Grosh, & Hoddinott, 2004). Looking at the performance of PMTs for nine African countries including Nigeria, Brown, Ravallion, and van de Walle (2018) find limited gains in term of poverty reduction compared to simulated budget-equivalent universal transfers, where all households in the population receive the same amount.

As an alternative to PMT and other household-level methods—which could be costly and time-consuming—granular geographical targeting could effectively select poor and vulnerable households for social transfers, offering significant

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53   The share is higher—at 34.5 percent—if focusing only on poor and vulnerable Nigerians aged 15 or more.

54   PMT is a widely used household-level targeting method based on predicted welfare from a limited set of easily observable household characteristics. In selected communities, households are systematically surveyed to collect information on these characteristics and a poverty score is constructed to target a specific segment of the welfare distribution.

advantages in terms of speed and ease of implementation. Growing evidence suggests that, when poverty and vulnerability are concentrated in certain localities, geographical targeting—choosing entire communities rather than households—may be a viable approach (Elbers, Fujii, Lanjouw, Özler, & Yin, 2007; Schnitzer & Stoeffler, 2021). This is made possible in Nigeria because extremely granular information on poverty is available in the country's new ward-level poverty map.[55] Geographical targeting presents the additional advantage that it can be implemented quickly, especially given that the COVID-19 crisis—and the subsequent rise in inflation—are affecting households *now*. This contrasts with household-level approaches, like PMT, which may be too complex and may take too long. Indeed, while the model behind a PMT can be estimated using household survey data alone, applying a PMT approach requires collecting at least some information—for example, on demographics, assets, and employment—from *all* households that could potentially be poor or vulnerable: without a recent census or similar dataset, this necessitates substantial investment in data collection.

Analysis using the 2018/19 NLSS suggests that geographical targeting—with the new ward-level poverty map—performs only slightly worse than a PMT in terms of selecting poor and vulnerable Nigerians; the advantages that geographical targeting presents in terms of implementation could outweigh this. To test the performance of the two targeting approaches, the share of the population that is "truly" poor or vulnerable, as per the 2018/19 NLSS, can be calculated for each decile of the poverty map score (for geographical targeting) or of the PMT score (see Annex 5.1). Both the poverty map score and the PMT score should be lower for poorer households. This means that geographical targeting can be judged to work well if the share of people who are truly poor and vulnerable (as per the 2018/19 NLSS) is higher for lower deciles of the poverty map score. Similarly, PMT can be judged to work well if the share of people who are truly poor or vulnerable is higher for lower deciles of the PMT score. It emerges that the share of the population that is actually poor or vulnerable is relatively similar in low deciles of both the poverty map score and the PMT score. More than 80 percent of the population in the bottom three deciles of the poverty map score is poor or vulnerable according to the 2018/19 NLSS, a share similar to that observed in the bottom three deciles of the PMT score (Figure 64). Nevertheless, in the higher deciles of the poverty map score, there are still some people that are truly poor or vulnerable, more so than for the higher deciles of the PMT score; these people risk being excluded by geographical targeting. Specifically, a program seeking to cover all households in the bottom six deciles of the poverty map score would exclude 27.0 percent of the truly poor and vulnerable population. Yet the PMT approach would still exclude many poor and vulnerable Nigerians too. A program seeking to cover all households in the bottom six deciles of the PMT score would exclude 18.8 percent of the truly poor and vulnerable population.[56] This result is consistent with the evidence from across Sub-Saharan Africa demonstrating that PMT approaches pose substantial risks of excluding poor and vulnerable people (Brown, Ravallion, & van de Walle, 2018). Thus, from a purely targeting perspective, geographical targeting performs only slightly worse than a PMT approach, and the gains in terms of speedy and simple implementation described above could outweigh this.

Figure 64. Pure geographical targeting based on the recently produced high-resolution poverty map can be used to target poor and vulnerable households

Share of the population who are poor or vulnerable (percent)

Decile ranked by PMT or poverty map score

■ PMT score   ■ Poverty map score

Source: Chi, Fang, Chatterjee, and Blumenstock (2021), 2018 DHS, 2018/19 NLSS, and World Bank estimates.

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55   See Section 2 for further details of Nigeria's ward-level poverty map.

56   See Annex 5.1 for details of these calculations.

Incorporating direct information on shocks as well as regular updating should help ensure that the poverty map remains relevant for targeting purposes; this is essential given the fluidity of poverty and vulnerability, and the risks that households face, in Nigeria. Combining the geospatial climate data described above with the poverty map could further improve targeting to reach those Nigerians that are most exposed to shocks. Similarly, geographically-disaggregated price information—which is collected regularly by NBS—could provide further guidance on how to support those Nigerians whose purchasing power is most under pressure. Moreover, it will be important to put in place the institutional arrangements that ensure that the poverty map is updated regularly, with targeting being adjusted accordingly. This includes rerunning the statistical models behind the map when new geospatial data and new "groundtruth" data on welfare (such as from upcoming rounds of the DHS or NLSS) become available. Yet it also requires carefully interpreting the new rankings of wards—or other geographical areas—when new maps are generated: in particular, this involves calculating the standard errors of ward-level welfare estimates to assess whether the rankings of wards have significantly changed between one map and the next. Incorporating information on shocks and regularly updating and reinterpreting new poverty maps means that geographical targeting can still be a much quicker, easier, and timelier approach to targeting than collecting household-level data in the future.

New solutions to improve delivery of benefits

Alongside targeting, finding ways to successfully deliver transfers to beneficiary households is a crucial aspect of social protection; new technologies can enhance delivery. For social protection systems to function effectively, cash payments or in-kind transfers have to reach targeted households in a transparent way that allows for regular monitoring. Digital solutions may help. If geographical targeting is used, households within communities that are eligible for social transfers can be encouraged to register through localized text messages, so they can subsequently be reached. Mobile phones can then also be used to deliver and track payments from the government to beneficiaries through mobile money (Aker, 2020). These methods are exemplified by recent World Bank projects in Togo (World Bank (2021)) and the Democratic Republic of the Congo (Bance, Bermeo, and Kabemba (2021)).

Digital solutions for emergency cash transfers need to be carefully tailored to Nigeria's context to ensure that poor and vulnerable households are not excluded. Using mobile phones to encourage registration in social protection programs and effect transfers through mobile money might not be reliable for some Nigerian households. As in other West African countries, poorer, rural areas of Nigeria suffer from lower mobile phone penetration and weaker financial inclusion (Aker, 2020). According to the 2018/19 NLSS, about one-fifth of poor and vulnerable Nigerians lived in a household without a mobile phone, and half did not have access to electricity. Additionally, more than 60 percent of the rural adult population in the 2018 Enhancing Financial Innovation and Access (EFinA) survey were excluded from formal financial services. Even if they own a mobile phone, some poor and vulnerable Nigerians might not have the skills needed to register remotely: in the 2018/19 NLSS, around one-third of poor and vulnerable working-age Nigerians were not able to read or write (in English or a local language). Ensuring that poor and vulnerable households are not excluded by digital approaches therefore requires mitigation strategies—which may mean in-person registration and real-time monitoring—to ensure that those households most in need are not left out.

The next step: applying evidence to inform policy

Policy dialogue about the expansion of social protection in Nigeria is ongoing. In particular, the government is considering cash transfers as a short-term response to the inflation shock emerging in the second part of the COVID-19 crisis. Social protection may also facilitate policy reforms such as reducing or removing fuel subsidies, as Spotlight 3 explains. Yet these short-term expansions could and should provide the bedrock for a social protection system that can adapt to the future shocks Nigeria faces. Section 6 explores specific policy options to advance this process and presents a range of additional evidence-driven policy recommendations.

Spotlight 3: Fuel subsidy reform and political economy constraints in Nigeria

Global experience demonstrates that, despite the many potential benefits, removing fuel subsidies is difficult; Nigeria is not alone in struggling to deliver these reforms. Fuel subsidies are currently implemented in more than 40 countries worldwide. These subsidies typically benefit richer households more than poorer households and can "crowd out" government spending on health, education, and social protection. That means fuel subsidies are regressive in their distributional impacts on more and less advantaged groups within society. Additionally, fuel subsidies may contribute to environmental damage, especially climate change. The potential benefits of removing subsides are therefore clear (Bassetti & Landau, 2021).[57] Despite this, reforms to remove fuel subsidies have typically faced strong resistance from the public; governments that have initiated such reforms have often had to backtrack.[58] Public resistance arises because households anticipate negative impacts on their welfare: if subsidies are removed, fuel prices would increase, weakening households' purchasing power. At the same time, households do not trust their governments to effectively implement measures to compensate these welfare losses. The conditions under which reforms are attempted may also influence their success. Crises like COVID-19 often provide additional motivation for reform, as governments confront reduced fiscal space. However, removing subsidies when household welfare is under pressure may be especially difficult.[59] Given this global evidence, Nigeria's challenge in trying to reform fuel subsidies is substantial but not unique.

As in many other countries, the _potential_ benefits of removing fuel subsidies in Nigeria are clear; subsidies comprise a significant share of public spending, despite mostly benefiting richer households. Nigeria's subsidies for Premium Motor Spirit (PMS, or just "petrol") cost around 4.5 billion USD in 2021, or roughly 2 percent of GDP; this far exceeds federal government spending on health, education, and social protection (World Bank, 2021). PMS subsidies also benefit richer Nigerians more than poorer Nigerians: the share of Nigerians that report directly purchasing petrol is significantly higher in the higher deciles of the consumption distribution (Figure 65).[60] As such, poor and vulnerable Nigerians could benefit if spending on fuel subsidies were redirected to health, education, and targeted social protection.

Despite the potential benefits of reform, poor and vulnerable Nigerians would still suffer if fuel subsidies were removed without any compensating measures. Even though Nigeria's petrol subsidies tend to benefit richer households more, many poor Nigerians and vulnerable Nigerians— those with consumption levels between 1 and 1.5 times the national poverty line—are direct PMS consumers, too (Figure 65). Going beyond the data on direct petrol consumption, a significant share of vulnerable Nigerians also live in households that own generators (22.6 percent) and motorcycles (38.4 percent), while some have non-farm enterprises that rely on generators or operate in the transport

Figure 65. Richer Nigerians are more likely to purchase petrol, but many poor and vulnerable households also buy petrol directly

Share of Nigerians living in a household that directly purchases petrol (percent)
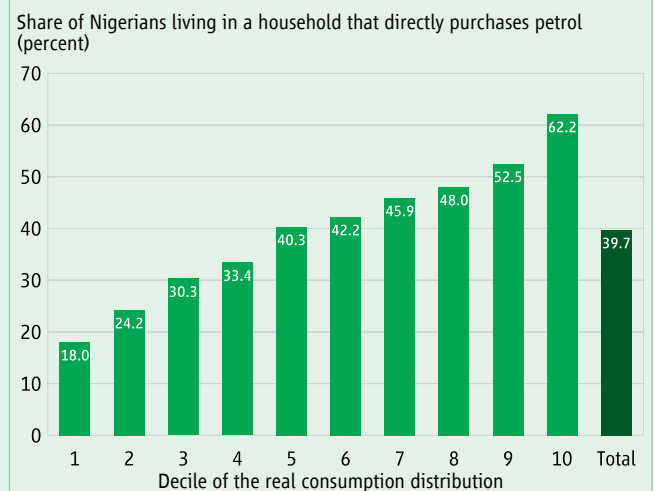
Note: Estimates exclude Borno.
Source: 2018/19 NLSS and World Bank estimates.

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57   For further information on fuel subsidy policies worldwide, see IEA (2020) and Coady, Flamini, and Sears (2015).

58   For a broader discussion on why removing fuel subsidies is so challenging, see Timperly (2021).

59   Chemlinski (2018) and Rose and Plant (2021) describe the conditions for successful fuel subsidy reforms. Rising international fuel prices make it even more difficult to remove fuel subsidies.

60   Richer Nigerians also devote a larger _share_ of their consumption basket to petrol purchases than poorer Nigerians.

sector; this further exposes them to changes in petrol prices.[61] Indeed, simple simulations suggest that if PMS prices rose by two-thirds from today (combined with the price increases observed between 2019 and 2021), the national poverty rate would be 2.8 percentage points higher than in 2018/19, at the time of the NLSS.[62] This underlines the importance of compensating measures to protect Nigerians from poverty, if subsidies are removed.

Unlocking the potential benefits of fuel subsidy reform—even with compensating measures for the poor and vulnerable—also faces three crucial political economy constraints in Nigeria; first, the majority of Nigerians do not know how fuel subsidies work. In 2018, the Nigerian Economic Summit Group (NESG) collected nationally representative data on the attitudes and perceptions of Nigerians towards tax compliance and fuel subsidies through the Nigeria Tax and Subsidy Perception Survey.[63] In this survey, respondents were asked if they believed the price at which the government purchased petrol was lower, the same, or higher (the correct answer) than the price at which petrol was sold to the public. Less than one-third of Nigerians (31.3 percent)

correctly answered that the government paid a higher price for petrol than the price at which it was sold to the public (Figure 66). This presents a barrier to reform in Nigeria: it will be difficult to gather support for removing subsidies if people do not understand how subsidies work in the first place.

Second, even after information on how fuel subsidies work is provided, Nigerians still do not support their removal. Following the questions on understanding of fuel subsidies, the enumerators for the 2018 NESG survey explained clearly to respondents how petrol subsidies work, then asked whether "it would be a good thing if the government reduced the fuel subsidy."[64] Less than one-third of Nigerians (29.7 percent) indicated that they supported removing fuel subsidies (Figure 66). While there was some variation, support for reform was low across socioeconomic groups and different areas in Nigeria: despite being somewhat higher in the north, support was below 40 percent in all six of Nigeria's zones. Building support for reform will be a challenge, with the baseline level of approval being so low.

Figure 66. Understanding of and support for fuel subsidy reform in Nigeria was low in 2018
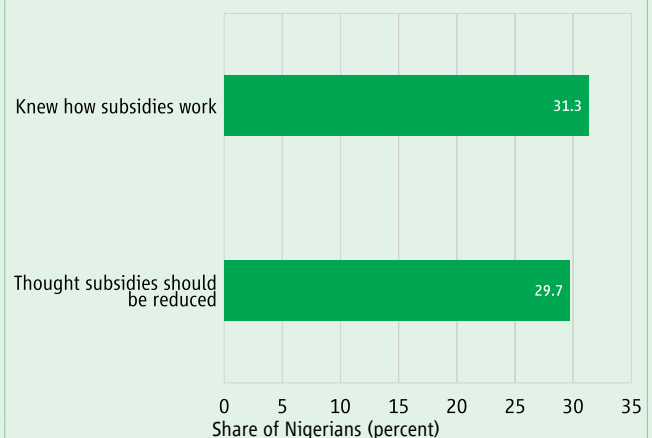
Note: Knowledge about how the subsidies work was measured by asking respondents if the price at which petrol was purchased by the government is lower, the same, or higher than the price at which it was sold to the public; this variable was coded 0 if respondent answered "lower" or "the same" and 1 if the respondent answered "higher." Support for a reduction of subsidies was measured through the question "Do you think it would be a good thing if the government reduced the fuel subsidy…?" This question was asked after explaining to the respondent how fuel subsidies worked.
Source: 2018 NESG Nigeria Tax and Subsidy Perception Survey and World Bank estimates.

Third, Nigerians do not trust the government to use any resources saved from removing fuel subsidies for causes that would benefit the population at large. General levels of trust in the government and other key institutions are low in Nigeria (see Figure 68 in Section 6). As the 2018 NESG data show, this also means that Nigerians do not trust the government to use any money saved from removing fuel subsidies for policies such as health, education, and social protection. More than half of Nigerians (59.5 percent) were "not at all satisfied" or "not very satisfied" with the way that the state administration had spent money collected from taxes (Panel A of Figure 67). Similarly, around three-quarters of Nigerians believed it to be "somewhat likely"

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61 The share of vulnerable Nigerians owning generators and motorcycles is higher among those directly consuming petrol.

62 These simulations capture both "direct" effects—the rise in petrol prices themselves—and "indirect" effects—the impact that rising petrol prices have on goods that depend on petrol use to transport, such as transport.

63 See McCulloch, Moerenhout, and Yang (2021) for details.

64 This followed some additional prompts about the nature of fuel subsidies in Nigeria, which were randomized at the respondent level. See International Centre for Tax and Development (2019) for further details.

or "very likely" that the federal, state, and local governments would misuse tax revenue (Panel B of Figure 67).[65] Lack of trust therefore presents another major obstacle for fuel subsidy reform in Nigeria.

Figure 67. Nigerians' satisfaction and trust in the government to use resources effectively was low in 2018, limiting their support for petrol subsidy reform

Panel A: Satisfaction with the way that the state administration has spent the money collected from taxes

Panel B: Perceived likelihood that different levels of government will misuse tax revenue

Note: The statistics exclude respondents who did not know or refused to answer the relevant question.
Source: 2018 NESG Nigeria Tax and Subsidy Perception Survey and World Bank estimates.

Three key ingredients could help build support for fuel subsidy reform in Nigeria, by overcoming the political economy constraints and ensuring that the poor and vulnerable do not suffer; first, compensatory social transfers would be needed *before* entirely removing subsidies. Since trust is so low, Nigerians may not perceive the government's promise of future pro-poor programs as credible. Directing fiscal savings towards expenditure on health, education, and infrastructure takes time; but expanding cash transfers targeted to poor and vulnerable Nigerians can preemptively compensate welfare losses. Gradually reducing and removing fuel subsidies through a phased approach could buy the government additional time to scale up compensatory cash transfers. Given Nigeria's federal structure, the design and implementation of these countervailing measures should also involve state governments. Indeed, if sub-national governments do not embrace such measures or, worse still, engage in corruption, support for reforms may deteriorate (see Kyle (2018) for an example from Indonesia).

Second, explicitly earmarking the money saved from fuel subsidy removal could reassure Nigerians that the funds will be directed to pro-poor programs. This could even involve creating a "petrol fund," comprising the additional money available to the government as fuel subsidies are removed, from which spending on health, education, and social protection could be effected. Similar approaches have been applied in other countries: for example, the "Ghana Petroleum Funds" are explicitly designed to channel excess funds linked to petroleum to "sustaining public expenditure capacity during…petroleum revenue shortfalls and [serving] as an endowment to support the development for future generations," a function which is enshrined in law (Bank of Ghana, 2022). Building accountability and transparency in the use of government revenues is crucial, given the dissatisfaction and mistrust identified in the 2018 NESG data.

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65 Satisfaction and trust appear to be slightly higher among supporters of fuel subsidy reform than among opponents.

Third, a clear, two-way communication strategy, which includes explaining how subsidies actually work, could provide the bedrock for public support and help build a consensus favoring fuel subsidy reform in Nigeria. On the one hand, effective reform requires that the government listen to the legitimate grievances of Nigerians—here, civil society and the media can play a central role. On the other hand, the government must address the low support for fuel subsidy reforms by providing information on the potential benefits. As a foundation for this, it will be necessary to explain how subsidies actually work. The 2018 NESG data hint at some potential avenues for convincing Nigerians of the merits of reform. For example, one-third of fuel-purchasing Nigerians report queuing, paying above the official price, or facing disrupted supply; these issues arise at least partly because subsidies are in place. Those Nigerians facing such issues are also more likely to support reform. Ensuring that such issues are clearly presented, alongside the other potential benefits of removing fuel subsidies, could help the Nigerian government construct a consensus that allows reforms to move forward, freeing up much-needed resources for pro-poor policies.

Annex 5.1. Comparing proxy means test targeting and pure geographical targeting of poor and vulnerable households in Nigeria

The performance of proxy means test (PMT) targeting is compared with pure geographical targeting in Section 5. This annex provides details on how these methods were tested and describes their respective targeting performance.

The pure geographical targeting method is based on Nigeria's recent ward-level poverty map[66] and the 2018/19 NLSS sample. In this approach, each household of the 2018/19 NLSS sample is characterized by the wealth score for the ward where the household is located on the poverty map: households' wealth is thus proxied at the ward level, and all households in a given ward are considered equally poor. Households are then ranked from the poorest to the richest according to this score. The share of poor and vulnerable households (those with consumption levels below 1.5 times the national poverty line) is then calculated for each decile of this rank. This provides a measure of targeting accuracy at any decile of the poverty map score in the 2018/19 NLSS, as represented by the orange bars in Figure 64. For example, 90.1 percent of the population in the lowest decile of the poverty map score is in a poor or vulnerable household. In other words, 90.1 percent of the beneficiaries of a program seeking to cover the entire population found in the lowest decile of the poverty map score would be in poor or vulnerable households.

The PMT targeting method, on the other hand, is based on the predictions from the following Ordinary Least Squares (OLS) regression model, estimated using the 2018/19 NLSS:

$$lnC_h = \alpha + \beta X_h + \varepsilon_h$$

where the logarithm of household consumption per capita (lnC_h) is regressed on a set of basic household characteristics (X_h). These basic characteristics include: dwelling characteristics (such as: type of toilet; floor, wall, and roofing material; type of fuel used for cooking; and access to water); household assets; household head demographics, education, and main occupation; household size and composition; and the geopolitical zone where the household resides, separating rural and urban households.[67] For each household (h) of the 2018/19 NLSS sample, the PMT score (pmt_h) is defined using the OLS model predictions: $pmt_h = \hat{\alpha} + (\hat{\beta}) X_h$. Consistent with the analysis of the geographical targeting method, the sample is then ranked by the PMT score and the share of poor and vulnerable households is calculated for each decile of this rank, as represented by the blue bars in Figure 64.

The share of the population in poor and vulnerable households along the distribution of each score can then be used to estimate exclusion rates—the share of truly poor and vulnerable households that would be excluded if each score were used for targeting—at any given threshold. This is done by calculating the share of the poor and vulnerable population above a given threshold of each score. For example, 18.8 percent of the poor and vulnerable population is in the top four deciles of the PMT score, compared to 27.0 percent in the top four deciles of the poverty map score. Therefore, a program seeking to cover households in the bottom six deciles of the poverty map score distribution would lead to an exclusion rate of 27.0 percent of the poor and vulnerable population, compared to 18.8 percent if households in the bottom six deciles of the PMT score were covered instead. Table 4 provides the exclusion rates for both targeting methods at a set of 10 different targeting thresholds. At lower targeting thresholds, exclusion rates appear to be similar for PMT and geographical targeting. When the targeting threshold is set at a higher decile, exclusion rates are larger for geographical targeting based on the poverty map score.

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66   See Section 2 for further details of Nigeria's ward-level poverty map.

67   The approach followed here is consistent with prevailing PMT practices; see Brown, Ravallion, and van de Walle (2018) for a discussion on alternative specifications.

Table 4. At low targeting thresholds, exclusion rates are similar for pure geographical targeting and PMT targeting

Decile at which targeting threshold is set:	Share of the poor and vulnerable population excluded (percent)	
	PMT targeting	Poverty map targeting
1	84.8	86.0
2	70.0	72.7
3	55.6	60.0
4	42.1	48.2
5	29.7	37.2
6	18.8	27.0
7	9.7	17.9
8	3.5	10.7
9	0.4	4.4
10	0.0	0.0

Note: Estimates exclude Borno. A program seeking to cover households in the bottom six deciles of the poverty map score would lead to an exclusion rate of 27.0 percent of the poor and vulnerable population, compared to 18.8 percent if households in bottom six deciles of the PMT score were covered instead.
Source: 2018/19 NLSS and World Bank estimates.

6. The way forward

Section 6 key messages

- *Short-term policy priorities to reduce poverty in Nigeria include:*

  - *Swiftly scaling up COVID-19 vaccination*

  - *Recouping learning losses from pandemic-related school closures*

  - *Building out Nigeria's fledgling social protection system; better social protection will strengthen public trust in governance, develop administrative reach, and boost resilience*

- *Longer-term pro-poor policy priorities include:*

  - *Using macroeconomic levers to speed Nigeria's structural economic transformation and the creation of wage jobs*

  - *Boosting productivity in farm and non-farm household enterprises, for example through investments in human capital*

  - *Investing in bedrock infrastructure for inclusive growth*

- *Strengthening public trust in government is crucial for Nigeria's future; a sound implementation of social protection can help build trust, facilitating future crucial policy steps, like reducing fuel subsidies*

- *New strategies for regular data collection and use, including in conflict-affected areas, can help make Nigerians' voices more clearly heard in policy*

Having assembled a wide range of data and analysis, this poverty assessment now considers the way forward, outlining Nigeria's pathways to poverty reduction. Previous sections described the extent of poverty—both monetary and non-monetary—in Nigeria, showing who is poor and where they live, and how poverty relates to the labor market. Those discussions highlighted the threat of shocks and the promise that social protection holds for Nigeria's poor and vulnerable citizens. Building on this analysis, this concluding section considers the main policies that may support poverty reduction in Nigeria, citing specific examples from within Nigeria itself and from other countries. First, the section examines the immediate policy priorities that may help Nigeria recover from the COVID-19 pandemic and lay the foundations for future poverty reduction, placing particular emphasis on social protection. Second, the section outlines the longer-term structural changes that could help build sustainable pathways out of poverty for Nigeria in the future. Third, the section explores the importance of political economy questions. These especially concern mobilizing government resources and public trust—on which successful poverty-reducing policies ultimately depend. Finally, the section brings the poverty assessment back to its foundations, underscoring the importance of data for transparency, accountability, and making the voices of Nigerians heard.

6.1. The short run: recovering from COVID-19 and strengthening social protection

Like their counterparts in other countries, Nigeria's policymakers face continued uncertainty as they try to formulate policies to recover from COVID-19 and revive the country's prospects for poverty reduction. The emergence of the omicron variant and the possibility of future variants mean that the health threats associated with COVID-19 remain serious. This is intensified because COVID-19 vaccination rates in Nigeria are low, with around than 2 percent of the population fully vaccinated as of January 2022. Actions taken by other countries—for example, sharing vaccines or imposing travel restrictions—have bearing on Nigeria but remain largely out of Nigerian policymakers' control. Moreover, the true extent and nature of Nigeria's pandemic-related economic losses are not yet known; this will influence the mix of recovery policies that are needed. Therefore, the recommendations from this poverty assessment come at a critical juncture for Nigeria's emergence from the COVID-19 crisis.

Increasing access to vaccination is a key immediate priority for recovery. Rolling out vaccines quickly provides the bedrock for recovery; this also needs to be done equitably to reach those most at risk and to ensure that disadvantaged groups, including the poor and vulnerable, are covered. It will be impossible to fully address the COVID-19 crisis' broader effects on lives and livelihoods until the health threat posed by the virus is under control. While vaccines are rolled out, preventative health measures such as masking and handwashing will still be needed to contain virus spread; these hinge on ensuring that Nigerians can access masks and the means to wash their hands.

Nigeria will also need to rapidly recoup the learning lost from school closures. This is especially important given that Nigeria had weak learning outcomes even before the pandemic struck (World Bank, 2020). Encouraging children back to school remains crucial, as many children—especially older children—had not returned to school even after schools reopened (Dessy, Gninafon, Tiberti, & Tiberti, 2021). Adding in-person lessons is the approach to catching up on lost learning favored by Nigerian households themselves. This could be achieved either by building more hours into the school day or adding in holiday lessons (Oseni, et al., 2021). Yet since the path of the pandemic remains uncertain, remote learning methods that work for the poor will also be essential. High-tech options that require televisions, computers, or smart phones are not available to children from poor households, so low-tech options—including involving parents and teachers through text messages or broadcasting lessons via radio—could be more appropriate.[68] This may also be the moment to introduce other initiatives that provide the basis for long-term progress in learning, be it in person or remote. For example, Teaching at the Right Level (TaRL) can support learning by carefully assessing

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68   See Munoz Najar Luque, and Oviawe (2020) for a description of specific low-tech program from Edo state known as "Edo-BEST@Home." The program uses mobile phones to facilitate remote learning through interactive audio lessons, digital self-study activity packets, interactive quizzes, learning guides for parents, and virtual classrooms, enabling interaction between teachers and students.

children's needs and then tailoring teaching accordingly; this approach has been found to boost learning and help all children build foundational knowledge in Nigeria and other countries (Banerjee, et al., 2017; UNICEF, 2019).

A window to expand social protection

The COVID-19 crisis has dramatically accentuated the need for Nigeria to expand its social protection system. Historically, Nigerians have not been able to rely on adequate federal, state, or local government support to help them cope with shocks. Instead, when the COVID-19 crisis and other shocks hit, they resorted to negative coping strategies, including drawing down their savings or reducing their food consumption, which could have long-term consequences for welfare and people's human, physical, and financial capital. Exposure to shocks may also prevent households from adopting high-risk, high-reward technologies that could ultimately bring important income and welfare benefits (Dercon, 2002). Social protection could provide households with the insurance they need to weather shocks—including ongoing food price inflation—without resorting to negative coping strategies. These social transfers could be in cash or in kind, depending on whether households are suffering from specific shortages, such as lack of food. Transfers can also be unconditional or conditional, depending on whether households need to take certain actions—such as enrolling children in school or regularly visiting health clinics—in order to access the support. Conditional cash transfers could help to address Nigeria's other development challenges.[69] Indeed, several examples, both from within and outside Nigeria, demonstrate how the immediate benefits of providing social protection can go beyond simply supporting households through shocks (Box 6.1).

New data and new technology are already being deployed to scale up social protection in Nigeria—particularly cash transfers through NASSP—more quickly and transparently than ever before. Nigeria is in the process of expanding cash transfers through NASSP in order to combat the effects of the COVID-19 crisis, especially the concomitant price shocks, which are restricting poor and vulnerable households' purchasing power. For the NASSP expansion, geographical targeting using Nigeria's new poverty map—based on Big Data and machine learning techniques—offers a simple and transparent way to select households for support. Since most inequality in Nigeria is between rather than within communities, geographical targeting could perform almost as well as household-level targeting (such as through a PMT) and is much easier to implement. Additionally, the NASSP expansion is considering digital solutions to: (1) help register beneficiaries by providing them with registration details through text messages; and (2) effect transparent payments through mobile money services (Aker, 2020). To avoid excluding people, it will be important to invest in the infrastructure (mobile phones), identification, and formal banking that underpin digital solutions for expanding social protection. These efforts will have to be monitored in real time to make sure social protection adequately reaches the poor and vulnerable.

Building social protection today provides many benefits for the future; it strengthens public trust, develops administrative reach, and establishes systems that can adapt to future shocks and stresses. COVID-19 is not the last crisis that Nigeria will face, especially given the intensification of climate and conflict shocks. Moreover, while the current policy focus in Nigeria is on cash transfers, other types of social protection may need to be expanded in the future, including food assistance and workfare programs. Putting in place the building blocks of a strong, adaptable social protection system today may increase resilience and help Nigerians weather the shocks of tomorrow. Since formal personal identification is rare, registering Nigerians in social protection databases and collecting basic information about these persons—even if they do not receive benefits now—is a crucial step in reaching those facing poverty in the future. Similarly, expanding social protection could promote financial inclusion, if delivery mechanisms involve formal banking or mobile money transactions. Perhaps still more important is the potential to strengthen trust among Nigerians in the governments' ability to implement pro-poor policies in a timely and effective manner, a key constraint discussed in more detail below.

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69 For successful examples of conditional cash transfers, see World Bank (2014), which describes Progresa in Mexico, and Gazola Hellman (2015) on Brazil's Bolsa Família.

Box 6.1. The broader benefits of expanding social protection

The benefits of social protection in Nigeria go beyond just insuring households against shocks, as evidence on health outcomes from northern Nigeria demonstrates. Between 2014 and 2019, in Zamfara and Jigawa states, the Child Development Grant Program (CDGP) jointly provided (1) information to mothers and fathers related to pregnancy and infant feeding and (2) unconditional cash transfers (to mothers), beginning during pregnancy. The intervention dramatically improved children's health outcomes: for example, stunting was reduced by 8 percent four years after the intervention, and the likelihood that children were given deworming medication increased by 74 percent (Carneiro, et al., 2021). While this may partly be due to the additional information provided by the CDGP, the unconditional cash transfer appears to have been vital. In particular, it enabled those women that received it to invest in productive activities and generate higher household income to support their children's health, even after the program ceased. Thus, homegrown evidence from Nigeria itself demonstrates that cash transfers can support human capital outcomes, even *without* conditionality.

Further evidence from northern Nigeria suggests that social protection not only helps direct program beneficiaries— and especially women—but also others in the community. As part of the Feed the Future Nigeria Livelihoods Project (FNLP), cash transfers were delivered to women in rural households in northern Nigeria between 2013 and 2018. More than one year after the cash transfers stopped, direct recipients were still 22 percentage points more likely than the pure control group—those in communities where the intervention was not present at all—to be engaged in non-farm enterprises (Friedman, Goldstein, Gonzalez Martinez, & Papineni, 2021). These positive effects were largely unchanged if the transfers were distributed quarterly rather than monthly—with the former being much cheaper to administer— demonstrating women's control over the transfers they received (Bastian, Goldstein, & Papineni, 2017). More surprisingly, those women in the communities where the intervention took place, but who were *not* direct recipients of the cash transfers, were themselves 20 percentage points more likely to be engaged in non-farm enterprise work. This may be because of local agglomeration effects, whereby businesses that complement each other can be set up and remain profitable. Therefore, evidence from Nigeria indicates that social protection can support women's economic empowerment, and the gains can spill over to others in the community, broadening the overall benefits.

Evidence from other countries shows that social protection could even reduce conflict, a key constraint on development and poverty reduction in Nigeria. A large public employment program in India known as the National Rural Employment Guarantee Act (NREGA), which guaranteed every rural household 100 days of employment at a statutory daily wage rate, led to persistently lower conflict (Fetzer, 2020). This type of public works program can effectively be seen as a conditional cash transfer, where the condition is that the beneficiary works. The mechanism appears to be that NREGA weakened the link between adverse productivity shocks (especially from climate) and income, thus uncoupling these productivity shocks from conflict, too. This could have powerful implications for Nigeria, where conflict has proliferated in recent years and serves as a brake on poverty reduction.

6.2. The long run: seizing opportunities to expand jobs, productivity, and infrastructure

For sustainable long-term poverty reduction, Nigeria will need deeper, structural changes that go beyond social protection. While social protection can offer short-term relief from the COVID-19 crisis and other shocks that Nigeria may face, it cannot offer a durable pathway out of poverty for all Nigerians. Instead, this will depend on generating inclusive growth, where the proceeds of any macroeconomic gains are shared among the population at large, and especially among the poor and vulnerable. The labor market is arguably the main vehicle for sharing the proceeds of growth to individuals and households, so productive jobs will be

a key part of this story. Yet investing in human capital and infrastructure will also be vital to provide Nigerians with opportunities that can lift them out of poverty.

Macroeconomic reforms can provide the foundations for growth and investment, but for durable poverty reduction, growth must benefit the poor and vulnerable. Section 2 suggested that, when Nigeria was growing between 2010 and 2015, richer Nigerians enjoyed more of the benefits than poorer Nigerians. This chimes with global evidence that cross-country convergence in GDP per capita has not led to convergence in poverty rates (Ravallion, 2012; Pande & Enevoldsen, 2021). The pursuit of growth is not enough—distribution matters. Therefore, when eliminating distortions—in fiscal, exchange rate, and trade policy, for example—it is vital to bring in distributional analysis to consider the mechanisms through which the benefits of these macroeconomic reforms will trickle down to reach the poor and vulnerable.

Creating good jobs and boosting small-enterprise productivity

One key area where macroeconomic reforms may help is through invigorating structural transformation and hence the creation of good, productive jobs. Ensuring productive jobs are available for Nigeria's workers offers one surefire way to spread the proceeds of growth. Reducing macroeconomic distortions could promote the investment environment, allowing firms to grow and increasing the demand for labor. Wage jobs, which appear to offer clearer pathways out of poverty, could soon follow. This means advancing structural transformation, which will reduce the share of workers employed in small household enterprises, especially in agriculture. In a similar vein, diversifying the economy out of capital-intensive crude oil should be a central tenet of Nigeria's efforts to create productive jobs. Despite crude oil's vast contributions to exports and government revenues, less than 1 percent of working Nigerians are employed in mining and extractives. Therefore, creating the conditions that allow labor-intensive sectors to flourish is essential, if macroeconomic reforms are to translate to poverty reduction.

Structural transformation and the creation of productive wage jobs on a large scale may not happen overnight, so policies to boost the productivity of farm and non-farm household enterprises will be crucial in the meantime. Even with reforms that encourage the creation of wage jobs, "informal will be normal" in Nigeria for many years to come (Fox & Gandhi, 2021). Yet formality is not everything. Raising the productivity of farm and non-farm household enterprises could increase earnings for their owners, as well as allowing them to grow and employ people outside the household. For farms, policies that could promote productivity and commercialization include developing new and more resilient crop varieties, as well as investments in storage, transport, and market access (Oseni & Winters, 2009; FAO, 2018; Beegle & Christiaensen, 2019; Ecker & Hatzenbuehler, 2021). This is especially important given the growing threat that climate shocks pose for agricultural productivity in Nigeria. For non-farm household enterprises, policies that ease credit constraints, build the infrastructure on which small businesses rely, and foster market access could all help boost productivity, profits, and firm size (Filmer & Fox, 2014; McKenzie, 2017). Box 6.2 describes evidence from within Nigeria directly showing that access to capital helps entrepreneurs start, maintain, and grow non-farm businesses.

It is not only today's workers that matter, but also those of the future, so Nigeria needs ambitious investments in human capital. Ensuring workers have the skills to meet the changing demands of the labor market will be vital, while more productive enterprise owners may themselves create more good jobs. However, even before the pandemic, Nigeria had extremely weak human capital outcomes. According to the 2020 Human Capital Index (HCI), a child born in Nigeria that year will grow up to achieve just 36 percent of the productivity she could have attained, had she enjoyed full health and education (World Bank, 2020). This is the seventh-lowest HCI score in the world. Addressing this partly involves improving learning outcomes—recouping the losses from the COVID-19 pandemic and then going further. This is about more than simply ensuring that children attend school: given the country's HCI score, expected years of schooling are actually relatively high in Nigeria, but harmonized test scores were the fourth lowest in the world, and learning-adjusted years of schooling for Nigeria (5 years) were less than half of total expected years of schooling (10.2 years). Nigeria faces significant health challenges, too: 12 percent of children born in Nigeria do not survive to

Box 6.2. What happens when you give 50,000 USD to an aspiring Nigerian entrepreneur?

As in many other developing countries, firms in Nigeria are typically very small scale. According to the 2018/19 NLSS, only 16.5 percent of Nigerians running non-farm enterprise employed anyone from outside their households. Nigeria is not alone. Similar patterns emerge in India and Indonesia, where "the fraction of firms with less than 10 workers is almost visually indistinguishable from 100 percent" (Hsieh & Olken, 2014). This raises questions around the main constraints to firm growth and what can be done to alleviate those constraints.

A randomized controlled trial that gave 50,000 USD to participants in a business plan competition conducted in Nigeria—the YouWiN! Competition—suggests that relaxing credit constraints can significantly improve firm survival, profits, and growth. The YouWiN! Competition, launched in 2011, attracted almost 24,000 entrepreneurs seeking to start or expand a business, from which 1,200 winners were chosen to receive awards averaging 50,000 USD each. Some of these winners were selected randomly, and their business outcomes were tracked relative to a control group, to assess the effects of the cash grants. The grants increased the likelihood that their businesses were still operating three years later by 37 percentage points and increased the likelihood that their businesses had 10 or more workers by 23 percentage points (McKenzie, 2017). The provision of extra capital in this way would only affect business outcomes if they were previously operating under credit constraints. Therefore, easing credit constraints for Nigerian firms could boost survival, profits, and growth.

age 5, and more than one-third of children are stunted, compromising their ability to learn and be productive later in life (World Bank, 2018). Thus, the importance of redirecting government spending towards education and health programs, to help Nigerians seize economic opportunities, cannot be overstated.

Policies to build human capital and boost productivity must account for gender differences in schooling and the labor market in Nigeria. As Section 3 demonstrated, girls are still less likely to attend both primary and secondary school than boys; this, in itself, suggests that girls' education remains a particular policy challenge in Nigeria. Tailored education and training for girls and women might also help to address gender gaps in the labor market, especially in terms of occupation segregation. As Croke, Goldstein, and Holla (2018) show, training in information and communications technology (ICT) left female university graduates in Nigeria 26 percent more likely to work in the ICT sector, in part by building skills but also by promoting their aspirations. Additionally, the way that key inputs for farm and non-farm enterprises are provided needs to be carefully adapted to support Nigerian women. For example, providing subsidized, improved seeds can boost the incomes of both male and female farmers, but women only gain in such interventions if there are specific efforts to target and support them (Awotide, Karimov, Diagne, & Nakelse, 2013). Ensuring gender is carefully considered when designing policies that promote human capital and productive jobs is therefore essential.

Stronger infrastructure is key to unleash poverty reduction

Additionally, for Nigerians to seize the opportunities available to them, the bedrock of infrastructure needs to be strengthened. As described above, market access is crucial for success in the labor market, and this depends on factors including roads, electricity, and access to information and communication technologies. Such infrastructure may also facilitate the delivery of government policies, including social protection. As described in Section 3, expanding access to electricity appears to offer the largest "bang for the buck," in terms of monetary poverty reduction, out of all the non-monetary deprivations considered. For two Nigerians living in households with otherwise similar characteristics, those without access to electricity were around 16.9 percentage points more likely to be monetarily poor than those with access in 2018/19. These sizeable impacts are not surprising, given the

direct importance of electricity for income-generating activities and the fact that some 39.4 percent of Nigerians lacked access to electricity in 2018/19. Expanding electricity access could also have spillover effects on energy and even climate policy, if connecting people to the grid, or to mini-grids, reduces households' and enterprises' reliance on generators. Therefore, investing in infrastructure may both directly and indirectly promote poverty reduction.

## 6.3. Political economy dynamics: building the foundations of public trust

Trust in the government and other institutions in Nigeria is low, even compared to other countries in Africa; this is a major constraint on pro-poor policy reforms. The share of Nigerians reporting that they had no trust or "just a little trust" in the president, parliament, local government, the police, and the courts was significantly higher in Nigeria than for all the other countries included in the Afrobarometer survey—33 countries across the African continent (Figure 68). The COVID-19 crisis could have weakened public trust yet further, as outcomes for human capital, livelihoods, and welfare have worsened for many Nigerian households.

Tackling the fuel-subsidies challenge

In part, this lack of trust stems from a weak social contract, meaning the relationship between people and the state: Nigerians care most about health and education, but these receive far less emphasis from the government than policies like fuel subsidies. When in 2015 Nigerians were asked to name the "most important priority" for their country, providing health care (31 percent) and education

Figure 68. Level of trust in different institutions in Nigeria and all other African countries, 2019

Share of the population with that level of trust in each institution (percent)

Legend: Not at all | Just a little | Somewhat | A lot | Refused | Don't know

Note: Nigeria results are weighted using within-country weights ('withinwt' variable). All other country results are weighted using cross-country weights, which give equal weight to each country ('Combinwt' variable). "All other countries" covers the remaining 33 countries besides Nigeria captured in the Afrobarometer survey.
Source: Afrobarometer 2019 and World Bank estimates.

(23 percent) were the most frequent answers, according to Pew Research Center data (Pew Research Center, 2015). The share of survey respondents stating that the supply of energy, such as electricity or petrol, was the top priority was far lower (15 percent). Despite this, under current projections for global petrol prices, the Nigerian federal budget for 2022 is set to allocate more than four times the health care budget towards petrol subsidies (World Bank, 2021). Indeed, in 2021 alone, petrol subsidies cost around 4.5 billion USD, or roughly 2 percent of GDP. This relatively low spending on health and education could reduce Nigerian people's trust in the government to provide the services about which they care the most.

Despite the potential benefits for the poor and vulnerable of mobilizing additional government revenues and spending better, low trust and a weak social contract make these types of reforms difficult (see Spotlight 3). Nigeria currently lacks the fiscal space needed for adequate spending on health, education, social protection, and other policies that could help the poor and vulnerable. Private funding alone has not and will not be enough to address the vast deficiencies in human capital and welfare that Nigeria faces, so public spending is required. Part of addressing this problem involves mobilizing revenues through increased and better-enforced taxation on goods, services, and incomes. This is especially important, as around half of Nigeria's government revenues depend on crude oil and so may be susceptible to movements in global oil prices. However, it may be harder to improve tax compliance if Nigerians do not trust the government to spend revenues efficiently and equitably. In terms of spending better, petrol subsidies benefit richer Nigerians relatively more than poorer Nigerians, so if they could be removed or reduced, the funds saved could be directed to pro-poor policies. Yet, since fuel subsidies are one of the main benefits that Nigerians currently receive
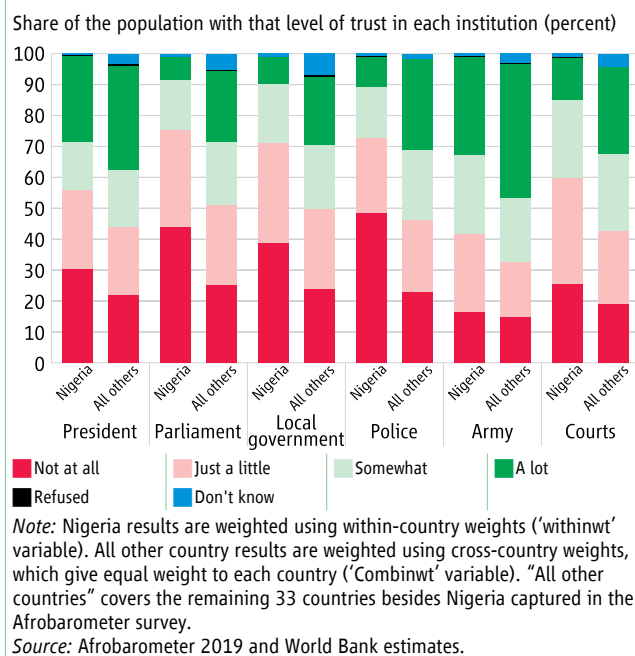
from the government, people may be unwilling to give them up, because they do not trust the government to redirect spending towards the health, education, and other polices that would help ordinary citizens more. Nigeria is not unique in facing difficulties reforming fuel subsidies, and global evidence suggests the challenge becomes even harder when—as has recently been the case—international fuel prices are rising (Chelminski, 2018; Rose & Plant, 2021). Countervailing policies are therefore needed to effect these types of spending reforms.

Expanding social protection could provide one way to build trust and protect the poor and vulnerable while fuel-subsidy reforms are carried out. At least in the short term, removing or reducing petrol subsidies would still hurt the poor and vulnerable. Poor and vulnerable Nigerians may consume petrol both directly, if they rely on generators for their dwelling or business, and/or indirectly, through their use of transport and other fuel-dependent goods and services. Therefore, compensatory social protection measures are needed to make sure poor and vulnerable Nigerians do not suffer dramatic losses in purchasing power and welfare as petrol subsidies are removed and prices increase. Sequencing these compensatory measures *before* implementing difficult reforms could also be one way to help build trust in Nigerian institutions—this way, the poor and vulnerable would see the benefits up front. This could be coupled with an effective communication strategy that clearly explains how the reforms work and why Nigerians stand to benefit. This type of communication has to be two-way, and policy makers need to find means to listen to the voices of Nigerians as difficult reforms are implemented; as described below, this is an area where data can help.

### *Addressing the conflict-poverty nexus*

Conflict poses another key challenge to implementing pro-poor policies. Drawing explicit causal links between conflict, climate shocks, forced displacement, livelihoods, and poverty is challenging. Nevertheless, there are many areas in Nigeria where poverty and conflict clearly overlap (Figure 69). In particular, there are areas in the North East and North West zones—among the poorest parts of Nigeria—where the influence of Boko Haram and banditry has caused violence to proliferate in recent years (see Section 1 for further details). This means that some of the areas where poverty-reducing policies are most needed are also those where such policies are hardest to implement. This chimes with global evidence that poor people are increasingly living in fragile and conflict-affected areas (Corral, Irwin, Krishnan, Mahler, & Vishwanath, 2020).

Addressing data deprivations and adapting policies for fragile and conflict-affected areas could help Nigeria accelerate poverty reduction in places where poverty and conflict mix. One key challenge for supporting conflict-affected areas is that the data needed to guide policy are difficult to collect. Strategies exist to track forcibly displaced people using geospatial and other Big Data sources. Doing so can generate evidence even as conflict is ongoing. Adopting such approaches and monitoring markers of fragility can help the government design and target context-sensitive poverty reduction policies effectively (Corral, Irwin, Krishnan, Mahler, & Vishwanath, 2020). Policies can also be adapted to make them work better in conflict-affected settings. For example, social protection measures could be simplified using lotteries to select beneficiaries, thus relying less on officials and external actors who may be distrusted when violence is widespread (Bance & Schnitzer, 2021). With new data and policy tools, it may be possible to reach those Nigerians suffering from both conflict and poverty.

6.4. Data can help make Nigerians' voices heard in policy

Data can enable the voices of Nigerians to be heard in four key ways; the first is to analyze the data that are already available to make them speak. This poverty assessment has shown the challenges that poor and vulnerable Nigerians face, and what can be done to support their pathways out of poverty. However, this endeavor depends entirely on NBS' substantial efforts to collect data before the COVID-19 crisis—through the 2018/19 NLSS—and during it—through the NLPS. Many other existing datasets in Nigeria—including the country's GHS panel and the labor force survey—are currently underutilized. Analyzing these data and engaging government counterparts using the results can help provide the Nigerian people with the "megaphone" needed to make their voices heard.

Figure 69. Overlap between conflict and poverty in Nigeria
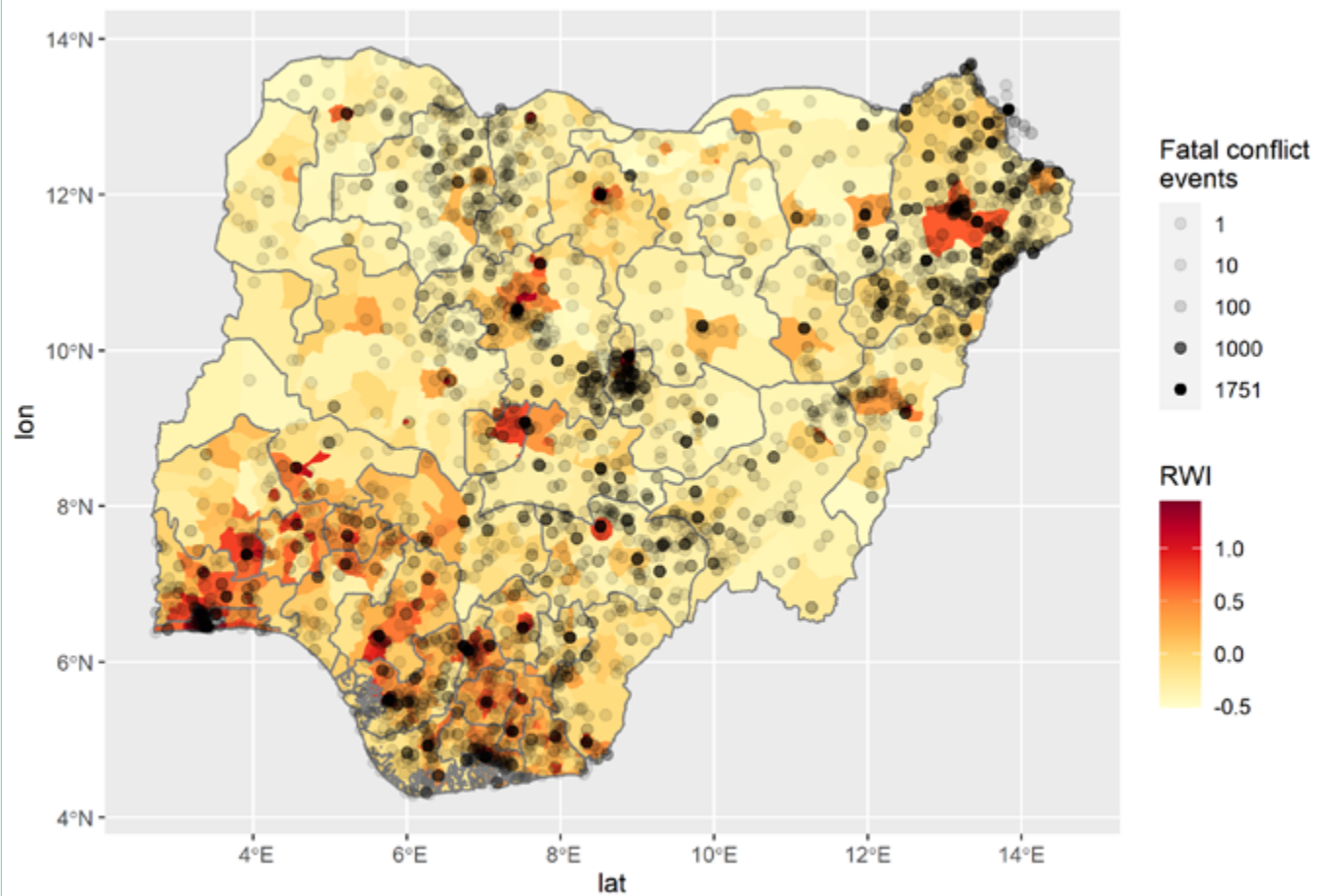
Note: RWI = relative wealth index. Colors in the map correspond to relative wealth, a proxy for poverty. Dots in the map reveal number of fatal conflict events over the last two decades.
Source: Chi, Fang, Chatterjee, and Blumenstock (2021) and 2018 DHS for wealth estimates, ACLED for fatalities data, and World Bank estimates.

Second, it will be crucial to collect regular and consistent data on human capital, livelihoods, and welfare to track Nigeria's progress as it emerges from the COVID-19 crisis. The 2018/19 NLSS provided the first official estimates of welfare and poverty in Nigeria for more than a decade. However, the fact that it cannot be directly compared to the previous welfare and poverty estimates from 2009/10 presents a problem for tracking Nigeria's progress on poverty reduction—back-casts and survey-to-survey imputations can only go so far. Given the sizeable structural changes Nigeria has experienced during the COVID-19 crisis, assessing trends in monetary and non-monetary welfare going forward will be essential. The ongoing collaboration between the World Bank and NBS to prepare for the 2022/23 integrated NLSS-GHS survey should go a long way toward achieving this; this upcoming survey will collect data on consumption, health, education, and other key welfare indicators in exactly the same way as the 2018/19 NLSS. Making the same efforts to collect consistent data in labor force surveys and firm surveys could reap similar dividends for tracking Nigeria's progress against other development challenges over time. Vitally, this investment in new data cannot come from NBS alone: to be successful, it requires input—both in terms of funding and in terms of expertise and content—from other ministries, departments, and agencies. This way, Nigeria can pick out the key indicators it needs to monitor—for the Sustainable Development Goals and its own objectives—and streamline its data landscape to ensure these indicators are captured accurately and regularly.

Third, as described above, data collection will need to find ways to cover those Nigerians affected by conflict and violence. Notwithstanding its many advantages, the 2018/19 NLSS does not cover Borno state, one of the most conflict-affected areas in

Nigeria (Figure 69); indeed, this was *because* violence was ongoing at the time of the survey. Similarly, internally displaced people and refugees (in camps) were not adequately captured by the 2018/19 NLSS sample frame. Working with humanitarian actors may help reach those conflict-affected Nigerians who do not currently show up in traditional surveys. Additionally, as the new poverty map demonstrates, geospatial Big Data may provide further information on these groups. The use of new technologies to help gather information on those affected by conflict and violence presents a critical avenue for future work.[70]

Data: a crucial resource for accountable governance and poverty reduction

Finally, collecting and analyzing data should be treated as a governance issue; data can help build trust, accountability, and transparency. Data can make policy more efficient and impactful, by showing what works and revealing how policies and programs may be improved; this is especially important given Nigeria's federal structure and the role of its states in implementing pro-poor policies. Yet data may also help to build trust and consensus, by giving oxygen to the experiences and voices of Nigerians themselves. By embracing data-driven policy, Nigeria can therefore take substantial strides forward along its pathway to poverty reduction.

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70   For example, additional data from call detail records could help track migration and welfare during crises (Arai, Knippenberg, Meyer, & Witayangkurn, 2021).

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