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The Landscape of Youth Engagement in Labor Markets in Africa

Are Youth Driving Structural Transformation?

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Abstract

This paper assesses the landscape and evolution of youth engagement in labor markets in Africa, focusing on three important countries—Ethiopia, Kenya, and Nigeria—which together account for 40 percent of Africa's youth population. We also examine whether Africa's youth are driving structural transformation. To do so, we combine nationally representative data and surveys spanning more than two decades (from the 1990s to the 2020s). We situate the analysis within the region's pressing youth unemployment challenge, where annual labor-force entrants surpass job creation. Our findings show that, despite substantial heterogeneities across countries, largely due to sectoral composition of economies, youth remain engaged in agriculture almost as much as adults. While labor continues to gradually shift out of agriculture, it has moved overwhelmingly into services rather than industry, reinforcing the unique pattern of structural transformation in Africa. More importantly, exit rates from agriculture are similar for youth and adults, except in Ethiopia, where youth are leaving agriculture at slightly higher rates than adults. In Ethiopia and Kenya, the entry rate into services is higher among young women, while entry into industry is higher among young men, suggesting distributional and equity implications of Africa's ongoing structural transformation. These findings offer important insights and challenge simplistic views that youth are leaving agriculture in "droves" as well as the sometimes-embroidered perceptions of their role in that transformation. We discuss the implications of these findings for sustaining inclusive employment opportunities and argue that agriculture should remain central to job creation efforts in Africa.

Keywords: Youth employment, structural transformation, agrifood systems

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1. Introduction

Africa is the world's youngest region (Fox and Thomas, 2016), with about three-fourths of its population younger than 35 years old (Al-Ghwell, 2019; World Bank, 2023). And by 2050, nearly one in three young people globally will be from the continent (ILO, 2024). Although this youthful population provides an adequate workforce to drive economic and social transformation, African economies still struggle to create opportunities for the growing "youth bulge" entering the labor market every year, resulting in high rates of youth unemployment across the continent. One-third of young people in Africa are unemployed, another one-third are vulnerably employed, and only one in six holds wage-paying jobs (African Development Bank, 2016; Donkor, 2021; African Development Bank, 2023). These measures show that Africa is lagging in efforts to achieve Sustainable Development Goal (SDG) 8, particularly SDG 8.5 and SDG 8.6, which aim to "achieve full and productive employment and decent work for all" (SDG 8.5) and "substantially reduce the share of young people not in employment, education or training (NEET) (SDG 8.6)". This persistent gap between labor supply and demand has elevated youth employment to the forefront of the policy agenda in Africa. Despite the robust economic growth since the mid-1990s, job creation has lagged in most African countries, and most new entrants are absorbed into low-productivity and informal activities (African Union Commission & OECD, 2024). The result is widespread unemployment and underemployment among young people, with important implications for sustainable development and social cohesion.

At the same time, African economies are undergoing structural change that diverges from historical trends and patterns seen in other regions. Labor is moving out of agriculture, but—unlike in East Asia's classic experience and the path followed by developed countries some 100 years ago—most of this reallocation is into services rather than industry. In other words, many African economies are experiencing "structural transformation without industrialization" (e.g., Baccini et al., 2023; Buera and Kaboski, 2012; McMillan et al., 2014; Newfarmer et al., 2019; Gollin et al., 2016; Rodrik, 2016; McCullough, 2025) or what some scholars call *premature deindustrialization* (Gollin et al., 2016; Rodrik, 2017; Bhorat et al., 2025). This divergent transformation can be understood through the lens of premature deindustrialization (Rodrik, 2016), in which labor increasingly leaves agriculture for services

rather than manufacturing and hence without necessarily generating the high productivity gains associated with industrial employment.

The expansion of Africa's service sector is contributing to the growth of local agrifood systems and value chains that connect stakeholders in farm production and post-farm activities, including food processing, wholesale, logistics (such as storage), retail, and food services (Reardon et al., 2019; Dolislager et al., 2021; Barrett et al., 2022). Whether a services-led path can continue to sustainably provide broad-based employment, however, remains debated (Rodrik, 2017; Gollin, 2018; Bhorat et al., 2025; McCullough, 2025). Optimists emphasize the rise of tradable, higher-productivity service segments (sometimes called "industries without smokestacks") (Bhorat et al., 2025), while skeptics note that the largest pockets of employment expansion have been in petty trade and low-paying services that do little to lift aggregate productivity and welfare (e.g., De Vries et al., 2015).

The two stylized trends—pressing unemployment challenges and heterogenous paths to structural transformation across economies—raise several important questions. First, where in the economy are youth engaged, and how is this evolving over time? Second, if African economies are transforming, what is the role of youth in this structural transformation?[1] In turbulent times characterized by domestic and global shocks to economies, tracking the landscape and evolution of youth engagement in labor markets is crucial for designing dynamic and effective youth policies and initiatives. Similarly, understanding the role of youth in structural transformation of economies remains critical, especially for ensuring inclusive economic transformation. Understanding the role of youth in driving this transformation in Africa requires longitudinal data covering multiple decades, given that structural transformation is a medium- and long-term phenomenon. Yet much of the previous research on youth engagement in Africa covers only short periods and fails to capture medium- and long-term dynamics in sectoral engagement.

[1] Skirbekk (2008) finds evidence that job performance usually decreases with age, depending on the type of occupation. Meanwhile, Viviani et al. (2021), in a literature review, find no significant difference in productivity between older and younger workers; in fact, the former often performed better despite having higher absenteeism. Cardoso et al. (2021) find productivity increases until the age range of 50-54.

This paper assesses the landscape and evolution of youth engagement in labor markets and food systems in Africa, focusing on three important countries—Ethiopia, Kenya, and Nigeria—which collectively account for about 40 percent of Africa's youth population. We also examine the role of youth in driving structural transformation. By combining nationally representative data and surveys spanning more than two decades (from the 1990s to the 2020s). We track (1) labor-force participation; (2) sectoral shifts between agriculture, industry, and services; and (3) finer movements within services and industry, with consistent age disaggregation. Across countries, we ask: Are youth moving out of agriculture faster than adults? Which sectors are absorbing them? And do these reallocations align with higher productivity segments or mainly with low-value informal work? To address these questions, we estimate panel data models that allow for differential temporal and sectoral evolution of employment across cohorts and years. The large, long-ranging nationally representative surveys we use enable us to disaggregate our analysis by gender and subsectors within the food system and beyond.

Our findings can be summarized as follows. First, adults in general—and adult men in particular—report higher rates of labor force participation, while youth, especially young women, face lower and more volatile participation rates. Second, despite substantial heterogeneities across countries, largely due to differences in the sectoral composition of economies, youth remain engaged in agriculture almost as much as adults. Although labor continues to gradually move out of agriculture, this shift has been overwhelmingly into services rather than industry, reinforcing Africa's unique structural transformation. Third, the rate of movement out of agriculture remains similar for youth and adults, except in Ethiopia, where youth are leaving agriculture at slightly higher rates than adults. This finding is consistent with findings by Moreda (2023), who show that young people in Ethiopia are less likely than their parents' generation to access land independently. Last, we show that young women report slightly higher participation in services, with significant gender differences in exit and entry rates: young women enter at higher rates than young men. While the service sector continues to absorb youth in Africa, its performance in terms of engaging youth appears to be volatile in Kenya, insufficiently diversified in Nigeria, and at its early stage in Ethiopia. These findings provide important insights and challenge simplistic views

that youth are leaving agriculture in "droves" and the perception that they are playing a "disproportionate" role in structural transformation of economies. We conclude by discussing the implications for inclusive structural transformations and argue that agriculture should remain central to job creation efforts in Africa.

More broadly, our analysis reveals shared but uneven patterns across countries. Agriculture remains central to livelihoods in much of Africa. Although labor is slowly moving out of agriculture, there is little evidence of a wholesale exodus of youth from the sector. In many contexts, youth still engage in agriculture, even as they explore opportunities along the agrifood value chain. This nuanced reality matters for policy, especially given the stagnation of the industrial sector across the three countries and the debate on "premature deindustrialization" in Africa (e.g., Rodrik, 2016; Bhorat et al., 2025). While optimism about the expansion of service-led structural transformation and job creation efforts (Bhorat et al., 2025) remains plausible, important questions persist: Can the expansion of services sustainably absorb the growing youth population, and are these jobs sufficiently remunerative and inclusive? These issues and questions merit further research.

While the composition and specific attributes of service sectors vary across the three countries studied in this paper, three policy priorities emerge: (1) Strengthening the functioning of markets and trade while deepening agrifood system linkages (input supply, aggregation, processing, cold storage, wholesale, and quality control) to create youth-friendly jobs close to where young people live; (2) accelerating quality upgrading within services by easing entry into modern tradable services (logistics; information and communication technologies [ICT]-enabled business services; tourism value chains); and (3) sustaining an enabling policy environment that addresses key youth constraints, including access to land and capital, through predictable regulations.

Our paper offers two unique contributions to the existing literature on youth engagement in labor markets and structural transformation in Africa. First, most previous studies focus on agriculture in general and farming in particular (e.g., Tadele and Gella, 2012; Leavy and Hossain, 2014; Bezu and Holden, 2014; Yeboah et al., 2020; Flynn and Sumberg, 2021; Abay et al., 2021), while our approach considers the overall structure of economies. Given the expansion of service sectors in Africa and stagnation of industrial employment, going beyond

agriculture and farming offers a broader perspective. Second, most of these studies cover short time periods and fail to capture medium- and long-term dynamics in sectoral engagement, whereas our long-spanning, nationally representative data enable us to examine the role of youth in the structural transformation of economies.

The remainder of this paper is organized as follows. Section 2 reviews the literature on labor market performance and dynamics in Africa, including the unique patterns of structural transformation. Section 3 describes the data and methods used. Section 4 presents descriptive results characterizing labor force participation and sectoral employment, along with associated dynamics. Section 5 reports the results on the role of youth in structural transformation and hence the potential differential trends in exit and entry rates between youth and adults. Section 6 provides a summary and concluding remarks.

2. Literature review

2.1. Labor market performance and dynamics in Africa

Labor market indicators, particularly those capturing an economy's capacity to generate sufficient employment opportunities for its population, are widely used as measures of overall economic performance, with labor force participation rates, unemployment rates, and sectoral distribution being the most frequently cited (Kapsos, 2006; Feng et al., 2024). Based on these indicators, the economic performance of many countries in sub-Saharan Africa (SSA) after independence was disappointing (Collier and Gunning, 1999; Ndulu and O'Connell, 1999; Calamitsis, 1999). Although Africa and East Asia had comparable economic indicators in the 1960s, with SSA even seen as having greater growth potential (Easterly and Levine, 1997; Korbut et al., 2011), average real per capita GDP in Africa stagnated between 1965 and 1990, largely due to civil wars, political unrest, and recurrent coups (Easterly and Levine, 1997; Mbaku, 1988; Fosu, 2002; Fang et al., 2020). Beginning in the mid-1990s, however, countries with greater political stability and liberalized economies (e.g., Botswana, Kenya and Cote d'Ivoire) experienced stronger growth and labor force participation, particularly among women and youth (Johnson et al., 2007; Korbut et al., 2011; Filmer and Fox, 2014; Fox et al., 2016). Even if this economic recovery and accelerated growth is widely recognized (Arndt et al., 2016), its impact on labor market indicators remains limited and

uneven (McMillan and Rodrik, 2011; Fox et al., 2013; Filmer and Fox, 2014; Fox and Thomas, 2016).

Classical macroeconomics, particularly the famous Okun's law, posits a negative relationship between economic growth and unemployment (Okun, 1963).[2] The empirical relevance of Okun's law in developing countries, however, remains mixed (e.g., Ball et al., 2019). While Ball et al. (2019) find that, despite some important heterogeneities, Okun's hypothesis on the relationship between economic growth and unemployment holds for many developing countries, Melina and Torres (2016) argue otherwise, noting that although Namibia has experienced robust and sustained growth since independence in 1992, its unemployment rate has remained persistently high.[3] Ibourk and Elaynaoui (2024) find similar results, in which GDP and employment are weakly linked—an outcome that might be explained by structural, demographic, and economic factors. More recently, Feng et al. (2024) find a positive relationship between unemployment and GDP per capita, a relationship that appears to be driven by low-educated workers.[4]

2.2. Structural transformation in Africa

A reallocation of economic activity (and labor) across the main economic sectors—agriculture, industry, and services—is referred to as structural transformation (Kuznets, 1957; Duarte and Restuccia, 2010; Herrendorf et al., 2014; Porzio et al., 2022). The change is long-term and systematic, and it alters the composition of aggregate economic output (Warr and Yusuf, 2025). Alessandria et al. (2023) define structural transformation as "the evolution of sectoral shares of employment or value added as countries develop over time". [5] Structural transformation, and the resulting decline in the share of agricultural employment, is considered one of the necessary consequences of economic development (Kuznets, 1957).

[2] Mainstream macroeconomic theory views Okun's law as a short-run phenomenon, with long-run GDP growth driven primarily by technological progress (through the increase in total factor productivity [TFP]) rather than by unemployment) (Mankiw, 2013).

[3] They find that unemployment and employment were not responsive to economic activity during the period 1992 to 2014. Some of the reasons given for the unresponsiveness of the labor market include growth in non-labor-intensive sectors, significant skill mismatches, and rigidities in the business environment.

[4] Feng et al. (2024) find that low-educated workers face higher unemployment rates in rich countries, whereas in poor countries, unemployment is higher among the highly educated.

[5] Gollin and Kaboski (2023) provide a comprehensive review of the recent literature on structural transformation, while Sen (2023) thoroughly discusses the theories and drivers of structural transformation.

Economic growth is assumed to be inversely related to the share of agriculture in GDP and employment (Kuznets, 1957; Sen, 2023).

More broadly, the existing literature identifies two key underlying drivers of structural transformation: differences in productivity growth across sectors, and changes in demand for sectoral output over time (Alvarez-Cuadrado and Poschke, 2011; Herrendorf et al., 2014; Porzio et al., 2022; Sen, 2023). That is, structural transformation is caused by sector-biased technological progress and non-homothetic preferences (Rogerson, 2008; Buera and Kaboski, 2009).[6] Accordingly, faster productivity growth in agriculture relative to industry and services reduces labor demand in agriculture but increases it in industry and services. Structural transformation thus leads to a declining share of agriculture in both output and employment, alongside long-run increases in per capita income (Michaels et al., 2012).[7] Ngai and Pissarides (2007), as well as Święcki (2017), argue that sector-biased technological change is the most significant mechanism, playing a central role in explaining the declining labor share of manufacturing and the rise of services in advanced economies. The second driver of structural transformation is demand-driven, whereby income gains from technological progress in agriculture lead to shifts in sectoral demand. As per capita income increases, the composition of demand changes, most notably with a decline in the share of food (Engle's law) (Chenery, 1960) and an increase in demand for services. Indeed, McCullough (2025) shows that as income increases, consumers sharply increase their spending on services relative to goods and food. This type of structural transformation is likely to be evident in Africa, where recent studies show that the process is bypassing industrialization (e.g., Baccini et al., 2023; Buera and Kaboski, 2012; McMillan et al., 2014; Newfarmer et al., 2019; Gollin et al., 2016; Rodrik, 2016a; McCullough, 2025). Even where

[6] Homothetic preferences refer to situations in which, at constant prices, demand for goods increases by the same percentage as income, implying a constant income elasticity of demand. In contrast, non-homothetic preferences describe cases in which consumption patterns change with income, implying that the income elasticity of demand varies with income.

[7] For instance, in 1800 about three-quarters of the U.S. labor force was employed in agriculture, but by 2000 this percentage had fallen to only 2.5, with agriculture contributing around 1 percent to GDP, while per capita output had risen more than 25-fold (Alvarez-Cuadrado and Poschke, 2011). From 1870 to 1970, the U.S. share of employment in agriculture decreased from 40 to 4 percent, while employment in services increased from 20 to 40 percent (Kongsamut et al., 2001).

industrialization begins to grow, it may remain more capital- than labor-intensive, limiting its potential to absorb the growing workforce.

Theoretically, Warr and Yusuf (2025) identify five potential contributors to structural transformation: differential growth rates in the aggregate supplies of physical capital, labor, and land; differential growth rates of total factor productivity (TFP) across sectors; changes in relative international prices; changes in sectoral rates of trade protection; and income growth accompanied by differences in expenditure elasticities of demand for final consumer goods. Warr, and Yusuf (2025) show that differential sectoral TFP growth was the main driver of structural transformation, whereas De Vries et al. (2024) find domestic and foreign sectoral TFP to be important drivers.

In addition to the above drivers and contributors, emerging empirical literature provides alternative factors that facilitate or inhibit structural transformation and hence labor market transitions, including trade (Betts et al., 2017; Teignier, 2018; Alessandria, 2023), institutions (Boeri and Terrell, 2002), and climate change (Barrios et al, 2008; Colmer, 2021; Dell et al., 2012; Graff Zivin and Neidell, 2014; Liu et al, 2023). While climate change inhibits structural transformation by reducing agricultural productivity and therefore the demand for tradables (Emerick, 2018; Liu et al., 2023), trade facilitates structural transformation by enabling countries to import food, which decreases dependence on low-productivity agriculture.

Despite some similarities in the drivers of structural transformation across developed and developing countries, the paths of structural transformation differ significantly among them (Bah, 2009; Dabla-Norris et al., 2013; Bhorat et al., 2025). While high-growth periods in many low-income countries in Africa are characterized by a declining share of agriculture and a rising share of services, whereas industry remains broadly stagnant, the structural transformation patterns in developed countries and East Asia are driven primarily by the expansion of the industrial sector (IMF, 2012; Fox et al., 2017; Rodrik et al., 2017; Bhorat et al., 2025). In SSA, labor markets are characterized by low productivity and low wages, with only a small share of workers in paid employment (Fox et al., 2016; Rud and Trapeznikova, 2021; McMillan and Zeufack, 2022). Although agriculture remains the dominant source of employment and a significant contributor to GDP, notable shifts in sectoral composition are evident as labor increasingly moves into services (Jedwab and Osei, 2012; Rodrik, 2016; Diao

et al., 2017). These transitions vary across countries, but in most cases, agriculture remains important, while service sector employment is rising and industry accounts for a smaller share of employment (Jedwab and Osei, 2012; Fox et al., 2013; McMillan et al., 2014; McMillan and Zeufack, 2022). The service sector's expansion in SSA is particularly concentrated in subsectors often referred to as "industries without smokestacks," including wholesale and retail trade, accommodation, transportation, financial services, and tourism (Bhorat et al., 2025).

The service sector's expansion at the initial stage of structural transformation, while industry is stagnant, has sparked debate on its challenges and opportunities for ensuring inclusive economic growth. Most important are the debates on whether structural transformation driven by service sector expansion is sustainable. Gollin (2018) argues that SSA can sustain structural transformation without a strong industrial base, while Rodrik (2017) contends that such growth is unlikely to be sustainable unless it is supported by steady improvements in human capital and governance. McCullough (2025) argues that sustained growth under this scenario may be limited, as services tend to have low productivity and their market potential is mostly restricted to the domestic markets, unlike manufacturing goods. However, Newfarmer et al. (2019) challenge this argument, contending that subsectors such as horticulture, business services, ICT, and tourism—which share similar characteristics with manufacturing ("smokestack")—can be exported and increase growth. Herrendorf et al. (2022) also contend that structural transformation accompanied by industrialization is necessary to close the productivity gaps between poor and advanced economies. Nayyar and Davies (2023) find that service-led transformation plays an important role in mitigating climate-related issues, noting that service sectors are more resilient to climate change than agriculture (Casey, 2020).

Africa's service sector expansion is also contributing to the growth of local agrifood systems and value chains that connect all stakeholders involved in farm production and post-farm activities, including food processing, wholesale, logistics (such as storage), retail, and food services (Reardon et al., 2019; Dolislager et al., 2021; Barrett et al., 2022).[8] While earlier

[8] Arslan et al. (2022) define the agrifood system (AFS) as "the set of supply chains stretching from the supply of inputs and services, through production on the farm and all the post-farm activities that result in the retailing

literature emphasized only the farm segment of the food system and ignored the remaining sectors (Reardon et al., 2019), structural transformation in Africa, along with urban expansion, necessitates pursuing a broader view of engagement in food systems.[9] Hazell et al. (2007) identify two channels through which structural transformation affects the expansion of agrifood systems through its impact on the rural nonfarm economy (RNFE): the pull scenario in productive agricultural zones and the push scenario in stagnant rural zones. The pull scenario refers to a situation in which an increase in agricultural productivity growth leads to increases in savings and rural incomes (Bustos et al., 2020) and, subsequently, the creation of small market centers and rural towns supplying nonfarm goods (Reardon et al., 2007). This process, in turn, releases farm family labor to participate in rural nonfarm activities (Djoumessi et al., 2020). Rising urbanization also transforms food systems by reshaping the spatial patterns of food demand and consumer preferences (Gollin et al., 2016; de Bruin et al., 2021). The push scenario, on the other hand, occurs when agricultural productivity does not grow alongside continuous population growth, which in turn leads to declining land availability and lower labor productivity, forcing family workers to participate in the RNFE.[10]

2.3. Youth and structural transformation in Africa

Improving youth employment amid Africa's ongoing structural transformation has gained policy traction over the past two decades (Fox and Thomas, 2016; Fox and Gandhi, 2021: Dolislager et al., 2021; Abay et al., 2021). Rural youth particularly represent a large share of the continent's youth population (Christiaensen and Maertens, 2022) and face numerous challenges, including limited access to land and capital. Unlike the historical paths in other

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of food (including food prepared and consumed away from home) and other agricultural commodities to consumers. The food system encompasses the AFS and extends beyond the retailing of food to consumers to include food preparation, consumption and waste."

[9] A broader view of food system transformation allows the integration of sustainability concerns (Qaim and Parlasca, 2025), while also accounting for rising food demand and changing dietary patterns (Bouyssou et al., 2025). Arslan et al. (2022) argue that rural transformation can be a necessary but not sufficient condition for achieving sustainable agrifood systems.

[10] The push scenario here is the opposite of the pull scenario: lack of opportunities in agriculture and shortage of investable capital leads to migration in search of both farm and nonfarm employment in other areas (De Brauw et al., 2014; Amare et al., 2023; Amare et al., 2024; Mutsami et al., 2024).

regions, Africa's structural transformation is not expanding the industrial sector, which historically absorbed large segments of the youth bulge. This unique trajectory has sparked debate, with some questioning whether SSA can absorb this ever-increasing bulge. Similarly, whether Africa's youth are in the "driver's seat" of structural transformation—and thus disproportionately exiting agriculture—remains central to public discourse. However, much of the public discourse on the role of youth in driving the structural transformation of African economies remains devoid of factual and direct evidence. While earlier literature warned that Africa's youth are leaving agriculture in "droves" (e.g., Tadele and Gella, 2012; Leavy and Hossain, 2014; Bezu and Holden, 2014; Yeboah and Jayne, 2020), recent multi-country studies show that youth engage in agriculture as much as adults (Flynn and Sumberg, 2021 and Abay et al., 2021). Furthermore, Flynn and Sumberg (2021) show that rural youth often combine farming with other forms of self-employment and wage labor. This is consistent with Musungu et al. (2024), who find that Ethiopian youth reduce their on-farm work and increase off-farm self-employment in response to both short-term and persistent droughts, while still maintaining ties to family farming.

Structural transformation processes and development trajectories of Southeast Asian economies such as Singapore and Malaysia offer important but slightly different experiences on how young people fared with changing labor markets and economic structures. In most of these economies, the creation of industrial estates absorbed surplus labor, including young workers, and over time the economies upgraded into higher-value manufacturing and services, underpinned by robust institutions, infrastructure, and human-capital development (Cheang, 2024). These experiences demonstrate how states continued to cultivate the capacity of the youth through targeted vocational education and training, which prepare young people for an evolving economy (Wan Chang Da, 2025). These Southeast Asian cases suggest that state-led policy and foreign investment can effectively channel youth into productive employment during structural transformation. But direct replication of these lessons in Africa continue to face important hurdles, including because of weak institutional capacity and different demographic and economic conditions. Together, the experiences from Southeast Asian economies offer two core lessons for Africa. First, youth can be active drivers of structural transformation, but only when policy, institutions, and education systems

enable their productive inclusion. Second, structural transformation that does not consider youth-specific challenges (e.g., skills mismatch, education transitions, access to good jobs) risks marginalizing young people, making economic growth less inclusive

Understanding the role of youth in driving structural transformation in Africa requires longitudinal data covering multiple decades, given that structural transformation is a medium- and long-term phenomenon. Much of the previous literature on youth engagement in Africa covers only short periods and thus fails to capture medium- and long-term dynamics in sectoral engagement. To address this gap, we combine nationally representative data and surveys spanning the 1990s to the 2020s. We situate the analysis within the region's pressing youth unemployment challenge, in which annual labor-force entrants surpass job creation efforts. Our focus is on three populous countries: Ethiopia, Kenya, and Nigeria.

3. Data and Methods

3.1. Data sources

The data for this study were drawn from nationally representative household surveys in three countries: Ethiopia, Nigeria, and Kenya. The Ethiopian dataset comes from Ethiopian Statistical Services, an agency entrusted to conduct regular, nationally representative labor force surveys. Specifically, we use the National Labor Force Survey (NLFS) datasets, which include all regions of the country. The surveys cover "conventional households," excluding persons living in universities/colleges and hotels; internally displaced persons; and homeless individuals. The surveys use a stratified two-stage cluster sampling design, with enumeration areas (EAs) as the primary sampling units and households within each EA selected at the second stage. There have been four rounds of national labor force surveys in the past 25 years, covering a large number of households in both urban and rural areas. Specifically, NLFS surveys covered: 31,859 households in 1999; 54,484 in 2005; 58,396 in 2013; and 49,916 in 2021. These surveys provide rich data on labor market dynamics, including key workforce characteristics and levels of employment, unemployment, and migration patterns among men and women. In line with the ILO guidelines, the NLFS uses two methods to assess the economic activity status of sampled households: current status and usual activity status. The current status approach measures a person's activity over a

short reference period of seven days, while the usual activity status measures a person's economic status over a longer reference period of 12 months. If a person is engaged in productive work or is available to engage in the production of goods and services during most of the 12 months, they are classified as economically active or part of the labor force. In this study, we use the usual activity status approach to measure economic activity, as it is less prone to seasonality, particularly in rural areas where production varies seasonally.

For Kenya and Nigeria, we use data collected through the Demographic and Health Survey program. These surveys, conducted between 1990 and 2022 in both Kenya and Nigeria, include an employment module designed to capture not only whether respondents were employed but also the nature and stability of their work. In Kenya, the surveys were conducted in 1993, 1998/99, 2003, 2008–2009, 2014, and 2022; and in Nigeria, in 1990, 2003, 2008, 2013, 2015, 2018, and 2021. However, for this study, we used only the surveys conducted between 2003 and 2018 in Nigeria, as data for 1990 and 2021 cover only women. Both surveys include nationally representative samples selected through a stratified two-stage cluster sampling design. In the first stage, EAs were chosen with probability proportional to size, followed by the random selection of households in the second stage. Within the sampled households, all women ages 15 to 49 were eligible for interview, while men ages 15 to 54 in Kenya and 15 to 59 in Nigeria were interviewed in a randomly selected subsample of households. In Kenya, from 1993 onward, men interviews were conducted in every second household selected for the women interviews, meaning that men were interviewed in about half of the households sampled for the women's survey. In Nigeria, men interviews in 2003 (among those ages 15 to 59) in one-third of the households sampled for the women's survey; in 2008, 2013, and 2018, all eligible men (ages 15 to 59) in half of the sampled households were interviewed. The employment module consistently asked whether respondents had worked in the past 12 months, whether they were currently working, and the occupation in which they were engaged. Overall, the datasets from the three countries allow for robust, nationally representative comparisons of labor force participation and the sectoral distribution of employment across gender and age group over the past two decades.

For the purposes of this study, youth are defined as individuals ages 15 to 35 years, while adults are those ages 36 to 64 years, in line with the African Union's definition. In 2015,

Africa's youth population (ages 15 to 35) was estimated at 453 million and is projected to exceed 1 billion in 2063 (African Union, 2019). Nearly 40 percent of this population resides in the three countries examined in this study. The longitudinal surveys we use provide unique, nationally representative data spanning more than two decades. Unlike most existing studies, which rely on agricultural household surveys, these datasets capture important sectors of economies.

3.2. Methodology to test differential exit and entry rates across cohorts (youth versus adults)

Beyond describing youth engagement in labor markets and various sectors of economies, we also compare exit rates between youth and adults. This helps us assess and quantify their relative contributions to structural transformation in each country. For this purpose, we estimate the following interacted specification, which compares exit and entry rates across sectors between youth and adults over time. The empirical model captures year-on-year shifts in employment rates across sectors, highlighting the potential differences in how these shifts evolve for youth versus adults. The basic specification is as follows:

$$Y_{idst} = \alpha_d + \beta_1 Youth_i + \sum_{t=1}^{T} \delta_t Year_t + \sum_{t=1}^{T} \gamma_t (Youth_i \; x \; Year_t) + \epsilon_{idst} \qquad (1)$$

where Y_{idst} stands for sectoral engagement of individual *i* living in region (state) *d,* engaged in sector *s* at year *t. Y_{idst}* assumes a binary value of 1 if an individual is engaged in the sector of interest and 0 otherwise. α_d denotes region or state fixed effects, which capture any time-invariant differences across geographies. $Youth_i$ is a binary variable equal to 1 if the individual is in the 15 to 35 age group. The coefficient β_1 captures the average difference in the probability of employment in that sector between youth and adults in the baseline year. $Year_t$ represents a set of year dummy variables, with the earliest year serving as the reference category. The coefficients δ_t capture the secular trend of employment in the sector for the adult population over time. $Youth_i \; x \; Year_t$ captures a set of interaction terms between the youth dummy and the year dummies. These are the key variables of interest. The coefficients γ_t measure the additional change in the probability of sectoral employment for youth in year t compared to adults. A statistically significant negative coefficient for agriculture, for example, would provide evidence that youth are leaving the sector at a faster

rate than adults over time. ϵ_{idst} is the error term, which captures additional unobservable factors that explain sectoral allocation of labor.

This empirical specification in Equation (1) provides a formal, quantitative assessment of whether the sectoral employment trajectories of youth have diverged significantly from those of adults over the past two decades, providing a robust test of the paper's central research question. In addition to comparing cohorts, we also examine differences in trajectories across genders. Such disaggregated analysis can reveal differential exit and entry rates across genders, implying gendered patterns in Africa's structural transformation. This, in turn, provides insights into the distributional and equity implications of the ongoing transformation. For this purpose, we limit our analysis to youth and adapt Equation (1) as follows:

$$Y_{idst} = \alpha_d + \beta_1 Female_i + \sum_{t=1}^{T} \delta_t Year_t + \sum_{t=1}^{T} \gamma_t (Female_i \; x \; Year_t) + \varepsilon_{idst} \quad (2)$$

where all terms except $Female_i$—which represents an indicator variable assuming a value of 1 for young women and 0 otherwise—are as defined in Equation (1). The interaction terms associated with Equation (2) and their corresponding parameters (γ_t) capture potential differential trajectories between young women and young men. If young women exhibit higher exit rates from agriculture than young men, we expect γ_t to be negative and statistically significant. Conversely, if young women enter services or industry at higher rates than young men, γ_t should be positive and statistically significant. In all our estimations, we cluster standard errors across aggregated geographies to account for correlation of error terms.[11] All regressions are weighted using the sampling weight associated with each respondent.

4. Descriptive Results

4.1.1. Trends in labor force participation

We define labor force participation as the share of the working-age population (ages 15 to 64) that is economically active; that is, either employed or unemployed but available and

[11] For Ethiopia, we cluster standard errors at the Zonal level, the second administrative level. For Kenya, we experimented clustering at the lowest as well as the first administrative unit and followed the latter after demonstrating that they generate similar results. For Nigeria, we cluster standard errors at the state level.

actively seeking work (Brakman et al., 2025; Fernández-Villaverde et al., 2025). This definition ensures that both employed individuals and those actively looking for work are included in the labor force, while excluding individuals such as students and retirees who are either outside the working-age range or are of working age but not actively seeking work. Respondents with missing information on employment or unemployment are excluded from the classification. The resulting binary measure provides a consistent indicator of labor force participation across countries and survey years. To facilitate comparison, we disaggregate and report labor force participation rates for youth and adults as well as across genders. We apply sampling weights associated with each respondent.

Across Kenya, Nigeria, and Ethiopia, adult labor force participation over time has been consistently higher than that of youth, though these patterns have evolved differently, as shown in Figure 1. At the start of the survey period in 1999, youth and adults in Ethiopia had identical labor force participation rates (83 percent each). However, this parity did not persist, as a divergence emerged in 2005 and 2013, when the youth labor force participation rates were slightly lower than those of adults. Although participation declined for both groups in 2021, the drop was sharper among youth—from 84 percent in 2013 to 69 percent in 2021—compared with adults, whose rate dropped less dramatically from 88 percent to 81 percent over the same period. While this overall decline may have been exacerbated by the global COVID_19 pandemic, Ethiopia's data reveals a shift from one of the smallest generational gaps earlier on to a pronounced divide in recent years. Adults have maintained relatively higher labor force participation rates, but youth have fallen significantly behind. In Kenya, the divide between adults and youth has widened over time. Youth participation started at 53 percent in 1998, climbed to 68 percent by 2014, but then fell back to 59 percent in 2022. Adults, meanwhile, showed both higher and more stable labor force participation, rising from 77 percent in 1998 to a peak of 94 percent in 2014, before declining to 85 percent in 2022. Adults continued to show higher labor force participation rates, while youth rates were more erratic, pointing to vulnerabilities in consistently sustaining high youth labor force participation over the long term.

In Nigeria, youth labor force participation rose steadily from 54 percent in 2003 to 66 percent by 2018, but adults maintained an even stronger position, increasing from 84 percent to 90

percent over the same period. Unlike in Kenya, Nigerian youth labor force participation did not decline sharply over time, yet the noticeable age gap in favor of adults remained consistent throughout. This result suggests that while youth gradually gained ground in labor force participation, structural barriers prevented them from catching up with adults. These results closely match findings by Fox and Thomas (2016) and Filmer and Fox (2014), who note that although young people are central to Africa's economic future, their employment trajectories remain more volatile and vulnerable than those of adults.

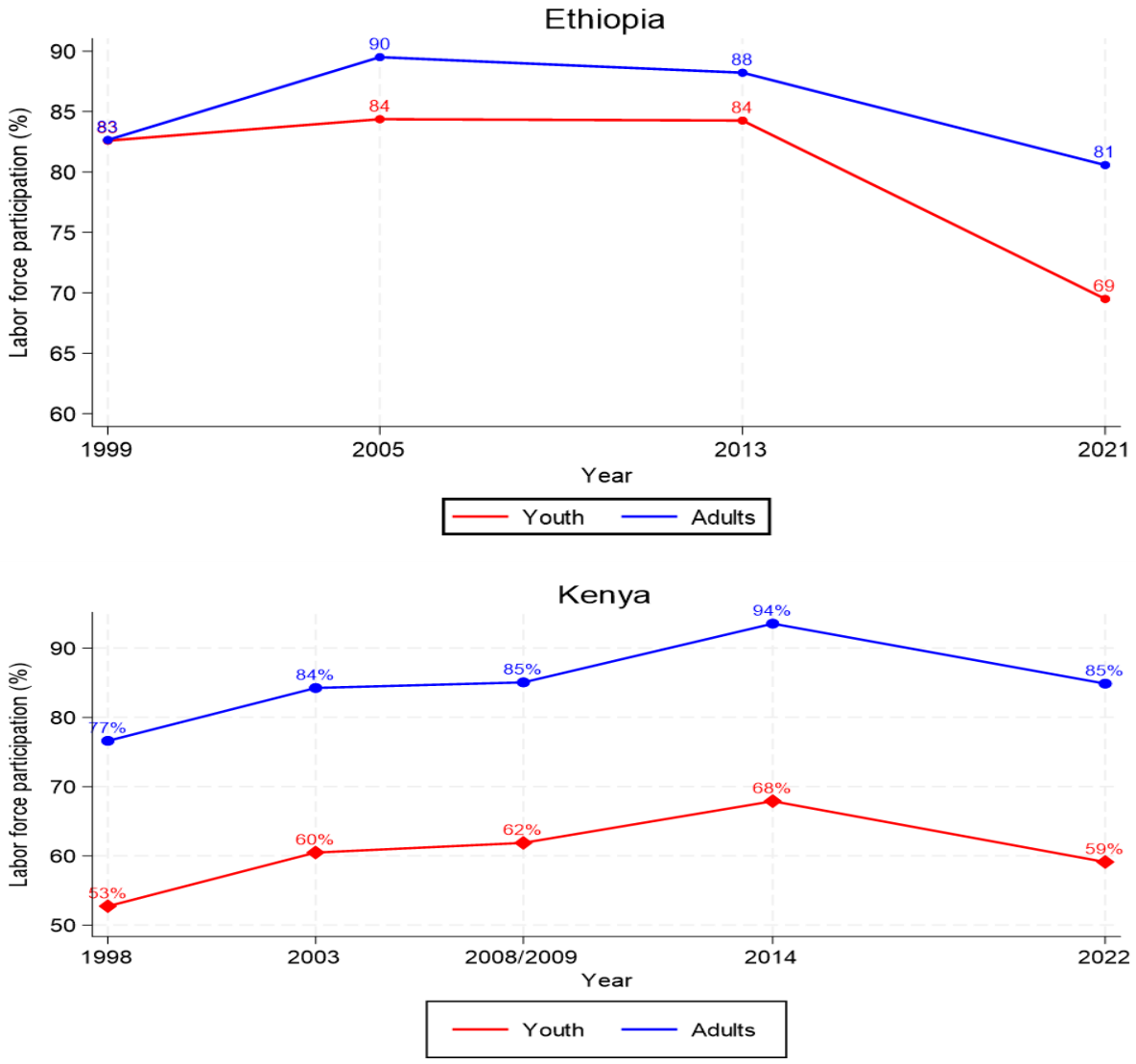
Taken together, these results underscore the consistent advantage adults hold in labor force participation across all three countries, although the degree and nature of the gap vary. In Kenya, youth labor force participation has fluctuated; in Nigeria, it has risen steadily but has remained below that of adults; and in Ethiopia, it has shifted from parity with adults to a widening gap in favor of adults. In every case, adults maintained a strong position in the labor force, while youth seemed more vulnerable to shifts in economic conditions, labor demand, and structural challenges.

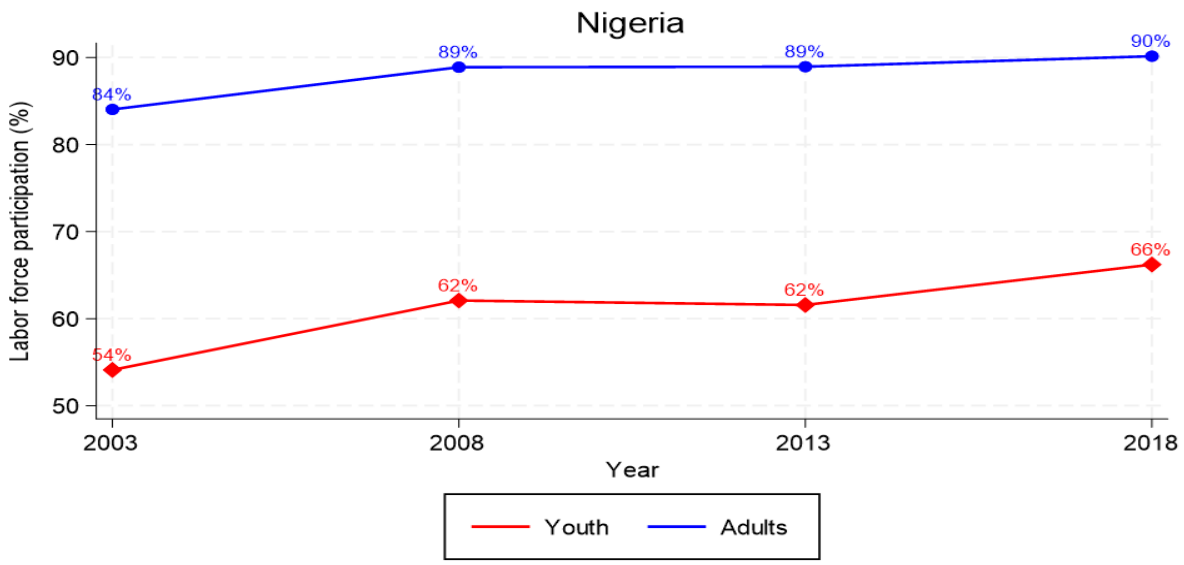
One key explanation for why youth consistently lag adults in labor force participation is insufficient aggregate labor demand across Africa (Sumberg et al., 2021; Brookings Institution, 2024). Additionally, a skills mismatch is a major structural barrier where many young people in African countries hold formal qualifications but lack the practical technical or soft skills demanded by employers, while others are under-educated or overqualified for available jobs (ILO, 2024; Mukasa, 2017). In addition, liquidity constraints significantly hinder youth entrepreneurship with young people often having limited access to startup capital and face high costs of starting and sustaining their own businesses (McIntosh and Zeitlin, 2022). Lastly, technical vocational education and training (TVET) coverage remains very low in many African countries, limiting youth readiness for jobs in technical or emerging industries (Morrow et al., 2023; ILO, 2025).

This persistent intergenerational gap suggests that youth employment requires targeted interventions to close the gap in labor force participation and ensure inclusive labor market participation and growth. Such interventions could include initiatives that encourage greater youth involvement, which offer diverse opportunities across production, processing, and

distribution, thereby promoting both economic inclusion and sustainable development. Interventions could also involve capacity-building linkages with the private sector to encourage the later to employ them.

Figure 1: Labor force participation over the years by age group





Source: LFS and DHS data.

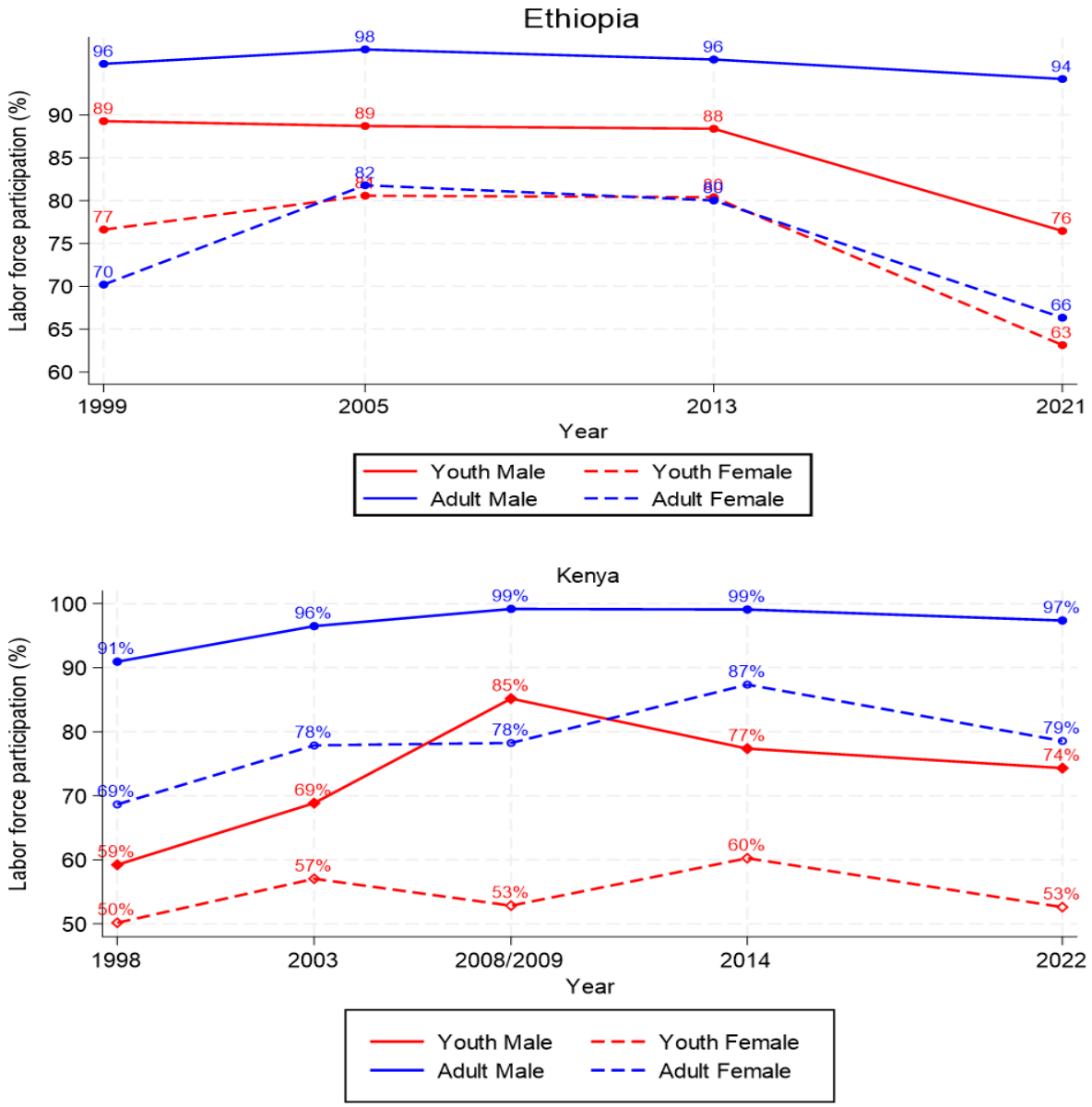
Disaggregating labor force participation rates by age group and gender reveals some nuanced patterns (Figure 2). Across all three countries, men consistently had higher labor force participation than women. There are also clear parallels between youth and adults. First, adult labor force participation was more stable and higher than youth participation, signaling that structural barriers, not just cyclical factors, determine young people's access to work. Youth participation, in contrast, was markedly lower and more volatile than that of adults across both genders. In Ethiopia, adult men's labor force participation remained consistently high increasing slightly from 94 percent in 1999 to 96 percent in 2021, while adult women's participation increased from 70 percent in 1999 to peak at 82 percent in 2003, before declining to 66 percent by 2021. Among gendered-youth, participation declined over time, from 89 percent to 76 percent for men and from 77 percent to 63 percent for women over the same period indicating widening gender and generational disparities. In Kenya, adult men participation was also very high, rising slightly from 91 percent in 1998 to 97 percent in 2022, while adult women participation increased from 69 percent to 79 percent over the same period (Figure 2). Youth labor force participation, in contrast, was lower and more volatile in Kenya with young men's participation increasing from 59 percent in 1998 to 74 percent in 2022, while young women's participation remained persistently low, increasing slightly from 50 percent to 53 percent over the same period, indicating persistent gender disparities. In Nigeria, adult men's labor force participation was also persistently high

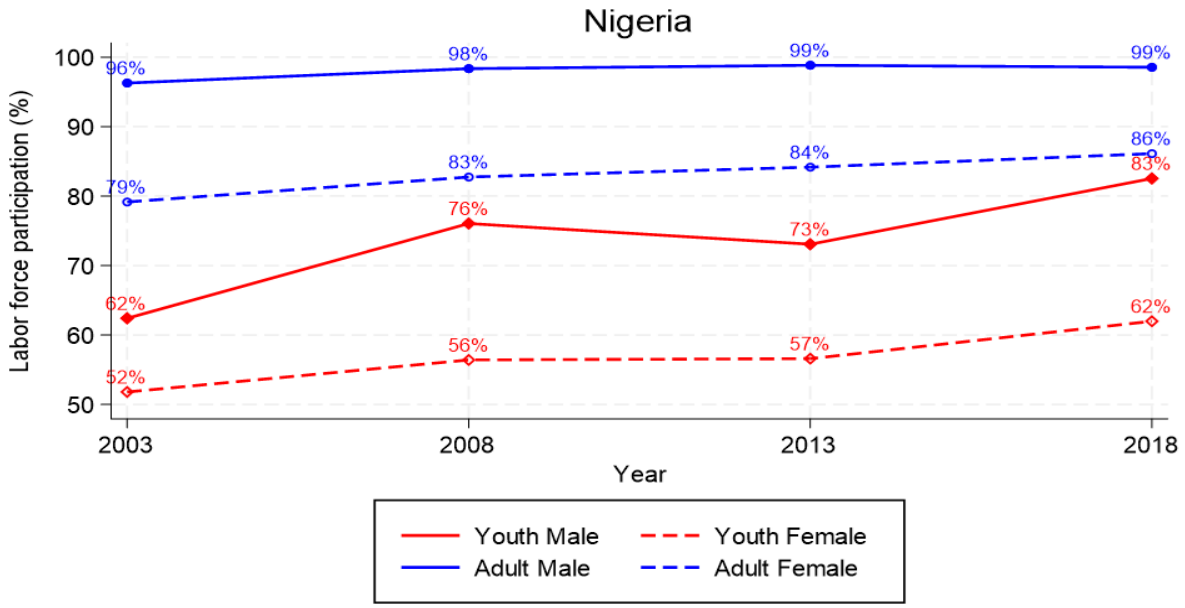
increasing from 96 percent in 2003 to 99 percent in 2018, while adult women's participation improved modestly from 79 percent to 86 percent over the same period. Youth participation, however, remained substantially lower, starting at 62 percent for young men and 52 percent for young women in 2003, rising to 83 percent and 62 percent, respectively, by 2018. Although youth labor force participation improved, particularly among young men, the gap between youth and adults persisted.

The gender gap among youth was especially stark in Kenya, where young women faced both lower entry and greater instability than young men, suggesting cultural, educational, care-related, and safety constraints that limited their transition into stable paid work (Figure 2). Second, where youth labor force participation improved, as in Nigeria, the gap between youth and adults persisted.

In summary, the results suggest that targeted measures to reduce the opportunity costs of labor force participation among women, such as addressing early marriage and educational dropouts, are necessary not only to increase entry but also to sustain women's labor force participation. In addition, policies that expand young people's access to productive assets, combined with investment in rural agrifood enterprises and agricultural technologies, can provide viable avenues for enhancing youth's participation in the labor force. Policies that encourage youth employment in agrifood systems are central to achieving this goal.

Figure 2: Labor force participation over the years by age group and gender





Source: LFS and DHS data.

4.2. Sectoral employment trends

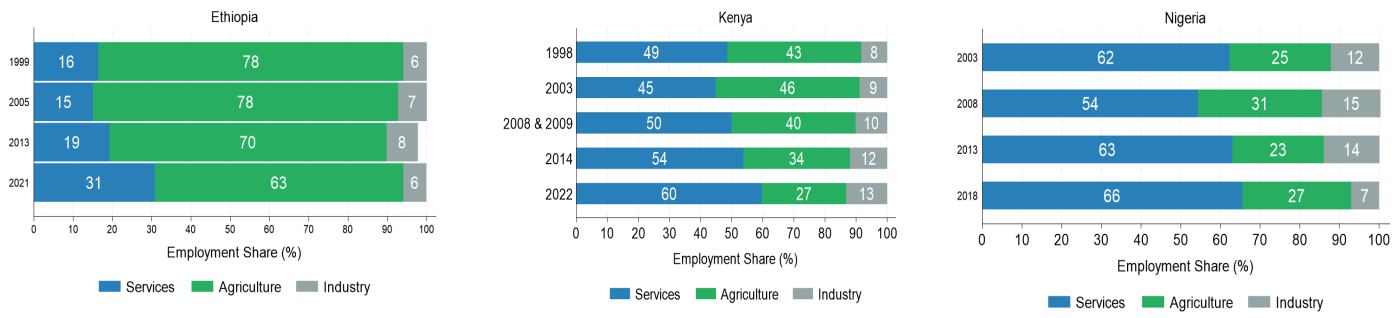
In 1999, Ethiopia's employment outlook was dominated by agriculture, which accounted for about 78 percent of all jobs (Figure 3). Over the next two decades, however, the share of employment in agriculture gradually declined. By 2021, 63 percent of Ethiopians were employed in the sector, while services slowly rose from 16 percent to 31 percent over the same period. In contrast, industry remained stagnant, hovering around 6 percent to 8 percent throughout the period under review. These figures suggest a slow sectoral shift in employment: While more people moved into services, the industrial sector offered no real alternative for labor.

Kenya's transition was swifter and more pronounced. In 1998, 49 percent of the workforce was in services, with agriculture and industry accounting for 43 percent and 8 percent respectively. The share of employment in the service sector peaked at 60% by 2022. Agriculture, after a small peak at 46 percent in 2003, gradually declined, settling at 27 percent by 2022. Employment in the industry sector rose modestly but steadily, from 8 percent in 1998 to 13 percent by 2022, likely absorbing part of the workforce that was gradually moving away from agriculture over the same period.

Similarly, Nigeria's employment data underscores a services-led labor shift. In 2003, the service sector was already dominant, employing 62 percent of Nigerians, while agriculture employment stood at 25 percent and industry at 12 percent. The dominance of the service sector strengthened over time, with its share of employment rebounding to 66 percent by 2018. Meanwhile, employment in industry rose to a peak of 15 percent in 2008 before declining to 7 percent by 2018. These trends align with findings by Dauda and Ajeigbe (2021), who observed a general decline in employment across sectors in Nigeria, except for services, which showed steady growth between 2005 and 2019. One possible explanation for Nigeria's increase and subsequent decline in industrial employment is premature deindustrialization driven by weak competitiveness and structural bottlenecks. Empirical work shows that much of the labor reallocated in Nigeria flows into non-tradable services rather than into manufacturing, suggesting a *services-led structural shift* rather than a strong industrial transition (Erumebor, 2025; Umezulike, 2022).

The results from the three countries reflect a general movement of labor away from agriculture, mainly into services but only marginally into industry. However, Ethiopia's economy seems still rooted in agriculture, with both the service and industry sectors showing slow growth in employment opportunities. Kenya and Nigeria, in contrast, have seen services become the dominant employer over time. Yet industrial employment remains weak across all three countries. Our findings align with broader evidence in sub-Saharan Africa which show that labor is indeed reallocating, but much of this shift is toward non-tradable, low-productivity services rather than manufacturing (Addison et al., 2024). In Ethiopia specifically, Baumol-type "premature tertiarization" has been documented, where an expansion of informal service activities rather than competitive manufacturing drives employment growth (Baum and Gebreeyesus, 2025). These results suggest that while the shift from the agriculture sector is clear, the anticipated gains from industrialization—such as more productive jobs, better wages, and economic diversification—have not yet been realized.

Figure 3: Sectoral distribution of employment over the years

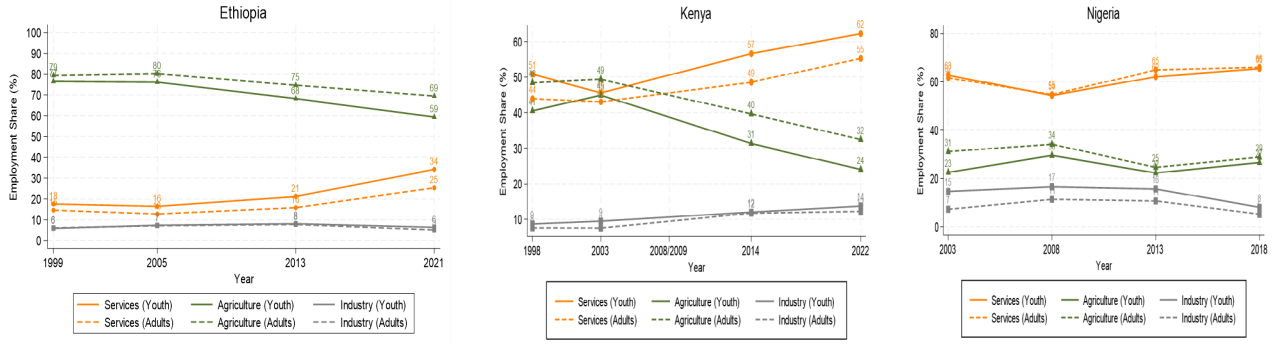


Source: LFS and DHS data.

Disaggregating the sectoral employment patterns by age group indicates that in Ethiopia, the exit from agriculture is particularly pronounced among youth (Figure 4). The service sector has been the clear beneficiary of this shift, with its share of youth employment increasing from 18 percent in 1999 to 34 percent in 2021, compared with an increase from 15 percent to 25 percent among adults over the same period. In Kenya, in contrast, the share of employment in the agriculture sector dropped sharply and evenly for both groups, yet adults consistently maintained a higher share than youth in every survey year. Unlike Ethiopia, Kenya also saw a modest but steady rise in industry's role, with the share of employment in the sector among youth increasing from 9 percent in 1998 to 14 percent by 2022, while adults' share increased from 8 percent in 1998 to 12 percent by 2022. Nigeria's trajectory reflects an economy that largely bypassed a manufacturing-led transformation, deepening its reliance on services while agriculture continued to decline.

Taken together, the data from three countries illustrate different stages and speeds of structural transformation. Ethiopia remains in the early stages, still heavily agrarian but with youth pulling ahead into services. Kenya occupies a middle position, with agriculture and services more balanced from the outset, a significant tilt toward services over time, and a small but rising industrial share. Nigeria, in contrast, began with a service-led structure and has moved even further in that direction, with agriculture now a secondary employer.

Figure 4: Sectoral distribution of employment over the years by age group

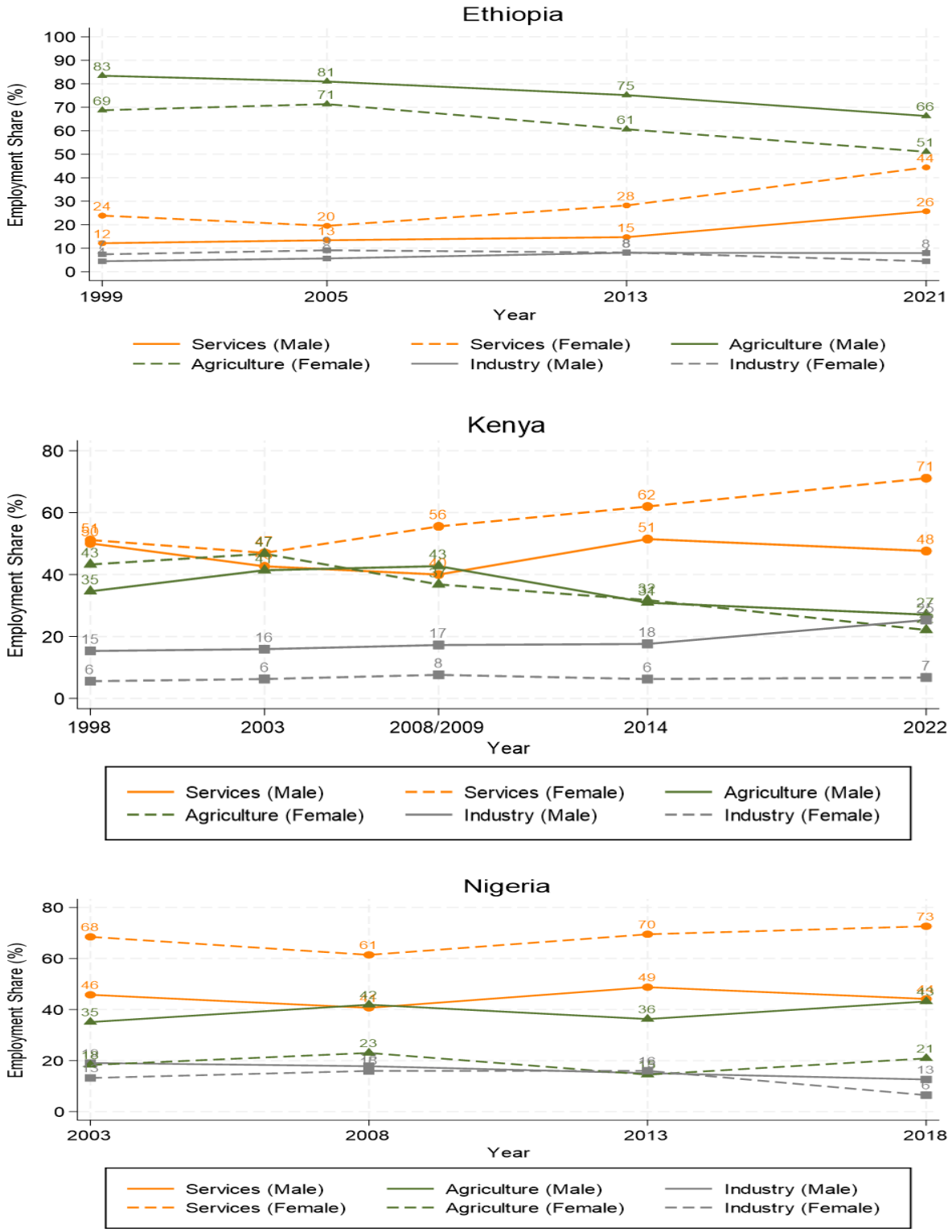


Source: LFS and DHS data.

Disaggregating our analysis by gender shows that young women are disproportionately engaging in the service sector compared with young men (Figure 5). Ethiopia's data illustrates the most marked increase, with young women employment in services rising from around 24 percent in 1999 to 44 percent by 2021, widening the gender gap and signaling shifting economic roles. In Kenya and Nigeria, a similar trend was observed: Services dominated youth employment, especially among women, while employment in agriculture was higher among men.

These results align with broader regional trends. Across SSA, agriculture still employs a substantial share of youth, often more than 60 percent, but that share is declining as informal service employment rises. Only a small fraction enters formal industry or wage employment, underscoring the limits of industrialization in creating job opportunities for youth (Filmer and Fox, 2014, and Fox et al., 2016). In Kenya, for instance, youth agricultural labor fell dramatically, from nearly 59 percent in 1990 to about 29 percent in 2020 (Njora and Yilmaz, 2022), results that closely align with our findings.

Figure 5: Sectoral distribution of employment among youth by gender



Source: LFS and DHS data.

4.3. Composition of sectors and associated dynamics

Besides the allocation of labor across sectors, there is also reallocation of labor across subsectors within each sector, except in agriculture, where the evolution of activities remains unclear due to lack of disaggregated data. Within the service sector, wholesale and retail trade services appear to be the most important activity, absorbing the largest share of labor in all three countries over the past two decades (see Figures A1 and A2 in the Appendix). Most importantly, wholesale and retail trade services continue to attract a relatively larger share of youth than adults. The importance of the remaining subsectors varies across countries. Similarly, there have been significant movements of labor within the remaining subsectors. For example, while accommodation services were important in Ethiopia at the beginning, their contribution has shrunk. Comparing the composition of these services across countries, Ethiopia's services tend to be dominated by less-remunerative domestic chores and services, while the evolution of service sector employment in Kenya shows both continuity and gradual diversification.[12] Nigeria, in contrast, experienced less diversification in the service sector, with wholesale and retail trade dominating throughout the years. This suggests that improving the functioning of markets and hence retail trade can particularly benefit the youth in Africa.

In the industry sector, while manufacturing initially showed promise as a major labor absorber in all three countries, its prominence has declined in recent years (see Figures A1 and A2 in the Appendix). This is consistent with the debate on "premature deindustrialization" in Africa (Rodrik, 2017; Bhorat et al., 2025). In Ethiopia, the share of labor in manufacturing started declining in the second decade, while construction continues to dominate. In Kenya, manufacturing's share of employment fluctuated before declining, while construction emerged as the leading industrial employer by 2022, signaling a shift toward infrastructure-driven growth rather than manufacturing-led industrialization. The decline in manufacturing's role immediately after the COVID-19 pandemic mirrors global trends and dips that occurred in manufacturing activities because of the pandemic (e.g.,

[12] While wholesale and retail trade remained dominant, employment in other service subsectors also expanded over time. For example, transport services and associated employment tripled in the last two decades, albeit from an exceptionally low base. These shifts suggest that although Kenya's service sector employment was mostly anchored in wholesale and retail trade, the modest rise of professionals, accommodation, and transport subsector employment indicates a gradual diversification toward higher-value service subsectors.

UNIDO, 2023). Nigeria experienced a notable manufacturing boom, with employment in the sector peaking in 2008, but this gain was not sustained amid macroeconomic volatility, resulting in a sharp decline by 2018. Across all three countries, mining employment has remained minimal. The growing reliance on construction and the fragility of manufacturing expansion underscores the need for policies that address structural bottlenecks in order to build resilient and diversified industrial sectors.

Our results align with findings by David et al., (2023), who noted that informality remains the dominant mode of employment across African economies, particularly within services and small-scale industry: where informal activities, largely concentrated in retail trade, transport, and household services, account for the bulk of non-agricultural employment and are central to income generation for lower-income and less-educated workers. These findings highlight persistent reliance on informal subsectors as key absorbers of labor, especially where formal industrial opportunities are limited.

5. Are youth driving structural transformation in Africa?

In this section, we report the estimation results based on Equations (1) and (2) and discuss potential differential roles of youth and adults in the structural transformation of economies. The regression results from Ethiopia are reported in Table 1, with estimates presented for each sector and for both men (odd columns) and women (even columns). The interaction between youth and survey year shows how employment in the various sectors has evolved over time. Overall, at the beginning of the survey period (1999), youth and adults had only marginal (but sometimes significant) differences in their employment in agriculture, services, and industry. However, this pattern diverged slightly over time. The results in the first two columns show that youth became less engaged in agriculture relative to adults, with exit rates from agriculture being 7 to 8 percentage points higher among young men and women than among adults in 2021 (compared with 1999). If we combine these patterns with those in Figure 3, the annual exit rate appears to be about 0.8 percentage points for youth and about 0.5 percentage points for adults. In services, both young men and young women showed employment gains relative to adults, with entry rates of 5 to 6 percentage points higher in 2021 than in 1999. In industry, young men's entry rate was 3 percentage points higher than adult men's, while young women and adult women followed almost comparable

trajectories. These results indicate some age and gender differences, suggesting potential gender disparities in access to certain sectors. For example, while men appear to be shifting out of agriculture into both services and industry, women are moving primarily into services while retreating from industry.

Among youth, gender differences in employment trajectories show that young men are leading the diversification into both services and industry, while young women are exiting agriculture and concentrating in services (see Table A1 in the Appendix). These dynamics reveal that the country's structural transformation is youth-driven but uneven across gender lines.

Table 1: Sectoral shifts in employment in Ethiopia

	Agriculture		Services		Industry	
	Men	**Women**	**Men**	**Women**	**Men**	**Women**
Variable	(1)	(2)	(3)	(4)	(5)	(6)
Year = 2005	−0.02**	0.04**	0.01*	−0.05***	0.01**	0.01
	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
Year = 2013	−0.05***	−0.03	0.01	0.01	0.02***	0.00
	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)
Year = 2021	−0.09***	−0.09***	0.08***	0.14***	0.01	−0.05***
	(0.02)	(0.03)	(0.01)	(0.03)	(0.01)	(0.01)
Youth = 1	−0.01	−0.03***	0.02**	0.04***	−0.00	−0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)
Year = 2005 # youth = 1	−0.00	−0.02*	0.00	0.01	−0.00	0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)
Year = 2013 # youth = 1	−0.03***	−0.04***	0.01*	0.03***	0.01**	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Year = 2021 # youth = 1	−0.08***	−0.07***	0.05***	0.06***	0.03***	0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Region dummies	Yes	Yes	Yes	Yes	Yes	Yes
# observations	208,306	175,055	208,306	175,055	208,306	175,055

Note: The first round of the survey collection (1999) is used as the base year. The other survey rounds are 2005, 2013, and 2021. Youth is defined as those ages 15 to 35. The region dummy includes all the regions of Ethiopia covered in the survey. Standard errors clustered at the Zonal level, the second administrative level in Ethiopia, are reported in the parentheses. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Table 2 shows the corresponding results for Kenya, based on the Kenya Demographic and Health Survey data. Initially (in 1998), young men and adult men exhibited only marginal and statistically insignificant differences in agricultural employment. In contrast, young women had a notable and significant disadvantage of 12 percentage points in their employment in agriculture relative to adult women. At the same time, young women had a marked advantage in services, where their engagement exceeded that of older women by 10

percentage points. From 1998 to 2022, however, broader shifts in sectoral employment became apparent. Agricultural employment declined significantly, with adult men showing a 5-percentage point decline by 2022, while women experienced a much larger decline of 22 percentage points over the period under review. In contrast, the service sector expanded, with women's participation increasing by 20 percentage points compared to 1998.

An analysis of the coefficients associated with the interaction terms between youth and survey year shows some important dynamics over time. During the first decade of the century (2003–2008/9), young women were entering agriculture (and leaving services) at a higher rate relative to 1998 and compared to adult women. However, in the second decade of the century, by 2014 and 2022, these differences were no longer significant, implying that employment levels among young women had converged with those of older women. We do not observe significant differences in the evolution of industry employment between youth and adults.

These results align closely with other findings in literature. Njora and Yılmaz (2022), for instance, observed that while youth employment in agriculture in Kenya is declining, the sector still holds employment potential, whereas the service and manufacturing sectors, although growing, are not expanding quickly enough to fully absorb Kenya's youthful labor supply.[13] In summary, the regression results reveal that, despite significant entry and exit rates across sectors and the associated structural transformation over the last two decades, these shifts were equally driven by youth and adults.

A comparison of entry and exit rates among young women and young men shows more pronounced differences (see Table A2 in the Appendix). As in Ethiopia, young women are leaving agriculture at higher rates than young men. Interestingly, while young women show higher entry rate into services, young men appear to hold a greater advantage in Kenya's industry sector employment.

[13] Similarly, a study by Afande et al. (2015) finds that although agriculture continued to employ youth, the service and industry sectors were growing at significantly faster rates yet still fell short of absorbing all youth entrants.

Table 2: Sectoral shifts in employment in Kenya

	Agriculture		Services		Industry	
Variable	**Men**	**Women**	**Men**	**Women**	**Men**	**Women**
Youth = 1	−0.02	−0.12***	0.00	0.10***	0.02	0.02**
	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.01)
2003	0.05	-0.02	−0.07***	0.03	0.02	−0.01
	(0.03)	(0.03)	(0.01)	(0.02)	(0.03)	(0.01)
2008–2009	0.01	−0.13**	−0.01	0.12**	−0.00	0.01
	(0.02)	(0.05)	(0.03)	(0.04)	(0.02)	(0.01)
2014	0.01	−0.05	−0.04	0.04	0.03*	0.01
	(0.04)	(0.07)	(0.04)	(0.07)	(0.02)	(0.01)
2022	−0.05***	−0.22***	−0.03	0.20***	0.08***	0.02*
	(0.01)	(0.03)	(0.02)	(0.04)	(0.02)	(0.01)
2003 # youth = 1	0.01	0.06**	−0.00	−0.08**	−0.01	0.01*
	(0.04)	(0.02)	(0.02)	(0.02)	(0.04)	(0.01)
2008–2009 # youth = 1	0.05	0.06***	−0.08	−0.08***	0.03	0.01
	(0.03)	(0.02)	(0.05)	(0.02)	(0.02)	(0.01)
2014 # youth = 1	−0.01	−0.00	0.03	0.01	−0.02	−0.00
	(0.03)	(0.04)	(0.03)	(0.04)	(0.02)	(0.01)
2022 # youth = 1	−0.02	0.03	0.01	−0.02	0.01	-0.01
	(0.03)	(0.03)	(0.02)	(0.03)	(0.02)	(0.01)
Province dummies	Yes	Yes	Yes	Yes	Yes	Yes
# observations	28,505	37,525	28,505	37,525	28,505	37,525

Note: The first round of the survey collection (1998) is used as the base year. The other survey rounds are 2003, 2008/2009, 2014, and 2022. Youth is defined as those ages 15 to 35. The region dummies include eight provinces associated with Kenya's old constitution. Standard errors clustered at the province level, the first administrative level, are reported in parentheses. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Our analysis of Nigeria's Demographic and Health Survey data reveals distinct patterns (Table 3). At the beginning of the sample period (2003), young men were 8 percentage points less likely than adult men to be employed in agriculture, and young women were 7 percentage points less likely than adult women to be employed in the sector. In contrast, young men were 6 percentage points more likely than adult men to be employed in industry, and young women were 8 percentage points more likely than adult women to be employed in the sector. These results indicate that, relative to adults, youth were more disadvantaged in agriculture employment; somewhat advantaged in industry, especially men; and roughly at par with adults in services.

Analyzing the trends and shifts over time implied in the regression analysis reveals some striking patterns. Young men's engagement in agriculture increased by 8 percentage points higher than adults relative to the base year. In the service sector, the evolution of engagement remained similar across youth and adults. In industry, young women's employment in the sector declined by 3 percentage points higher in 2013 and by 5 percentage points higher in 2018 relative to adult women. These interactions reveal that, after earlier relative advantages, particularly in industry, youth have been losing ground over time in the sector, with both young men and young women increasingly returning to agriculture. Overall, there are minimal differences in the trajectory of engagement between youth and adults. Youth-specific dynamics show partial re-entry into agriculture and declining relative participation in industry, indicating that structural transformation is not primarily driven by youth. Similarly, we do not find systematic differences across genders (see Table A3 in the Appendix).

Table 3: Sectoral shifts in employment in Nigeria

	Agriculture		Service		Industry	
Variable	**Men**	**Women**	**Men**	**Women**	**Men**	**Women**
Youth = 1	−0.08**	−0.07***	0.02	−0.01	0.06***	0.08***
	(0.04)	(0.02)	(0.03)	(0.02)	(0.02)	(0.01)
2008	0.04	0.04	−0.04	−0.08***	0.00	0.05***
	(0.04)	(0.03)	(0.03)	(0.03)	(0.02)	(0.01)
2013	−0.06	−0.04*	0.08**	−0.01	−0.02	0.05***
	(0.04)	(0.02)	(0.03)	(0.03)	(0.02)	(0.01)
2018	0.01	−0.01	0.04	0.02	−0.05**	−0.01
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.01)
2008 # youth = 1	0.06	0.02	−0.03	−0.00	−0.03	−0.01
	(0.04)	(0.02)	(0.04)	(0.03)	(0.02)	(0.02)
2013 # youth = 1	0.08*	0.02	−0.06	0.01	−0.02	−0.03*
	(0.04)	(0.02)	(0.04)	(0.03)	(0.02)	(0.01)
2018 # youth = 1	0.08*	0.04**	−0.06	0.01	−0.02	−0.05***
	(0.04)	(0.02)	(0.04)	(0.02)	(0.02)	(0.01)
State dummies	Yes	Yes	Yes	Yes	Yes	Yes
# observations	39,763	77,677	39,763	77,677	39,763	77,677

Note: The first round of the survey collection (2003) is used as the base year. The other survey rounds are 2008, 2013, and 2018. Youth is defined as those ages 15 to 35. The state dummies include those associated with Nigeria's states. Standard errors clustered at the state level, the first administrative level, are reported in parentheses. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

6. Conclusion

In turbulent times characterized by domestic and global shocks to economies, coupled with structural transformation of economics, tracking the evolution of youth engagement in labor markets and food systems is crucial for designing effective youth policies. Most importantly, understanding the implication of these dynamics and the role of youth in the structural transformation of economies can inform inclusive economic and social transformation. Against this backdrop, our study provides a comprehensive picture of youth engagement in labor markets, both in agriculture and beyond, over the last two decades, amid structural transformation unfolding at varying paces across Ethiopia, Kenya, and Nigeria. Despite the substantial heterogeneities across countries, due mainly to the sectoral composition of economies, youth remain engaged in agriculture almost as much as adults. While labor continues to gradually move out of agriculture, this shift has been overwhelmingly into services rather than industry, reinforcing the unique pattern of structural transformation in Africa. In most cases, the exit rate from agriculture and the entry rate into services remains similar across youth and adults, except in Ethiopia, where youth are leaving agriculture at slightly higher rates than adults. In Ethiopia, youth are clearly leading the structural transformation, with the young men exiting agriculture more rapidly than older men and entering both industry and services, while young women are leaving agriculture and mainly entering services. In Kenya, both youth and adults are exiting agriculture into services and industry at nearly equal rates over time. Despite some modest mobility of labor across sectors, we do not find major differences in the evolution of these mobilities across youth and adults in Nigeria, except that young women are underrepresented in industry relative to adult women. Finally, we find that young women had slightly higher participation in services than young men, with significant gender differences in these exit rates from agriculture and entry rates into nonagricultural employment.

Our findings contribute to ongoing debates on whether service-led structural transformation can sustainably absorb the youth bulge in Africa (Bhorat et al., 2025). Although the service sector continues to absorb youth in Africa, its performance in terms of engaging the youth appears to be volatile and insufficiently diversified. For example, Ethiopian services tend to be dominated by less-remunerative domestic chores and petty-trade, while the evolution of

service sector employment in Kenya indicates a gradual diversification toward higher-value service subsectors. Nigeria, in contrast, has experienced less diversification in the service sector. The gender differences in entry rates to services and industry suggest that Africa's ongoing structural transformation may generate distributional consequences if productivity gaps across sectors persist.

These findings offer important insights and challenge simplistic views that youth are leaving agriculture in "droves" and the perception that they play a "disproportionate" role in Africa's structural transformation. We show that the role of youth in this process is not universal but varies across countries and genders. Our results also indicate that, even where youth drive sectoral shifts in employment, young women rarely capture gains in industry to the same extent as young men. We emphasize that policies aimed at accelerating structural transformation in Africa should integrate and recognize the role of the youth, in the process, but acknowledge that their ability to lead hinges on targeted support and policy environments that address key entry and exit constraints, including gendered barriers to entry into high-quality jobs. Indeed, it has been shown that youth employment gains are not automatic, but contingent upon interventions that address behavioral and structural barriers such as information gaps, risk perceptions, and gendered access to productive resources (Beber et al., 2024). Only through such context-sensitive strategies can youth become drivers, rather than merely participants, in the structural transformation process.

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Appendix

Figure A1: Distribution of employment in service subsectors over the years

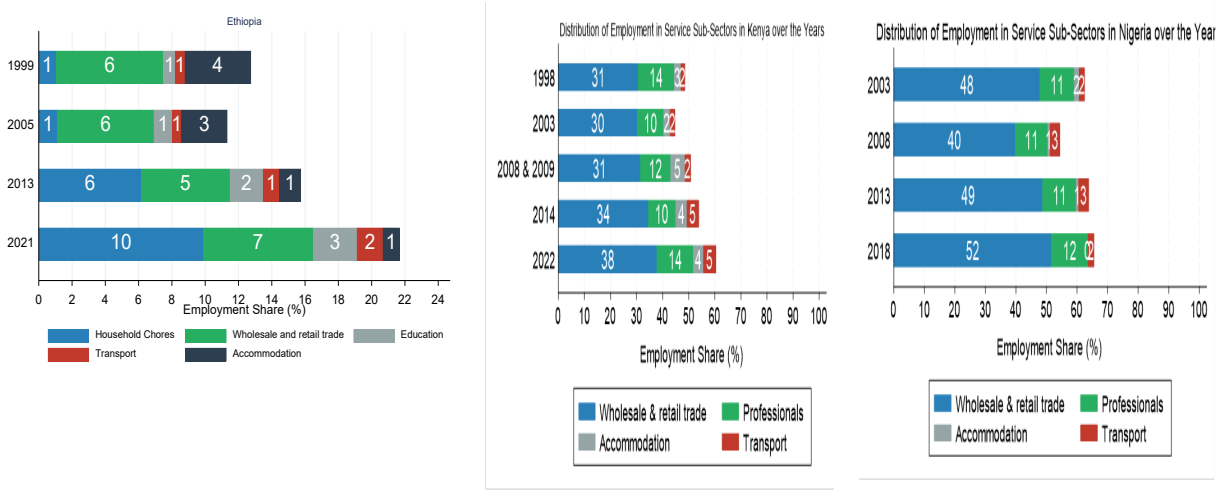
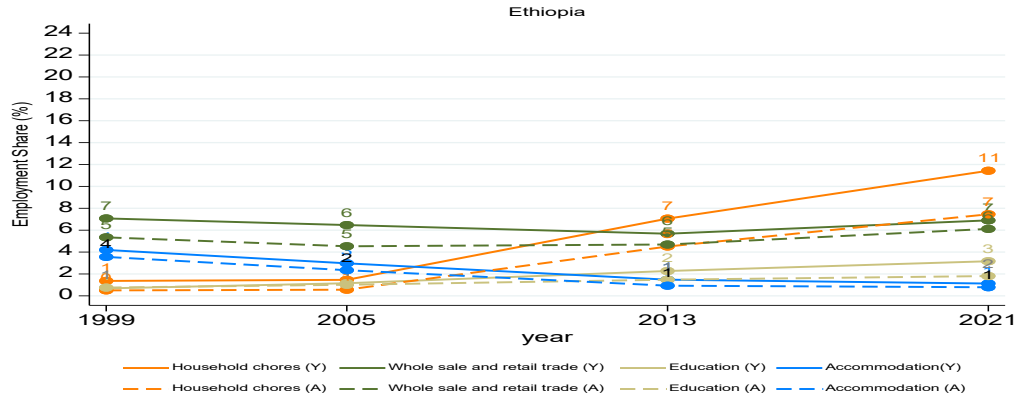
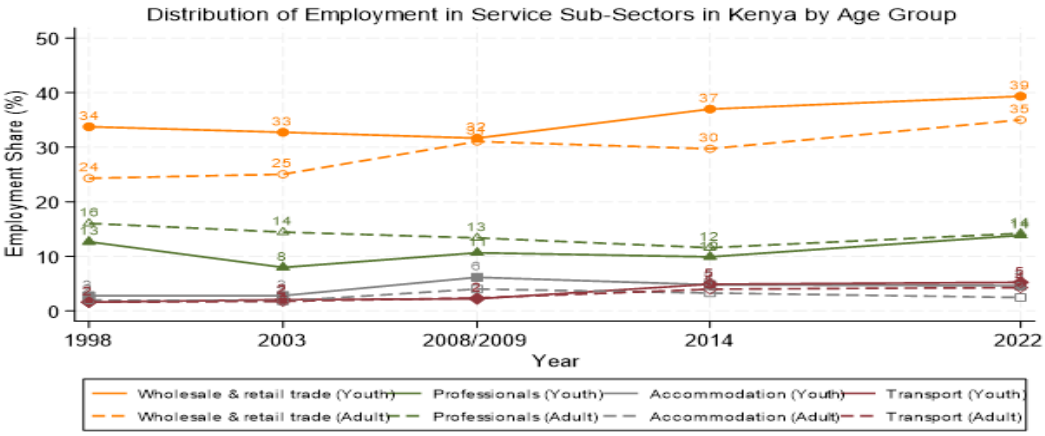


Figure A2: Distribution of employment in Service subsectors by age group





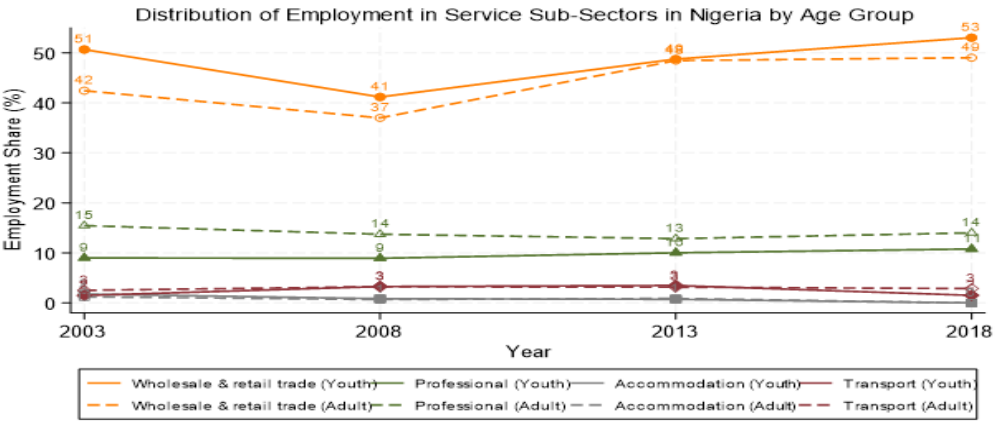
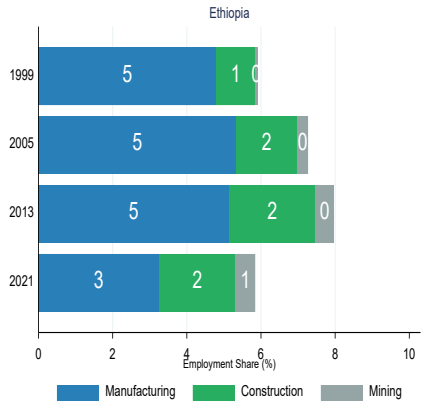
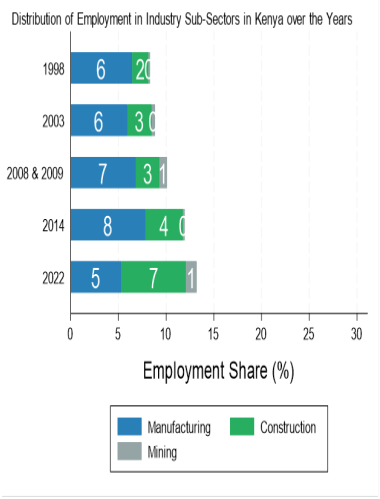


Figure A3: Distribution of employment in industry subsectors over the years





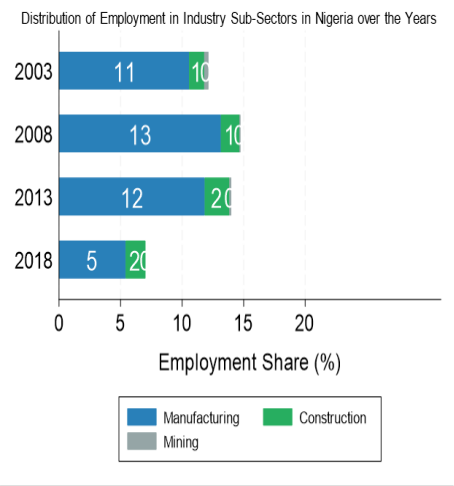
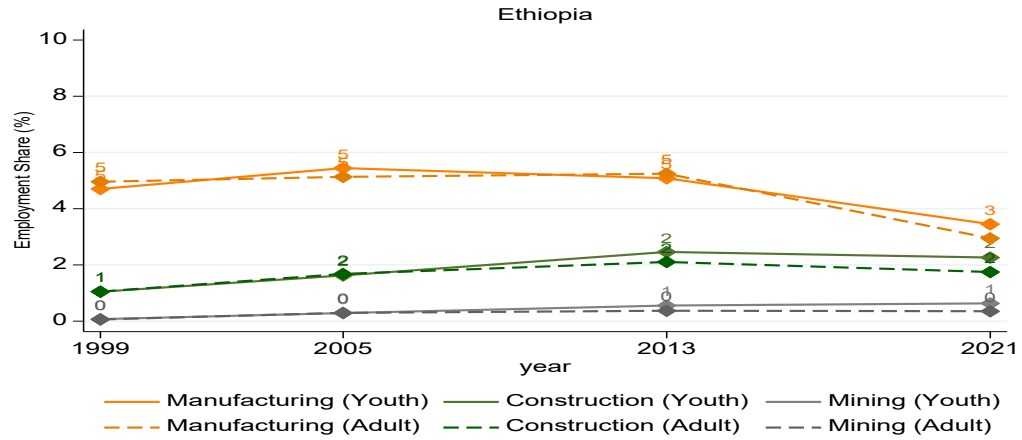
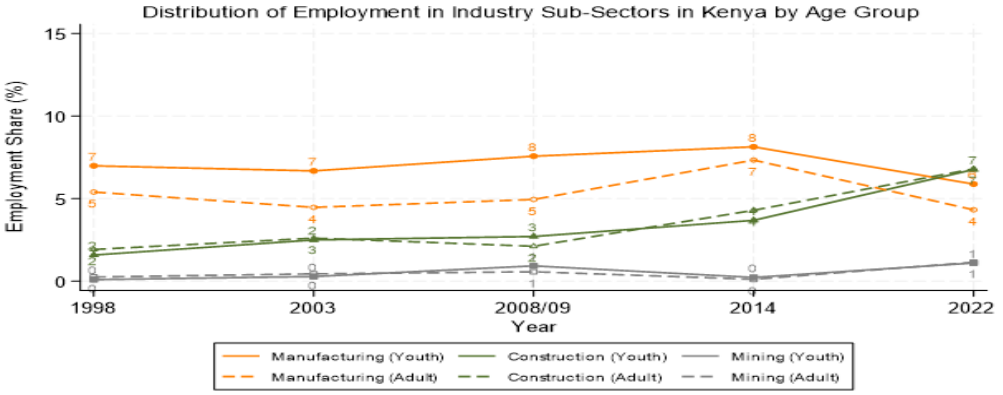


Figure A4: Distribution of employment in industry subsectors by age group





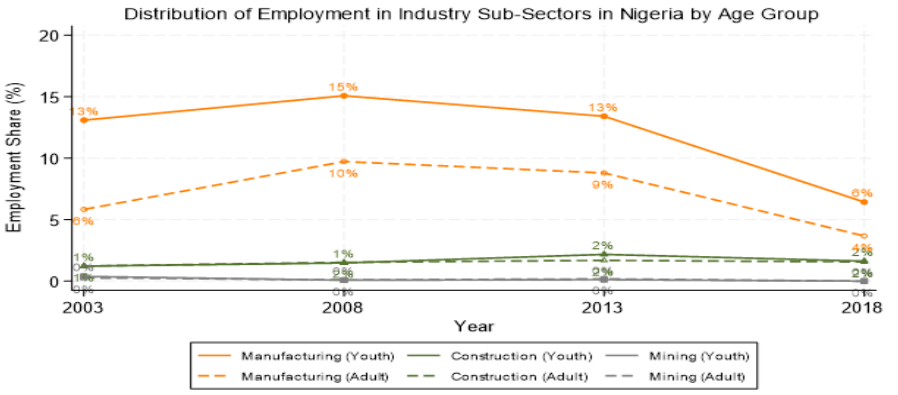


Table A1: Youth gender differences in sectoral shifts in employment in Ethiopia

Variable	Agriculture (1)	Service (2)	Industry (3)
Year = 2005	−0.03**	0.02*	0.01**
	(0.01)	(0.01)	(0.00)
Year = 2013	−0.08***	0.02**	0.03***
	(0.01)	(0.01)	(0.01)
Year = 2021	−0.16***	0.13***	0.03***
	(0.02)	(0.02)	(0.01)
Women	−0.15***	0.12***	0.03***
	(0.02)	(0.02)	(0.01)
Year = 2005 # women	0.05**	−0.05***	0.01
	(0.02)	(0.02)	(0.01)
Year = 2013 # women	0.00	0.02	−0.03***
	(0.03)	(0.03)	(0.01)
Year = 2021 # women	0.00	0.06**	−0.07***
	(0.03)	(0.03)	(0.01)
Region dummies	Yes	Yes	Yes
# observations	246,764	246,764	246,764

Note: The first round of the survey collection (1999) is used as the base year, and "male" as the base gender. The other survey rounds are 2005, 2013, and 2021. Youth is defined as those ages 15 to 35. The region dummy includes all the regions of Ethiopia covered in the survey. Standard errors, clustered at the *Zonal* administrative level, are reported in parentheses. * $p < 0.10$; ** $p < 0.05$, *** $p < 0.01$.

Table A2: Gender differences in sectoral shifts in employment in Kenya

Variable	Agriculture	Services	Industry
Female	0.07	0.02	−0.09***
	(0.05)	(0.05)	(0.02)
2003	0.06**	−0.07**	0.01
	(0.03)	(0.02)	(0.01)
2008/9	0.07**	−0.09***	0.02**
	(0.02)	(0.02)	(0.01)
2014	−0.00	−0.02	0.02
	(0.06)	(0.05)	(0.02)
2022	−0.06	−0.02	0.09***
	(0.04)	(0.03)	(0.02)
2003 # females	−0.02	0.02	−0.00
	(0.04)	(0.04)	(0.01)
2008/9 # females	−0.13*	0.13*	−0.00
	(0.07)	(0.06)	(0.02)
2014 # females	−0.06	0.08	−0.02
	(0.06)	(0.06)	(0.03)
2022 # females	−0.13**	0.21***	−0.08***
	(0.04)	(0.05)	(0.02)
Region dummies	Yes	Yes	Yes
# observations	42,426	42,426	42,426

Note: The first round of the survey collection (1998) is used as the base year. The other survey rounds are 2003, 2008/2009, 2014, and 2022. Youth is defined as those ages 15 to 35. The region dummies include eight provinces associated with Kenya's old constitution. Standard errors clustered at the province level, the first administrative level, are reported in parentheses. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Table A3: Gender differences in sectoral shifts in employment in Nigeria

Variable	Agriculture	Services	Industry
Female	−0.18***	0.23***	−0.05**
	(0.05)	(0.05)	(0.02)
2008	0.08**	-0.06**	−0.01
	(0.04)	(0.03)	(0.02)
2013	−0.00	0.04	−0.03*
	(0.04)	(0.03)	(0.02)
2018	0.07**	−0.01	−0.06***
	(0.04)	(0.04)	(0.02)
2008 # females	−0.01	−0.02	0.03
	(0.03)	(0.03)	(0.02)
2013 # females	−0.03	−0.03	0.06**
	(0.04)	(0.04)	(0.03)
2018 # females	−0.05	0.05	−0.01
	(0.04)	(0.05)	(0.03)
State dummies	Yes	Yes	Yes
# observations	75,271	75,271	75,271

Note: The first round of the survey collection (2003) is used as the base year. The other survey rounds are 2008, 2013, and 2018. Youth is defined as those ages 15 to 35. The region dummies include state-fixed effects associated with all of Nigeria's states. Standard errors clustered at the state level, the first administrative level, are reported in parentheses. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.