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WIDER Working Paper 2024/84

Is a move up the job ladder an escape from poverty?

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Abstract: Using panels of labour force surveys from Ghana, South Africa, Tanzania, Uganda, and India and a recent work status classification, we provide an in-depth analysis of labour mobility up or down the job ladder. This classification allows us to observe job transition possibilities across six work status groups. We examine factors driving upward mobility and probe its association with poverty. We find that people seldom transition from one work status to another across all countries. The prevalence of downward mobility is similar to upward mobility in the four African countries and India. Many remain in the same sector even after moving up the job ladder. Among those who move up the ladder, a considerable majority move into the service sector. Transition into industry remains very low. Additionally, environmental factors such as access to electricity, improved drinking water, sanitation, and housing in the African countries and access to health facilities and paved roads in India are associated with upward mobility. Moving up the job ladder is linked to the probability of reducing poverty in all countries. Workers in Ghana and South Africa who are upwardly mobile are 11.8 and 6.9 percentage points more likely to move out of poverty compared with a worker who does not experience such mobility, while in India, the corresponding estimate is 2.2 percentage points. This finding suggests that policies supporting upward mobility, including public goods provision, development finance, and initiatives that promote the growth of firms offering high quality jobs, can contribute to poverty reduction.

Key words: labour market mobility, jobs ladder, poverty, developing countries

JEL classification: J62, I30, O12

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1 Introduction

The labour market plays a key role in the growth and development process of countries. A healthy labour market is a means for households to improve their livelihoods and escape poverty. At the same time, labour market dynamics, in addition to changes in the workforce and production units of an economy, are associated with structural transformation, as workers move from subsistence jobs in agriculture to better-paid jobs in manufacturing and services (see Barro and Lee 2013; Donovan and Schoellman 2023; Herrendorf et al. 2014; Kuznets 1973). The movement of workers from low-paid, precarious jobs to better-paid jobs with good working conditions is an essential precondition for economic development and inclusive growth.

Earlier literature distinguished between formal jobs, which are well paid and secure, and informal jobs, where workers may be poorly paid and lack social security benefits and job security. More recent literature recognizes the heterogeneity of informal work, making a distinction between lower-tier informal jobs, which are at the lower end of the job distribution in terms of pay and benefits, and upper-tier informal jobs, which offer somewhat better pay and benefits (Choi et al. 2024; Sen 2024a). The literature also distinguishes between self-employment, often the employment of last resort in developing countries (see Donovan et al. 2023), and wage employment, each with its remuneration and type of job. An important contribution here by Fields et al. (2023), who developed a conceptual framework—called the *job ladder approach*—to categorize work status in developing countries. This framework allows for a disaggregated view of the labour market by occupation, formality status, and tiers in informality, thereby providing greater insight into the labour markets in developing countries. It has been applied to microdata in developing countries to understand movement up and down the job ladder. Studies show that most of the workforce in sub-Saharan Africa and South Asia is stuck in the lower-tier bracket (the bottom of the job ladder) (see Danquah et al. 2023; Natarajan et al. 2023). These jobs at the bottom of the ladder offer lower incomes, less security, and few entitlements and protections.

A key requirement for studying the mobility of workers along the job ladder is the availability of panel data consisting of at least two waves of data collection from two different time periods. This requirement constrains such analyses in developing countries, where data of this kind are often limited. A recent study by Fields et al. (2023) used panel data for 20 countries in Asia, Latin America, the Middle East and North Africa, and sub-Saharan Africa to examine how and why worker transitions occur along the job ladder. While the study provides a detailed description of worker characteristics at different steps of the job ladder and a comparative assessment of the rate of mobility across six different work statuses in 20 countries, it does not examine the specific pathways of sectors and occupations through which workers move up the job ladder, nor the poverty implications of such upward movements. From a policy perspective, it is essential to understand which sectors and occupations are stepping stones to higher worker mobility and whether movements up the job ladder can provide a route out of poverty.

In this paper, we build on the earlier study by Fields et al. (2023). Notably, we use panel data on four sub-Saharan African countries (Ghana, South Africa, Tanzania, and Uganda) and India to address three research questions: (i) which sectors and occupations provide a route to moving up the job ladder, (ii) which enabling factors are important for moving up the job ladder, and (iii) are movements up the job ladder an escape from poverty? The panel data enable tracking workers for spells between two waves of data. Using the panels, we apply descriptive methods to assess the frequency of labour market flows, from work status to work status along the job ladder and from unemployment to work across and within sectors, occupations, and different firm sizes. Next, we

look at some of the enabling factors for upward mobility. Finally, we examine the relationship between upward mobility and poverty.

We find that the rates of downward mobility are similar to upward mobility in all the countries, with higher levels of no change in work status. In Ghana, Tanzania, and Uganda, the main occupations through which people enter formal work are managers, professionals, and technicians; in South Africa, it is in occupations such as miners and manufacturing labourers (defined as elementary occupations in Table 1). Movements into formal work in India are primarily in clerical, services, and sales jobs. Environmental factors such as access to electricity, improved drinking water, sanitation, and housing in the sample from the African countries, as well as access to health facilities and paved roads in India, are correlated with the likelihood of moving up the job ladder. However, these factors may be correlates of unobserved factors that enable upward mobility rather than being the determinants of mobility themselves. Strikingly, moving up the job ladder is associated with a higher probability of reducing poverty in all the samples. Workers in Ghana, South Africa, and India who are upwardly mobile are 11.8, 6.9, and 2.2 percentage points more likely to move out of poverty, respectively, than workers who are not upwardly mobile.

Two recent studies on the job ladder are Donovan et al. (2023) and Choi et al. (2024). The first study uses rotating panels from 49 countries to examine movements into and out of marginal employment (self-employment and wage employment) and unemployment and whether this is correlated with economic development. The study finds that labour market flows are higher in developing economies and that workers frequently transition to and from marginal employment without climbing to or persisting in better-paying jobs. It primarily uses panels from middle-income countries. The poorest country in the sample is the Philippines, which had a per capita gross domestic product of 4,000–4,700 PPP dollars at the time of the study. There are only two sub-Saharan countries in their sample—Botswana and South Africa. Our paper includes panels from one lower-income country (Uganda), two lower-middle-income countries (Ghana and Tanzania) in sub-Saharan Africa, and India and South Africa, which Donovan et al. (2023) also included. We extend the analysis by Donovan and colleagues by examining the association between upward mobility and poverty.

The second related study by Choi et al. (2024), which likewise uses the job ladder framework to examine whether net shifts from lower-tier informal jobs to formal jobs are associated with poverty declines. Their study uses unbalanced panels constructed at the country-year level for 89 countries, drawing from repeated cross-sectional household and labour force surveys, and their estimates on the relationship between mobility and poverty are presented at the global level. They found that net transitions from lower-tier to upper-tier informal jobs are strongly associated with poverty declines, relative to transitions to formal jobs. This suggests that mobility within the informal sector may be more important for poverty reduction than movement from the informal to the formal sector. Our paper contributes to this literature by assessing the association between upward mobility and poverty declines in our sample of three countries—Ghana, South Africa, and India—where we have panel data on worker mobility and poverty. Unlike the Choi et al. (2024) study, which uses cross-country panel data, we use individual worker-level panels at the country level that allow us to consider unobserved, time-invariant worker-level characteristics that may influence both mobility and poverty, while taking into account country-level heterogeneities.

The remainder of the paper proceeds as follows. Section 2 provides the method, description of the data, and variables used for the study. Section 3 presents the key findings, and Section 4 discusses the results and the main takeaways.

2 Methods, description and source of data

Using panels of labour force surveys from Ghana, South Africa, Tanzania, Uganda, and India, we utilize the work status classification by Fields et al. (2023) to examine labour mobility up or down the job ladder across sectors, enterprise sizes, and occupations. The schema by Fields et al. (2023) begins with the standard categories used in national labour statistics: the working-age population, classified as employed, unemployed, or out of the labour force. Workers may be self-employed or wage-employed, depending on their occupational position. Different work conditions are associated with self-employment and wage employment. Wage employees experience an employer–employee relationship, which the self-employed do not.

Both the self-employed and wage-employed can be in formal or informal work. Within informal employment, job or activity characteristics allow the classification of workers into upper-tier or lower-tier work.[1] Therefore, any individual who is employed can be in one of six possible work status groups at a given point in time: (i) formal self-employed, (ii) formal wage-employed, (iii) upper-tier informal self-employed, (iv) upper-tier informal wage-employed, (v) lower-tier informal self-employed, and (vi) lower-tier informal wage-employed. Upper-tier informal self-employed workers include informal employers and individuals with technical and vocational training (such as plumbers and electricians). These are activities where there are some barriers to entry, such as the need for financial capital (to become an employer) or certain skills (such as the professional certification needed by plumbers and electricians) (see Fields et al. 2023). Lower-tier informal workers are 'free entry' employment (Fields 2019). These are primarily own-account workers and contributing family workers, examples of which include street vendors and waste pickers.

In wage employment, upper-tier informal work comprises wage work that provides some de facto benefits (though not as generous as those provided to formal wage workers) or occupations needing prior training or skills. These could include informal workers employed in formal enterprises, with some benefits (e.g., annual leave) but without access to social security benefits or who have temporary contracts. Lower-tier informal work comprises low-paid casual wages and is often associated with activities requiring a high degree of manual labour such as agricultural labour or construction activities in cities, where workers are employed on a day-to-day basis.

Workers can switch from one work status to another over time. This paper also tracks movements from unemployment to the upper rungs of the job ladder. The schema allows for a combination of movements across occupational positions, formality states, and tiers, thus allowing for a complex set of job–job transition possibilities across all six work status groups. A diagrammatic overview of definitions for the categorization of work status by Fields et al. (2023) is presented in Figure 1.

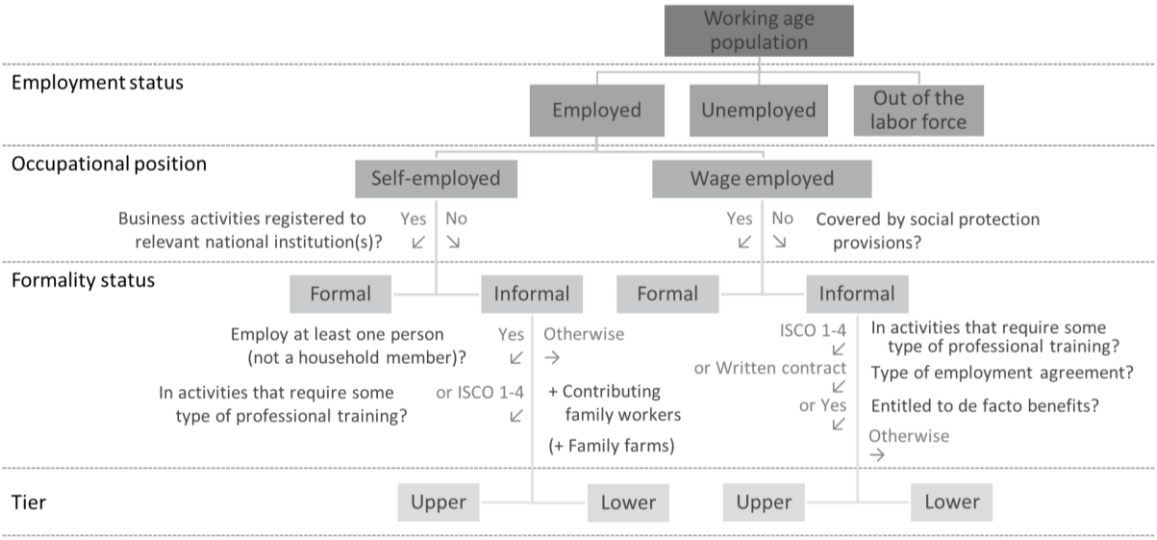
Figure 2 depicts the job ladder in any developing country's labour market. Formal jobs are at the top of the ladder, with the best-paid and most secure jobs. Upper-tier informal jobs may not be as well paid or do not provide social security benefits like formal jobs; however, they tend to be associated with higher wages than lower-tier informal jobs.[2] Lower-tier informal jobs are the worst paid and the most insecure. The job ladder framework allows us to assess the number of jobs at

[1] Fields et al. (2023) mainly identify job quality variation within informal employment. However, there are also job ladders within the formal sector (e.g., worker to supervisor to middle manager) and future research could focus on such within-sector mobility using task-based analysis to understand formal sector career progressions.

[2] This is clearly seen in the country studies in Fields et al. (2023), where jobs on the higher rungs of the ladder have higher earnings. However, we should not expect formal jobs to pay better than upper informal jobs in all cases.

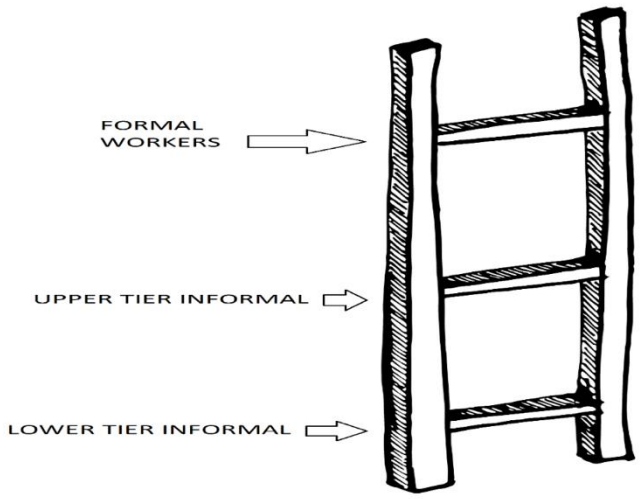
different tiers of the labour market, and the occupations and sectors that workers move to at higher rungs of the job ladder. Using panel data also allows us to assess how likely it is for workers to move up from the lower rungs of the job ladder to the upper rungs. Finally, the job ladder framework facilitates the exploration of whether movements up the ladder can help people escape poverty and identifies the enabling factors that may contribute to this process.

Figure 1: Work status classification



Source: reproduced from Fields et al. (2023: 10, Figure 1.1), under the terms of the Creative Commons licence CC-BY-NC-SA 3.0 IGO.

Figure 2: The job ladder



Source: authors' illustration, reused from Sen (2024b: 23, Figure 8).

Following the International Labour Organization (ILO) 2018 definition, Fields et al. (2023) define informal employment as work lacking legal recognition or protection, where workers do not have secure employment contracts, benefits, social protection, or representation. Unregistered enterprises fall under the category of informal self-employment. In contrast, enterprises registered

with national or state authorities like social security, sales, or income tax authorities are classified as formal self-employment. Within wage employment, the formal wage employees are workers with secure employment contracts, workers' benefits, social protection, or workers' representation, and the informal wage employees are those without such arrangements. Upper-tier informal self-employed are classified as self-employed workers with unregistered business activities who employ at least one non-household member or engage in activities that require some professional training [defined by the International Standard Classification of Occupations (ISCO) groups 1–4, covering managers, professionals, technicians, and clerks].[3] Other non-professional, own-account workers with unregistered business activities are classified as lower-tier informal (examples of which are street vendors and waste pickers). Among the wage employees not covered by social protection provisions (who are classified as informal workers, in line with the ILO definition), those in professions that require some type of professional training (ISCO 1–4) are categorized as upper-tier informal as they are in 'restricted entry' jobs. In addition, workers with a written employment agreement or entitled to de facto benefits, such as paid sick leave or maternity leave, are placed in this category. The remainder are classified as lower-tier informal.[4]

In this paper, the primary variable is the work status of an individual. On the job ladder, the work status of an individual can be described as 1=informal lower-tier (IF L); 2=informal upper-tier (IF U); and 3=formal (F). The ladder has informal lower-tier workers at the bottom, informal upper-tier workers in the middle, and formal workers at the top. Using the work status variable and two-period panel data, we construct a labour market flow or transition variable to capture work status mobility, both downwards and upwards. We identify movements up or down the ladder, indicating moving up or down one or two rungs. Downward mobility (−1) is a movement from formal to informal upper tier or lower tier or from informal upper tier to lower tier (see Table 1). Upward mobility (1) is a movement from informal lower tier to informal upper tier or formal or from informal upper tier to formal. We analyse this within and across sectors and business sizes. Furthermore, we analyse the frequency of transitions from unemployment to the upper rungs of the job ladder.

However, due to data limitations, we cannot distinguish between employment types (wage and self-employment) in all transition analyses, particularly for the four African countries.

We use a probit model to understand the factors enabling upward mobility. The model we estimate takes the following form:

$$UPM_{it} = \alpha ENV_{it} + \beta CTR_{it} + u_{it} \quad (1)$$

The dependent variable, upward mobility (*UPM*), is binary (1 if upward mobility is observed and 0 otherwise). The model computes the relative likelihood of individuals advancing on the job ladder, conditional on selected environmental factors (*ENV*) and control variables (*CTR*). To ensure that we are locating factors that existed before people experienced upward mobility, we rely on baseline characteristics from the first wave of the survey. This strategy helps us to isolate the influence of environmental factors and firm characteristics on driving upward mobility without being influenced by subsequent changes in individual conditions. For the African countries, specifically Ghana and South Africa, where data are available, the environmental factors (*ENV*) include access to electricity, drinking or main water sources, sanitation facilities, and housing

[3] In several of the African countries in our sample, there are relatively few managers given the small size of the formal sector, so for these countries, most individuals in ISCO groups 1–4 will be technicians and clerks.

[4] The definitions of the work status variables are taken verbatim/directly from Fields et al. (2023).

characteristics. On the other hand, for India, the environmental factors are six village-specific variables, which include health facilities, paved roads, distance to the nearest town (in kilometres), the percentage of households with electricity in the village, and land productivity (measured as the ratio of gross irrigated area to gross cropped area).[5] The control variables (*CTR*) differ marginally by region: in Africa, we include education, gender, age, place of residence, and consumption expenditure, whereas in India, we consider age, gender, education, marital status, and social group. It should be noted that the probit model focuses on relative likelihoods at the individual level, implying it computes the likelihood of an individual advancing on the job ladder based on baseline characteristics rather than the absolute number of individuals transitioning upwards in a sector or a region. Thus, our analysis focuses on the factors influencing upward mobility at the individual level and their relative importance, regardless of the sector size.

Probit regressions are also used to examine the correlation between upward mobility (*UMP*) on the job ladder and poverty (*POV*):

$$POV_{it} = \alpha UPM_{it} + \beta CTR_{it} + u_{it} \quad (2)$$

The dependent variable is consumption poverty (*POV*) (1 if poor, 0 otherwise), obtained from the second wave of data from Ghana and South Africa. The independent variable is upward mobility (*UPM*). Education, gender, age, place of residence, and consumption expenditure are the control variables (*CTR*) included in the model for African countries. In India, poverty (*POV*) is defined as a binary variable, with a value of 1 for individuals whose per capita consumption is below the official poverty line and 0 otherwise. The control variables for India are education, age, gender, marital status, and social group. In Table 1, we provide a detailed description of the variables used in the study.

Table 1: Variables definition

Variable	Description
Work status	Job ladder: 1=informal lower-tier (IF L); 2=informal upper-tier (IF U); 3=formal (F)
Work status mobility	−1=downward mobility (F→IF U/IF U→IF L/F→IF L) 0=no change 1=upward mobility (IF L→IF U/IF U→F/ IF L→F)
Sector: aggregated	Broad categorization: 1=agriculture; 2=industry; 3=service
Sector: disaggregated	The economic sector is based on ISIC revision 3.1; details are provided in Appendix Table A1
Size of firm (Africa)	Total number of employees in wage or self-employment, available for GH, SA, and TZ: 1=micro-enterprises (no employee), 2=micro-enterprises (1–4 employees), 3=micro-enterprises (5–9 employees), 4=small enterprises (10–49 employees), 5=medium-sized and large enterprises (50+ employees).
Size of firm (India)	Four size categories based on the number of hired workers: PHEs=pure household enterprises (with no hired workers); MHEs=mixed household enterprises (with 1–5 hired workers); NHEs=non-household enterprises (with 6–9 hired workers); and FS=formal sector firms (with ten or more hired workers)
Occupation (Africa/India)	ISCO-08 major groups: 1=managers, professionals, technicians (managers, professionals, and technicians and associated professionals), 2=Clerical, service and sales workers (clerical support workers and services and sales workers), 3=Skilled agricultural and trades workers (skilled agricultural, forestry and fishery workers, and craft and related trades workers), 4=plant and machine operators, and assemblers (plant and machine operators and assemblers), 5=elementary occupations (manufacturing, construction, agricultural labourers, street vendors, and domestic cleaners)[a]

[5] A village is a small rural settlement, larger than a hamlet but smaller than a town. The first three variables were constructed as binary variables.

People	
Age in years (India)	1=15–29, 2=30–49, 3=50–65
Family size	Number of household members
Gender	1=female, 0=male
Education	1=no schooling (reference group), 2=lower primary, 3=primary, 4=secondary, 5=higher secondary, 6=graduation
Marital status	1=married, 0=unmarried (separated, divorced, widowed, never married)
Social group (India)	1=forward caste; 2=OBC; 3=SC and 4=ST
Place of residence	1=urban, 0=rural
Environmental factors in Ghana and South Africa	
Electricity access	1=has electricity access, otherwise 0
Drinking water source (Ghana)	Main drinking water source: • 0=unimproved: surface drinking water sources, unprotected dug well, unprotected spring, cart with small tank/drum, and tanker truck (reference group) • 1=improved: public or private taps/standpipes, tube wells or boreholes, protected dug wells, protected springs, rainwater collection
Main water source (South Africa)	Main water source: 1=tap water in-house or on plot (improved), 0=otherwise
Sanitation facility (Ghana)	Type of toilet facility used by household: • 0=open defecation (unimproved) • 1=acceptable type shared between two or more households or privately owned, pit latrines without a slab or platform, hanging latrines, or bucket latrines (improved)
Sanitation facility (South Africa)	Type of toilet facility available to household: 1=flush toilet with onsite or offsite disposal, chemical toilet, or pit latrine with ventilation pipe, 0=otherwise
Housing type (Ghana)	Housing type: 1=modern: bungalow, semi-detached house; apartment, 0=otherwise
Village-level factors in India	
Access to school	1=presence of a secondary school, 0=otherwise
Access to health facilities	1=access to any health facility such as a primary health centre, community health centre, district hospital, private hospital, and so on, 0=otherwise
Distance to town	Distance to the nearest town in kilometres
Paved roads	1=access to pucca road, 0=otherwise
Percentage of households with electricity	Percentage of households with electricity access in total households in the village
Land productivity	The ratio of gross irrigated area to gross cropped area
Relative poverty measure in Ghana, South Africa, and India	
Consumption poverty (Ghana)	Household aggregate consumption expenditure per adult equivalence: 1=poor (<25th percentile of consumption expenditure), otherwise 0
Consumption poverty (South Africa)	Real household consumption expenditure per capita: 1=poor (<25th percentile of consumption expenditure), 0=otherwise 0
Consumption poverty (India)	Based on household monthly consumption per capita: 1=poor (<Tendulkar Committee poverty line), 0=otherwise

Note: [a] refer to the International Standard Classification of Occupations (ISCO), ILOSTAT.

Source: authors' compilation.

Data are sourced from two successive household panel surveys conducted in four African countries—Ghana, South Africa, Tanzania, and Uganda. The specific surveys used are described in Table 2. These surveys are nationally representative household panels that collect information on various topics, including household composition and characteristics, individual demographic characteristics, and socioeconomic activities (see Appendix to Danquah et al. 2019). The sample

comprises a balanced panel of 8,222 individuals aged 15–65 years, for whom work status information is present. For individual countries such as Uganda, the sample size is low (e.g., 771 individuals), so care must be taken to interpret the findings for these countries.

Table 2: Survey data sources and relevant sample (African countries)

Country	Survey	t_0	t_1	*N*=8,222	Percentage that transitioned	
					Unweighted	Weighted
Ghana	GSPS	Wave I (2009/10)	Wave II (2013/14)	1,170	37.7	38.3
South Africa	NIDS	Wave IV (2014/15)	Wave V (2017)	4,531	30.6	29.5
Tanzania	TZNPS	Wave II (2010/11)	Wave III (2012/13)	1,750	31.8	32.3
Uganda	UNPS	Wave II (2010/11)	Wave III (2011/12)	771	30.1	29.3

Note: GSPS, Ghana Socioeconomic Panel Survey; NIDS, National Income Dynamics Study; TZNPS, Tanzania National Panel Study; UNPS, Uganda National Panel Study. Panel weights were available for all but the GSPS; hence, population weights were applied in the case of Ghana.

Source: authors' compilation.

In India, longitudinal data from two waves of the India Human Development Survey in 2004–05 and 2011–12 are used (see Table 3). This nationally representative, multi-topic survey collected information at both household and individual levels. Households were selected using stratified random sampling, and data related to the household and its members were typically collected from the male head of the household. The longitudinal panel, originally comprising 150,983 individuals, is refined to a final sample of 60,329 individuals aged 15–65 years, focusing on those of prime working age.

Table 3: Survey data sources and relevant sample (India)

Country	Survey	t_0	t_1	*N*	Percentage that transitioned	
					Unweighted	Weighted
India	IHDS	Wave I (2004/05)	Wave II (2010/11)	60,329	33.8	33.1

Note: IHDS, India Human Development Survey. The final sample concentrates on individuals aged 15–65 years within the prime working age, excluding unemployed individuals, and eliminates those with missing values for essential variables.

Source: authors' compilation.

3 Key findings

We first start with an overview of the distribution of occupations and worker characteristics at different rungs of the job ladder. This analysis is followed by assessing work status mobility to understand transitions up and down the job ladder. We proceeded to present the results on the enabling factors for upward mobility and the association between upward mobility and poverty rates.

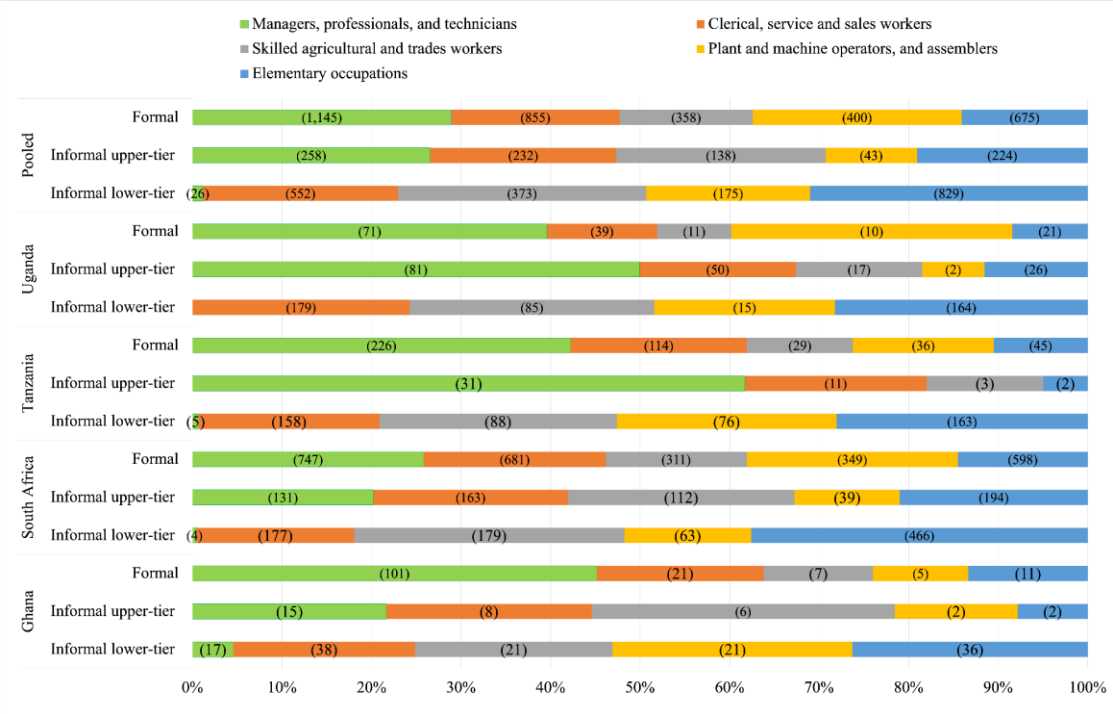
3.1 Descriptives

We begin by examining the distribution of occupations by work status in the African countries and in India. Due to data limitations, we do not distinguish between employment types (wage employment and self-employment) for the African countries.

Across labour force surveys, formal jobs are most associated with managers, professionals, and technicians, followed by clerical, service, and sales workers in Ghana and Tanzania and by plant and machine operators and assemblers in South Africa and Uganda (see Figure 3). Informal upper-

tier jobs are dominated by managers, professionals, and technicians in Tanzania and Uganda, and skilled agricultural and trades workers in Ghana and South Africa. Finally, informal lower-tier jobs have the most elementary occupation workers in all the countries except Ghana, where elementary occupations are second to plant and machine operators and assemblers by a small margin.

Figure 3: Distribution of occupations by work status in four African countries



Note: row percentages reported. Absolute numbers in parentheses.

Source: authors' estimates.

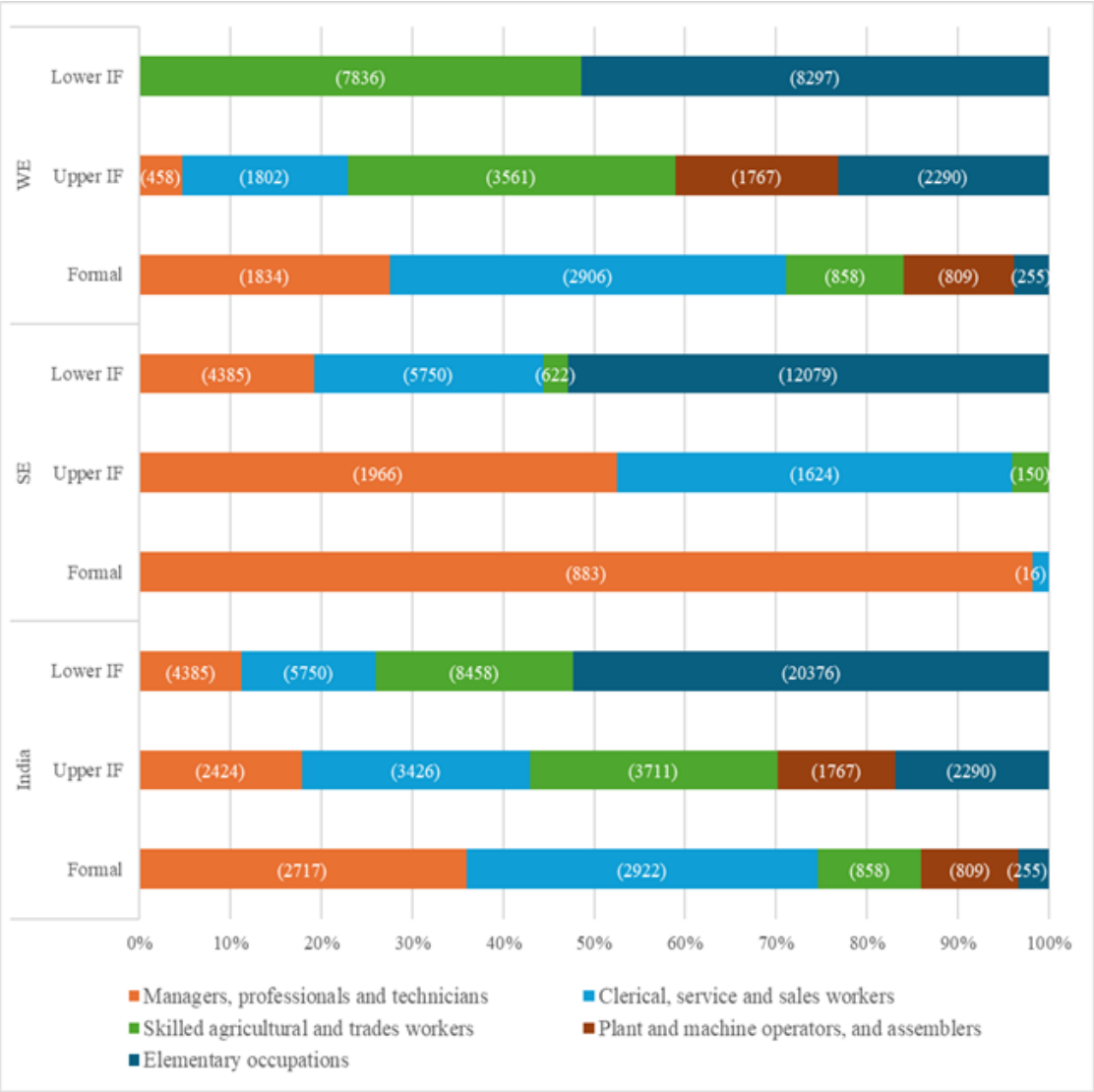
In India, where we have adequate data, we present the primary occupations across different tiers of the job ladder, with a breakdown for self-employed and wage-employed individuals (Figure 4). Formal sector workers are predominantly engaged in occupations such as managers, professionals, technicians, clerical staff, and services and sales roles. Together, they constitute about three-quarters of the formal sector workforce. In the informal sector, elementary occupations dominate the lower tier. At the same time, skilled agricultural and trades workers and clerical, services, and sales workers are prevalent in the upper tier. This pattern is consistent with observations from the four African countries.

Among self-employed individuals, managers, professionals, and technicians form a substantial portion of the formal sector; the informal upper tier sees prominence in professionals, clerical, services, and sales-related roles. The lower tier informal primarily consists of elementary occupations, clerical, services, sales-related jobs, and some administrative roles. For wage-employed individuals, the formal sector mainly comprises managers, professionals, and technicians, and those in clerical, services, and sales-related jobs. In the upper tier, wage-employed individuals primarily engaged in occupations such as skilled agricultural and trades workers, clerical, services, sales workers, and elementary occupations. In the lower tier, wage-employed individuals are drawn mainly from elementary occupations and jobs related to the farming sector.

The findings reveal a clear difference between formal and informal sector jobs in India. In the formal sector, self-employed and wage-employed workers are primarily engaged in professions such as managers, professionals, and technicians, indicating higher human capital requirements.

On the other hand, the informal sector displays a divide, with elementary jobs dominating the lower tier. In contrast, the upper tier includes a broader range of occupations, such as skilled agricultural and trades jobs, clerical roles, and sales professions. This occupational distribution mirrors the pattern observed in the four African countries, highlighting similar structural challenges in managing formal and informal employment across developing economies.

Figure 4: Distribution of occupations by work status in India



Note: WE, wage-employed; SE, self-employed; Formal, formal sector; Upper IF, upper informal sector; Lower IF, lower informal sector. Absolute numbers indicate the individual count in each work status. The estimates are obtained without sample weights. Elementary occupations refer to unskilled and semi-skilled workers in agriculture, mining, and other related sectors.

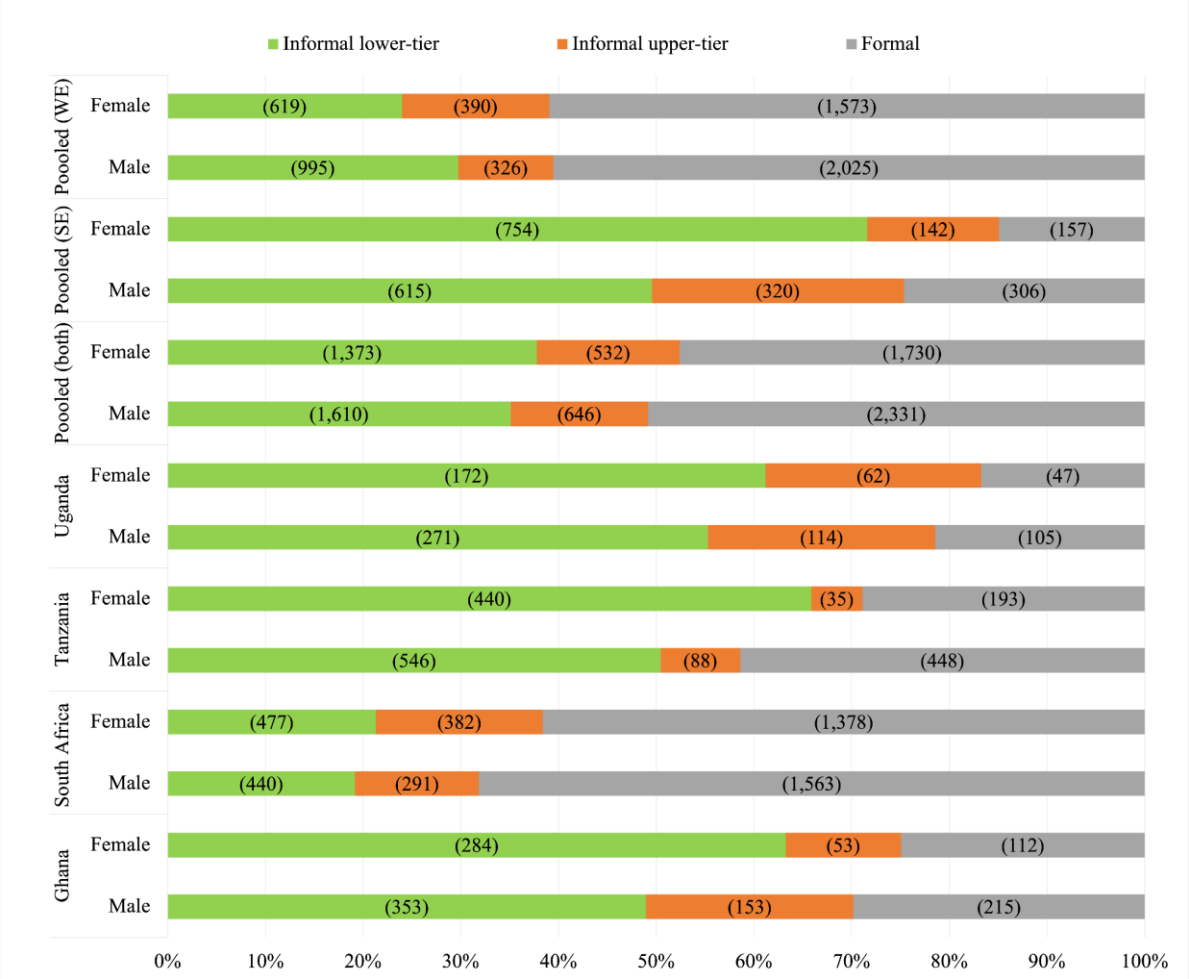
Source: authors' estimates.

Concerning worker characteristics across different rungs of the job ladder, we focus on characteristics such as gender and education for both the African countries and India, as well as social groups for India.

The data suggest that more women than men are employed in the informal lower-tier jobs in the country-by-country profile for Africa (this difference is not as stark in the pooled sample); men dominate the formal work and women are more likely to be in informal work. Similar trends are observed in all four African countries. Aside from South Africa, which has more than half of its

participants employed in formal work, most people are employed in informal lower-tier jobs across genders. The gender gap in informal lower-tier employment is more significant in Ghana than in Tanzania and Uganda. Further, disaggregation by type of employment reveals that more women are employed in informal lower-tier self-employed jobs than in informal lower-tier wage-employed jobs. About the same proportion of men and women are employed in formal wage jobs (Figure 5).

Figure 5: Distribution of individuals across work status categories for each gender



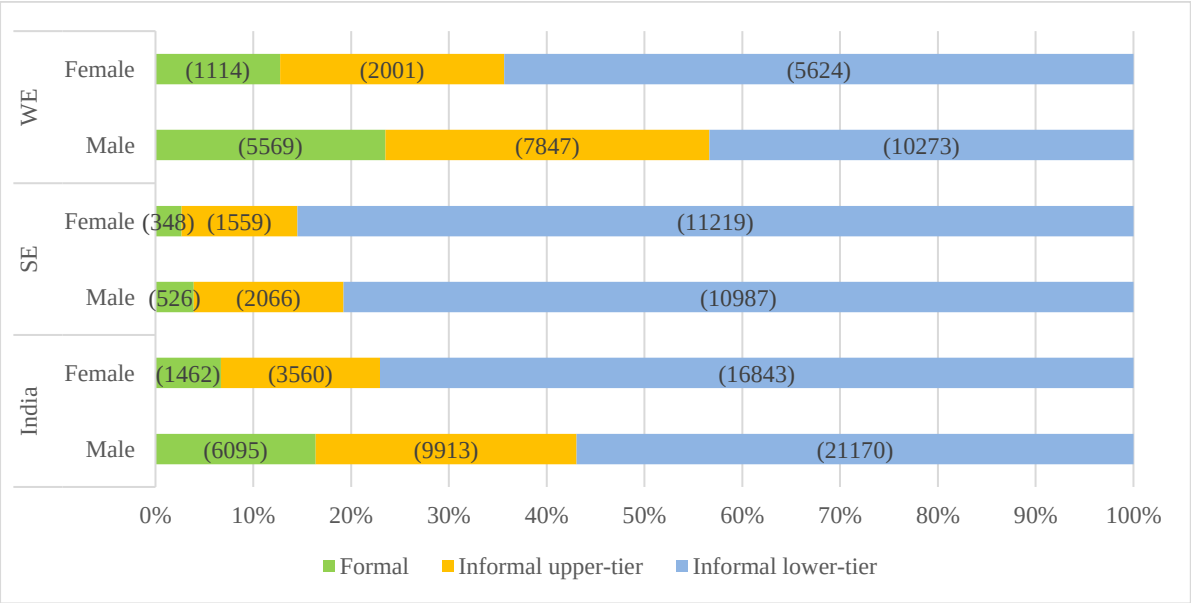
Note: WE, wage-employed; SE, self-employed. Row percentages reported.

Source: authors' estimates.

In the African countries, people with higher education dominate formal jobs; those with no or lower levels of education dominate informal jobs. Higher education is more relevant to formal wage employment than formal self-employment (Appendix Figure A1).

Consistent with the findings for the African countries, in India, women are underrepresented in both formal and upper-tier informal sectors and are concentrated mainly in lower-tier informal jobs (Figure 6). Educated workers are mostly found in the formal sector, and less-educated workers dominate informal jobs (see Appendix Figure A2). This phenomenon is more evident among the wage-employed, where fewer graduates (not less than three-quarters) are engaged in formal sector jobs.

Figure 6: Distribution of individuals across work status categories for each gender in India



Note: WE, wage-employed; SE, self-employed, Absolute numbers indicate the individual count in each work status. The estimates are obtained without sample weights. .

Source: authors' estimates.

For India, the social group one belongs to partly explains their position on the job ladder. Forward castes are more likely to be employed in formal jobs than marginalized groups [(scheduled castes (SCs), scheduled tribes (STs), and other backward castes (OBCs)]. Around 40 per cent of forward castes are in the formal sector. In comparison, this share is much lower for OBCs (18.9 per cent), SCs (15.2 per cent), and STs (12.7 per cent) (Figure 7). In contrast, marginalized castes have a higher presence in lower-tier informal jobs, indicating that they face significant barriers to accessing formal employment.

In summary, we find that vulnerable groups—including women, those less educated, and marginalized castes—continue to dominate lower-tier informal jobs. These groups face considerable challenges in accessing formal sector opportunities, suggesting persistent structural barriers that limit their upward mobility and formalization despite age and education playing a role in improving formal sector participation.

Figure 7: Distribution of individuals across work status categories for each social group in India

Note: WE, wage-employed; SE, self-employed. Absolute numbers indicate the individual count in each work status. The estimates are obtained without sample weights. The estimates are for the second wave of the survey data.

Source: authors' estimates.

3.2 Labour mobility analysis

This section presents general mobility trends and describes the sectors and business sizes associated with upward mobility. We also discuss the nature of jobs or occupations of people who enter formal work. Mobility patterns from unemployment to the upper rungs of the job ladder are also discussed. In the sample from the four African countries, 31.8 per cent of the 8,222 participants experienced changes to their employment status, either upwards or downwards, during the study period. The distribution of mobility shows that downward mobility is as likely as upward mobility in all four African countries.[6] Further, most individuals face no change in their work status, as around 62–69 per cent of the sample stay the same (Table 4).

Table 4: Distribution of work status mobility by country in sub-Saharan Africa

Country	Downward mobility	No change	Upward mobility
Ghana	18.2	62.3	19.5
South Africa	14.1	69.4	16.5
Tanzania	13.9	68.2	17.8
Uganda	15.2	69.9	14.9

Source: authors' estimates.

[6] This finding of a high rate of downward mobility is similar to Donovan et al. (2023).

In India, aggregate mobility from 2005 to 2012 stood at 33 per cent, evenly split between upward and downward transitions. However, downward mobility dominates among the self-employed, whereas upward mobility is more common among the wage-employed (Table 5). As observed in the African countries, mobility tends to be primarily single-step rather than double-step. This finding applies to both wage-employed and self-employed individuals.

Table 5: Distribution of mobility by work status in India

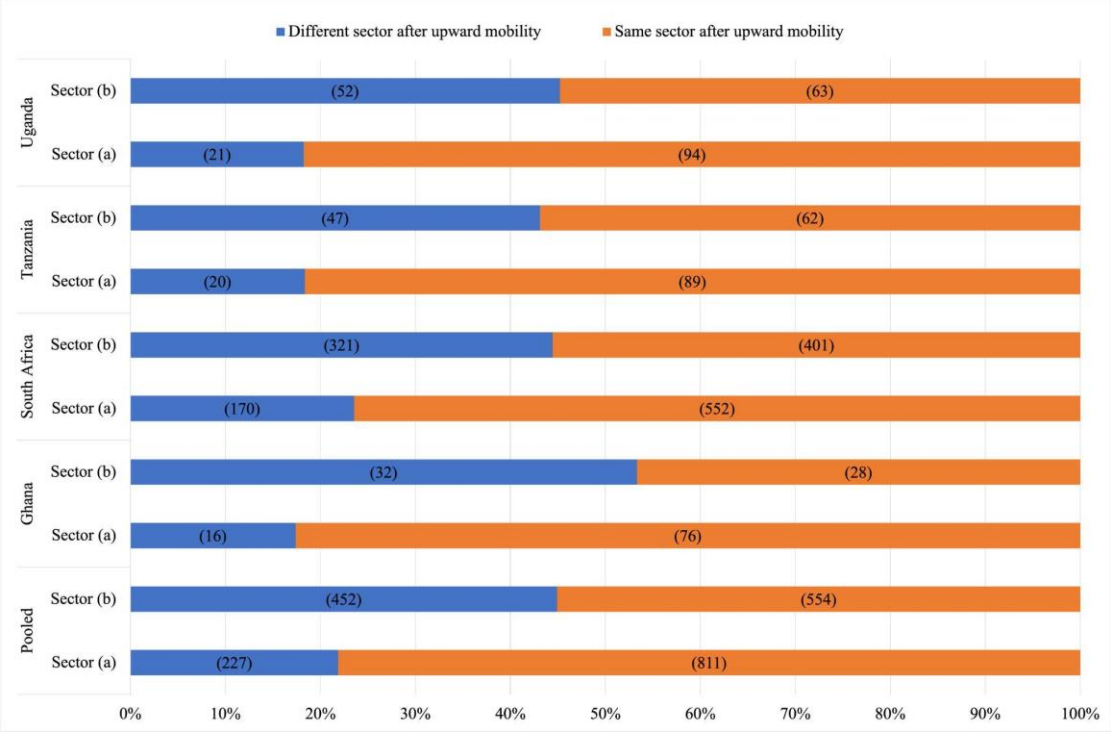
Country	Downward mobility	No change	Upward mobility
India	16.2	66.8	16.9
Self-employed	8.0	73.1	18.9
Wage-employed	24.2	60.8	15.1

Notes: work status is categorized into three groups: lower-tier informal, upper-tier informal, and formal.

Source: authors' estimates.

Regarding sectors associated with high upward mobility, a more significant proportion of individuals in the data from the African countries remained in the same sector after moving up the ladder (Figure 8). As expected, this trend is more prominent when using a broad sectoral categorization, which classifies sectors into agriculture, industry, and services [denoted by Sector (a)] than when using disaggregated sectors [denoted by Sector (b)]. The disaggregated sectors are listed in Appendix Table A1 and follow the ISCO one-digit classification. There are 18 disaggregated sectors, where we break down the three broad sectors—agriculture, industry, and services—into their respective sub-sectors. More movement exists between sub-sectors within the same sector than between broader sectors.

Figure 8: Distribution of individual's sector status after upward mobility in Africa



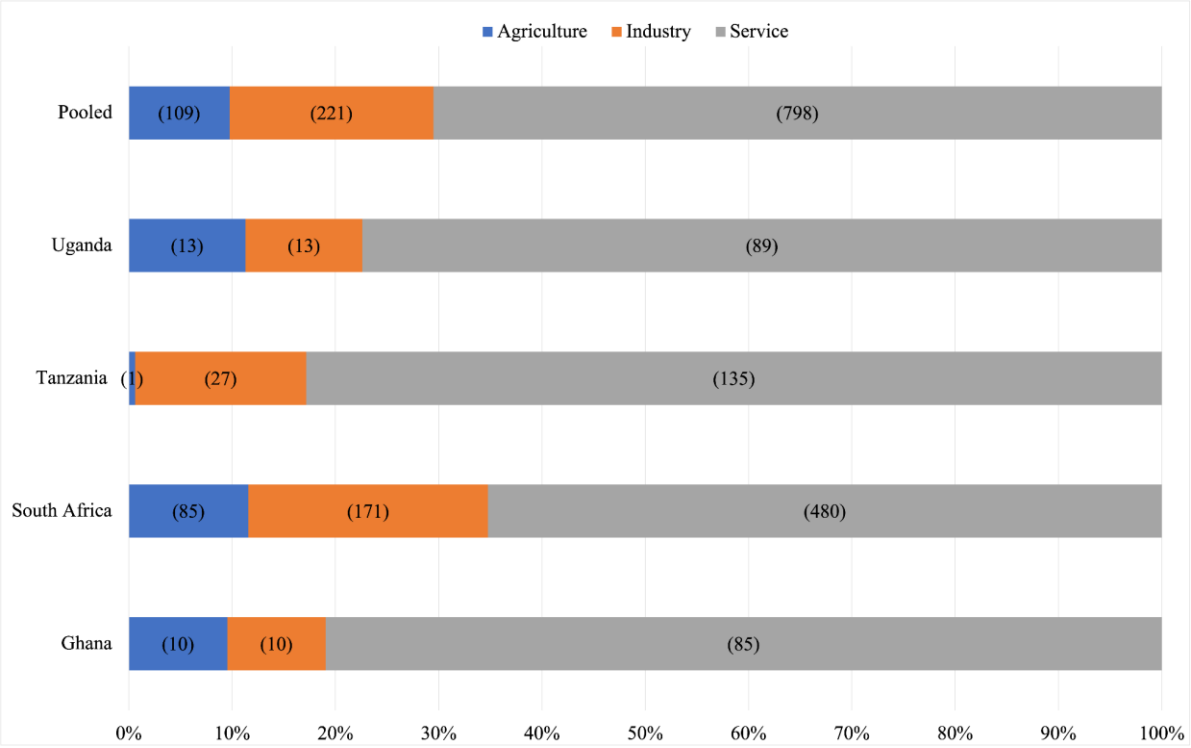
Note: Sector (a) is the movement to or within broad sectors—agriculture, industry, and services. Sector (b) is the movement to or within 18 disaggregated sectors. See the list of sectors in Appendix Table A1. Column percentages are reported, and absolute numbers are in parentheses. Analysis excludes individuals with missing sector data in both waves.

Source: authors' estimates.

For the four sub-Saharan African countries, Figures 9A and 9B present the sectors people move into following upward mobility, either from the same or a different sector. Both row and column percentages and the absolute values are reported. While the column percentages (Figure 9A) report the sectors' contribution to upward mobility, the row percentages (Figure 9B) show what percentage of movements in the sectors are upward.[7]

Data from the four African countries suggest that the service sector is associated with higher upward mobility than agriculture or industry. Across sectors, the service sector accommodates more upward movers, while movement into agriculture is low, especially in Tanzania. Except for South Africa, movements into industry, particularly in Ghana and Uganda, are also low. Labour mobility within sectors is balanced for all sectors (Figures 9A and 9B).

Figure 9A: Distribution of upward mobility across Sector (a) in Africa

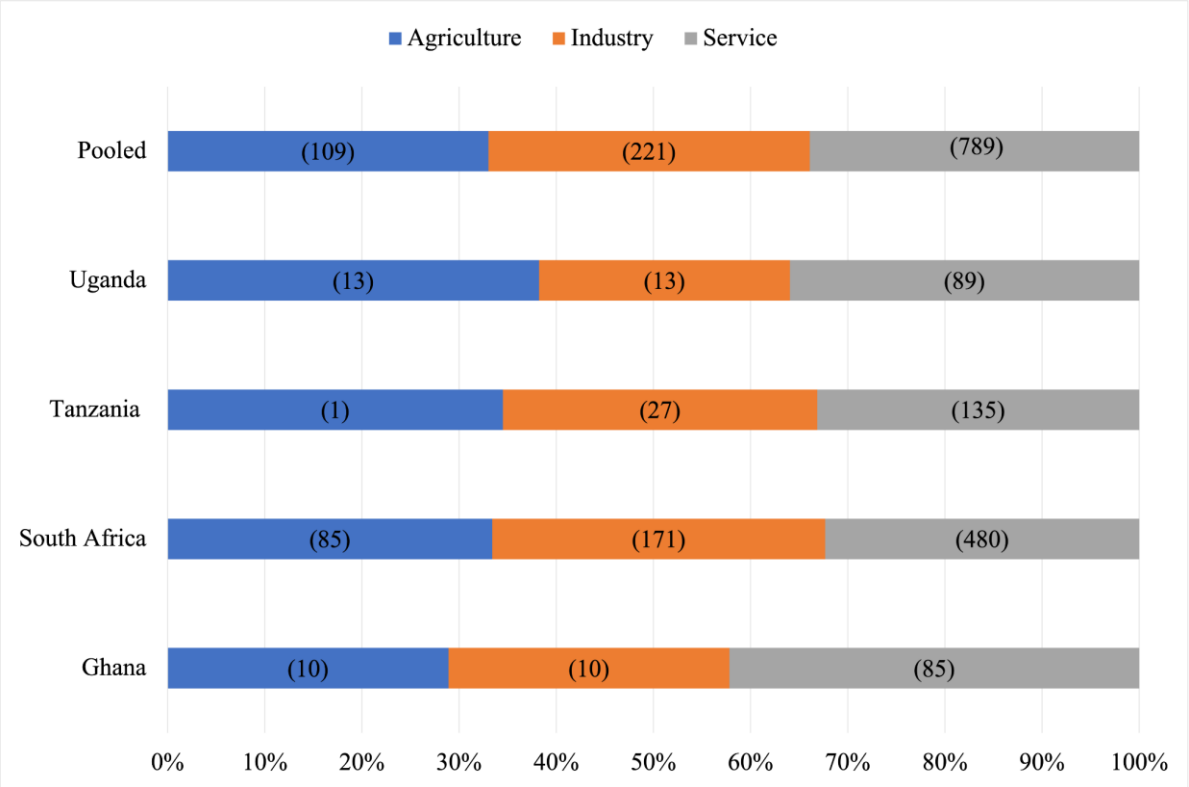


Note: Column percentages reported; absolute numbers in parentheses.

Source: authors' estimates.

[7] It is important to note that the sample sizes for some countries are quite small. For instance, in Ghana, there are only about 50 individuals entering formal employment. This small sample size should be taken into account when interpreting the results.

Figure 9B: Distribution of upward mobility within Sector (a) in Africa



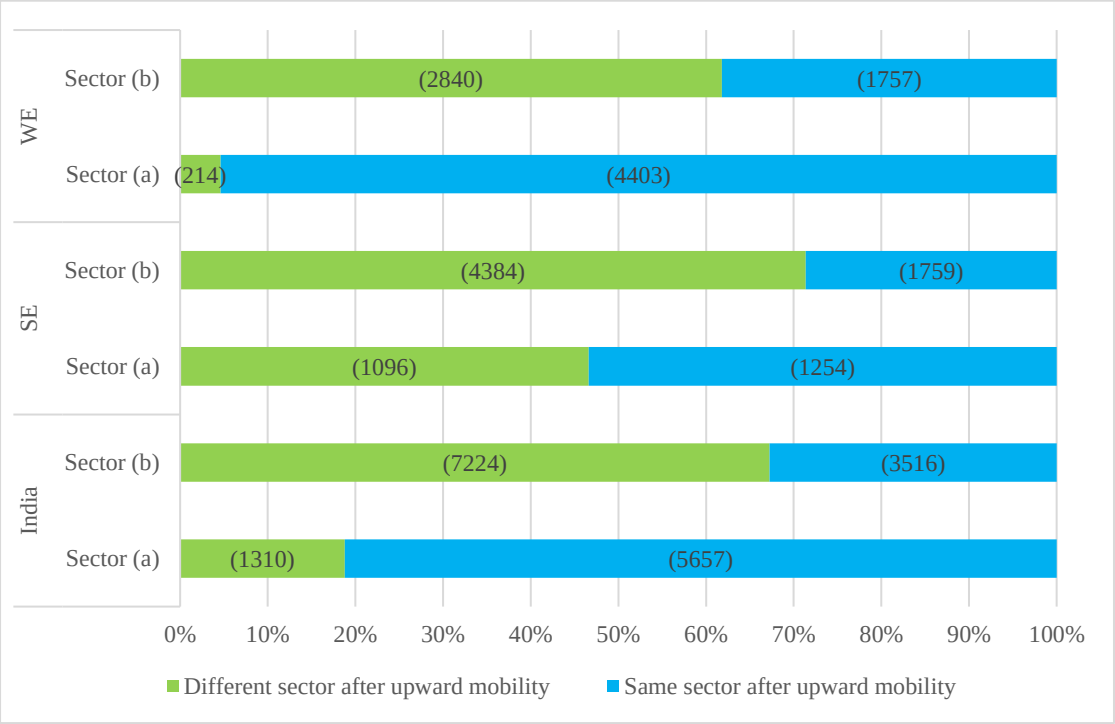
Note: Row percentages reported; absolute numbers in parentheses.

Source: authors' estimates.

For India, we examine upward mobility across and within sectors. Figures 10A and 10B present the sectors people transition into following a climb, either from the same sector or another. Sector (a) denotes a broad sectoral categorization of agriculture, industry, and services, while Sector (b) denotes disaggregated sectors or sub-sectors (listed in Appendix Table A1). Both row and column percentages as well as absolute values are reported. Column percentages (Figure 10B) represent the contribution of each sector to overall upward mobility, while row percentages (Figure 10C) show the percentage of upward movements within each sector. Similar to the trends observed in the sample from the African countries, a large share of workers in India remain in the same sector as they advance up the job ladder when we use a broad sectoral classification. At the national level, over 80 per cent of workers stay within the broader sectors they belong to. However, when using a more disaggregated classification, as in Africa, we see more movement of workers between specific sub-sectors.

Upward mobility across sectors is predominantly concentrated in the agricultural and services sectors (Figure 10B). Over 40 per cent of individuals experiencing upward mobility move into these sectors, while only 18.1 per cent move into the industrial sector. This pattern is consistent for the self-employed, though the services sector sees a marginal increase at the expense of the industrial sector (Figure 10B). However, when examining upward mobility within sectors, the share is higher in industry and services compared with the agricultural sector (Figure 10C). About 20 per cent of workers in services and industry experience upward mobility compared with 15 per cent in agriculture.

Figure 10A: Distribution of individual's sector status after upward mobility in India



Note: WE, wage-employed; SE, self-employed. Sector (a) is movement to or within broad sectors—agriculture, industry, and services. Sector (b) is the movement to or within 18 disaggregated sectors. See the list of sectors in Appendix Table A1. Absolute numbers are in parentheses. The estimates are obtained without sample weights.

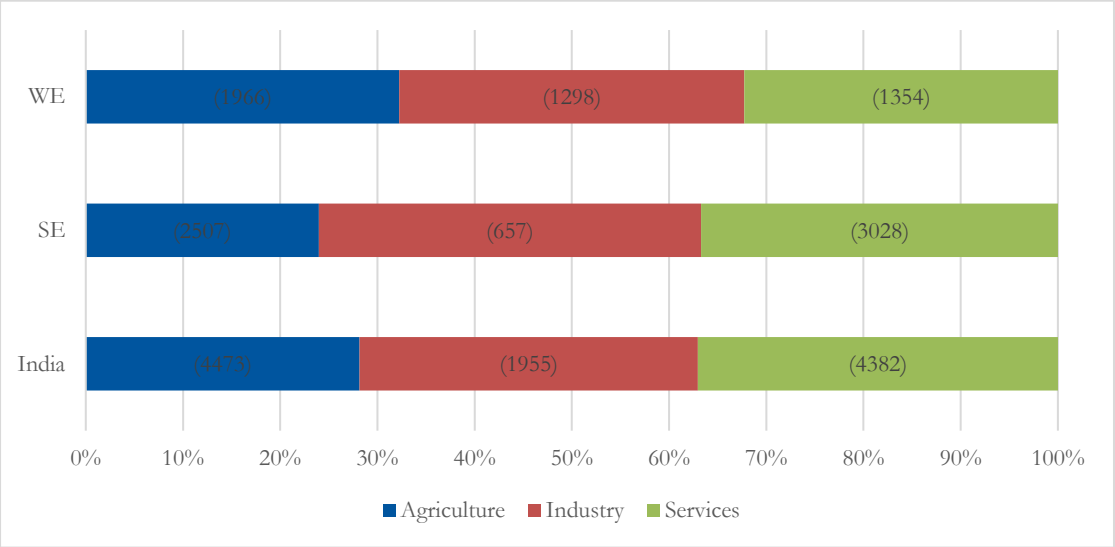
Source: authors' estimates.

Figure 10B: Upward mobility across sectors in India

Note: WE, wage-employed; SE, self-employed. Column percentages are reported and absolute numbers are in parentheses.

Source: authors' estimates.

Figure 10C: Upward mobility within sectors in India



Note: WE, wage-employed; SE, self-employed. Row percentages are reported and absolute numbers are in parentheses.

Source: authors' estimates.

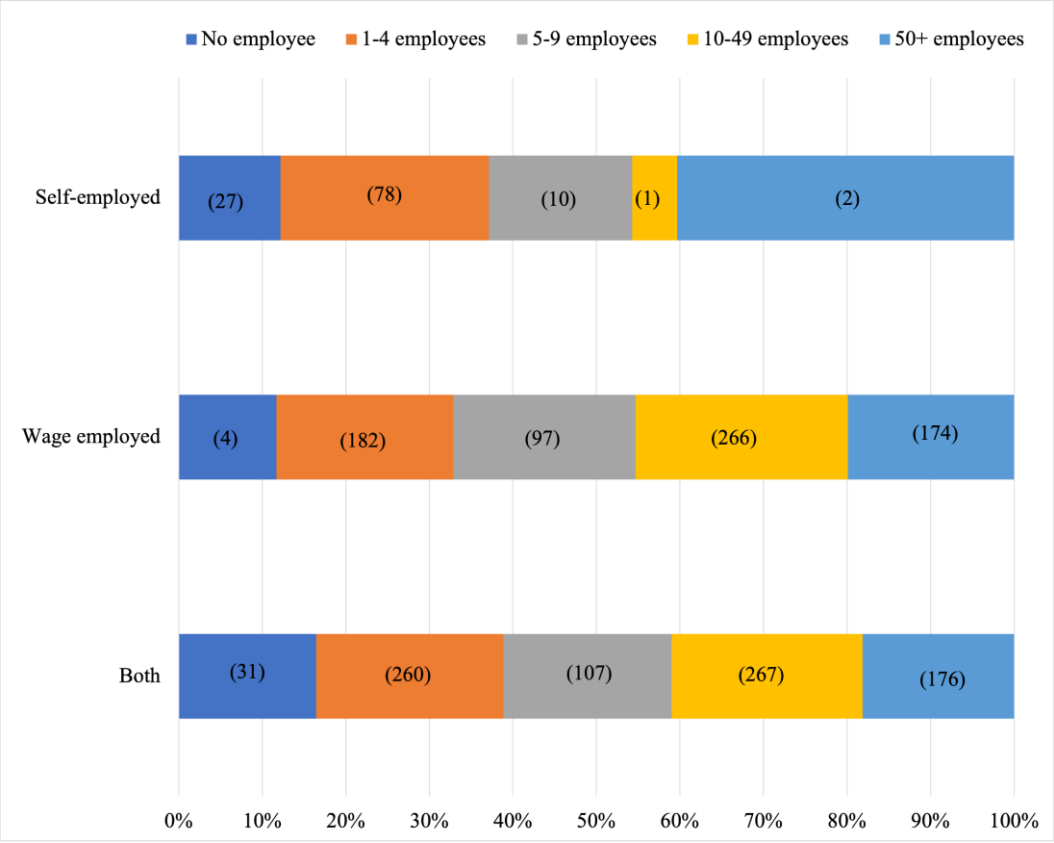
We show the distribution of upward mobility by firm size to understand whether businesses of a particular size are more likely to help people up the job ladder (Figure 11). Due to data limitations, the analysis in the African countries is restricted to Tanzania and South Africa. Our firm size categories are (i) no employees (own-account enterprises), (ii) 1–4 employees, (iii) 5–9 employees, (iv) 10–49 employees, and (v) 50 or more employees. The limited number of firms with over 49 workers influenced our construction of the firm size categories. Column and row percentages are presented in Figures 11A and 11B, respectively, with absolute values provided in parentheses. The column percentages show the contribution of different firm sizes to upward mobility, and the row percentages show the proportion of upward mobility observed within each firm size. Data from the African countries suggest that businesses with 1–4 and 10–49 employees are likelier to help people up the job ladder than the rest. In Tanzania, movements are primarily into businesses with 10–49 employees, while in South Africa, the movements are split between businesses with 1–4 employees and those with 10–49 employees. The disaggregated analysis further reveals that the first (1–4 employees) is more significant to self-employment. The latter (10–49 employees) relates more to wage employment. Worker mobility remains more significant among businesses with 1–4 and 10–49 employees.

Figure 11A: Distribution of upward mobility by firm size in Africa

Note: SE, self-employed; WE, wage-employed. Column percentages are reported and absolute numbers are in parentheses. Since 'No employee' suggests the absence of any workers, the four individuals who reported being employed in a firm with 'no employee' may have made an error.

Source: authors' estimates.

Figure 11B: Distribution of upward mobility within firm size categories (pooled data from Africa)

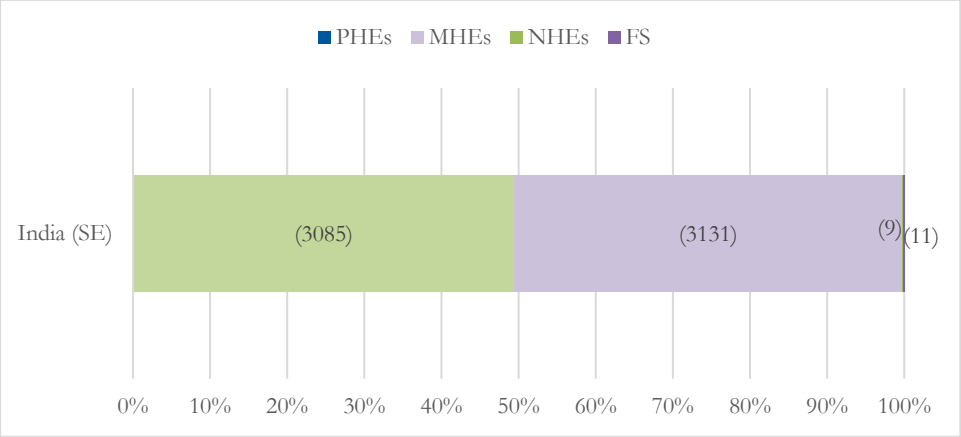


Note: SE, self-employed; WE, wage-employed. Row percentages are reported and absolute numbers are in parentheses. Since 'No employee' suggests the absence of any workers, the four individuals who reported being employed in a firm with 'no employee' may have made an error.

Source: authors' estimates.

The distribution of upward mobility by firm size in India is presented in Figure 12. Column and row percentages are reported in Figures 12A and 12B, respectively. The column percentages show the contribution of different firm sizes to upward mobility, and the row percentages show the proportion of upward mobility observed within each firm size. The findings show that businesses with no hired workers (i.e. pure household enterprises, PHEs) and those with 1–5 hired workers (i.e. mixed household enterprises, MHEs) are more likely to help people climb the job ladder than businesses with 6–9 hired workers (directory manufacturing enterprises, DMEs) (Figure 12A). This suggests that self-employed individuals in PHEs and MHEs are more likely to see their businesses grow in size than those in the DMEs category. Within businesses, worker mobility is more significant in PHEs and MHEs (Figure 12B).

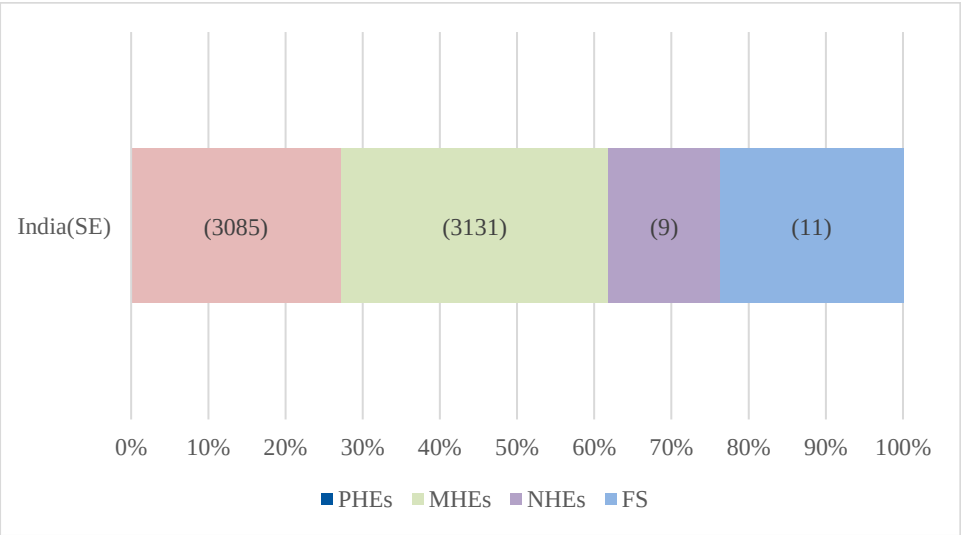
Figure 12A: Upward mobility across firm size categories in India



Note: SE, self-employed; PHEs, pure household enterprises (with no hired workers); MHEs, mixed household enterprises (with 1–5 hired workers); NHEs, non-household enterprises (with 6–9 hired workers); FS, formal sector firms (with 10 or more hired workers). Column percentages are reported. Absolute numbers indicate the count of individuals in upward mobility. The estimates are obtained without sample weights.

Source: authors' estimates.

Figure 12B: Upward mobility within firm size categories in India



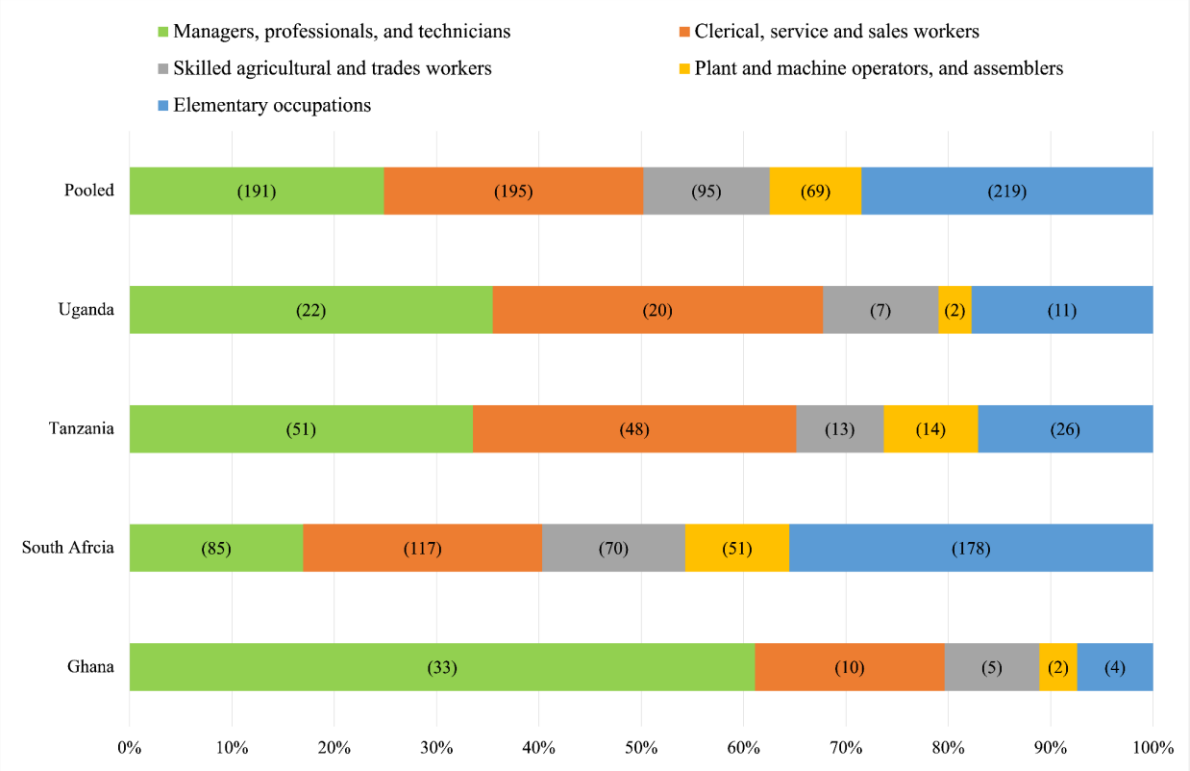
Note: SE, self-employed; PHEs, pure household enterprises (with no hired workers); MHEs, mixed household enterprises (with 1–5 hired workers); NHEs, non-household enterprises (with 6–9 hired workers); FS, formal sector firms (with 10 or more hired workers). Row percentages are reported. Absolute numbers indicate the count of individuals in upward mobility. The estimates are obtained without sample weights.

Source: authors' estimates.

We further examine the nature of occupations or jobs people transition to when moving to formal work. This involves analysing the transition frequency to understand how workers advance on the job ladder. We also look at the occupations at the upper rungs of the job ladder into which unemployed individuals transition.

This analysis is restricted to individuals who have entered formal work. Therefore, we report column percentages. The top occupations through which people enter formal work in Ghana, Tanzania, and Uganda are (i) managers, professionals, and technicians, and (ii) clerical, service, and sales workers (Figure 13). These two occupations account for almost 70 per cent of formal sector entries in these countries. Surprisingly, elementary occupations (which are mining and manufacturing labourers, in most part) rank first in South Africa, followed by clerical, services, and sales work. South Africa significantly influences the pooled data results.

Figure 13: Share of occupations in formal sector entry in Africa (unweighted)

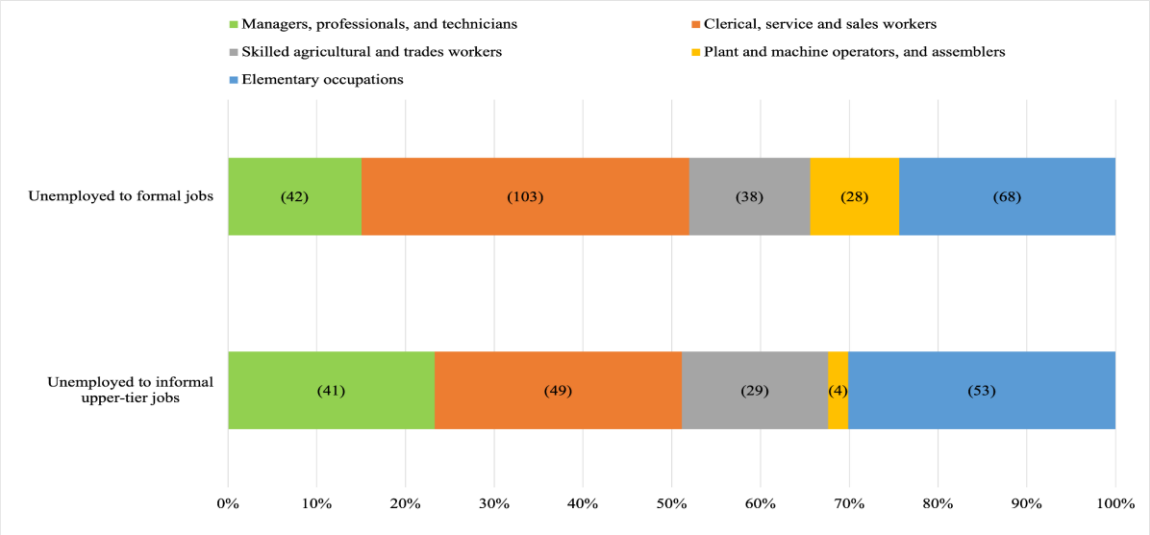


Note: column percentages are reported and absolute numbers are in parentheses.

Source: authors' estimates.

We additionally explore mobility patterns from unemployment to informal upper-tier and formal work. Specifically, we consider individuals who were unemployed in Wave 1 and obtained employment in Wave 2. Restricting this analysis to pooled data for Africa, we find that while most unemployed individuals who enter formal work engage in clerical, services, and sales roles, those who end up in the informal upper-tier segment predominantly secure elementary occupations (Figure 14). We also observe that, excluding South Africa, movement from the lower to upper tier and from unemployment to the lower tier of the labour market is more common.

Figure 14: Entry into upper-tier and formal occupations by unemployed individuals in Africa (unweighted)

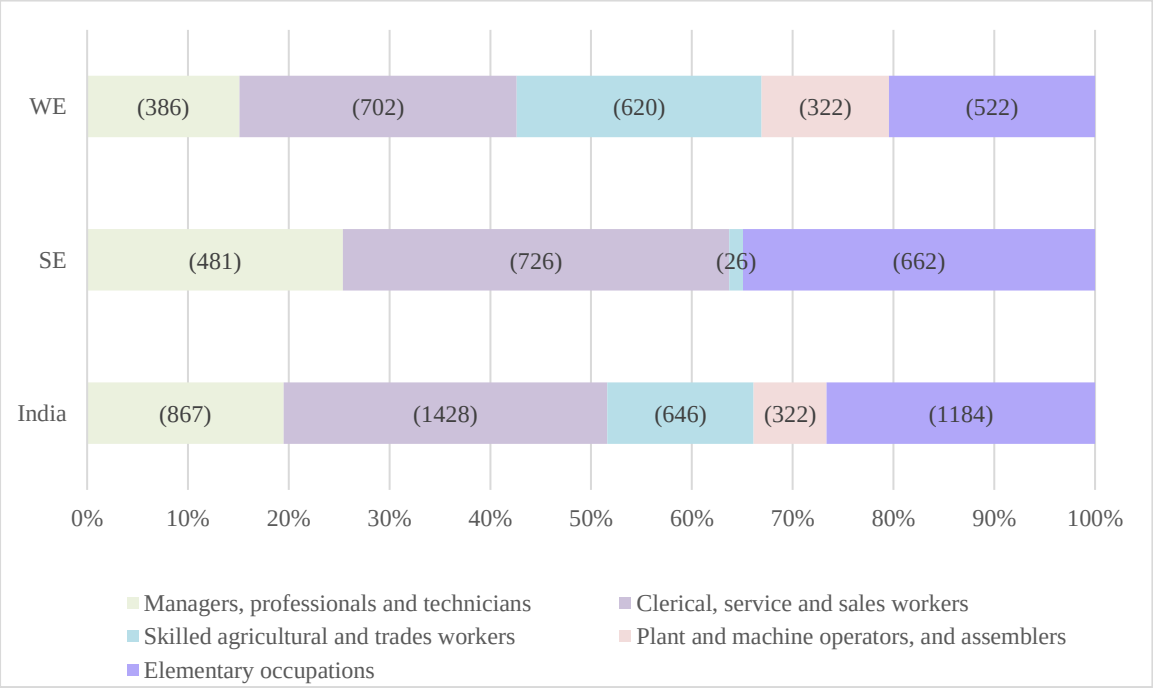


Note: column percentages are reported and absolute numbers are in parentheses.

Source: authors' estimates.

For India, Figure 15 displays key occupations facilitating workers' entry into formal work, distinguishing between self-employed and wage-employed individuals. Unlike the patterns observed in the African countries, entry into formal work in India is mainly through clerical, services, and sales jobs, along with elementary occupations. These occupations are common among self-employed and wage-employed individuals. However, wage-employed individuals also include skilled agricultural and trade work.

Figure 15: Share of occupations in formal sector entry in India (unweighted)



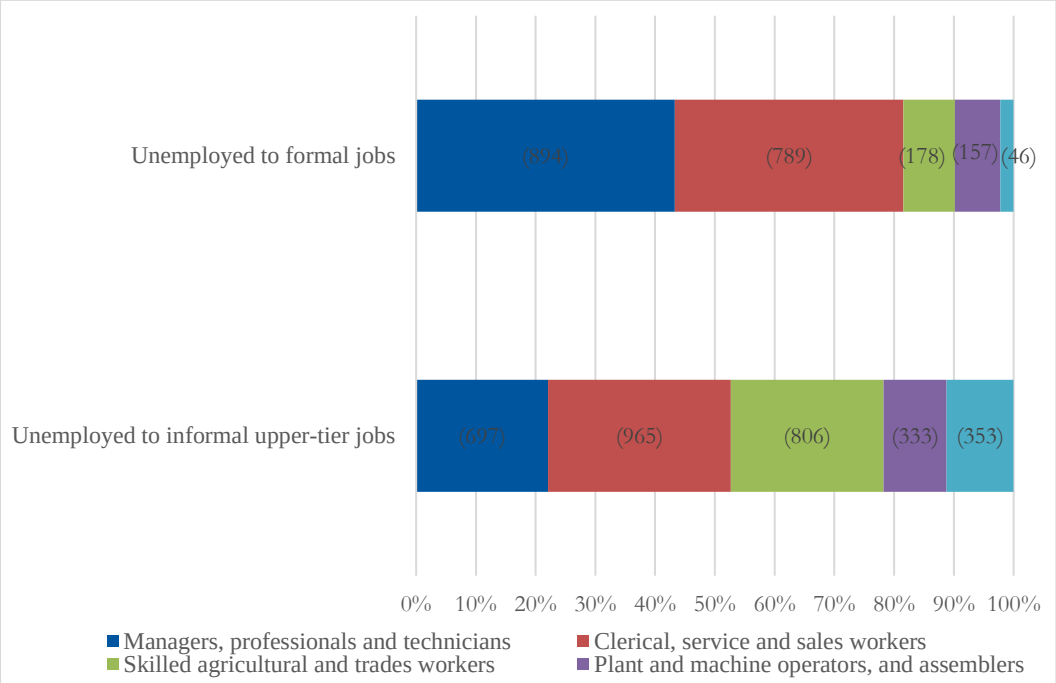
Note: WE, wage-employed; SE, self-employed. The figures indicate the count of individuals in each occupation. The estimates are obtained without sample weights. Elementary occupations refer to unskilled and semi-skilled workers in agriculture, mining, and other related sectors.

Source: authors' estimates.

Similar to our approach for Africa, we also investigate mobility patterns from unemployment to both the upper-tier of the informal sector and the formal sector in India. We examine the occupations of individuals who were unemployed in the first wave of our panel data and subsequently moved up the job ladder in the next wave. While more than half the number of unemployed individuals transitioned to the lower tier of the job ladder, mirroring trends in Africa, a significant proportion of them (more than 40 per cent) also moved into higher segments.

As expected, in India, a significant portion of unemployed individuals who entered the formal sector transitioned into higher-skill occupations, with the majority becoming managers, professionals, and technicians, followed by clerical, services, and sales workers (Figure 16). Meanwhile, unemployed individuals who entered the upper tier of the informal sector were predominantly employed as clerical, services, and sales workers, a smaller share in skilled agricultural and trade jobs, and an even smaller share as managers, professionals, and technicians.

Figure 16: Entry into upper-tier and formal occupations by unemployed individuals in India (unweighted)



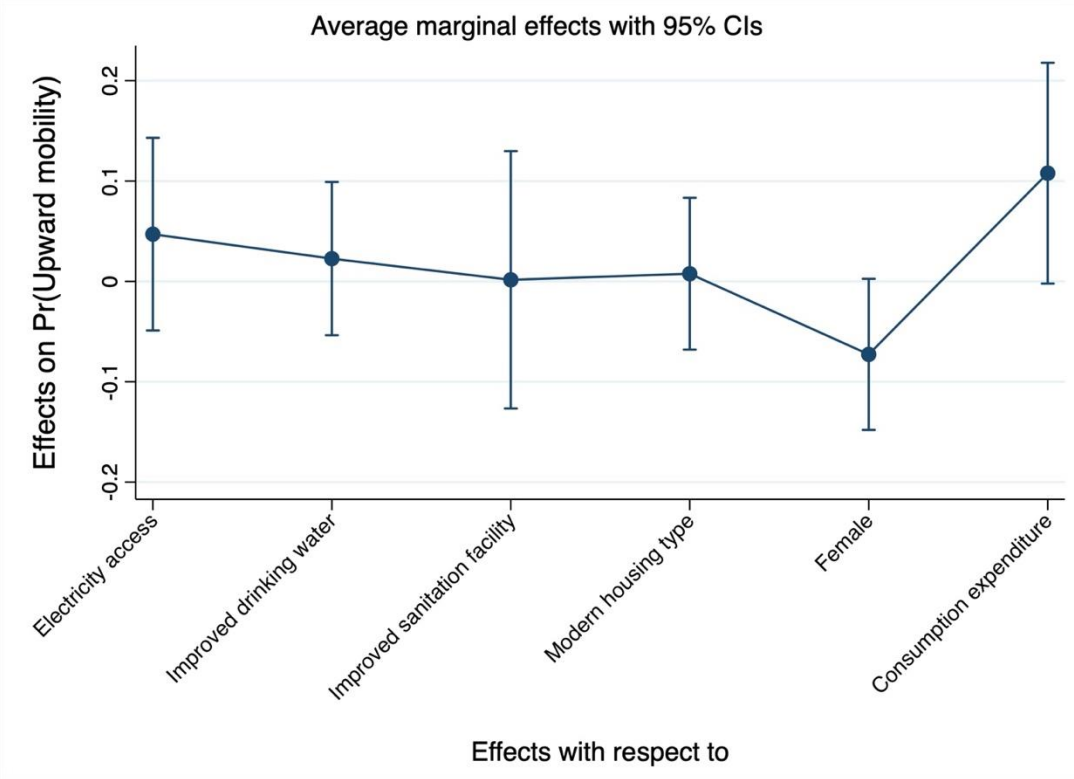
Note: column percentages are reported and absolute numbers are in parentheses.

Source: authors' estimates.

3.3 Enabling factors for upward mobility on the job ladder

Next, we examine the enabling factors for upward mobility for Ghana and South Africa, followed by India. We estimate Equation (1) as discussed in Section 2. The probit estimates for the association between upward mobility (1 if upward mobility is observed and 0 otherwise) and environmental variables (electricity, drinking, or main water source, sanitation facility, and housing characteristics) for Ghana and South Africa are shown in Appendix Tables A2 and A3, respectively. Figures 17A and 17B show the marginal plots for Ghana and South Africa, respectively. The results for all four variables in the analysis for Ghana are positive but statistically insignificant. Likewise, the estimates for South Africa are also statistically insignificant. Both results are insensitive to the reclassification of the environmental factors. Other factors (e.g., being female) reduce the probability of moving up the job ladder, while an increase in consumption expenditure or a decrease in the poverty level is associated with a higher likelihood of upward mobility in Ghana and South Africa.

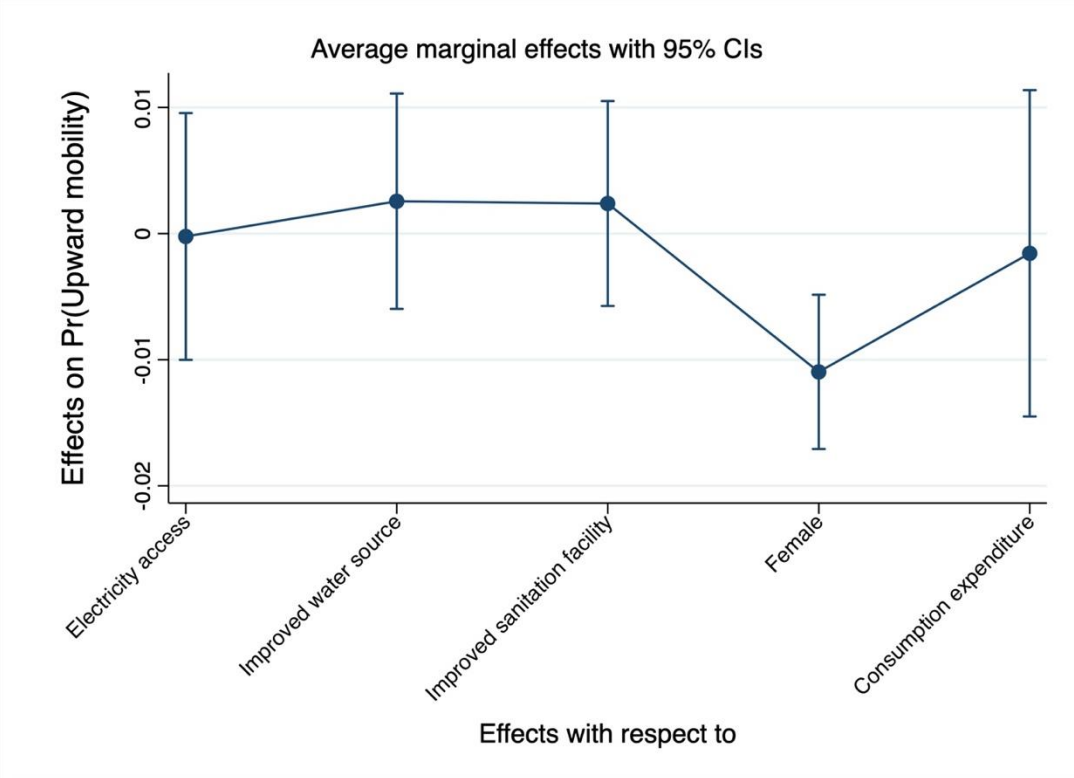
Figure 17A: Association between upward mobility and environmental factors in Ghana



Note: CIs, confidence intervals.

Source: authors' estimates.

Figure 17B: Association between upward mobility and environmental factors in South Africa

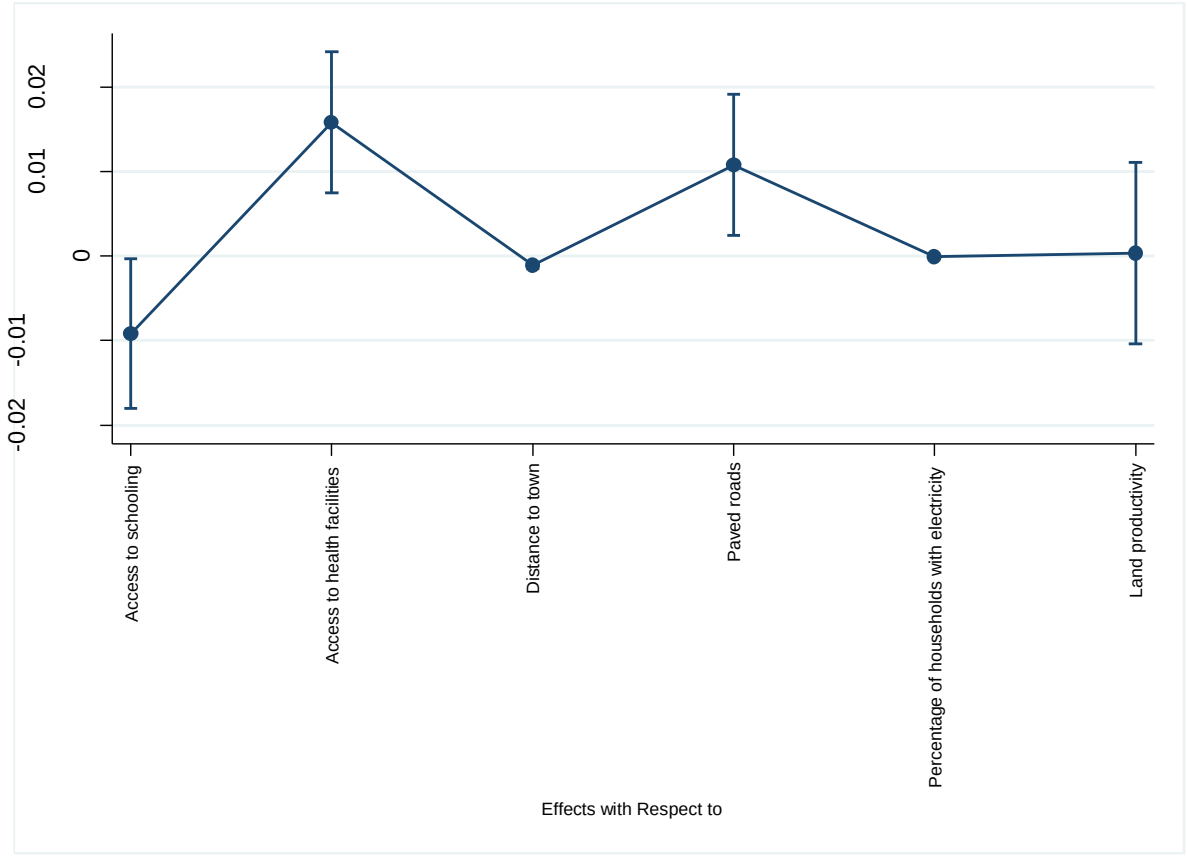


Note: CIs, confidence intervals.

Source: authors' estimates.

In understanding the correlates of upward mobility in India, we focus on six village-specific variables: access to education, health facilities, paved (pucca) roads, distance to the nearest town (in kilometres), the percentage of households with electricity in the village, and land productivity (measured as the ratio of gross irrigated area to gross cropped area. We also look at specific individual variables such as level of education, age, marital status, and social group. The average marginal effects, reported in Appendix Table A4 and visualized in Figure 18, reveal that access to health facilities and paved roads significantly boost upward mobility. The variable, distance to the nearest town, also has a negative but significant impact, suggesting that individuals in villages with better health and road infrastructure, and those closer to towns, are more likely to experience upward mobility. Other environmental variables show no significant effect on upward mobility. For individual-level variables, more educated, younger workers, and those who are male and unmarried are more likely to move up the job ladder. Interestingly, SC workers show a higher likelihood of moving up the job ladder, but not ST workers.

Figure 18: Association between upward mobility and environmental factors in India



Note: average marginal effects with 95 per cent confidence intervals are reported.

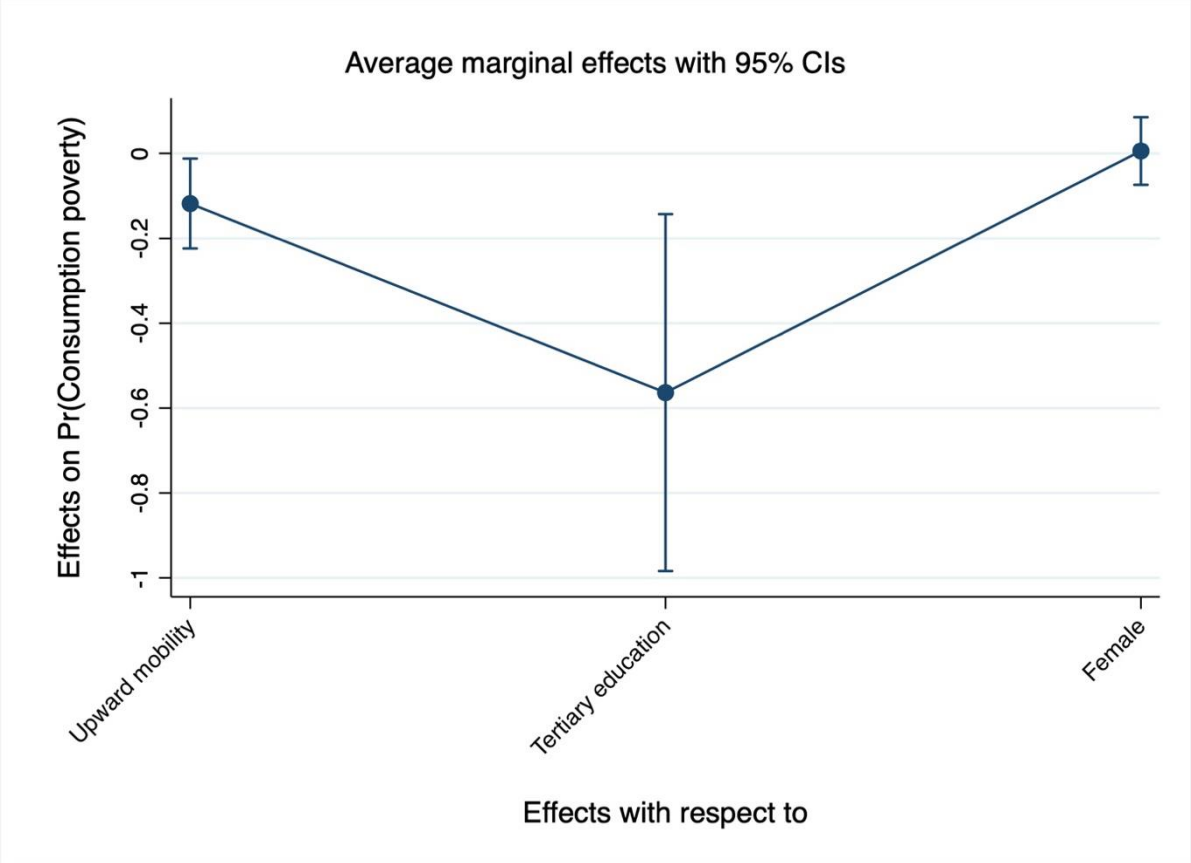
Source: authors' estimates.

Association between levels of poverty and upward mobility on the job ladder

Using probit regression, we investigate whether moving up the job ladder is associated with a lower likelihood of being poor, as outlined in Equation (2) discussed in Section 2. The dependent variable is consumption poverty (1 if poor, 0 otherwise), obtained from the second wave of data from Ghana and South Africa, and the independent variable of interest is upward mobility. The results are reported in Appendix Tables A5 and A6. Results reported in Column 3 proved best, judging from the diagnostics test; thus, it forms the basis of the marginal plots in Figures 19A and 19B.

The results suggest a negative and significant association between poverty and upward mobility in the data from Ghana and South Africa. This shows that upward mobility significantly reduces the chances of being poor. The role of upward mobility in reducing poverty is higher in Ghana (11.8 per cent) than in South Africa (6.9 per cent). This finding aligns with Choi et al. (2024), where estimates are provided at a global level for developing countries. Our findings show that moving up the job ladder is associated with a movement out of poverty, and the precise magnitude of the effect varies across countries. In addition, worker characteristics such as having a tertiary education reduce the probability of being poor, while being female increases the likelihood of being poor in Ghana and South Africa.

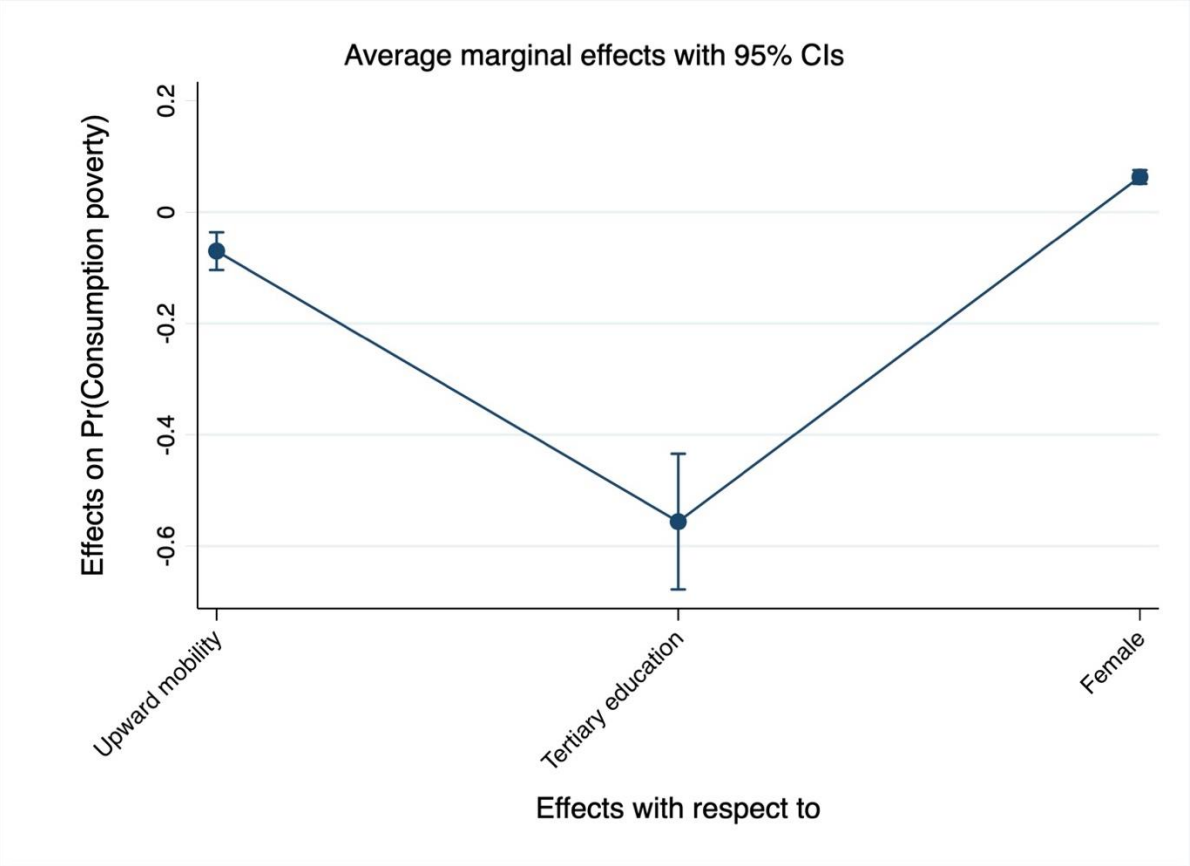
Figure 19A: Association between poverty and upward mobility in Ghana



Note: CIs, confidence intervals.

Source: authors' estimates.

Figure 19B: Association between poverty and upward mobility in South Africa

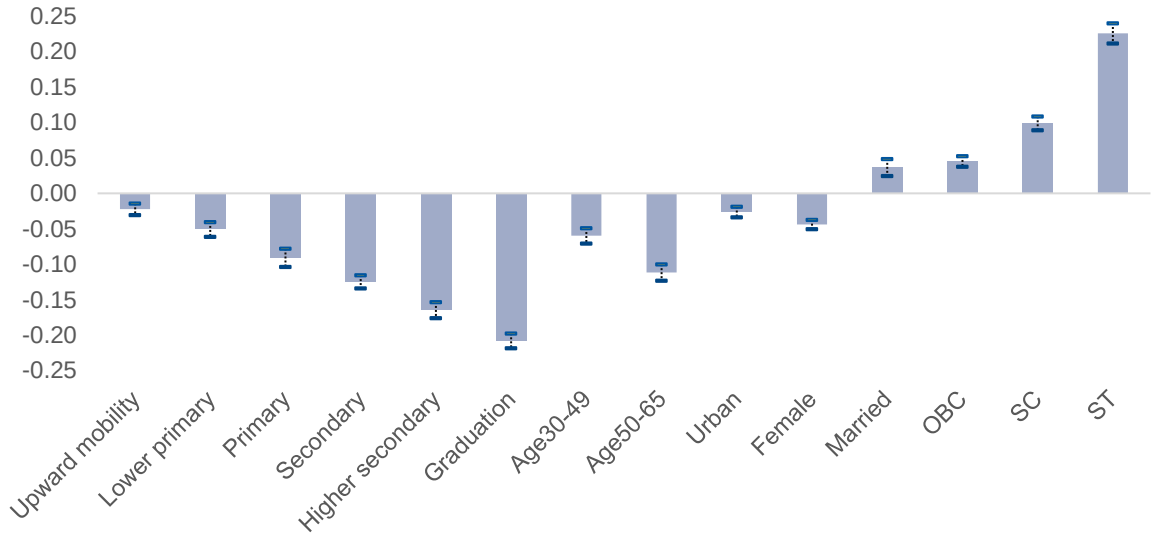


Note: CIs, confidence intervals.

Source: authors' estimates.

This relationship observed for the four African countries holds for India as well. The results, reported in Appendix Table A7 and depicted in Figure 20, show that upward mobility has a positive and significant association with a higher likelihood of escaping poverty. This suggests that a worker climbing up the job ladder is approximately 2.2 percentage points more likely to see a reduction in poverty than a worker who does not experience such mobility. Additionally, the study finds a higher likelihood of escaping poverty among educated individuals, older people, urban residents, females, unmarried persons, and those from forward castes. Overall, our findings offer evidence that nations with greater upward job mobility among their populations are likely to witness declines in their poverty rates.

Figure 20: Association between poverty and upward mobility in India



Note: OBC, other backward caste; SC, scheduled caste; ST, scheduled tribe. Average marginal effects with 95 per cent confidence intervals. Age in years. Individual characteristics for the 2012 wave are used in estimations.

Source: authors' estimates.

4 Conclusions and main takeaways

In this paper, we use panels of labour force surveys from Ghana, South Africa, Tanzania, Uganda, and India and utilize the work status classification by Fields et al. (2023) to provide an in-depth descriptive analysis of labour mobility up or down the job ladder. The work status classification allows us to observe job–job transition possibilities across six work status groups. We also examine the enabling factors for upward mobility and the association between upward mobility and poverty.

Our findings show significant similarities among our five study countries regarding the nature of job ladder mobility, even though Ghana, Tanzania, and Uganda are at a different level of economic development from India and South Africa. For example, movement up and down the job ladder is possible in all countries. However, we find evidence of a high degree of worker immobility. We also find that many individuals remain in the same sector even after climbing the job ladder. For those workers who exhibit upward mobility, a significant majority move into the service sector, while the transition into industry remains very low. This finding is consistent with the overall pattern of structural transformation observed in low- and middle-income countries, where most movement out of agriculture is into services, not manufacturing (see Sen 2023). In the countries where we have available data on firm size (Tanzania, South Africa, and India), small and medium businesses seem more conducive to facilitating upward mobility on the job ladder.

Further, public goods provision and access to education contribute immensely to upward mobility in all five countries. We also find robust evidence that upward mobility leads to decline in poverty in Ghana, South Africa, and India. Our estimates suggest that workers in Ghana and South Africa who are upwardly mobile are 11.8 and 6.9 percentage points more likely to move out of poverty, while in India, the corresponding number is 2.2 percentage points.

However, there are also significant differences in our findings across countries. For example, managers, professionals, and technicians are the main occupations through which people enter formal work in Ghana, Tanzania, and Uganda. That is not the case in South Africa, where

elementary occupations such as mining and manufacturing labour are the main channels. This finding may be explained by the large, unionized workforce mainly in the mining and manufacturing sectors in South Africa. Most of the job contracts for these types of workers are formal. In India, movement into formal work is in clerical, services, sales, and elementary occupations. Another critical difference is that in Ghana, Tanzania, and Uganda, movements of unemployed individuals are in the lower tier of the labour market. South Africa and India have more movement of unemployed individuals up the higher rungs of the job ladder, possibly due to larger formal sectors in these two economies.

Overall, our findings suggest that upward mobility on the job ladder is possible in our five sample countries of India, Ghana, South Africa, Tanzania, and Uganda, with the right enabling environment, and that these movements up the ladder are likely to lead to considerable welfare gains as workers move out of poverty. From a policy perspective, this suggests that public goods provision and access to schooling are critical to creating jobs at the upper tiers of the job ladder.

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Appendix A

Table A1: International Standard Industrial Classification of All Economic Activities (ISIC)

Broad sector	ISIC Revision 4		ISIC Revision 3.1		Code
	Major group	Section	Major group	Section	
Agriculture	Agriculture, forestry, and fishing	A	Agriculture, hunting, forestry, and fishing	A, B	1
Industry	Mining and quarrying	B	Mining and quarrying	C	3
	Manufacturing	C	Manufacturing	D	4
	Electricity, gas, steam, and air conditioning supply	D	Electricity, gas, and water supply	E	5
	Water supply; sewerage, waste management and remediation activities	E			
	Construction	F	Construction	F	6
Services	Wholesale and retail; repair of motor vehicles and motorcycles	G	Wholesale and retail; repair of motor vehicles and motorcycles	G	7
	Transportation and storage	H	Transport, storage, and communications	I	9
	Accommodation and food service activities	I	Hotels and restaurants	H	8
	Information and communication	J			
	Financial and insurance activities	K	Financial intermediation	J	10
	Real estate activities	L	Real estate, renting, and business activities	K	11
	Professional, scientific, and technical activities	M			
	Administrative and support service activities	N			
	Public administration and defence; compulsory social security	O	Public administration and defence; compulsory social security	L	12
	Education	P	Education	M	13
	Human health and social work activities	Q	Health and social work	N	14
	Arts, entertainment, and recreation	R			
	Other service activities	S	Other community, social and personal service activities	O	15
	Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	T	Activities of private households as employers and undifferentiated production activities of private households	P	16
	Activities of extraterritorial organizations and bodies	U	Extraterritorial organizations and bodies	Q	17
			Not elsewhere classified	X	18

Source: ILOSTAT (https://ilostat.ilo.org/methods/concepts-and-definitions/classification-economic-activities/).

Table A2: Association between upward mobility and environmental factors in Ghana

Dependent variable: upward mobility	Bivariate analysis				Multivariate analysis	
	AME	AME	AME	AME	AME	**AME**
	(1)	(2)	(3)	(4)	(5)	**(6)**
Environmental factors						
Has electricity access			0.0126		0.0154	**0.047**
Improved drinking water source	−0.00214				0.0355	**0.0227**
Improved sanitation facility		0.0363			−0.0393	**0.00158**
Modern housing type				0.0263	0.0267	**0.00763**
Controls						
Age						**0.00602**
Age squared (×0.01)						**−0.0136**
Female						**−0.0727***
Urban						**0.0117**
Consumption expenditure (×0.0001)						**0.108***
Education (ref: no schooling)						
Lower primary						**−0.143**
Primary						**−0.13**
Secondary						**−0.153**
Higher secondary						**−0.046**
Tertiary						**−0.123**
Observations	1,170	1,161	627	1,131	604	**491**
Wald chi-squared: *p*-value	0.942	0.319	0.737	0.401	0.675	**0.026**
Pseudo *R*-squared	0	0.001	0.0002	0.001	0.003	**0.044**

Note: AME, average marginal effects. Cluster-robust standard errors used. Bold indicates selected model
***p<0.01, **p<0.05, *p<0.1.

Source: authors' estimates.

Table A3: Association between upward mobility and environmental factors in South Africa

Dependent variable: upward mobility	Bivariate analysis			Multivariate analysis	
Variables	AME	AME	AME	AME	**AME**
	(1)	(2)	(3)	(4)	**(5)**
Environmental factors					
Has electricity			0.00715	0.0000235	**−0.000227**
Improved water source	0.0146***			0.0112***	**0.00257**
Improved sanitation facility		0.0134***		0.00925***	**0.00238**
Controls					
Age					**0.0107*** **
Age squared (×0.01)					**−0.0137*** **
Female					**−0.0110*** **
Urban					**0.0148*** **
Consumption expenditure (×0.0001)					**−0.0015633**
Education (ref: no schooling)					
Lower primary					**0.0026**
Primary					**−0.000716**
Secondary					**0.00388**
Higher secondary					**0.00945**
Tertiary					**0.0154**
Observations	16,973	16,978	16,976	16,973	**16,931**
Wald chi-squared: *p*-value	0.000	0.000	0.137	0.000	**0.000**
Pseudo *R*-squared	0.003	0.003	0.000	0.004	**0.043**

Note: AME, average marginal effects. Robust standard errors used. Bold indicates selected model ***p<0.01, **p<0.05, *p<0.1.

Source: authors' estimates.

Table A4: Correlates of upward mobility: India

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Village-level factors								
Access to school	−0.0050						−0.0117***	−0.0092**
	(0.0038)						(0.0044)	(0.0045)
Access to health facilities		0.0113***					0.0161***	0.0158***
		(0.0036)					(0.0041)	(0.0043)
Distance to town			−0.0012***				−0.0011***	−0.0011***
			(0.0002)				(0.0002)	(0.0002)
Paved roads				0.0116***			0.0102**	0.0108**
				(0.0038)			(0.0041)	(0.0043)
Percentage of households with electricity					−0.0000		−0.0001**	−0.0001
					(0.0001)		(0.0001)	(0.0001)
Land productivity						0.0074	0.0054	0.0003
						(0.0053)	(0.0053)	(0.0055)
Controls								
Lower primary	0.0110**	0.0112**	0.0111**	0.0114**	0.0114**	0.0141***	0.0301***	0.0142***
	(0.0050)	(0.0051)	(0.0051)	(0.0051)	(0.0051)	(0.0053)	(0.0049)	(0.0053)
Primary	0.0218***	0.0211***	0.0211***	0.0207***	0.0214***	0.0262***	0.0570***	0.0267***
	(0.0068)	(0.0068)	(0.0068)	(0.0068)	(0.0068)	(0.0072)	(0.0071)	(0.0072)
Secondary	0.0500***	0.0492***	0.0491***	0.0487***	0.0498***	0.0526***	0.0871***	0.0516***
	(0.0052)	(0.0052)	(0.0052)	(0.0052)	(0.0052)	(0.0055)	(0.0050)	(0.0055)
Higher secondary	0.0901***	0.0884***	0.0896***	0.0877***	0.0895***	0.0864***	0.1344***	0.0867***
	(0.0088)	(0.0087)	(0.0088)	(0.0087)	(0.0088)	(0.0091)	(0.0092)	(0.0092)
Graduation	0.1287***	0.1261***	0.1252***	0.1257***	0.1272***	0.1254***	0.1659***	0.1240***
	(0.0128)	(0.0128)	(0.0127)	(0.0128)	(0.0128)	(0.0134)	(0.0136)	(0.0134)
Ages 30–49 years	−0.0202***	−0.0208***	−0.0210***	−0.0205***	−0.0203***	−0.0198***		−0.0214***
	(0.0047)	(0.0047)	(0.0047)	(0.0047)	(0.0047)	(0.0049)		(0.0050)
Ages 50–65 years	−0.0505***	−0.0511***	−0.0511***	−0.0512***	−0.0508***	−0.0507***		−0.0519***
	(0.0062)	(0.0062)	(0.0062)	(0.0062)	(0.0062)	(0.0064)		(0.0065)
Female	−0.0434***	−0.0435***	−0.0430***	−0.0435***	−0.0434***	−0.0426***		−0.0422***
	(0.0041)	(0.0041)	(0.0041)	(0.0041)	(0.0041)	(0.0043)		(0.0043)
Married	−0.0556***	−0.0551***	−0.0557***	−0.0555***	−0.0555***	−0.0597***		−0.0593***

	(0.0065)	(0.0065)	(0.0065)	(0.0065)	(0.0065)	(0.0068)		(0.0069)
OBC	0.0152***	0.0153***	0.0142***	0.0157***	0.0152***	0.0152***		0.0127**
	(0.0048)	(0.0048)	(0.0048)	(0.0048)	(0.0048)	(0.0050)		(0.0050)
SC	0.0190***	0.0184***	0.0183***	0.0186***	0.0186***	0.0189***		0.0175***
	(0.0057)	(0.0057)	(0.0057)	(0.0057)	(0.0057)	(0.0059)		(0.0060)
ST	−0.0059	−0.0045	−0.0014	−0.0030	−0.0051	−0.0097		−0.0084
	(0.0070)	(0.0070)	(0.0071)	(0.0070)	(0.0071)	(0.0073)		(0.0076)
Observations	40,143	40,164	40,142	40,200	40,200	36,678	38,425	36,499

Note: OBC, other backward caste; SC, scheduled caste; ST, scheduled tribe. Average marginal effects are reported. Standard errors in parentheses. ***p<0.01, **p<0.05, *p<0.1.

Source: authors' estimates.

Table A5: Association between poverty and upward mobility in Ghana

Dependent variable: poverty	Bivariate analysis	Multivariate analysis	
	AME	AME	**AME**
	(1)	(2)	**(3)**
Upward mobility	−0.0631*	−0.057	**−0.118****
Controls			
Age		−0.0316***	**−0.0382*****
Age squared (×0.01)		0.0360***	**0.0462*****
Female		0.0127	**0.00582**
Urban		−0.140***	**−0.105****
Education (ref: no schooling)			
Lower primary		−0.344*	**−0.181**
Primary		−0.527***	**−0.480****
Secondary		−0.548***	**−0.4**
Higher secondary		−0.730***	**—**
Tertiary		−0.744***	**−0.590****
Environmental factors			
Has electricity			**−0.082**
Improved drinking water source			**−0.125****
Improved sanitation facility			**0.0541**
Modern housing type			**−0.0803**
Observations	1,170	991	**476**
Wald chi-squared: *p*-value	0.077	0.000	**0.000**
Pseudo *R*-squared	0.003	0.125	**0.164**

Note: AME, average marginal effects. Cluster-robust standard errors used. Bold indicates selected model. ****p*<0.01, ***p*<0.05, **p*<0.1.

Source: authors' estimates.

Table A6: Association between poverty and upward mobility in South Africa

Dependent variable: poverty	Bivariate analysis	Multivariate analysis	
	AME	AME	**AME**
	(1)	(2)	**(3)**
Upward mobility	−0.129***	−0.0713***	**−0.0699*** **
Controls			
Age		−0.00365***	**−0.00408*** **
Age squared (×0.01)		−0.00058	**0.00047**
Female		0.0668***	**0.0632*** **
Urban		−0.186***	**−0.119*** **
Education (ref: no schooling)			
Lower primary		−0.0184	**−0.0107**
Primary		−0.0485***	**−0.0343** **
Secondary		−0.175***	**−0.152*** **
Higher secondary		−0.361***	**−0.325*** **
Tertiary		−0.599***	**−0.556*** **
Environmental factors			
Has electricity			**−0.0440*** **
Improved drinking water source			**−0.0951*** **
Improved sanitation facility			**−0.0425*** **
Observations	16,978	16,942	**16,937**
Wald chi-squared: *p*-value	0.000	0.000	**0.000**
Pseudo *R*-squared	0.003	0.114	**0.128**

Note: AME, average marginal effects. Robust standard errors used. Bold indicates selected model. ***p<0.01, **p<0.05, *p<0.1.

Source: authors' estimates.

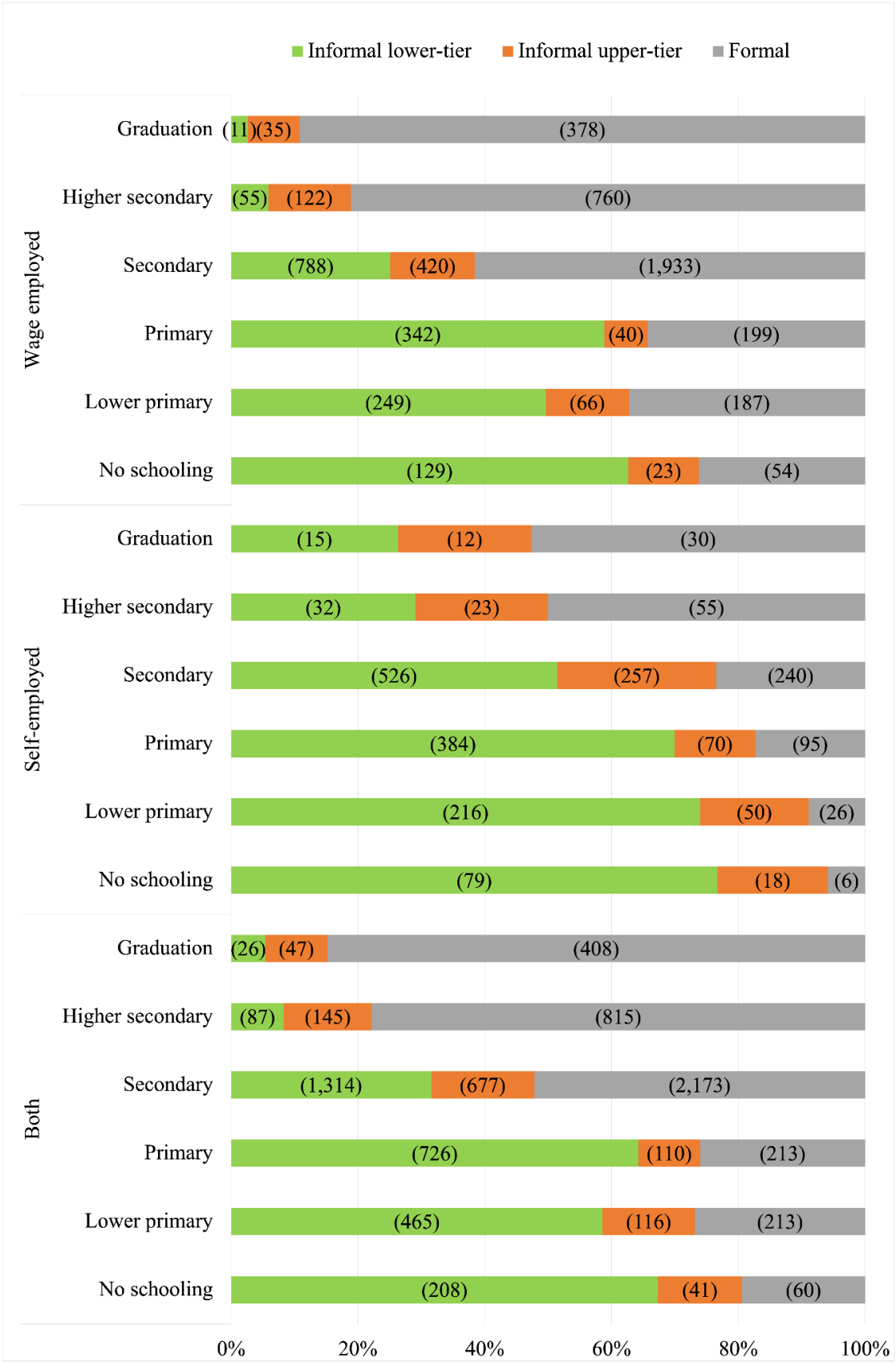
Table A7: Association between poverty and upward mobility in India

Variables	(1)	(2)
Upward mobility	−0.0447***	−0.0222***
	(0.0038)	(0.0041)
Lower primary		−0.0507***
		(0.0053)
Primary		−0.0906***
		(0.0065)
Secondary		−0.1244***
		(0.0048)
Higher secondary		−0.1643***
		(0.0057)
Graduation		−0.2077***
		(0.0052)
Ages 30–49 years		−0.0597***
		(0.0056)
Ages 50–65 years		−0.1114***
		(0.0059)
Urban		−0.0261***
		(0.0038)
Female		−0.0437***
		(0.0034)
Married		0.0367***
		(0.0060)
OBC		0.0453***
		(0.0039)
SC		0.0992***
		(0.0049)
ST		0.2258***
		(0.0073)
Observations	59,043	54,391

Note: OBC, other backward caste; SC, scheduled caste; ST, scheduled tribe. Poverty is defined as a binary variable, where it is assigned a value of 1 for individuals whose per capita consumption is below the Tendulkar Committee poverty line and 0 otherwise. Standard errors are in parentheses. ***p<0.01, **p<0.05, *p<0.1.

Source: authors' estimates.

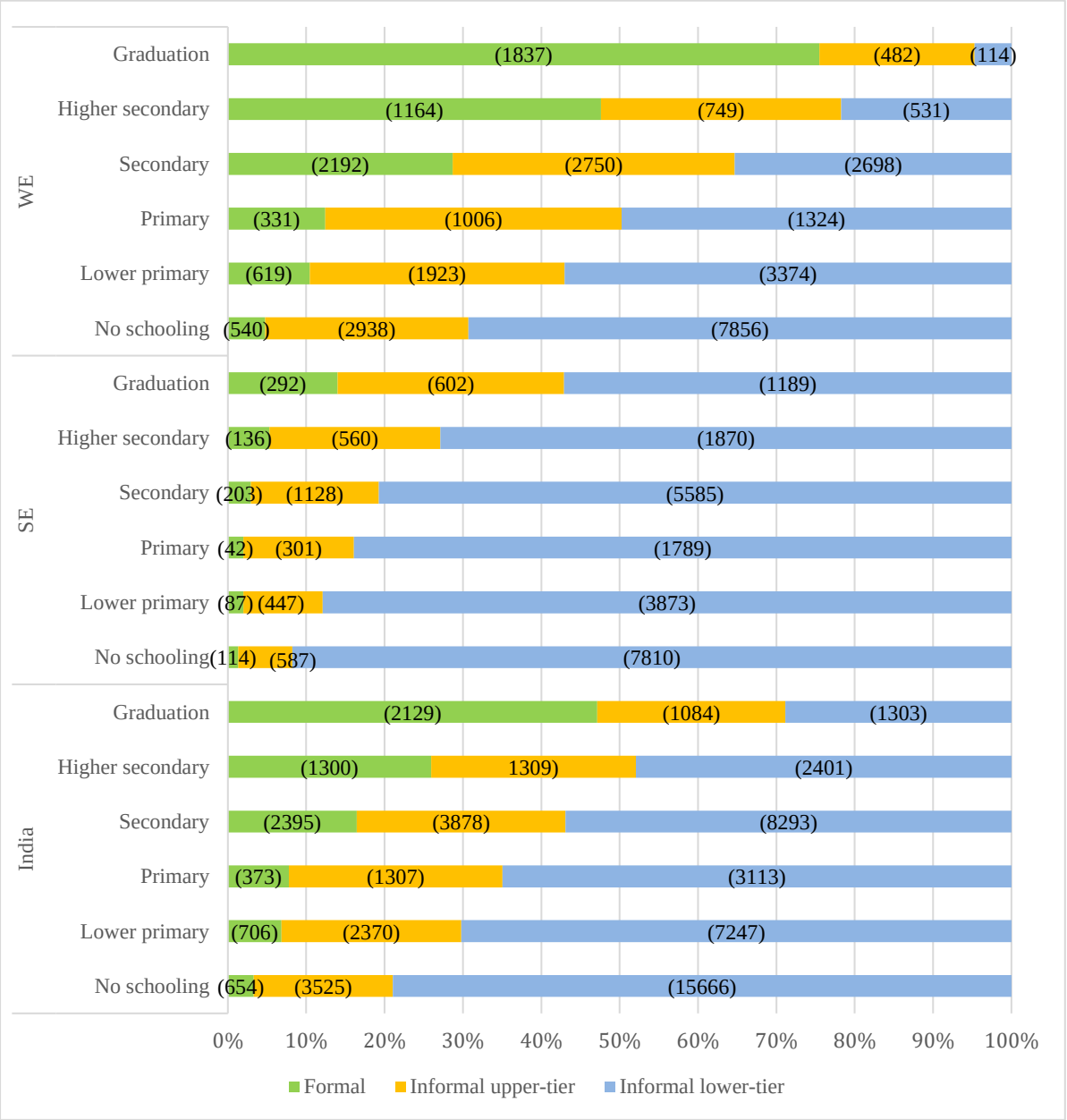
Figure A1: Distribution of educational level by work status (pooled data from the African countries)



Note: Row percentages are reported. Absolute numbers are in parentheses

Source: authors' estimates.

Figure A2: Distribution of educational level by work status in India



Note: WE, wage-employed; SE, self-employed. Absolute numbers indicate the individual count in each work status. The estimates are obtained without sample weights.

Source: authors' estimates.