

***Basic Information Document:***

**LSMS Household Business Indicators for Sub-Saharan  
Africa (LSMS-HBI)**

September 2026

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## 1. Introduction

This document describes a harmonized dataset of indicators measuring household business activity and employment across five Sub-Saharan African countries: Ethiopia, Malawi, Nigeria, Tanzania, and Uganda. The dataset was constructed from existing nationally representative household surveys — specifically, the Living Standards Measurement Study – Integrated Surveys on Agriculture (LSMS-ISA) panel surveys — and covers the two most recently conducted survey waves per country, enabling both cross-country comparisons and temporal analyses.

The primary purpose of the dataset is to provide researchers, policymakers, and data users with a consistent, comparable set of measures on the prevalence, characteristics, financing, formalization, constraints, and financial performance of household businesses, as well as the structure, demographics, and earnings of the broader workforce. The indicators are designed to support analysis of the role of household businesses in economic development, job creation, and household welfare in Sub-Saharan Africa.

This document is organized as follows. Section 2 describes the underlying data sources. Section 3 defines the scope and thematic coverage of the dataset. Section 4 explains the general methodology for indicator construction and harmonization. Section 5 provides a full description of all indicators, grouped by thematic area. Section 6 presents a country-by-indicator coverage matrix. Section 7 provides guidance on using the data. Section 8 documents known limitations and data gaps. Appendix A provides a detailed survey module reference table. Appendix B documents the PPP conversion methodology for monetary indicators. Appendix C provides country-specific technical notes for each indicator.

## 2. Data Sources

The indicators are constructed from the LSMS-ISA panel household surveys implemented in each of the five countries. The table below summarizes the surveys, implementing institutions, and waves used.

*Table 1. Panel Survey Design and Sample Waves.*

| Country  | Survey                                          | Earlier Wave           | Later Wave             | Reference Years  | Implementing Institution                         |
|----------|-------------------------------------------------|------------------------|------------------------|------------------|--------------------------------------------------|
| Ethiopia | Ethiopia Socioeconomic Survey (ESS)             | <a href="#">Wave 4</a> | <a href="#">Wave 5</a> | 2018/19, 2021/22 | Central Statistical Agency (CSA) / World Bank    |
| Malawi   | Integrated Household Panel Survey (IHPS) / LSMS | <a href="#">Wave 4</a> | <a href="#">Wave 5</a> | 2019/20, 2024    | National Statistical Office (NSO) / World Bank   |
| Nigeria  | General Household Survey – Panel (GHS-Panel)    | <a href="#">Wave 4</a> | <a href="#">Wave 5</a> | 2018/19, 2023/24 | National Bureau of Statistics (NBS) / World Bank |

| Country  | Survey                              | Earlier Wave            | Later Wave              | Reference Years  | Implementing Institution                         |
|----------|-------------------------------------|-------------------------|-------------------------|------------------|--------------------------------------------------|
| Tanzania | National Panel Survey (NPS)         | <a href="#">Wave 4</a>  | <a href="#">Wave 5</a>  | 2014/15, 2020/21 | National Bureau of Statistics (NBS) / World Bank |
| Uganda   | Uganda National Panel Survey (UNPS) | <a href="#">Round 7</a> | <a href="#">Round 8</a> | 2018/19, 2019/20 | Uganda Bureau of Statistics (UBOS) / World Bank  |

All surveys follow a panel design, tracking the same households across waves, which enables analysis of change over time within each country. Each survey includes a household business module capturing information on household businesses characteristics, operations, financing, and workforce.

### 3. Scope and Coverage

The dataset covers nine thematic areas related to household businesses and employment:

- **Business prevalence and basic characteristics:** whether households operate a business, the number and size of businesses, their age, sector, and location, and number of non-household members among employees.
- **Access to infrastructure:** business access to electricity, water, and generator use.
- **Owner characteristics:** the sex, age, and education of the primary business owner.
- **Start-up capital and financing:** the sources of capital used to start the business, including own savings, informal networks, and formal financial institutions.
- **Formalization and market linkages:** registration, tax identification, and integration into value chains.
- **Operational constraints:** difficulties reported by business operators in the past 12 months, covering supply of raw materials, demand, credit, personnel, infrastructure, security and regulation.
- **Financial performance:** business revenue, costs, and profit margins, expressed in PPP-adjusted US dollars.
- **Employment structure:** the distribution of total employment across wage employment, total employment, wage employment and self-employment across agriculture, manufacturing, and services.
- **Worker demographics and earnings:** the sex, age, education of workers in self-employment and wage employment, earnings of workers in total employment and wage employment.

Coverage is not uniform across countries and waves. Some indicators are fully available for all five countries and both waves; others are available for a subset of countries or only one wave. Section 6 and Appendix C provide detailed coverage information.

## 4. Indicator Construction

Indicators were constructed by identifying the relevant questions and variables in the household business and employment modules of each survey, harmonizing variable definitions across heterogeneous instruments, and computing aggregate measures at the household, business, or worker level as appropriate.

**Unit of observation.** The unit of observation varies by indicator. Business prevalence and characteristics indicators are measured at the business level. Household-level indicators aggregate across all businesses within a household. Employment, demographic, and earnings indicators are measured at the individual worker level.

**Harmonization.** Survey instruments differ in their structure, question wording, response categories, and module organization across countries and waves. Where possible, variables were mapped to a common definition. In cases where exact harmonization was not feasible, the closest available measure was used and the divergence is documented in Appendix C.

**Monetary indicators.** Revenue, cost, profit, wages, and earnings are expressed in PPP-adjusted US dollars to enable cross-country comparisons. See Appendix B for conversion details.

**Sector classification.** Employment indicators distinguish three sectors — agriculture, manufacturing, and services — based on the industry or activity codes reported in each survey's employment module.

**Employment type.** Workers are classified as self-employed (including unpaid family workers in household businesses) or wage-employed based on the employment status variable in each survey.

## 5. Description of Indicators

Indicators are organized into nine thematic areas. Each entry provides the indicator name, definition, unit of observation, and a note on construction. Country-specific source variables are provided in Appendix C.

The indicators have been grouped in 9 thematic areas

- **5.1 Business Prevalence and Basic Characteristics** (Indicators 1,5, 6, 7, 8, 9, 10)
- **5.2 Access to Infrastructure** (Indicators 2, 3, 4)
- **5.3 Owner Characteristics** (Indicators 11,12, 13)
- **5.4 Start-up Capital and Financing** (Indicators 14–23)

- **5.5 Formalization and Market Linkages** (Indicators 24,25)
- **5.6 Operational Constraints** (Indicators 26–35)
- **5.7 Financial Performance** (Indicators 36,37,38)
- **5.8 Employment Structure** (Indicators 39–48)
- **5.9 Worker Demographics and Earnings** (Indicators 49–61)

### **Thematic Area 1: Business Prevalence and Basic Characteristics**

**Indicator 1 — Share of households with at least one household business.** The share of households that reported operating at least one business. Unit of observation: household. Constructed by identifying households with at least one business record in the household business module.

**Indicator 5 — Share of household businesses operating in separate premises.** The share of businesses operating in premises separate from the household's home, such as a market stall, shop, or industrial site. Unit of observation: business. Constructed by identifying the location of businesses in the household business module.

**Indicator 6 — Distribution of households by number of household businesses.** The distribution of households across categories: zero, one, two, three or more business. Unit of observation: household. Constructed by identifying households with businesses number in the household business module.

**Indicator 7 — Median household business size.** The median total number of workers, including household members and hired employees. Unit of observation: business. Constructed by identifying total number of workers of businesses in the household business module.

**Indicator 8 — Distribution of household businesses by size category.** The distribution of businesses across size categories: 1 worker; 2–4 workers; 5 or more workers. Unit of observation: business. Constructed by identifying total number of workers of businesses in the household business module.

**Indicator 9 — Median number of non-household employees.** The median number of hired workers who are not members of the household. Unit of observation: business. Constructed by the number of non-household members workers of businesses in the household business module.

**Indicator 10 — Median household business age.** The median number of years since the business first started operating. Unit of observation: business. Constructed by the year of businesses first started operating in the household business module.

## Thematic Area 2: Access to Infrastructure

*The three questions about "Access to Infrastructure" cannot be located within the household business module alone. Therefore, we connect the household business module with the housing module, and through that combined module, we can locate these three questions.*

**Indicator 2 — Share of household businesses with access to electricity.** The share of businesses with access to electricity at their operating location(home), including grid electricity, solar, and generator. Unit of observation: business. Constructed by connecting the household business module with the housing module, if the location of this household business is at home (whether inside or outside), and the home has access to an electricity supply, then it can be successfully located.

**Indicator 3 — Share of household businesses with access to water.** The share of businesses with access to an improved source of water at their operating location(home), including piped water, borehole, and protected well or spring. Unit of observation: business. Constructed by connecting the household business module with the housing module, if the location of this household business is at home (whether inside or outside), and the home has access to water supply, then it can be successfully located.

**Indicator 4 — Share of household businesses using a generator.** The share of businesses that use a generator as a source of power for operations. Unit of observation: business. Constructed by connecting the household business module with the housing module, if the location of this household business is at home (whether inside or outside), and the home owns a generator, then it can be successfully located. (It's different in Nigeria, it has the question about generator cost during the last month of household business operation).

## Thematic Area 3: Owner Characteristics

**Indicator 11— Median years of education of the household business owner.** The median number of years of education was completed by the primary owner of the business. Unit of observation: business. Constructed by linking the owner identifier in the business module to the education variables in the household roster or education module.

**Indicator 12— Share of household businesses with a female owner.** The share of businesses whose primary owner is a woman, expressed as a percentage of all businesses. Unit of observation: business. Constructed by linking the owner identifier to the sex variable in the household roster.

**Indicator 13 — Distribution of household business owners by age category.** The distribution of primary owners across age categories. Unit of observation: business. Constructed by linking the owner identifier to the age variable in the household roster.

## Thematic Area 4: Start-up Capital and Financing

**Indicator 14 — Share of household businesses that used formal credit to start.** The share of businesses that reported a bank loan or MFI loan as the main source of start-up capital. Unit of observation: business.

Constructed by identifying businesses that reported a bank loan or MFI loan as the main source of start-up capital in the household business module.

**Indicator 15 — Share of household businesses that used own funds to start.** The share of businesses that reported personal savings or assets as the main source of start-up capital. Unit of observation: business. Constructed by identifying businesses that reported personal savings or assets as the main source of start-up capital in the household business module.

**Indicator 16 — Share of household businesses that used funds from relatives in-country.** The share of businesses that used funds from relatives or friends within the country as the main source of start-up capital. Unit of observation: business. Constructed by identifying businesses that used funds from relatives or friends within the country as the main source of start-up capital in the household business module.

**Indicator 17 — Share of household businesses that used remittances to start.** The share of businesses that used funds from relatives abroad (remittances) as the main source of start-up capital. Unit of observation: business. Constructed by identifying businesses that used funds from relatives abroad (remittances) as the main source of start-up capital in the household business module.

**Indicator 18 — Share of household businesses that used a loan from another household.** The share of businesses that used a loan from another household as the main source of start-up capital. Unit of observation: business. Constructed by identifying businesses that used a loan from another household as the main source of start-up capital in the household business module.

**Indicator 19 — Share of household businesses that used an informal savings group.** The share of businesses that used funds from a tontine, ROSCA, or other informal savings group as the main source of start-up capital. Unit of observation: business. Constructed by identifying businesses that used funds from informal savings group as the main source of start-up capital in the household business module.

**Indicator 20 — Share of household businesses that used a bank loan or MFI.** The share of businesses that used a bank or microfinance institution loan as the main source of start-up capital. Unit of observation: business. Constructed by identifying businesses that used a bank or microfinance institution loan as the main source of start-up capital in the household business module.

**Indicator 21 — Share of household businesses that used a cooperative or SACCO loan.** The share of businesses that used a cooperative or savings and credit cooperative (SACCO) loan as the main source of start-up capital. Unit of observation: business. Constructed by identifying businesses used a cooperative or SACCO loan as the main source of start-up capital in the household business module.

**Indicator 22 — Share of household businesses that used NGO support to start.** The share of businesses that used support from a non-governmental organization as the main source of start-up capital. Unit of observation: business. Constructed by identifying businesses that used support from a non-governmental organization as the main source of start-up capital in the household business module.

**Indicator 23 — Share of household businesses that used other sources to start.** The share of businesses that used other sources — including moneylenders, government transfers, or other — as the main source

of start-up capital. Unit of observation: business. Constructed by identifying businesses that used other sources — including moneylenders, government transfers, or other — as the main source of start-up capital in the household business module.

### Thematic Area 5: Formalization and Market Linkages

**Indicator 24 — Share of household businesses with a tax ID or government registration.** The share of businesses that are officially registered with the government or hold a tax identification number or business license. Unit of observation: business. Constructed by identifying the businesses with a tax ID or government registration in the household business module.

**Indicator 25 — Share of household businesses selling to other firms or the state (value chain — output).** The share of businesses whose main buyers include other businesses, large establishments, or government entities. Unit of observation: business. Constructed by identifying the businesses which selling the goods or services to other firms or the state in the household business module.

### Thematic Area 6: Operational Constraints

*These indicators capture difficulties reported by businesses in the past 12 months. Coverage is highly variable across countries; see Appendix C for details.*

**Indicator 26 — Share of household business experiencing difficulties in - supply of raw materials** The share of businesses that experienced difficulties in supply of raw materials during the past 12 months. Unit of observation: business. Constructed based on the household business module.

**Indicator 27 — Share of household business experiencing difficulties in - lack of clientele.** The share of businesses experienced difficulties in lack of clientele during the past 12 months. Unit of observation: business. Constructed based on the household business module.

**Indicator 28 — Share of household business experiencing difficulties in – accessing credit.** The share of businesses that experienced difficulties in access to credit during the past 12 months. Unit of observation: business. Constructed based on the household business module.

**Indicator 29 — Share of household business experiencing difficulties in – recruiting qualified personnel.** The share of businesses that experienced difficulties in recruiting qualified personnel during the past 12 months. Unit of observation: business. Constructed based on the household business module.

**Indicator 30 — Share of household business experiencing difficulties in - access to electricity.** The share of businesses that experienced difficulties in access to electricity during the past 12 months. Unit of observation: business. Constructed based on the household business module.

**Indicator 31 — Share of household businesses experiencing difficulties in - power outages.** The share of businesses that experienced difficulties in power outages during the past 12 months. Unit of observation: business. Constructed based on the household business module.

**Indicator 32 — Share of household business experiencing difficulties in - infrastructure (water, telephone).** The share of businesses that experienced difficulties in infrastructure during the past 12 months. Unit of observation: business. Constructed based on the household business module.

**Indicator 33 — Share of household business experiencing difficulties in - internet** The share of businesses that experienced difficulties in supply of internet during the past 12 months. Unit of observation: business. Constructed based on the household business module.

**Indicator 34 — Share of household business experiencing difficulties in - insecurity** The share of businesses that experienced difficulties in security during the past 12 months. Unit of observation: business. Constructed based on the household business module.

**Indicator 35 — Share of household business experiencing difficulties in - too many regulations, taxes and levies** The share of businesses that experienced difficulties in too many regulations, taxes and levies during the past 12 months. Unit of observation: business. Constructed based on the household business module.

#### **Thematic Area 7: Financial Performance**

*All financial performance indicators are expressed in PPP-adjusted US dollars. See Appendix B.*

**Indicator 36 — Median household business revenue per worker.** Median total revenue of the business is divided by total number of workers. Unit of observation: business. Constructed by dividing the total monthly revenue of the household business by the total number of workers in the household business module.

**Indicator 37 — Median household business cost.** Median total operating cost of the business over the reference period. Unit of observation: business. Constructed by calculating the median value of total operating expenses incurred by the business during the reference period, including costs such as raw materials, rent, utilities, wages, transportation, and other recurring operational expenditures, as reported in the household business module.

**Indicator 38 — Median household business profit margin.** Median ratio of profit (revenue minus cost) to revenue, expressed as a percentage. Unit of observation: business. Constructed by first calculating the profit margin for each business as (total revenue minus total operating cost) divided by total revenue, then taking the median value of these ratios across all sampled businesses, based on data reported in the household business module.

#### **Thematic Area 8: Employment Structure**

**Indicator 39 — Share of total employment in wage employment.** Share of total employment that is in wage employment, expressed as a percentage. Unit of observation: individual. Constructed by calculating

the ratio of wage-employed workers to total employed workers, multiplied by 100, using data in the employment module.

**Indicators 40–42 — Share of self-employment in agriculture, manufacturing, and services.** Share of Self-employment that is in each respective sector (agriculture, manufacturing, and services), expressed as a percentage. Unit of observation: individual. Constructed by calculating the ratio of self-employed workers whose main activity is in the given sector to total self-employed workers, multiplied by 100, using data in the employment module.

*The three sectors — Agriculture, Manufacturing, and Services — follow the International Standard Industrial Classification (ISIC) framework. In each country's questionnaire, the industry question is asked at a different level of detail (some use 3-digit ISIC codes, others use 4-digit codes), so the raw codes differ across countries. To make the data comparable, all country-specific codes were re-mapped to the three harmonized sectors based on ISIC. The exact code-to-sector mapping for each country is provided in Table 4 in Section 7.2.*

**Indicators 43–45 — Share of total employment in agriculture, manufacturing, and services.** Share of total employment that is in each respective sector (agriculture, manufacturing, and services), expressed as a percentage. Unit of observation: individual. Constructed by calculating the ratio of employed workers whose main activity is in the given sector to total employed workers, multiplied by 100, using data in the employment module.

**Indicators 46–48 — Share of wage employment in agriculture, manufacturing, and services.** All employment structure indicators are measured at the individual level and aggregated to produce population-level shares. Share of wage employment that is in each respective sector (agriculture, manufacturing, and services), expressed as a percentage. Unit of observation: individual. Constructed by calculating the ratio of wage-employed workers whose main activity is in the given sector to total wage-employed workers, multiplied by 100, using data in the employment module.

## Thematic Area 9: Worker Demographics and Earnings

*All wage and earnings indicators are expressed in PPP-adjusted US dollars. See Appendix B.*

**Indicators 49 and 53 — Share of women in self-employment and wage employment.** Share of women in self-employment and wage employment, respectively, expressed as a percentage. Unit of observation: individual. Constructed by calculating the ratio of female workers in each employment type (self-employment and wage employment) to total workers in that respective employment type, multiplied by 100, using data in the employment and roster module.

**Indicators 50 and 54 — Average years of education (self-employed and wage workers).** Average years of education for self-employed workers and wage workers, respectively. Unit of observation: individual. Constructed by calculating the mean years of formal education completed by workers in each employment type (self-employment and wage employment), using data in the employment and roster module.

**Indicators 51 and 55 — Median age (self-employed and wage workers).** Median age for self-employed workers and wage workers, respectively. Unit of observation: individual. Constructed by calculating the median age of workers in each employment type (self-employment and wage employment), using data in the employment and roster module.

**Indicator 52 — Share of wage employees in public sector.** Share of wage employees in the public sector expressed as a percentage. Unit of observation: individual. Constructed by calculating the ratio of wage-employed workers whose employer is in the public sector (including government and state-owned enterprises) to total wage-employed workers, multiplied by 100, using data in the employment module.

**Indicators 56–58 — Median wage, cash only, in agriculture, manufacturing, and services.** Median cash wage for wage-employed workers in each respective sector (agriculture, manufacturing, and services). Unit of observation: individual. Constructed by calculating the median cash wage received by wage-employed workers whose main activity is in the given sector, using data in the employment module.

**Indicators 59–61 — Median earnings, cash and in-kind, in agriculture, manufacturing, and services.** Median total earnings (cash and in-kind combined) for workers in each respective sector (agriculture, manufacturing, and services). Unit of observation: individual. Constructed by calculating the median total earnings (including both cash payments and the imputed value of in-kind compensation) received by workers whose main activity is in the given sector, using data in the employment module.

## 6. Country Coverage by Indicator

The table below summarizes availability for each indicator across all country-wave combinations. ✓ = available; X = unlocated or not available.

Table 2.

Indicator Coverage Across Countries and Waves.

| Indicator                      | Ethiopia W4 | Ethiopia W5 | Malawi W4 | Malawi W5 | Nigeria W4 | Nigeria W5 | Tanzania W4 | Tanzania W5 | Uganda W7 | Uganda W8 |
|--------------------------------|-------------|-------------|-----------|-----------|------------|------------|-------------|-------------|-----------|-----------|
| 1. Households with ≥1 business | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 2. Electricity access          | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 4. Generator ownership         | ✓           | ✓           | X         | X         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 5. Separate premises           | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 6. Number of businesses        | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 7. Median business size        | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 8. Size category               | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 9. Non-HH employees            | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 10. Median business age        | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |

| Indicator                             | Ethiopia W4 | Ethiopia W5 | Malawi W4 | Malawi W5 | Nigeria W4 | Nigeria W5 | Tanzania W4 | Tanzania W5 | Uganda W7 | Uganda W8 |
|---------------------------------------|-------------|-------------|-----------|-----------|------------|------------|-------------|-------------|-----------|-----------|
| 11.Owner education                    | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 12. Female owner                      | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 13. Owner age                         | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 14. Formal credit — start-up          | ✓           | ✓           | X         | X         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 16.In-country relatives — start-up    | ✓           | ✓           | X         | X         | ✓          | ✓          | X           | X           | X         | X         |
| 17. Remittances — start-up            | X           | X           | X         | X         | ✓          | ✓          | X           | X           | X         | X         |
| 18. Household loan — start-up         | X           | X           | X         | X         | ✓          | ✓          | X           | X           | X         | X         |
| 19. Informal savings group — start-up | X           | ✓           | ✓         | ✓         | ✓          | ✓          | X           | X           | X         | X         |
| 20. Bank/MFI loan — start-up          | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 21.Cooperative/SACCO — start-up       | X           | X           | X         | X         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 22.NGO support— start-up              | X           | X           | X         | X         | ✓          | ✓          | X           | X           | ✓         | ✓         |
| 23. Other sources— start-up           | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 24. Tax ID / registration             | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 25.Selling to firms/state             | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | X         | X         |
| 27.Constraint: low demand             | ✓           | ✓           | X         | X         | ✓          | ✓          | X           | X           | ✓         | ✓         |
| 28. Constraint: credit access         | ✓           | ✓           | X         | X         | ✓          | ✓          | X           | X           | ✓         | ✓         |
| 30.Constraint: electricity access     | ✓           | ✓           | X         | X         | ✓          | ✓          | X           | X           | ✓         | ✓         |
| 31. Constraint: power outages         | ✓           | ✓           | X         | X         | X          | X          | X           | X           | X         | X         |
| 33. Constraint: internet              | X           | X           | X         | X         | ✓          | ✓          | X           | X           | X         | X         |
| 34.Constraint: insecurity/crime       | ✓           | ✓           | X         | X         | ✓          | ✓          | X           | X           | ✓         | ✓         |
| 36. Revenue per worker                | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 37. Median cost                       | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 38. Profit margin                     | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 39.wage in total employment           | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 40-42.self-employment in sector       | ✓           | ✓           | ✓         | ✓         | X          | X          | X           | X           | ✓         | ✓         |
| 43-45.total employment in sector      | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 46-48.wage employment in sector       | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 49-51.self-employed characteristics   | ✓           | ✓           | ✓         | ✓         | X          | X          | ✓           | ✓           | ✓         | ✓         |
| 52. wage employees in public sector   | X           | X           | X         | X         | X          | X          | X           | X           | ✓         | ✓         |

| Indicator                              | Ethiopia W4 | Ethiopia W5 | Malawi W4 | Malawi W5 | Nigeria W4 | Nigeria W5 | Tanzania W4 | Tanzania W5 | Uganda W7 | Uganda W8 |
|----------------------------------------|-------------|-------------|-----------|-----------|------------|------------|-------------|-------------|-----------|-----------|
| 53-55.wage employees characteristics   | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 56-58.Median wage (cash)               | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |
| 59-61.Median earnings (cash + in-kind) | ✓           | ✓           | ✓         | ✓         | ✓          | ✓          | ✓           | ✓           | ✓         | ✓         |

## 7. Using the Data

*This section provides practical guidance on using the harmonized dataset, including data structure and file organization, variable naming conventions. .*

### 7.1. Dataset Structure and File Organization

The NFE of Africa project produces three harmonized datasets covering five countries: Ethiopia, Malawi, Nigeria, Tanzania, and Uganda. The household-level dataset contains one record per household, including the household identifier, survey wave, sampling weight, region, and urban/rural classification. The business-level dataset contains one record per household business, including the household business identifier, as well as sector, firm size, formality, infrastructure access, and financial indicators. The individual-level dataset contains one record per individual, including the individual identifier, as well as employment status, sector of employment, and wage and earnings indicators. All three datasets follow consistent naming conventions and coding schemes to facilitate cross-country comparison, and are provided in Stata .dta format, which can be imported into other statistical software using standard data conversion tools.

Table 3.

Dataset Structure, File Organization, and Units of Observation.

| File Name               | Unit of Observation | Key Identifier(s)                     | Primary Use Case                  |
|-------------------------|---------------------|---------------------------------------|-----------------------------------|
| LSMS_HBI_HH.dta         | Household           | country + hhid + wave                 | Household-level analysis          |
| LSMS_HBI_BUSINESS.dta   | Household business  | country + hhid + hhbusiness_id + wave | Household business-level analysis |
| LSMS_HBI_INDIVIDUAL.dta | Individual          | country + hhid + indid + wave         | Employment and labor analysis     |

### 7.2. Harmonized Variables and Coding Rules

Table 4 summarizes the key harmonized variables across the three datasets: household identifier (hhid), household business identifier (hhbusiness\_id), individual identifier (indid), survey wave (wave), sampling weight (hhweight), region (region), urban/rural classification (urban), and sector (sector). For each variable, the table lists its harmonized name, its label in the final datasets, and the corresponding source

variable in each country's raw survey data. The table also documents country-specific definitions and coding rules — such as identifier composition, wave coding, region code ranges, and ISIC-based sector classification — so that users can clearly see how each variable maps across countries.

Table 3.

Harmonized Variables and Coding Rules.

| Harmonized variable | Label         | Country  | Original variable in raw data | Country-specific definition / notes     |
|---------------------|---------------|----------|-------------------------------|-----------------------------------------|
| hhid                | Household ID  | Ethiopia | household_id                  | String, 18 chars                        |
|                     |               | Malawi   | y4_hhid (W4), y5_hhid (W5)    | String, 8 chars                         |
|                     |               | Nigeria  | hhid                          | Numeric converted to string, 5–6 digits |
|                     |               | Tanzania | y4_hhid (W4), y5_hhid (W5)    | String, 8–11 chars                      |
|                     |               | Uganda   | hhid                          | String, 32 chars                        |
| hhbusiness_id       | hbusiness ID  | Ethiopia | enterprise_id                 | Structure: hhid+hhbusiness seq          |
|                     |               | Malawi   | enterprise_id                 | Structure: hhid+hhbusiness seq          |
|                     |               | Nigeria  | enterprise_id                 | Structure: hhid+hhbusiness seq          |
|                     |               | Tanzania | enterprise_id                 | Structure: hhid+hhbusiness seq          |
|                     |               | Uganda   | ent_id                        | Structure: hhid+hhbusiness seq          |
| indid               | Individual ID | Ethiopia | indid                         | Structure: hhid_individual seq          |
|                     |               | Malawi   | indid                         | Structure: hhid_individual seq          |
|                     |               | Nigeria  | indiv                         | Structure: hhid_individual seq          |
|                     |               | Tanzania | indid                         | Structure: hhid_individual seq          |
|                     |               | Uganda   | indid                         | Structure: hhid_individual seq          |
| wave                | Survey wave   | Ethiopia | wave                          | 4 = Wave 4, 5 = Wave 5                  |
|                     |               | Malawi   | wave                          | 4 = Wave 4, 5 = Wave 5                  |
|                     |               | Nigeria  | round                         | 4 = Wave 4, 5 = Wave 5                  |
|                     |               | Tanzania | round                         | 4 = Wave 4, 5 = Wave 5                  |
|                     |               | Uganda   | round                         | 7 = Round7, 8 = Round8                  |

| Harmonized variable | Label                                                        | Country  | Original variable in raw data        | Country-specific definition / notes                                                                                                                         |
|---------------------|--------------------------------------------------------------|----------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| hhweight            | Household sampling weight                                    | Ethiopia | pw_w4 (W4), pw_w5 (W5)               | W4: "Final adjusted weight"; W5: "Household sample weight"                                                                                                  |
|                     |                                                              | Malawi   | panelweight_2019 (W4), wt_cross (W5) | W4: panel weight 2019; W5: cross-sectional weight                                                                                                           |
|                     |                                                              | Nigeria  | wt_wave4 (W4), wt_wave5 (W5)         | W4/W5 cross-sectional weights                                                                                                                               |
|                     |                                                              | Tanzania | hhweight                             | Household sampling weight                                                                                                                                   |
|                     |                                                              | Uganda   | wgt                                  | Household sampling weight                                                                                                                                   |
| region              | Region                                                       | Ethiopia | saq01                                | 11 regions + 2 city administrations, coded 101–115 (see codebook)                                                                                           |
|                     |                                                              | Malawi   | district                             | 32 districts, coded 201–232 (see codebook)                                                                                                                  |
|                     |                                                              | Nigeria  | state                                | 36 states + FCT, coded 301–337 (see codebook)                                                                                                               |
|                     |                                                              | Tanzania | region                               | 26 mainland + 5 Zanzibar regions, coded 401–431 (see codebook)                                                                                              |
|                     |                                                              | Uganda   | subreg                               | 15 sub-regions, coded 501–515 (see codebook)                                                                                                                |
| urban               | Urban/Rural (1=Urban, 2=Rural)                               | Ethiopia | saq14                                | 1 = Urban, 0 = Rural; recoded to 1 / 2                                                                                                                      |
|                     |                                                              | Malawi   | reside                               | 1 = Urban, 0 = Rural; recoded to 1 / 2                                                                                                                      |
|                     |                                                              | Nigeria  | sector                               | 1 = Rural, 2 = Urban; recoded to 1 / 2                                                                                                                      |
|                     |                                                              | Tanzania | urban                                | 1 = Urban, 0 = Rural; recoded to 1 / 2                                                                                                                      |
|                     |                                                              | Uganda   | urban                                | 1 = Urban, 0 = Rural; recoded to 1 / 2                                                                                                                      |
| sector              | Sector (1=Agriculture, 2=Manufacturing, 3=Services, 4=Other) | Ethiopia | s12bq01b                             | 1 = Agriculture: ISIC 1–3; 2 = Manufacturing: ISIC 5–43; 3 = Services: ISIC ≥ 45                                                                            |
|                     |                                                              | Malawi   | hh_n09c (W4), hh_n09c_NEW (W5)       | W4: 1 = ISIC 1–3; 2 = ISIC 5–43; 3 = ISIC 45–99. W5: 1 = ISIC 100–399; 2 = ISIC 1000–3399; 3 = ISIC ≥ 4500                                                  |
|                     |                                                              | Nigeria  | s9q1b (W4), s8q2b (W5)               | 1 = Agriculture: ISIC 1–3 (W4) / 100–300 (W5); 2 = Manufacturing: ISIC 5–43 (W4) / 500–4390 (W5); 3 = Services: ISIC ≥ 45 (W4) / 4500–9900 (W5)             |
|                     |                                                              | Tanzania | n02_3                                | 1 = Agriculture: ISIC 1, 2, 3; 2 = Manufacturing: ISIC 5–43 (subset), 104–107; 3 = Services: ISIC 45–99 (subset), 471–479, 492–4923, 561–563, 532, 919, 934 |

| Harmonized variable | Label | Country | Original variable in raw data | Country-specific definition / notes                                                                                         |
|---------------------|-------|---------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
|                     |       | Uganda  | h12q01_1                      | 1 = Agriculture (codes 4, 5); 2 = Manufacturing (code 1); 3 = Services (codes 2, 3); 4 = Other (any other non-missing code) |

## 8. Known Limitations and Data Gaps

There are thirteen indicators could not be located in any of the five countries and were therefore removed from the list..

These include:

- internet access
- formal credit access ,
- financial accounts ,
- value chain input purchasing ,
- competition and premises, equipment, manufacture or management constraints ,
- skilled occupation share indicators and the poor worker share indicators .

Additionally, start-up capital source indicators (Indicators 14–23) have different coverage in these five countries: Nigeria shows the most coverage in every start-up capital source indicators, the second two countries are Ethiopia, Tanzania, and Uganda. Malawi only has five indicators in this aspect.

For monetary indicators, comparability across countries depends on the quality of the PPP conversion and on the consistency of the reference period used to measure revenue, costs, profit and wages across surveys. Users should treat cross-country comparisons of financial performance and earnings indicators with caution and consult Appendix B for full details.

Users who identify additional source variables for any unlocated indicator are encouraged to contact the dataset team.

## Appendix A: Survey Module Reference Table

This appendix provides a cross-reference of the survey modules in which the household business and employment data are located for each country and wave.

Table A1.

Survey Module Reference by Country and Indicator.

| Country | Earlier Wave | Business Module | Employment Module | Individual Module |
|---------|--------------|-----------------|-------------------|-------------------|
|---------|--------------|-----------------|-------------------|-------------------|

|          |        |                      |             |                 |
|----------|--------|----------------------|-------------|-----------------|
| Ethiopia | Wave 4 | Sections 12A and 12B | Section4    | Section 1 and 2 |
|          | Wave 5 | Sections 12A and 12B | Section4    | Section 1 and 2 |
| Malawi   | Wave 4 | Module N,            | Module E    | Module B and C  |
|          | Wave 5 | Module N             | Module E    | Module B and C  |
| Nigeria  | Wave 4 | Sections 9           | Sections 3  | Section 1 and 2 |
|          | Wave 5 | Sections 8           | Sections 4A | Section 1 and 2 |
| Tanzania | Wave 4 | Section N and I      | Section E   | Section B and C |
|          | Wave 5 | Section N and I      | Section E   | Section B and C |
| Uganda   | Wave 7 | Section 12           | Section 8   | Section 2 and 4 |
|          | Wave 8 | Section 12           | Section 8   | Section 2 and 4 |

## Appendix B: Monetary Indicator PPP Conversion Details

This appendix will document the PPP conversion factors and exchange rates applied to revenue, cost, profit, wage, and earnings indicators, including the reference year for conversion.

Table B1.

PPP Conversion Factors for Monetary Indicators by Country and Waves.

| Country  | Earlier Wave | Survey year | PPP year | PPP conversion factors |
|----------|--------------|-------------|----------|------------------------|
| Ethiopia | Wave 4       | 2018/19     | 2018     | 8.96                   |
|          | Wave 5       | 2021/22     | 2023     | 13.44                  |
| Malawi   | Wave 4       | 2019/20     | 2019     | 277.87                 |
|          | Wave 5       | 2024        | 2024     | 501.74                 |
| Nigeria  | Wave 4       | 2018/19     | 2018     | 124.54                 |
|          | Wave 5       | 2023/24     | 2023     | 205.17                 |
| Tanzania | Wave 4       | 2014/15     | 2014     | 717.62                 |
|          | Wave 5       | 2020/21     | 2020     | 694.78                 |
| Uganda   | Round 7      | 2018/19     | 2018     | 1241.17                |
|          | Round 8      | 2019/20     | 2019     | 1279.65                |

## Appendix C: Country-Specific Technical Notes by Indicator

This appendix provides country-specific technical notes for each indicator, including the survey module, question number(s), and variable name(s) used in construction.

### Thematic Area 1: Business Prevalence and Basic Characteristics

Table C1.Indicator 1 — Share of households with at least one household business.

| Country  | Earlier Wave | Later Wave | Source Variables                                              |
|----------|--------------|------------|---------------------------------------------------------------|
| Ethiopia | Wave 4       | Wave 5     | Section 12A Q1–Q8 (Yes response) OR any record in Section 12B |
| Malawi   | Wave 4       | Wave 5     | Count of business ID columns (1–5) in Module N                |
| Nigeria  | Wave 4       | Wave 5     | Q1_1 to Q1_8 (Yes to any of 8 business type questions)        |
| Tanzania | Wave 4       | Wave 5     | N2 (count of business IDs)                                    |
| Uganda   | Wave 7       | Wave 8     | Count of N00 (Business ID) in Section 12                      |

Table C2.

Indicator 5 — Share of household businesses operating in separate premises.

| Country  | Earlier Wave | Later Wave | Source Variables                                           |
|----------|--------------|------------|------------------------------------------------------------|
| Ethiopia | Wave 4       | Wave 5     | Section 12B Q2: operate location, codes 3, 4, 5, 8         |
| Malawi   | Wave 4       | Wave 5     | N16 location: codes 3–7                                    |
| Nigeria  | Wave 4       | Wave 5     | Q10/Q11: codes for industrial site, market, shop, roadside |
| Tanzania | Wave 4       | Wave 5     | N6 = 4 (permanent building other than home)                |

|        |        |        |                                              |
|--------|--------|--------|----------------------------------------------|
| Uganda | Wave 7 | Wave 8 | Section 12 N15 location: codes 3, 4, 5, 6, 7 |
|--------|--------|--------|----------------------------------------------|

Table C3.

Indicators 6,7, 8, 9 — Household business count, size, and non-HH employees.

| Country  | Earlier Wave | Later Wave | Source Variables                                 |
|----------|--------------|------------|--------------------------------------------------|
| Ethiopia | Wave 4       | Wave 5     | HH workers: Q3; hired employee: Q14. Section 12B |
| Malawi   | Wave 4       | Wave 5     | HH workers: N28; hired employees: N31            |
| Nigeria  | Wave 4       | Wave 5     | HH workers: Q12a; hired employees: Q13, Q14      |
| Tanzania | Wave 4       | Wave 5     | HH workers: N3; hired employees: N15             |
| Uganda   | Wave 7       | Wave 8     | HH workers: N08; hired employees: N11A, N11B     |

Table C4.

Indicator 10 — Median household business age.

| Country  | Earlier Wave | Later Wave | Source Variables                               |
|----------|--------------|------------|------------------------------------------------|
| Ethiopia | Wave 4       | Wave 5     | Section 12B Q8 (start date vs. interview date) |
| Malawi   | Wave 4       | Wave 5     | Survey year minus business start year          |
| Nigeria  | Wave 4       | Wave 5     | Q4b / Q4c (years ago started)                  |
| Tanzania | Wave 4       | Wave 5     | N7 (how long has the business existed)         |
| Uganda   | Wave 7       | Wave 8     | N04 (Survey year minus business start year)    |

## Thematic Area 2: Access to Infrastructure

Table C5.

Indicator 2 — Electricity access.

| Country  | Earlier Wave | Later Wave | Source Variables                                                                                                                                                                                                                                                                                                                                                                 |
|----------|--------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ethiopia | Wave 4       | Wave 5     | Section 10A Q34 (private or shared meter), restricted to home-based businesses                                                                                                                                                                                                                                                                                                   |
| Malawi   | Wave 4       | Wave 5     | N17(location only in ①industrial site②commerical area shop③other fixed place) & N18 (access to working electricity, N17 is business location. If not in the 3 types above, it skips to N20. So we expanded N17 options to capture electricity data); N17(location that restricted to home-based businesses) & {F19(dwelling electricity) or F11(main source of lighting energy)} |
| Nigeria  | Wave 4       | Wave 5     | Wave 5: Q10/Q20; Wave 4: Q11/Q48 (grid, generator, solar, rechargeable battery)                                                                                                                                                                                                                                                                                                  |
| Tanzania | Wave 4       | Wave 5     | N6 (location) & I17 (major fuel for lighting)                                                                                                                                                                                                                                                                                                                                    |
| Uganda   | Wave 7       | Wave 8     | N15 (location) & Section 10 Col 1 (grid electricity)                                                                                                                                                                                                                                                                                                                             |

Table C6.

Indicator 3 — Water access.

Table C7.

| Country  | Earlier Wave | Later Wave | Source Variables                                                      |
|----------|--------------|------------|-----------------------------------------------------------------------|
| Ethiopia | Wave 4       | Wave 5     | Section 10A Q21 (improved water), restricted to home-based businesses |
| Malawi   | Wave 4       | Wave 5     | Unlocated                                                             |

|          |        |        |                                                                                                                                               |
|----------|--------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Nigeria  | Wave 4 | Wave 5 | Wave5:Q10 (location) & Q38 (piped, borehole, protected well/spring);<br>Wave4: Q11 (location) & Q68 (piped, borehole, protected well/spring); |
| Tanzania | Wave 4 | Wave 5 | N6 (location) & I19 (piped, borehole, protected well/spring)                                                                                  |
| Uganda   | Wave 7 | Wave 8 | N15 (location) & Section 9 Col 7 (piped, borehole, protected well/spring)                                                                     |

Indicator 4 — Generator use.

| Country  | Earlier Wave | Later Wave | Source Variables                                                                                         |
|----------|--------------|------------|----------------------------------------------------------------------------------------------------------|
| Ethiopia | Wave 4       | Wave 5     | Section 10A Q34 (source of lighting = generator), home-based businesses                                  |
| Malawi   | Wave 4       | Wave 5     | <b>Unlocated</b>                                                                                         |
| Nigeria  | Wave 4       | Wave 5     | Wave 5: business costs for generator fuel/maintenance; Wave 4: Q23a use a generator or not(Yes response) |
| Tanzania | Wave 4       | Wave 5     | N6 (location) & I18 (household source of electricity = own generator)                                    |
| Uganda   | Wave 7       | Wave 8     | N15 (location) & Section 10 Col 6 (house uses generator)                                                 |

### Thematic Area 3: Owner Characteristics

Table C8.

Indicators 11,12, 13 — Owner education, sex, and age.

| Country  | Earlier Wave | Later Wave | Owner ID Variable                              | Linked To                                      |
|----------|--------------|------------|------------------------------------------------|------------------------------------------------|
| Ethiopia | Wave 4       | Wave 5     | Section 12B1 Q3 (Wave5)/Section 12B Q3(Wave 4) | Household roster (sex, age, education Q6)      |
| Malawi   | Wave 4       | Wave 5     | N12                                            | Household roster (sex, age, education ModuleC) |
| Nigeria  | Wave 4       | Wave 5     | Q6 (Wave 5) / Q5 (Wave 4)                      | Household roster (sex, age, education Q2/Q9)   |

|          |        |        |               |                                               |
|----------|--------|--------|---------------|-----------------------------------------------|
| Tanzania | Wave 4 | Wave 5 | N5            | Household roster (sex, age, education C7)     |
| Uganda   | Wave 7 | Wave 8 | Section12 N03 | Household roster (sex, age, education module) |

#### Thematic Area 4: Start-up Capital and Financing

Table C9.

Indicators 14–23 — Start-up capital sources.

| Country  | Earlier Wave | Later Wave | Source Variables | Coverage                                 |
|----------|--------------|------------|------------------|------------------------------------------|
| Ethiopia | Wave 4       | Wave 5     | Q7               | Indicators 14-16,19(Wave5).20.23 only4–3 |
| Malawi   | Wave 4       | Wave 5     | N05              | Indicators 15.19.20.23only               |
| Nigeria  | Wave 4       | Wave 5     | Q14, Q15         | All sources (Indicators 14–23)           |
| Tanzania | Wave 4       | Wave 5     | N8               | Indicators 14.15.20.21.23 only           |
| Uganda   | Wave 7       | Wave 8     | N05              | Indicators 14.15.20=23only               |

#### Thematic Area 5: Formalization and Market Linkages

Table C10.

Indicator 24 — Tax ID / government registration.

| Country  | Earlier Wave | Later Wave | Source Variables |
|----------|--------------|------------|------------------|
| Ethiopia | Wave 4       | Wave 5     | Q18              |
| Malawi   | Wave 4       | Wave 5     | N20c             |
| Nigeria  | Wave 4       | Wave 5     | Q11, Q12         |
| Tanzania | Wave 4       | Wave 5     | N21              |
| Uganda   | Wave 7       | Wave 8     | N22              |

Table C11.

Indicator 25 — Selling to other firms or the state.

| Country | Earlier Wave | Later Wave | Source Variables |
|---------|--------------|------------|------------------|
|---------|--------------|------------|------------------|

|          |        |        |           |
|----------|--------|--------|-----------|
| Ethiopia | Wave 4 | Wave 5 | Q9        |
| Malawi   | Wave 4 | Wave 5 | N22       |
| Nigeria  | Wave 4 | Wave 5 | Q24/Q23   |
| Tanzania | Wave 4 | Wave 5 | N9        |
| Uganda   | Wave 7 | Wave 8 | Unlocated |

## Thematic Area 6: Operational Constraints

Table C12.

Operational Constraints.

| Indicator              | Ethiopia   | Malawi | Nigeria    | Tanzania | Uganda     | Source            |
|------------------------|------------|--------|------------|----------|------------|-------------------|
| 26. Raw materials      | X          | X      | X          | X        | ✓<br>W7/W8 | Constraint module |
| 27. Low demand         | ✓<br>W4/W5 | X      | ✓<br>W4/W5 | X        | ✓<br>W7/W8 | Constraint module |
| 28. Credit access      | ✓<br>W4/W5 | X      | ✓<br>W4/W5 | X        | ✓<br>W7/W8 | Constraint module |
| 29. Qualified staff    | X          | X      | X          | X        | ✓<br>W7/W8 | Constraint module |
| 30. Electricity access | ✓<br>W4/W5 | X      | ✓<br>W4/W5 | X        | ✓<br>W7/W8 | Constraint module |
| 31. Power outages      | ✓<br>W4/W5 | X      | X          | X        | X          | Constraint module |
| 32. Water/telephone    | ✓<br>W4/W5 | X      | X          | X        | X          | Constraint module |
| 33. Internet           | X          | X      | ✓<br>W4/W5 | X        | X          | Constraint module |
| 34. Insecurity/crime   | ✓<br>W4/W5 | X      | ✓<br>W4/W5 | X        | ✓<br>W7/W8 | Constraint module |
| 35. Regulations/taxes  | ✓<br>W4/W5 | X      | ✓<br>W4/W5 | X        | ✓<br>W7/W8 | Constraint module |

## Thematic Area 7: Financial Performance

Indicators 36–38 (revenue per worker, cost, profit margin) are available for all five countries and both waves. Source variables are drawn from the revenue, expenditure, and cost sections of the household business module in each survey. All values are converted to PPP-adjusted US dollars; see Appendix B.

## Thematic Area 8: Employment Structure

Indicators 39–48 are available for all five countries and both waves. Source variables are drawn from the employment and labour market modules of each survey. Sector classification (agriculture, manufacturing, services) is based on industry or activity codes in each instrument.

### Thematic Area 9: Worker Demographics and Earnings

Table C13.

Worker Demographics and Earnings.

| Indicator                               | Ethiopia   | Malawi     | Nigeria    | Tanzania   | Uganda     |
|-----------------------------------------|------------|------------|------------|------------|------------|
| 49. Share of women(self-employed)       | ✓<br>W4/W5 | ✓<br>W4/W5 | X          | ✓<br>W4/W5 | ✓<br>W7/W8 |
| 53. Share of women(wage employees)      | ✓<br>W4/W5 | ✓<br>W4/W5 | ✓<br>W4/W5 | ✓<br>W4/W5 | ✓<br>W7/W8 |
| 50. Education(self-employed)            | ✓<br>W4/W5 | ✓<br>W4/W5 | X          | ✓<br>W4/W5 | ✓<br>W7/W8 |
| 54. Education(wage employees)           | ✓<br>W4/W5 | ✓<br>W4/W5 | ✓<br>W4/W5 | ✓<br>W4/W5 | ✓<br>W7/W8 |
| 51. Age(self-employed)                  | ✓<br>W4/W5 | ✓<br>W4/W5 | X          | ✓<br>W4/W5 | ✓<br>W7/W8 |
| 55. Age(wage employees)                 | ✓<br>W4/W5 | ✓<br>W4/W5 | ✓<br>W4/W5 | ✓<br>W4/W5 | ✓<br>W7/W8 |
| 52.Public sector(wage employees)        | X          | X          | X          | X          | ✓<br>W7/W8 |
| 56–58. Median wage (cash)               | ✓<br>W4/W5 | ✓<br>W4/W5 | ✓<br>W4/W5 | ✓<br>W4/W5 | ✓<br>W7/W8 |
| 59–61. Median earnings (cash + in-kind) | ✓<br>W4/W5 | ✓<br>W4/W5 | ✓<br>W4/W5 | ✓<br>W4/W5 | ✓<br>W7/W8 |

Worker demographic and earnings indicators are constructed by linking individual worker records to the household roster and education modules using worker identifiers. All wage and earnings indicators are expressed in PPP-adjusted US dollars; see Appendix B.