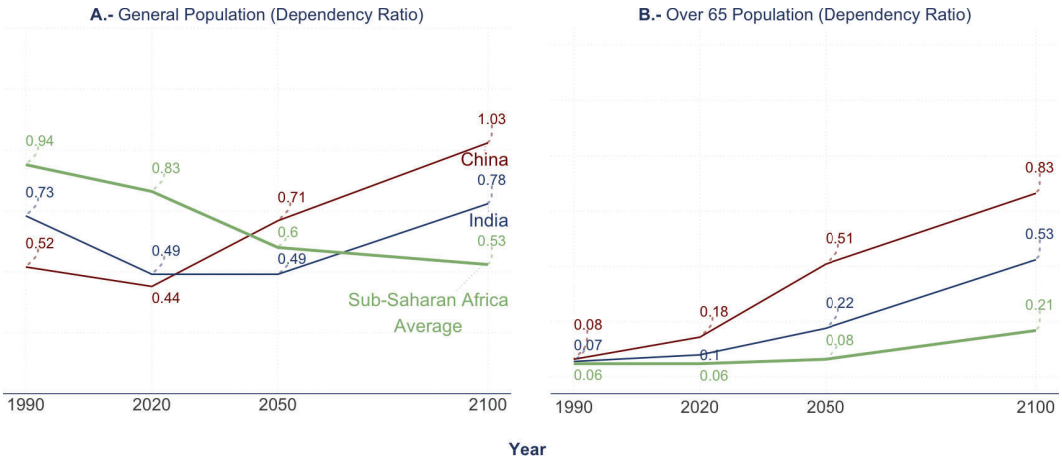
# Online Appendix A: Supplementary Tables and Figures

Online Appendix Table A1: Total and Over-60 Population and Population Growth in Selected Countries: 1990-2100

| | GDP per capita (PPP) | Total Population (m.) | Over-60 Population (m.) | | | | Over-60 Population Share | | | | Over-60 Population Growth | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2020 | 2020 | 1990 | 2020 | 2050 | 2100 | 1990 | 2020 | 2050 | 2100 | 1990-2020 | 2020-2050 | 2050-2100 |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
| Malawi | 622 | 19 | 1 | 1 | 3 | 12 | 5% | 4% | 7% | 21% | 49% | 240% | 369% |
| Uganda | 847 | 44 | 1 | 1 | 5 | 26 | 4% | 3% | 5% | 20% | 62% | 282% | 447% |
| Ethiopia | 919 | 117 | 2 | 6 | 19 | 78 | 4% | 5% | 9% | 24% | 171% | 229% | 318% |
| Tanzania | 1,104 | 62 | 1 | 3 | 9 | 49 | 5% | 5% | 7% | 20% | 145% | 218% | 425% |
| Nigeria | 2,075 | 208 | 5 | 10 | 25 | 97 | 5% | 5% | 7% | 18% | 103% | 152% | 286% |
| Ghana | 2,177 | 32 | 1 | 2 | 6 | 16 | 4% | 6% | 11% | 21% | 168% | 214% | 174% |
| South Africa | 5,742 | 59 | 2 | 5 | 12 | 20 | 6% | 9% | 17% | 26% | 118% | 141% | 61% |
| Sub-Saharan Africa | 1,489 | 1,109 | 24 | 53 | 156 | 644 | 5% | 5% | 7% | 19% | 121% | 194% | 313% |
| Rest of world | 12,446 | 6,732 | 459 | 1,008 | 1,976 | 2,439 | 10% | 15% | 26% | 35% | 119% | 96% | 23% |

Notes: This figure presents the information presented in Figure 3, including population data from 1990 and projections extending to 2100. GDP per capita (adjusting for purchasing power parity (PPP) and measured in international current international dollars) data are from the World Bank. Population data and growth calculations are based on the World Population Prospects, 2022, Medium Fertility Variant.

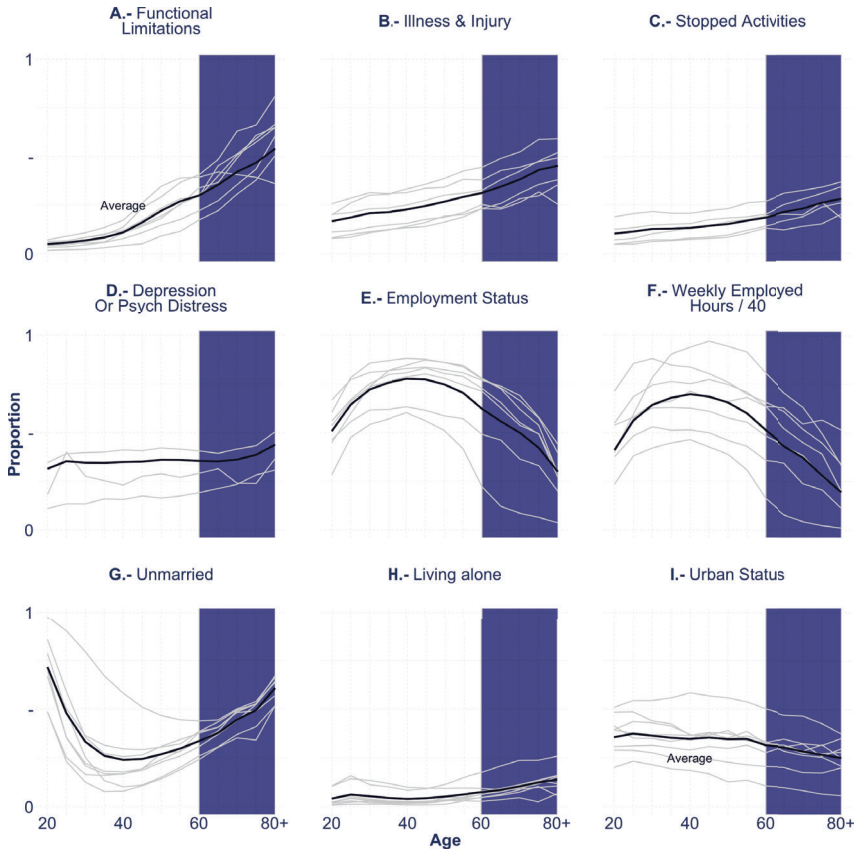



Online Appendix Figure A1: Dependency Ratios (over-65)

Notes: Figure replicates Panels E and F of Figure 1 in the main text, presenting dependency ratios using an old-age cutoff of 65 instead of 60. Data are from the World Population Prospects 2022, Medium Fertility Variant.

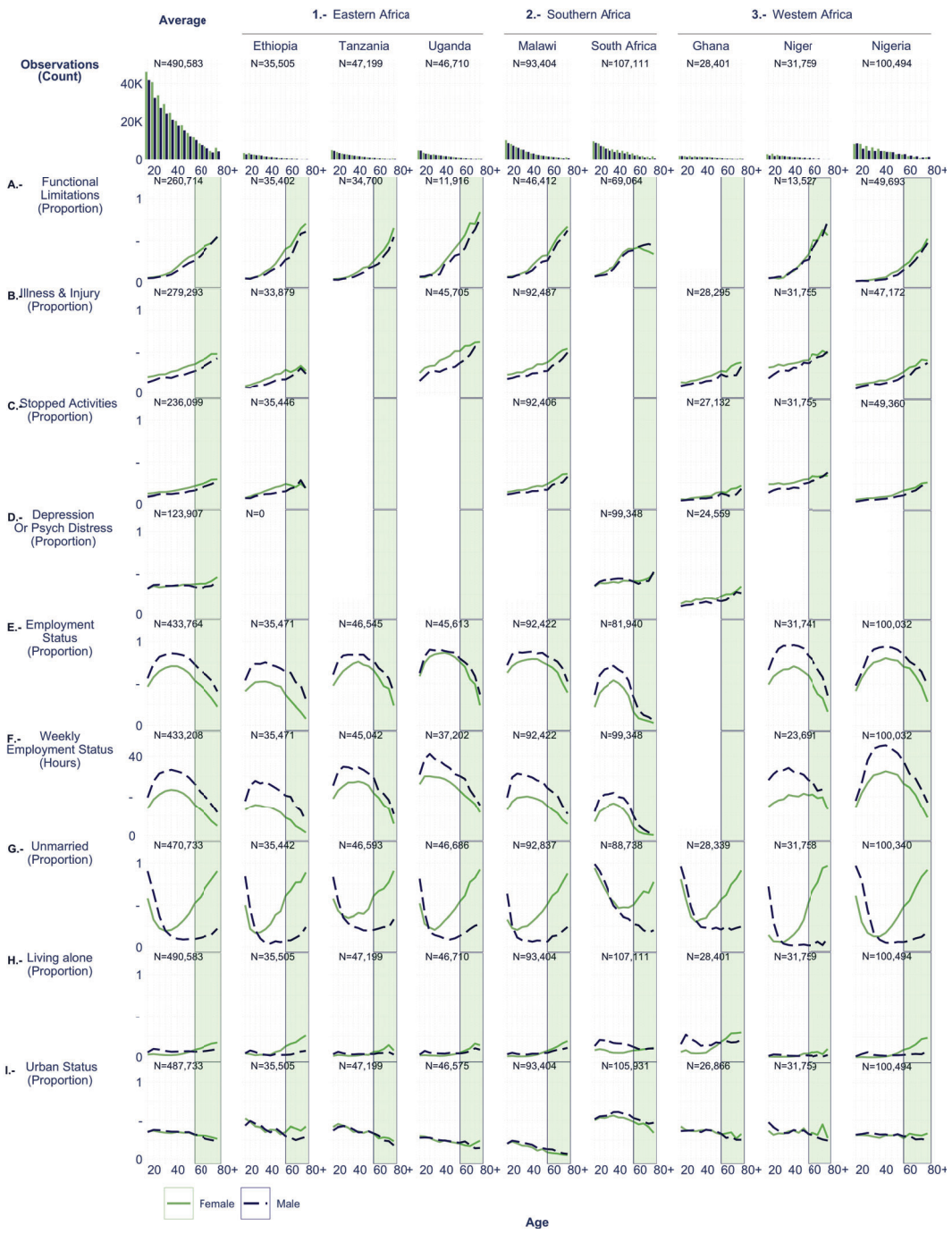

Online Appendix Figure A2: Countries in the Descriptive Analysis Sample

Notes: Data are from the World Population Prospects 2022, Medium Fertility Variant. Percent of total Sub-Saharan African population as of 2020 in parentheses.



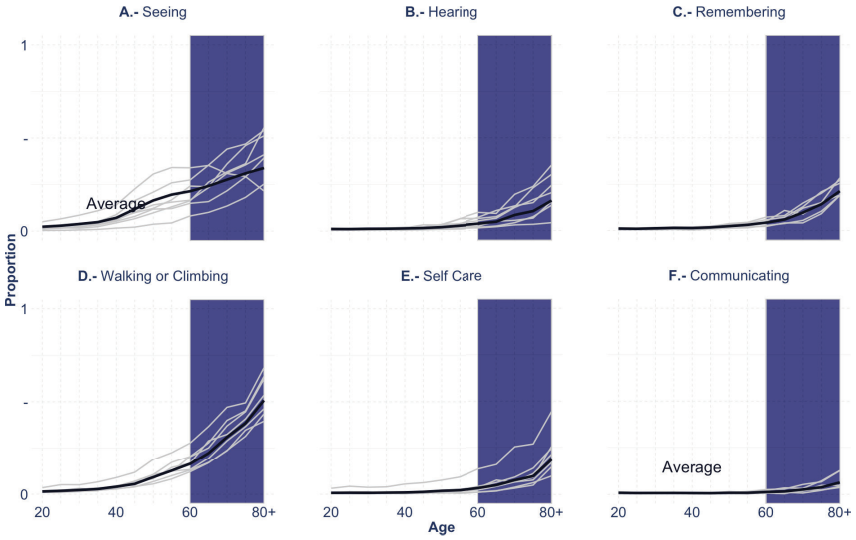

Online Appendix Figure A3: Employment, Health, & Living Arrangements over the Life Course: Aggregate, no weights

Notes: (1) Panels depict (unweighted) average values within 5-year age bins, pooling across countries and multiple waves of data. (2) Panel A: Functional limitations includes whether the individual reports difficulty with any one of (A) seeing, (B) hearing, (C) remembering, (D) walking or climbing, (E) with self care, or with (F) communicating. (3) Panels B and D: Recall period for any illness and injury is 4 weeks for LSMS Nigeria, LSMS Ethiopia (waves 3 and 4), LSMS Uganda, and EHCVM Niger; 2 weeks for LSMS Malawi; 2 months for LSMS Ethiopia (wave 2). Only collected in certain waves in Nigeria LSMS. (4) Panel D: GSPS (Ghana) uses the Kessler Psychological Distress Scale (K10) to measure psychological distress (including symptoms of depression and anxiety). LSMS uses the Center for Epidemiologic Studies Depression Scale (CESD-10) scale to measure depression. (5) Panels E and F: Employment includes salaried/wage work, agriculture, causal labor, and self-employment. Recall period for work activities and hours worked is over last 7 days. As an exception, NIDS South Africa asks whether currently employed (but then also collects hours worked over the past 7 days). (6) See the online appendix for more details on which outcomes are available for each country and wave.



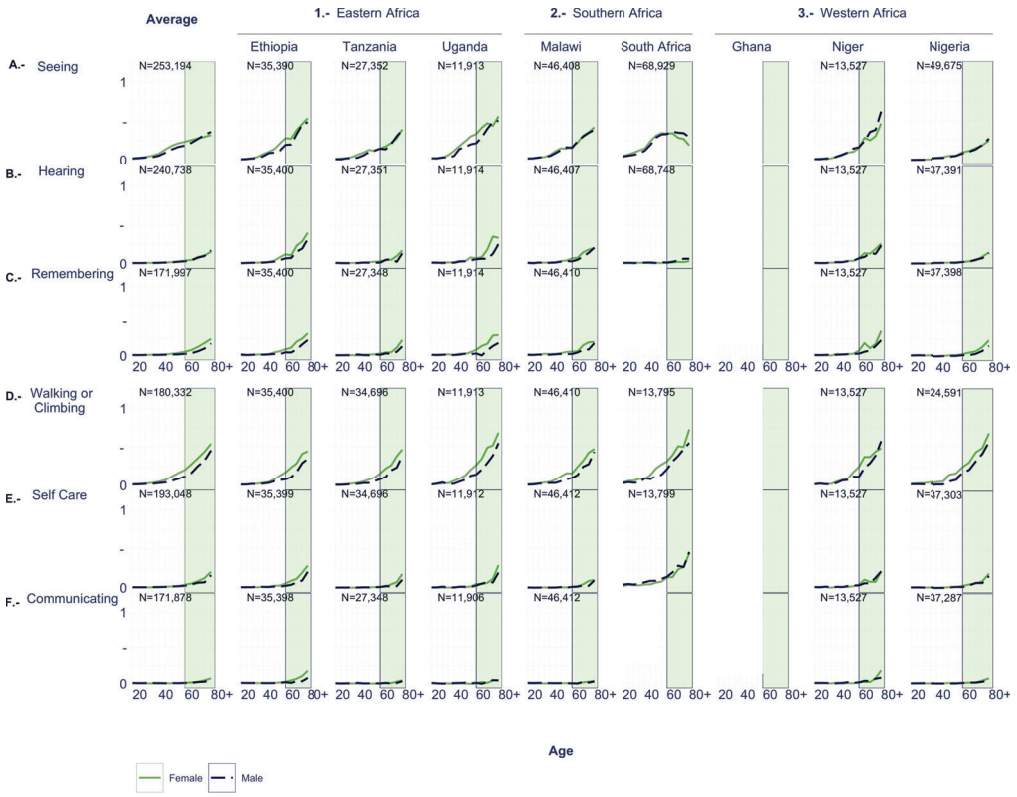

Online Appendix Figure A4: Employment, Health, & Living Arrangements over the Life Course: Country-level, no weights

Notes: (1) Panels depict (unweighted) average values within 5-year age bins, separately for males and females, and pooling across multiple waves of data. Number of non-missing observations listed at the top of each panel. Missing panels in countries where comparable data is not available. (2) Panel A: Functional limitations includes whether the individual reports difficulty with any one of (A) seeing, (B) hearing, (C) remembering, (D) walking or climbing, (E) with self care, or with (F) communicating. (3) Panels B and C: Recall period for any illness and injury is 4 weeks for LSMS Nigeria, LSMS Ethiopia (waves 3 and 4), LSMS Uganda, and EHCVM Niger; 2 weeks for LSMS Malawi; 2 months for LSMS Ethiopia (wave 2). Only collected in certain waves in Nigeria LSMS. (4) Panel D: GSPS (Ghana) uses the Kessler Psychological Distress Scale (K10) to measure psychological distress (including symptoms of depression and anxiety). LSMS uses the Center for Epidemiologic Studies Depression Scale (CESD-10) scale to measure depression. (5) Panels E and F: Employment includes salaried/wage work, agriculture, causal labor, and self-employment. Recall period for work activities and hours worked is over last 7 days. As an exception, NIDS South Africa asks whether currently employed (but then also collects hours worked over the past 7 days). (6) See the online appendix for more details on which outcomes are available for each country and wave.




Online Appendix Figure A5: Functional Limitations over the Life Course: Aggregate, no weights

Notes: Panels depict (unweighted) average values within 5-year age bins, pooling across countries and multiple waves of data. Panels display whether individuals report difficulty with (A) seeing, (B) hearing, (C) remembering, (D) walking or climbing, (E) with self care, or with (F) communicating. Relevant data are available for select waves of the LSMS (Nigeria, Tanzania, Uganda, Malawi, Ethiopia), the EHCVM (Niger), and the NIDS (South Africa). See the online appendix for more details.




Online Appendix Figure A6: Functional Limitations over the Life Course: Country-level, no weights

Notes: Panels depict (unweighted) average values within 5-year age bins, separately for males and females, and pooling across multiple waves of data. Number of non-missing observations listed at the top of each panel. Panels display whether individuals report difficulty with (A) seeing, (B) hearing, (C) remembering, (D) walking or climbing, (E) with self care, or with (F) communicating. See the online appendix for more details.

# Online Appendix B: Data and Measurement

This paper derives its primary outcomes from household surveys collected across the countries of interest. These datasets include the Living Standards Measurement Survey (LSMS; Ethiopia, Malawi, Nigeria, Tanzania, Uganda), the Ghana Socioeconomic Panel Survey (GSPS), the Harmonized Survey on Households Living Standards (EHCVM; Niger) (along with related precursor ECVMA), and the National Income Dynamics Survey (NIDS; South Africa). Aggregating across survey waves provides a sample of over a million individuals, which is reduced to around half when restricted to individuals at least age 20. A brief description of the data sources used per country can be consulted in Online Appendix Table B1. Historical, current, and projected populations are taken from the World Population Prospects 2022, using the Medium Fertility Variant for population projections (UN, 2022).

Additionally, insights regarding the current policy environment of the region, in terms of various key indicators, are derived from various sources, such as the World Bank's World Development Indicators, the United Nations Department of Economic and Social Affairs Population Division (UNDP), the Global Health Observatory at the World Health Organization (WHO), the World Bank's Development Indicators, the WHO's Global Health Workforce Statistics, Organization for Economic Cooperation and Development (OECD), the Universal Health Coverage (UHC) multi-stakeholder data platform, and the International Labour Organization (ILO). Further details of the key indicators extracted from these data sources are available in Online Appendix Table B2.

## Primary Outcomes

We focus on six families of primary outcomes: (1) urban status, (2) employment, (3) living arrangements, (4) health, (5) psychological health, and (6) functional limitations. These six families together capture our two key domains of focus: health and health care (including illness and injury, psychological health, and functional limitations), and financial and non-financial support (including urban status, employment, and living arrangements). Below we describe our intended construction of each outcome, which is followed by a description of each individual country's dataset, noting key differences in variable construction.

*Description of primary outcomes*

1. **Urban Status:** measured as an indicator for whether the household is in an urban area (versus a rural area).

2. **Employment:** captured using two outcomes:

   (a) **Employment Status:** measured as an indicator for working in any of three categories: (1) working in household agriculture, (2) working at a household business, or (3) working outside the household in the recall period of the respective country/survey wave. While most countries/waves use a 7-day recall period, the recall period does in some cases vary across countries/waves, as noted in the country-wise exceptions below. Many surveys ask about unpaid apprenticeships, but we exclude this measure from our primary measure of employment status.

   (b) **Weekly Work Hours**: measured as the total hours worked in the member's primary and secondary job over the recall period, and in some cases reported as a proportion of hours work out of a usual forty hour week. If the recall period for work hours is longer than 7 days, we calculate total hours over the given recall period, and then convert it to a weekly figure using the available data on "months per year," "weeks per month," "days per weeks" and "hours per day." Thus in some cases, weekly work hours capture average weekly work hours over a longer recall period.

3. **Living Arrangements:** captured using two outcomes:

   (a) **Living alone:** measured as in indicator for living in a single-person household, based on the household roster.

   (b) **Unmarried:** measured as an indicator for not being married at the time of survey (this can include widowed and separated/divorced; for married individuals, also available is data on whether the marriage is monogamous or polygamous).

4. **Health:** captured using two outcomes:

   (a) **Illness/Injury:** measured as an indicator for suffering any illness or injury during the given recall period. The recall period ranges from 2 weeks to 2 months across the various countries/waves, as specified below.

   (b) **Stopped Activities**: measured as an indicator for having stopped usual activities due to an illness or injury during the given recall period.

   (c) Health Insurance Coverage: Data on health insurance coverage is available in several countries and waves. However, since coverage rates are generally low (Ghana being a notable exception), we exclude this as a primary outcome in our analysis.

5. **Psychological health:** measured as experiencing symptoms consistent with depression (in the NIDS; South Africa and LSMS; Nigeria) or with moderate or severe psychological distress (in the GSPS; Ghana). In the NIDS and LSMS Nigeria, depression was measured using the Center for Epidemiological Studies Depression scale (CESD), with scores of 10 or higher (on a scale from 1 to 30) considered as depressed. In Nigeria, the measure is only available for the household head or a senior member, and only available in the third wave, so we exclude this measure. In the GSPS, psychological distress was measured using the Kessler Psychological Distress Scale (K10), with scores of 25 or higher (on a scale from 10 to 50) considered as consistent with moderate or severe distress. Note that measures of subjective well-being (self-reported life satisfaction) are available for select countries and waves, but we do not include these in the analysis, instead focusing on measures of psychological health collected using standard scales (the CESD for depression, and K10 for psychological distress).

6. **Functional Limitations:** measured as indicators for whether the respondent has any difficulty (a) seeing, (b) hearing, (c) walking or climbing stairs, (d) remembering or concentrating, (e) with self-care, or (f) communicating. In our standard measure, conditions for having a functional limitation include: (a) for difficulty seeing: having trouble with vision, even if wearing glasses, (b) for difficulty hearing: trouble hearing, even if wearing a hearing aid, (e) for difficulty with self-care: washing, toileting, feeding or dressing, and (f) for difficulty communicating: understanding or being understood. Unless mentioned otherwise, we use this standard measure in all datasets.

## Online Appendix Table B1: Data Sources of Primary Outcomes

| Country/ Data source | Waves/Year | Primary outcomes: Families | | | | | | Recall period | |
|---|---|---|---|---|---|---|---|---|---|
| | | Urban status | Employment | Living arrangements | Health | Psychological health | Functional limitations, disabilities | Employment | Illness /injury |
| Niger/EHCVM & ECVMA | 1/2011<br>2/2014<br>3/2018 | Y | Y† | Y | Y | N | Y* | W1: 30 days<br>W2: 7 days<br>W3: 7 days | W1: 4 weeks<br>W2: 4 weeks<br>W3: 30 days |
| Malawi/LSMS | 2/2004<br>3/2010<br>4/2016<br>5/2019 | Y | Y | Y | Y | N | Y* | 7 days | 2 weeks |
| Uganda/LSMS | 1/2009<br>2/2010<br>3/2011<br>4/2013<br>5/2015<br>6/2018<br>7/2019 | Y | Y | Y | Y | N | Y* | 7 days | 30 days |
| Ethiopia/LSMS | 2/2013<br>3/2015<br>4/2018 | Y | Y | Y | Y | N | Y | 7 days | W2: 2 months<br>W3: 4 weeks<br>W4: 4 weeks |
| Tanzania/LSMS | 1/2008<br>2/2010<br>3/2012<br>4/2014<br>5/2020 | Y | Y | Y | N | N | N | 7 days | N/A |
| Nigeria/LSMS | 1/2010<br>2/2012<br>3/2015<br>4/2018 | Y | Y | Y | Y | Y* | Y† | 7 days | 4 weeks |
| Ghana/GSPS | 1/2009-10<br>2/2013-14<br>3/2017-18 | Y | N | Y | Y | Y | N | N/A | N/A |
| South Africa/NIDS | 1/2008<br>2/2010-11<br>3/2012<br>4/2014-15<br>5/2017 | N | Y | Y | N | Y | Y† | 30 days | NA |

* indicates partial availability; † indicates the question was asked differently than other datasets; Y is short for Yes; N is short for No.

*Country-level data and notable exceptions*

*Niger*

We use three waves of data from the Harmonized Survey on Households Living Standards (EHCVM)[27] and the closely-related the National Survey on Household Living Conditions and Agriculture (ECVMA)[28] surveys in Niger: wave 1 (ECVMA) in 2011, wave 2 (ECVMA) in 2014, and wave 3 (EHCVM) in 2018. The following key outcomes are available across the waves:

- Urban status
- Employment - 30 day recall period for wave 1, 7 day recall period for waves 2 and 3
  - Employment status: part-time/occasional employment is measured separately in wave 1, but measured along with salaried employment in waves 2 and 3. To be consistent across waves, we include part-time/occasional employment as part of salaried employment in wave 1. Employment in agriculture and in the household business includes both paid and unpaid work in waves 1 and 2, but only include paid work in wave 3.
  - Weekly work hours: measured as average weekly hours over the last 12 months, measured using months worked per year, days worked per week and hours worked per day in wave 1, months per year, weeks per month, days per week and hours per week in wave 2, and months per year, days per month and hours per day in wave 3. We include hours worked in secondary occupations in our calculation of weekly hours.
- Living arrangements:
  - Living alone
  - Unmarried
- Health:
  - Illness/injury - 4 week recall period in waves 1 and 2, 30 day recall period in wave 3
  - Functional Limitations: This data is only available in wave 3.

*Malawi*

We use four waves of data from the Living Standards Measurement Study in Malawi: wave 2 in 2004, wave 3 in 2010, wave 4 in 2016, and wave 5 in 2019. We exclude the first wave since the data are not available publicly. The following key outcomes are available across the waves:

- Urban status
- Employment - 7 day recall period
  - Employment status: For working outside the household, we include both casual part-time work and wage or salaried work since they were asked separately. For working at a household business, we include both running and helping in the business, since they were asked separately. Across all waves, employment outside the household excludes unpaid work; employment in agriculture or in household business does not specify paid versus unpaid work.
  - Weekly work hours
- Living arrangements:
  - Living alone

[27] In the original French, the Enquête Harmonisée sur le Conditions de Vie des Ménages.
[28] In the original French, the Enquête National sur les Conditions de Vie des Ménages et Agriculture

  - Unmarried
- Health:
  - Illness/injury - 2 week recall period
  - Functional Limitations: This data is only available in waves 3 and 5.
- Psychological health: The Malawi LSMS includes a measure of subjective well-being (self-reported life satisfaction); however, we do not include this as a main outcome.

*Uganda*

We use seven waves of data from the Living Standards Measurement Study in Uganda: wave 1 in 2009, wave 2 in 2010, wave 3 in 2011, wave 4 in 2013, wave 5 in 2015, wave 6 in 2018 and wave 7 in 2019. The following key outcomes are available across the waves:

- Urban status
- Employment - 7 day recall period
  - Employment status: Across all waves, employment outside the household excludes unpaid work; employment in household business includes both paid and unpaid work, and employment in agriculture does not specify paid versus unpaid work.
  - Weekly work hours
- Living arrangements:
  - Living alone
  - Unmarried
- Health:
  - Illness/injury - 30 day recall period
  - Functional Limitations: This data is only available in waves 1 and 2.

*Ethiopia*

We use three waves of data from the Living Standards Measurement Study in Ethiopia: wave 2 in 2013, wave 3 in 2015, and wave 4 in 2018. We exclude the first wave since it only covers rural areas. The following key outcomes are available across the waves:

- Urban status
- Employment - 7 day recall period
  - Employment status: Across all waves, employment outside the household excludes unpaid work; employment in agriculture or in household business does not specify paid versus unpaid work.
  - Weekly work hours
- Living arrangements:
  - Living alone
  - Unmarried
- Health:
  - Illness/injury - 2 month recall period for wave 2, 4 weeks for waves 3 and 4
  - Functional Limitations

*Tanzania*

We use five waves of data from the Living Standards Measurement Study in Tanzania: wave 1 in 2008, wave 2 in 2010, wave 3 in 2012, wave 4 in 2014, and wave 5 in 2020. The following key outcomes are available across the waves:

- Urban status
- Employment - 7 day recall period
  - Employment status: In wave 1, working in agriculture and the household business are defined as working non-zero hours in that category, since direct measures were not available. Direct measures are available in other waves. Across waves 1-3 and wave 5, employment outside the household excludes unpaid work; employment in agriculture or in household business does not specify paid versus unpaid work. Wave 4 includes both about paid and unpaid work for measuring employment status outside the household.
  - Weekly work hours
- Living arrangements:
  - Living alone
  - Unmarried
- Health:
  - Functional Limitations: This data is only available in waves 2, 4, and 5, and only partially available in wave 1. Wave 1 only measures difficulty walking or climbing stairs, and difficulty with self-care. Difficulty walking or climbing stairs was assessed based whether the household member can: (i) do vigorous activities, (ii) walk uphill, (iii) walk over 100 m, (iv) walk more than 1 kilometer, and (v) bend over or stop.
- Psychological health: The Tanzania LSMS includes a measure of subjective well-being (self-reported life satisfaction); however, we do not include this as a main outcome.

*Nigeria*

We use four waves of data from the Living Standards Measurement Study in Nigeria: wave 1 in 2010, wave 2 in 2012, wave 3 in 2015, and wave 4 in 2018. Each wave consisted of a post-planting and post-harvest visit; for our purposes, we consider this as eight "waves." The following key outcomes are available across the waves, and measured as described above, unless otherwise noted:

- Urban status
- Employment - 7 day recall period
  - Employment status: in wave 4, working outside the household includes only paid work, while in waves 1-3 the question does not specify paid (versus unpaid) work.
  - Weekly work hours
- Living arrangements
  - Living alone
  - Unmarried
- Health:
  - Illness/injury - 4 week recall period
  - Functional Limitations: In wave 3, difficulty walking or climbing was assessed based whether the household member can: (i) walk uphill, (ii) walk over 100 m, and (iii) bend over or stop. Other waves use the standard measure for functional limitations.
- Psychological health: measured using CES-D, only for the household head or a senior member of the household. We do not use this measure in our analysis.

*Ghana*

We use three waves of data from the Ghana Socioeconomic Panel Survey (GSPS): wave 1 in 2009-10, wave 2 in 2013-14, and wave 3 in 2017-18.[29] The following key outcomes are available across the waves:

- Urban status
- Employment: excluded from these surveys since agricultural employment was collected at the household level, and so participation in this important component of agriculture could not be assigned to a specific individual.
- Living arrangements:
  - Living alone
  - Unmarried
- Health:
  - Illness/injury - 2 week recall period
- Psychological health: psychological distress was measured using the Kessler Psychological Distress Scale (K10), with scores of 25 or higher (on a scale from 10 to 50) considered as consistent with moderate or severe distress. This measure was only collected for the household head, their spouse (if applicable) and one other randomly-chosen individual above age 12 (two others if the household head does not have a spouse).

*South Africa*

We use five waves of data from the National Income Dynamics Study in South Africa: wave 1 in 2008, wave 2 in 2010-11, wave 3 in 2012, wave 4 in 2014-15, and wave 5 in 2017. The following key outcomes are available across the waves:

- Employment - 7 day recall period
  - Employment status: measured as an indicator for working non-zero hours in a primary or secondary occupation, or having engaged in self-employment, casual work, agriculture or with other people in their business activities in the past 30 days. These indicators do not capture paid versus unpaid work, although this information is available in other questions in the employment module.
  - Weekly work hours: measured as total hours worked in each of the above categories in the past 30 days.
- Living arrangements:
  - Living alone
  - Unmarried
- Health:
  - Functional Limitations: This data is only available in waves 2-5. Waves 3-5 only capture difficulty seeing and hearing. Wave 2 includes difficulty walking or climbing stairs and difficulty with self-care (along with seeing and hearing). Note that in the NIDS data, difficulty seeing is defined as using spectacles, difficulty hearing is defined as using a hearing aid, difficulty walking or climbing stairs is defined based on difficulty climbing a flight of stairs or walking 200-300 meters, and finally, difficulty with self-care is defined as difficulty dressing, bathing, eating, using the toilet, or cooking for oneself.
- Psychological health: depression is measured using the Center for Epidemiological Studies Depression scale (CESD), with scores of 10 or higher (on a scale from 1 to 30) considered as being depressed.

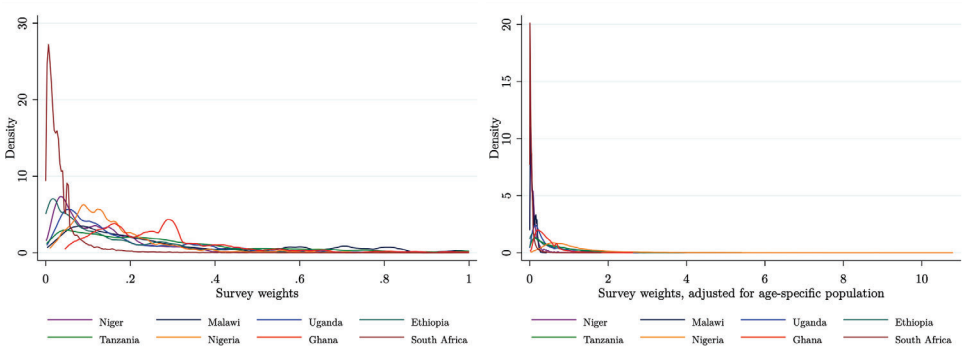
[29] Sincere thanks to the GSPS team for providing additional support and clarification on this dataset.

*Weights*

Appropriate country- and wave-specific survey weights that maintain representativeness at the national level are included in each of the datasets (as described in the respective documentation). In the (few) cases where weights are missing, we impute weights using the wave- and country-specific mean. This applies to 0.6% of the relevant (age 20 and above) observations from Uganda (LSMS), 8% of observations from Ghana (GSPS), 0.4% of observations from Nigeria (LSMS), and 13% of observations from South Africa (NIDS).

For the analyses presented here, these country- and wave-specific survey weights are re-scaled to range from 0 to 1 (for consistency across surveys and waves), then further adjusted to account for the country-specific and age group-specific population in the relevant (wave-specific) year. Specifically, the (re-scaled) survey weights are multiplied by the ratio of the estimated population in each country/year/age-group to the number of individuals in each country/year/age-group in the sample.

Densities of the (re-scaled) survey weights and population-adjusted weights (used for the analyses) are presented below.




Online Appendix Figure B1: Density of Weights

## Key Indicators

In addition to the primary outcomes detailed in the preceding section, our study undertook a comprehensive revision of key indicators to delineate the characteristics of our focal region (for a quick summary, refer to Table B2). This approach aimed to capture the diverse policy landscapes not only across different global regions but also within the individual nations of Sub-Saharan Africa. Furthermore, our analysis incorporates the income group and regional classifications established by the World Bank and United Nations Development Programme (UNDP). These classifications, including lower-middle-income, and high-income countries,[30] are integral to our study as they facilitate wealth and income comparisons to understand the economic context within our region of interest. The set of indicators we have chosen to emphasize includes:

1. Gross domestic product (World Bank Development): A fundamental economic metric that underscores the region's overall economic output and serves as a key indicator to capture economic activity. This measure often falls short in providing a suitable measure of people's general material well-being, and more particularly the material well-being of the elder.

2. Life expectancy at age 60 (World Health Organization): Defined as the average number of years that a person of 60 years old could expect to live, if they were to pass through

[30] Lower and middle-income economies are defined as those countries with a gross national income (GNI) per capita between $1,136 and $13,845; high-income economies are those with a GNI per capita of $13,846 or more.

life exposed to the age-sex specific death rates prevailing at the time of 60 years old, for a specific year, in a given country, territory, or geographic area. This metric aims to capture the quality of life for older populations and offer insights into the mortality pattern that prevails across all age groups above 60 years.

3. Pension coverage (ILO Social Protection Platform): According to ILO, pensions are the most widespread form of social protection in the world, thus monitoring countries progress towards universal coverage is priority. The main objective of pension systems is to prevent poverty and provide income security to older women and men.

4. Social protection expenditure on older persons (ILO Social Protection Platform): Social security pensions serve as fundamental instruments in guaranteeing income security for individuals as they age. This measure gauges the financial commitment to social protection programs specifically tailored for elderly individuals, safeguarding their economic well-being.

5. Domestic government health expenditure (World Health Organization Global Health Expenditure): Calculated based on the average domestic general government health expenditures per person in USD. This captures general government health expenditure relative to the population size, facilitating comparison across countries and regions.

6. Private health expenditure (World Health Organization Global Health Expenditure): In addition to the aforementioned indicator, this measure delves into the financial intricacies of healthcare systems. Specifically, it gauges the average health expenditure borne by individuals through out-of-pocket payments per capita in USD, reflecting the average amount each person personally pays when accessing healthcare services. A higher out-of-pocket payment burden is often linked to potentially catastrophic and impoverishing household expenses.

7. Physicians per 1,000 (World Bank, drawing on the World Health Organization's Global Health Workforce Statistics, OECD): Computed as the density of physicians, generalist and specialist medical practitioners, available to serve the population. In general, according to the World Health Report (2006) it is estimated that at least 2.5 medical staff (physicians, nurses and midwives) per 1,000 people are needed to provide adequate coverage with primary care interventions.

8. Hospital beds per 1,000 (World Health Organization): Measured as the number of hospital beds available per every 1,000 inhabitants in a population, providing an indicator that highlights the capacity of healthcare facilities, essential for effective healthcare service delivery and crisis response. Though there is no global norm for the density of hospital beds in relation to total population, higher number of hospital beds are associated with better capability to respond to crisis.

9. Sustainable Development Goal (SDG) Universal Health Care (UHC) service coverage index (World Health Organization, Health Coverage 2021 Global Monitoring Report, UHC data portal): Composite index that quantifies progress towards SDG Goal 3.8.1 (Coverage of essential health services) by assessing the degree to which diverse medical services are both accessible and readily available to the general population. (Note that the World Health Organization recommends interpreting this index alongside a financial access index (which quantifies progress towards SDG 3.8.2 Catastrophic health spending). We instead present private health expenditure (as a percent of total health expenditure) as a measure of financial access.)

Online Appendix Table B2: Data Sources of Key Indicators

| Indicator | Data Source |
|---|---|
| Income groups | World Bank |
| Regional classification | UNDP |
| Life expectancy at age 60 | World Health Organization |
| Pension coverage | ILO Social Protection Platform |
| Social protection expenditure on older persons (as % of GDP) | ILO Social Protection Platform |
| Domestic government health expenditure (as % of GDP) | World Bank* |
| Private health expenditure (as % of total health expenditure) | World Bank* |
| Physicians per 1000 (year) | World Bank* |
| Hospital beds (per 1000) | World Health Organization |
| SDG UHC Service Coverage Index | World Health Organization |
| GDP per capita | World Bank Development Indicators |

* Draws on data from the World Health Organization Global Health Expenditure database, OECD, and/or country statistics.