Does providing digital skills and improving digital jobs lead to better labour market outcomes in LMICs?

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High unemployment and weak job creation continue to be a huge challenge in LMICs

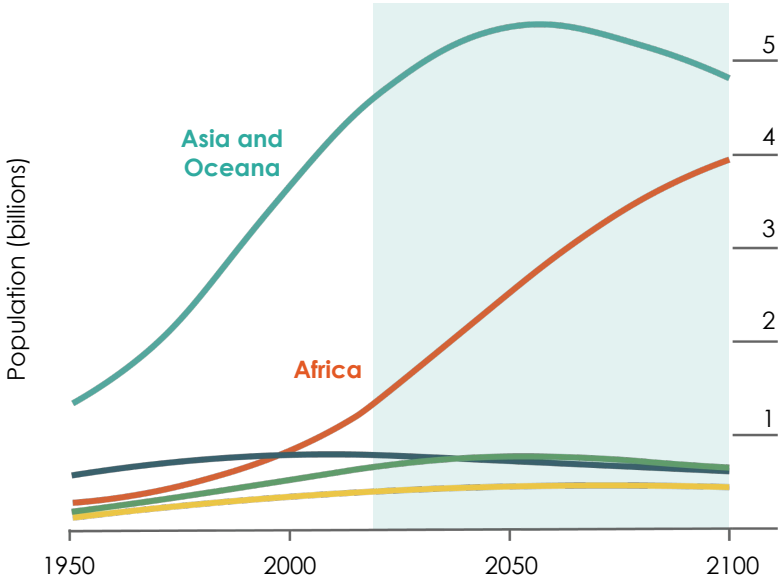
- In 2022, 205 million people were unemployed, disproportionately youth
- Another 2 billion adults were outside the workforce, disproportionately women
- The World Bank estimates 600 million more jobs will need to be created by 2030 just to keep up with population growth
- Good jobs offer pathways out of poverty

Photo: Shutterstock.com

World Bank, 2012; 2022 statistics ILO, 2023

Africa: Young people urgently need job opportunities

Africa's population is projected to grow to 3.3 billion by 2075[1]



85% of employment in Sub-Saharan Africa is informal

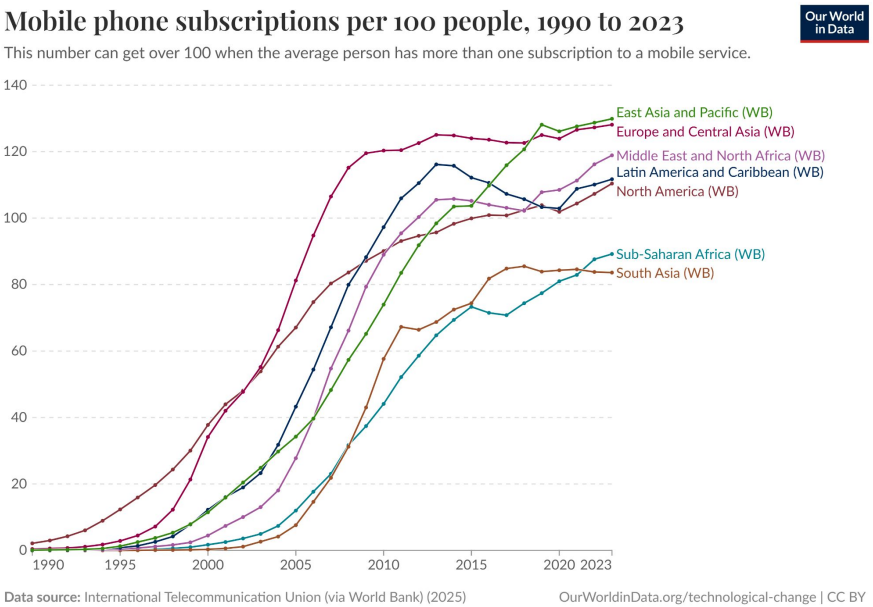
82% of tertiary-educated young Africans are in informal employment

1. United Nations 2022 *World Population Prospects* report.
2. Women and men in the informal economy: A statistical picture, Third Edition, International Labour Organization. See also the report press release.
3. Report on employment in Africa (Re-Africa): Tackling the youth employment challenge, International Labour Organization, 2020.

Job creation and access to employment opportunities continues to be a key challenge in the developing world

Digital technology may expand formal sector jobs with the potential to address labor market challenges

Surging access to the Internet, mobile phones, and AI innovation



Digital technology may have the potential to address key labor market challenges

- Lack of relevant skills
- Low labor force participation by women
- Youth unemployment
- Difficulty matching workers to right jobs
- Geographic mismatch between workers and jobs/mobility constraints
- Few good jobs being generated in the poorest countries

Various solutions try to address youth jobs crisis by leveraging the digital economy

- **Digital skills** training, education / edtech
- **Remote work** / international digital jobs
- **Digital job search** and matching
- **Digital market access** for SME growth

Tech-training and job referrals for disadvantaged urban youth in Kenya

SKILLS

In Kenya,

- Informal sector jobs accounted for 83.6% of total employment
  - Informal wages particularly impacted by Covid-19
- Youth unemployment (20-24 year old) was 16%

How to equip these young workers?: tech-training and job referrals

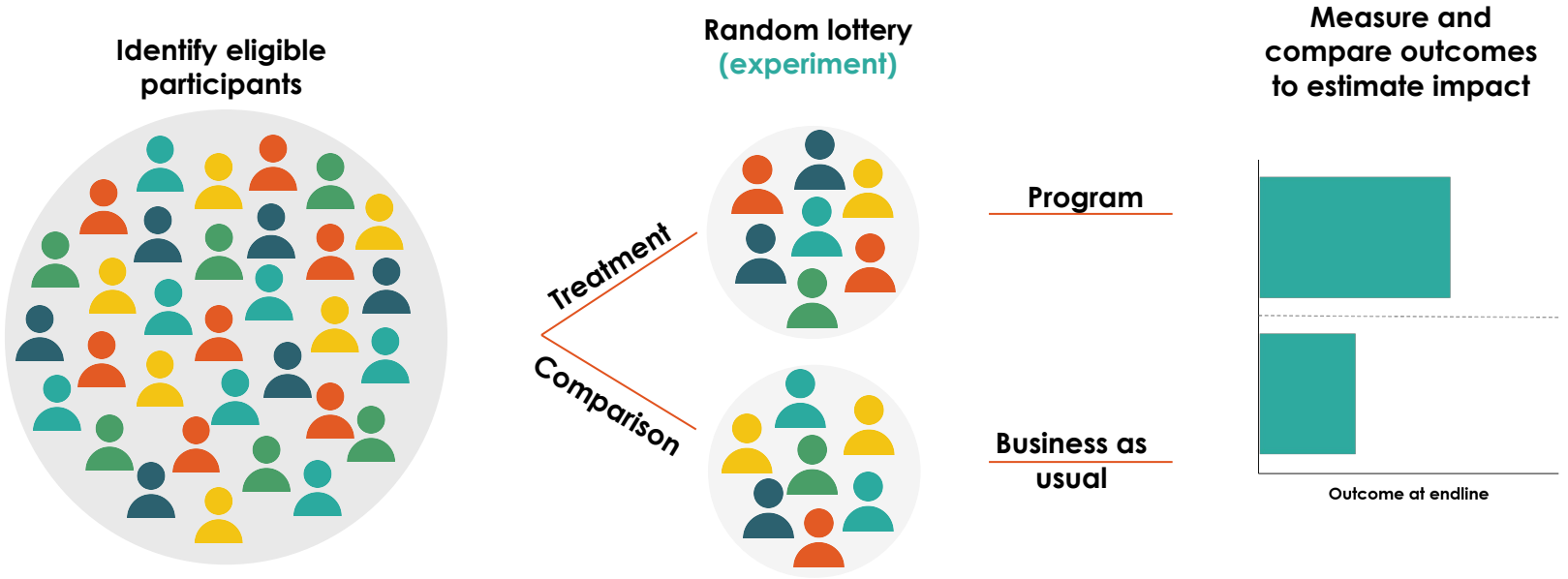
In partnership with Sama, researchers conducted an RCT.

Photo: Sama.com

Atkin et al. (2021); J-PAL The Impact of Tech-Training and Job Referrals for Youth in Kenya

Randomized evaluations use random assignment to test a program's impact in the real world

SKILLS



Key advantage of randomized evaluations (or RCTs): Because of random assignment, members of the treatment and comparison groups do not differ systematically at the outset of the evaluation. Thus, any difference that subsequently arises between them can be attributed to the program, rather than to other factors.

Research design

SKILLS

(1) Comparison Group	(2) Training & job referral	(3) Training only
281 participants	**548 participants**	**281 participants**
Participants assigned to this group were not selected to receive Sama's AI 101 program and were told they were ineligible to apply for the program for the next 1-2 years.	Participants in this group received Sama's AI 101 program and a job referral to work at SamaDC at the end of the program.	Participants in this group received Sama's AI 101 program. However, they were not eligible to apply for jobs. They were free to apply for employment at other jobs.

Researchers: David Atkin, Antoinette Schoar, Kiara Wahnschafft

Partner: Sama

sama

Results

Providing training & referral

- ↑ earnings by 37%;
- ↓ unemployment by 10 pp
- Income resilience during Covid-19 pandemic

Photo : IPA

- But a lot of this is coming from the availability of a good job
  - Providing training alone had no positive effect on economic outcomes
  - In fact, *lower employment* 16 months later: heightened aspirations held them back from taking non ICT jobs
- Complementarity between training effort and job opportunity that uses those skills
  - Some evidence that prospect of job increased training effort (completed more modules, less absenteeism)

Internet-enabled remote work and international digital jobs

REMOTE WORK

A growing area of research where key open questions include:

How can technology better enable **women to participate in the labor market** (for example by enabling work from home and more flexible hours)?

How can policymakers leverage offshoring to **increase access to quality jobs**? What types of skills will job seekers require?

How does remote work **affect income, job quality, and productivity**? Who benefits?

Offering women in India digital employment from home to raise labor market participation

REMOTE WORK

In India,

- Only 32.7% of women were in the labor market in 2023
- Efforts to change norms remain challenging

Does a **flexible, digital gig work** improve women's labor supply, uptake of employment, and future interest in working outside the home?

Ho et al. (2025); J-PAL Improving Female Labor Force Participation through Flexible, Internet-mediated Gig Work in India; World Bank Gender Data Portal

Research design

Partnering with Microsoft Research Bangalore in India, researchers randomly assigned short-term work:

1. Flexible + children (208 women)
2. Flexible + no children (209)
3. Fixed time slot + children (208)
4. Fixed time slot + no children (210)
5. Office work (415)
6. Comparison group (420)

Results

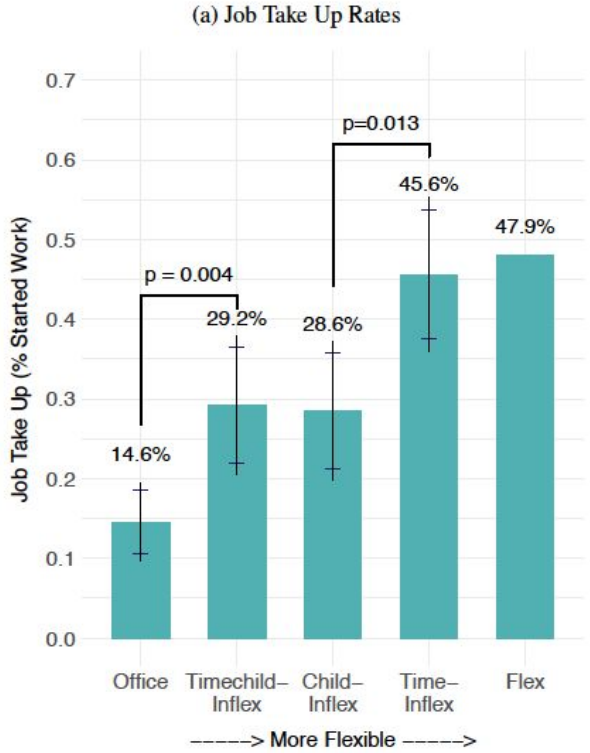
Women were more likely to work when offered flexible home-based arrangements.

Women who were offered flexible home-based arrangements

- ↑ 33 pp more likely to start work (48% vs. 15% of office);
- ↓ produced similar output and quality, but at slower pace owing to interruptions

Gateway to employment?

- ↑ 6 pp more likely to take up job offer ten weeks later



Women may face unique barriers at online jobs, affecting their success

REMOTE WORK

In sub-Saharan Africa,

- Only 15% of workers working full-time as formal sector employees are women
- But 39% of formal service sector jobs were held by women (2019)

Researchers randomized female customer representatives at an online travel agency to have female or male-sounding names.

Female-sounding name:

– ↓ Customers 3.8 pp less likely to purchase within 48 hours (vs. 7.6% comparison group)

Results showed that discrimination from customers may be harming women's productivity in online service sector jobs.

Photo: Shutterstock.com

Kelley et al. (2023); J-PAL Online Customer Discrimination against Female Workers in Sub-Saharan Africa

Are remote workers less productive, or do less productive workers become remote?

REMOTE WORK

Digital and remote work in India:

- Covid-19 increased work from home (WFH), with debate over productivity relative to office work
- Hard to answer since different workers select into WFH versus office work
- And are the workers who WFH the ones who benefit most?

In India, researchers created a data entry firm to conduct an RCT.

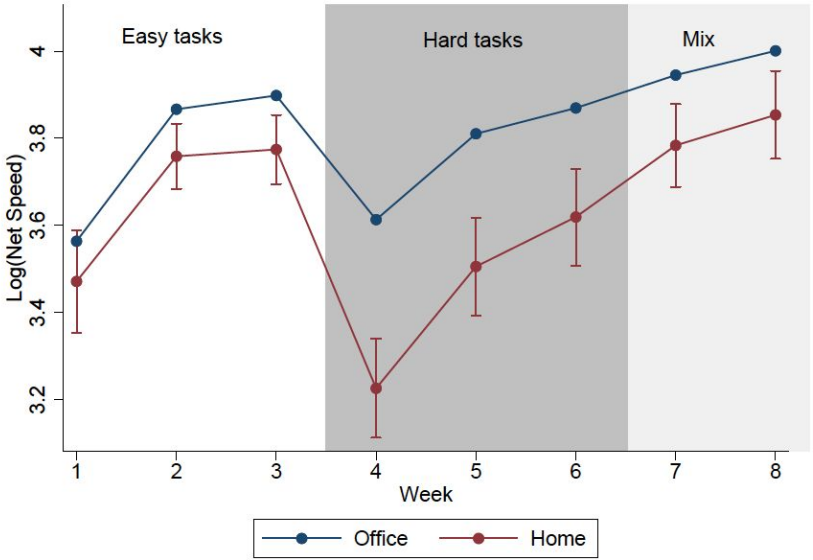
Atkin et al, 2023

Results

Workers first chose WFH/office, then randomly assigned to WFH/office

- ↓ Productivity of workers assigned to WFH is 18% lower (2/3 immediate, 1/3 slower learning)
- ↓ Negative selection on ability: Workers who prefer WFH 12% **faster** at baseline
- ↓ Negative selection on treatment effects: Workers who prefer WFH are the ones who benefit most from office
  - Partially explained by subgroups facing constraints, e.g. childcare
  - Can't work where most productive

Productivity increases over time



Can online job portals in LMICs help youth find better jobs and firms hire more workers?

Online platforms for networking, job searching, and hiring have the potential to reduce information barriers for young job seekers

- These platforms may help expand recruitment networks for firms, particularly smaller ones that tend to rely on traditional networks to find workers
- For workers, may lower psychological barriers to search, provide information about employers, encourage wider search
- In South Africa, a job readiness program randomly assigned LinkedIn usage training; this increased end-of-program employment rates by 7 pp, with effect persisting 12 months

However, information can alter expectations

- In India, access to an online job portal caused people to expect higher wages → they accepted less job offers and worked less
- Eventually adjusted expectations down and worked more

Wheeler et al. (2022); Kelly et al. (2023)

Ongoing research

JOB SEARCH

REMOTE WORK

A rapidly growing research area, including:

- Facilitating international remote work for new graduates in **Malawi**
  - Encourages Malawian freelancers' participation in the global remote work through Upwork
- The Impact of Transportation and Information Access on Women's Job Search and Employment in **Pakistan**
- Online job portals and firm hiring in **India**
- Leveraging business networks to boost women's entrepreneurship in **Ghana**

Photo: Vinicius Valpereiro | J-PAL

Khataza et al., ongoing pilot; Field et al., ongoing project; Fernando et al., 2023; Asiedu et al., 2023

Linking LMIC firms to digital marketplaces to spur business and job growth

MARKET ACCESS

Small firms in LMICs struggle to grow because they lack access to profitable markets.

- This may be making firms reluctant to invest or hire workers
- Connecting firms to new and better buyers can lead to greater sales and profits, higher quality products, learning, and jobs

Can access to digital marketplaces help firms create more jobs?

J-PAL Market access: Connecting firms and entrepreneurs to markets to spur business and job growth; Bai et al. (2020); Couture et al. (2021)

In two RCTs in China,

- Boosting export sellers' visibility on AliExpress platform led to lasting growth for the small exporters
  - This showed that typical firms had difficulty signaling quality or price to buyers on the crowded platform
- An e-commerce program's expansion to rural villages reduced some consumers' cost of living
  - But had no effects on local income, labor, or entrepreneurship

On the horizon: AI

Anticipating and evaluating the effects of artificial intelligence (AI) on employment in LMICs

AI for training and upskilling

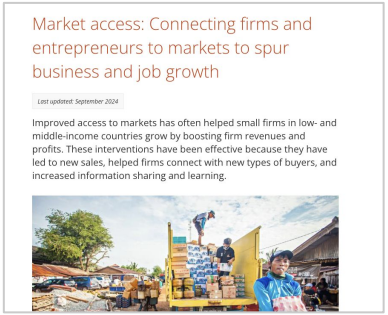
AI for SME profitability and sustainability

AI for workforce organization

AI for job search and matching

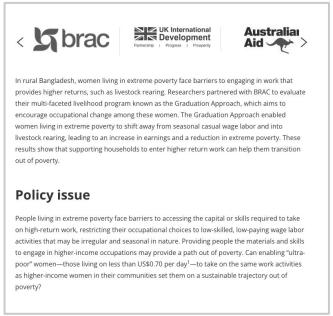
Job displacement and job opportunities from AI

J-PAL works to synthesize research findings to draw out useful policy lessons and identify open questions


Market access: Connecting firms and entrepreneurs to markets to spur business and job growth

Last updated: September 2024

Improved access to markets has often helped small firms in low- and middle-income countries grow by boosting firm revenues and profits. These interventions have been effective because they have led to new sales, helped firms connect with new types of buyers, and increased information sharing and learning.


brac | UK International Development | Australian Aid

In rural Bangladesh, women living in extreme poverty face barriers to engaging in work that provides higher returns, such as livestock rearing. Researchers partnered with BRAC to evaluate their multi-faceted livelihood program known as the Graduation Approach, which aims to encourage occupational change among these women. The Graduation Approach enabled women living in extreme poverty to shift away from seasonal casual wage labor and into livestock rearing, leading to an increase in earnings and a reduction in extreme poverty. These results show that supporting households to enter higher return work can help them transition out of poverty.

Policy issue

People living in extreme poverty face barriers to accessing the capital or skills required to take on high-return work, restricting their occupational choices to low-skilled, low-paying wage labor activities that may be irregular and seasonal in nature. Providing people the materials and skills to engage in higher-income occupations may provide a path out of poverty. Can enabling "ultra-poor" women—those living on less than US$0.70 per day[1]—to take on the same work activities as higher-income women in their communities set them on a sustainable trajectory out of poverty?

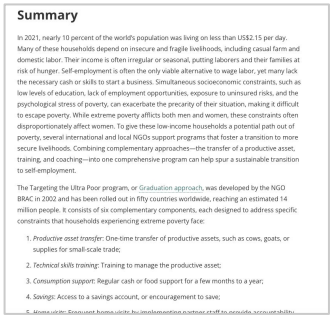

The Impact of Tech-Training and Job Referrals for Youth in Kenya

Researchers: David Atkin, Antoinette Schoar, Kiara Wahnschafft

Fieldwork by: Innovations for Poverty Action (IPA)
Sample: 1,115 low-income youth
Timeline:
Target group: Youth
Outcome of interest: Employment
Intervention type: Recruitment and hiring; Training
Research papers: Evaluating Sama's Training and Job Programs in Nairobi, Kenya
Partners:

sama SOURCE

Access to quality jobs is a pressing concern in sub-Saharan Africa. In Kenya, researchers partnered with the technology company Sama and Innovations for Poverty Action to conduct a


Summary

In 2021, nearly 10 percent of the world's population was living on less than US$2.15 per day. Many of these households depend on insecure and fragile livelihoods, including casual farm and domestic labor. Their income is often irregular or seasonal, putting laborers and their families at risk of hunger. Self-employment is often the only viable alternative to wage labor, yet many lack the necessary cash or skills to start a business. Simultaneous socioeconomic constraints, such as low levels of education, lack of employment opportunities, exposure to uninsured risks, and the psychological stress of poverty, can exacerbate the precarity of their situation, making it difficult to escape poverty. While extreme poverty afflicts both men and women, these constraints often disproportionately affect women. To give these low-income households a potential path out of poverty, several international and local NGOs support programs that foster a transition to more secure livelihoods. Combining complementary approaches—the transfer of a productive asset, training, and coaching—into one comprehensive program can help spur a sustainable transition to self-employment.

The Targeting the Ultra Poor program, or Graduation approach, was developed by the NGO BRAC in 2002 and has been rolled out in fifty countries worldwide, reaching an estimated 14 million people. It consists of six complementary components, each designed to address specific constraints that households experiencing extreme poverty face:

1. *Productive asset transfer*: One-time transfer of productive assets, such as cows, goats, or supplies for small-scale trade;
2. *Technical skills training*: Training to manage the productive asset;
3. *Consumption support*: Regular cash or food support for a few months to a year;
4. *Savings*: Access to a savings account, or encouragement to save;
5. *Home visits*: Frequent home visits by implementing partner staff to provide accountability

2,200+ RESEARCH PROJECTS IN 96 COUNTRIES COVERING 11 SECTORS

has identified region-specific, context-appropriate solutions worldwide.

1,223 EVALUATION SUMMARIES

of RCT studies help make research results more accessible to practitioners.

52 POLICY INSIGHTS

highlight lessons emerging across multiple studies and explain the mechanisms driving these results.

JOBS AND OPPORTUNITY INITIATIVE (JOI)

funds frontier research on strategies for improving employment outcomes in LMICs.

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You can find out more about us at www.povertyactionlab.org.

J-PAL offers training courses on impact evaluation and MIT MicroMasters in Data, Economics, and Design of Policy (DEDP). You can find out more at https://www.povertyactionlab.org/j-pal-courses.

List of studies

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