Does information on regional income differentials change migration intentions? A survey experiment in multiple African countries

Pre-analysis plan

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Abstract: We propose to study whether information on regional wage differentials affects internal migration intentions and choices in two African countries. The information treatment is embedded in surveys of participants in employment and income promoting programs in Ghana and Uganda. We randomly assign participants to an information treatment group and a no-intervention control group. Interviews are conducted in person in Ghana and by phone in Uganda. In Ghana, treatment group participants are shown a map of the country's ten regions, which depicts the monthly per capita income in each region. In Uganda, treatment group participants are told how much the monthly median wage is in each region and how many times more or less that is in comparison to the median monthly wage in their region of residence. Our two primary outcomes are the extent to which participants would like to move to another domestic region and their internal migration destination choices.

1. Introduction

This document outlines the pre-analysis plan for a project titled "Does information on regional income differentials change migration intentions? A survey experiment in multiple African countries". The purpose of the study is to investigate the effect of information on earnings differentials across regions within a country on internal migration intentions and choices in two African countries. The information on earnings differentials is embedded in surveys in Ghana and Uganda.

2. Intervention

The intervention consists of an information treatment about regional income or wage differentials in Ghana and Uganda, respectively. The information treatment is embedded in surveys of potential participants in employment and income promoting programs in each country. The survey is conducted face-to-face in Ghana and by phone in Uganda, and implementation of the information treatment depends on the survey mode.

In Ghana, a random subset of participants is presented with a map, which outlines the ten regions of Ghana and depicts the monthly per capita income in each region. To make the

income information easily comprehensible, monthly per capita income is illustrated via stacks of coins, with one coin for each 100 GHS. The map is shown by a facilitator who explains the map and the information it contains to the participant. The information on average monthly per capita incomes is based on the seventh round of the Ghana Living Standards Survey (GLSS 7) from 2016/2017 conducted by the Ghana Statistical Service.

In Uganda, a random subset of participants is presented with information on monthly median wage differentials over the telephone. The information provided comprises the monthly median wage in each of Uganda's four regions plus the capital city Kampala and how many times more or less that wage is relative to the participant's region of residence. The information on the monthly median wage by region was gathered from the Uganda National Household Survey 2016/2017 Report of the Uganda Bureau of Statistics.

3. Experimental design

3.1 Experimental arms:

The information treatment is randomly assigned to survey respondents at the individual level. The experiment comprises two experimental arms: (i) one information treatment arm and (ii) one no-intervention control arm. Each participant has a 50% chance to be assigned to the treatment and control group, respectively.

3.2 Sampling strategy:

The information treatment is embedded in two distinct surveys, (a) a baseline survey of a randomized controlled trial on the effectiveness of a program for the Professionalization of Artisans (ProfArts) in Ghana and (b) an endline survey of an impact evaluation of a skills training and internship placement program in Uganda.

In Ghana, face-to-face interviews are conducted with up to 20,000 craftsmen in the construction sector in all ten regions of Ghana. Craftsmen are mobilized through a nationwide outreach campaign including flyers, posters, radio jingles and social media and all interested craftsmen can register for program participation. In total, up to 20,000 artisans will be mobilized and registered across Ghana, out of which a random subset of 10,000 people are selected for ProfArts benefits. Additionally, a further set of subjects may be recruited through other programs under the same funding umbrella.

In Uganda, phone interviews will be conducted with approximately 1,400 people who registered their interest in participating in a skills training and internship placement program supported by the German Corporation for International Cooperation (GIZ). The program was advertised over social media and the radio, among other channels. The skills training program was implemented at two training sites in Packwach (Northern region) and Kampala whereas internship placements did not have these regional restrictions.

3. 3 Implementation procedure:

In both countries respondents are asked the same set of questions in the module for this study. First, we collect information about participants' migration intentions within their country of residence, including the extent to which they would like to move and their top two destination choices. Second, participants are asked to indicate their perceptions on the average monthly per capita income (Ghana) or median monthly wage (Uganda) in each region before the coronavirus pandemic. Third, a random subset of participants receives the information treatment. Fourth, respondents are asked once again about their migration intentions and preferred destinations.

3.4 Randomization:

Randomization will be conducted on the go using a random draw programmed into the survey tool in SurveyCTO. As a result, randomization will be stratified by survey tool/country.

3. 4 Timeline:

In both countries the surveys start in mid-November 2020. In Uganda, the survey is scheduled to be completed by the end of 2020 and in Ghana by mid-2021.

4. Outcomes

4.1 Primary outcomes:

1. Extent of internal migration intentions, measured on a likert scale ranging from "not at all" (0) to "a lot" (3);
2. Destination choice, measured in terms of the monthly per capita income (Ghana) or median monthly wage (Uganda) of a subject's top two destinations, the destinations' rankings, and whether they are higher-income regions than the subject's region of residence.

The intervention is expected to affect internal migration intentions and choices. We hypothesize that information about how much more or less subjects can earn in different regions of the country will lead subjects to update beliefs and will in turn affect the extent to which they would like to move elsewhere within the country. Further, destination choices are hypothesized to change in response to the information treatment and to align with where participants can earn more in comparison to their current region of residence.

4.2 Secondary outcomes:

1. Internal migration behavior (incidence and destinations, Ghana only). This last set of outcomes will be analyzed separately, after follow-up data collection in Ghana in 2022;
2. Internal migration intentions (extent only) conditional on not having a secured job at destination (Uganda only);
3. Reservation wage (minimum wage) for internal migration (Uganda only)

4. International migration intentions (extent and destination choice, Uganda only);
5. Labor market aspirations (confidence in having work and amount of salary, Uganda only).

In response to subjects' update of their earnings beliefs and internal migration intentions, the intervention may also affect actual migration behavior (both in terms of subjects' decision to migrate internally and their choice of destination), internal migration intentions conditional on not having a secured job at destination, the reservation wage for internal migration, international migration intentions and labor market aspirations.

5. Empirical strategy

Our core objective is to estimate the effect of the information treatment on migration intentions and choices. We will principally estimate the average treatment effects on our main outcomes using variations of the following specification:

$$y_{1i} = \beta_0 + \beta_1 \cdot Info_i + \beta_2 \cdot y_{0i} + X_i' \cdot \beta_3 + \varepsilon_i,$$

where y_{1i} is a post-treatment measure (or an appropriate transformation) of our registered outcomes for individual i. $Info_i$ is a dummy indicating whether individual i received the information on mean income (Ghana) or median wage (Uganda) for all regions of the respective country. y_{0i} is the pre-treatment measure of the relevant outcome variable, if available and unless an outcome y_{1i} is measured as a deviation from baseline. X_i' is a vector of covariates used to increase precision in our estimates, including study country, region, age, sex, marital status, employment status, education and wealth, if sufficiently variable. β_1 measures the average treatment effect of the information treatment on the outcome measure.

Because randomization occurs at the individual level, we will not use clustered standard errors, but we will use robust standard errors to correct for heteroskedasticity.

6. Other analyses

1. Randomization check: We will report whether covariates, including study country, region, age, sex, marital status, employment status, education and wealth, are balanced across treatment and control groups.
2. Selective attrition: We will assess whether non-response to post-treatment items is correlated with baseline covariates, including study country, region, age, sex, marital status, employment status, education and wealth, and calculate attrition-adjusted treatment effects as needed.
3. Heterogeneous effects: We will estimate heterogeneous treatment effects either by way of an interacted model or using fully separated samples.

    First, we will test whether effects vary with subjects' prior beliefs about income/wage variation across regions. We expect larger effects among those for whom the

provided information differs from their prior beliefs about income/wage differentials. We would interpret such heterogeneous effects as evidence for belief updating.

Second, we will similarly estimate heterogeneous effects for the following variables:

a. Risk preference
b. Country
c. Region
d. Wealth
e. Employment status
f. Education
g. Gender
h. Age
i. Marital status
j. Baseline migration intentions extent
k. Baseline migration preparation, e.g. the number of preparations
l. Beneficiary status in employment program

7. Minimum detectable effect size

In a comparison of group means with 80% power, a significance level of 0.05, and unit standard deviations, the MDE is .038 for the total sample of 21,400 participants, .040 for the sample of 20,000 subjects in Ghana, and .150 for the sample of 1,400 in Uganda.

8. Attachments

1. Intervention map for Ghana