The Impact of Households' Access to Mobile Phones on Facilitating Rural Out-Migration in Ethiopia

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Outline

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Introduction

- Migration is risk diversifying mechanisms
  - Especially where credit and insurance markets are missing (Wouterse and Taylor, 2006)
- It is a complicated process – from inception to the final relocation (Teller and Assefa 2011)
- The decision to migrate analyzes information regarding
  - job opportunities, cost of migrating, waiting period, earnings

Introduction

- Personal networks play important role in obtaining job market information (Mortensen and Vishwanath, 1994; Muto 2012)
- Migrants create positive externalities for potential migrants by lowering their costs of moving through Todaro and Smith (2009)
- In the past accessing information was costly
- Mobile phones made this process a lot cheaper and faster

Quick Lit-Review

- Wage differential between home and destination areas is important factor (Seid, 2010; Todaro and Smith, 2009)
- The search model presented by Baye et al (2006) suggests:
  - lower search cost will change the market agent's reservation price and the number of markets agents search

Quick Lit-Review

- Muto's (2012) finding based on a panel data analysis – mobile phones encourage migration
  - More interestingly, the impact is much higher for those who have a relatively smaller social network
- Experimental approach of Aker et al (2011) also confirmed the positive linkage between mobile phone access and migration through
  - Increased communication, reduced uncertainty and risk

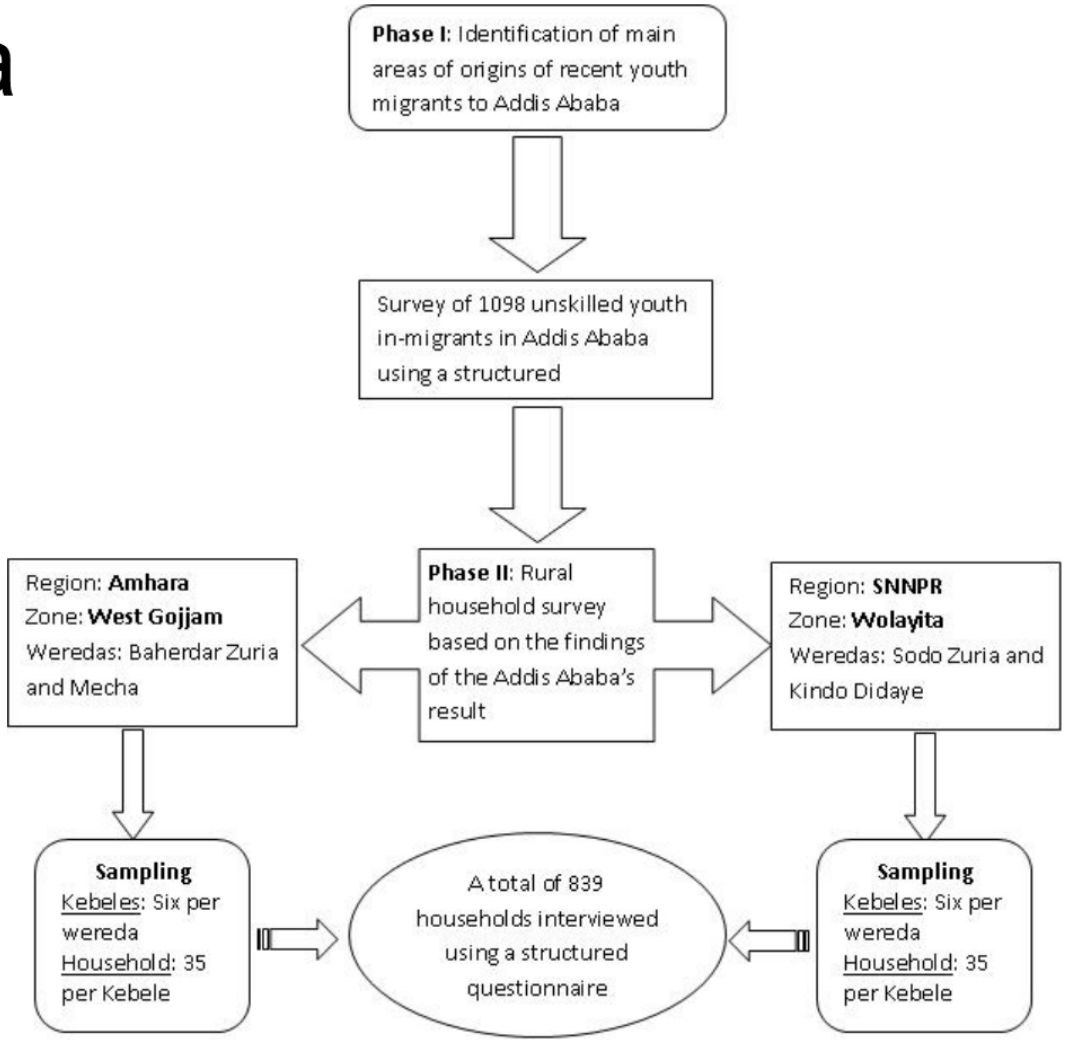
Quick Lit-Review

- Klonner and Nolen (2010) also found mobiles to affect employment outcomes
- In line with Moto (2012), Klonner and Nolen (2010) also found that mobile phone access to more significantly affect 'information disadvantaged' groups
- The trend of accessing mobile phones in Africa has changed recently
  - It used to be more male, educated, young, wealthy and urban resident
  - But recently it included poor, elderly and rural residents (Aker and Mbiti, 2010)

Mobile Phone in Ethiopia

Access Indicators	Ethiopia			Low Income		SSA	
	2000	2004	2007	2004	2007	2004	2007
Telephone Lines (per 1,000 people)	4	7	11	33	40	17	16
Mobile Cellular Subscription (per 1,000 people)	0	3	15	48	215	86	230
Population Covered by Mobile Cellular Network	-	-	10	43	54	-	56

Data


Phase I: Identification of main areas of origins of recent youth migrants to Addis Ababa
Survey of 1098 unskilled youth in-migrants in Addis Ababa using a structured
Phase II: Rural household survey based on the findings of the Addis Ababa's result
Region: **Amhara**
Zone: **West Gojjam**
Weredas: Baherdar Zuria and Mecha
Region: **SNNPR**
Zone: **Wolayita**
Weredas: Sodo Zuria and Kindo Didaye
Sampling
Kebeles: Six per wereda
Household: 35 per Kebele
A total of 839 households interviewed using a structured questionnaire
Sampling
Kebeles: Six per wereda
Household: 35 per Kebele

Estimation Strategy

- Casual relation of interest – the linkage between forms of migration and access to mobile phone within the household
- Our dependent variables dummy for
  - a household member planning to migrate in the coming 12 months
  - a short term migration(being away for at least two weeks in the 12 months prior to the survey)
  - permanent migration of a household member in the last 10 years prior to the survey

Estimation Strategy

- We suspected endogeniety
  - Double causation between migration and access to mobile phone
- We first estimated a liner probability model with IV
  - Instruments: access to electricity and distance to the nearest telecommunication center
  - Checked validity using Hansen's test for over identifications
  - Run the Stock and Yogo test for weak instruments
- But we ruled out endogeniety
  - failed to reject endogenous

Estimation Strategy

- We preceded with estimation using a probit model
  - with robust standard errors and clustered by Kebele
- According to Verbeek (2002), the model can be described as:

$y_i^* = x_i'\beta + \varepsilon_i$, where $\varepsilon_i \sim NID(0, \sigma_\varepsilon^2)$

$$y_i = \begin{cases} 1 & if\ y_i^* > 0 \\ 0 & if\ y_i^* \le 0 \end{cases}$$ (Without loss of generality)

This model assumes that $E[\varepsilon \mid x] = 0$, this in other words means that the dependent variables are exogenous.

Results and Discussions

- We estimated three equations for each for of migration (planning, short term and permanent)
- The controlle variables are
  - head related features such as sex, age, marital status and literacy of the head
  - features of the household like household size, land, livestock, radio, distance to school, distance to Woreda capital and number of members out-migrated already
  - agro-ecological indicators

Results and Discussions

- Results
  - We found that possession of mobile phones within the household is an important factor of migration planning and short term migration
  - On the contrary, this variable is not found to be significant in the case of permanent migration

Results and Discussions

- Policy recommendation
  - mobile phones play important roles in the migration process
  - migration related policies/ interventions should factor this into their equation
  - interventions could be designed in terms of affecting the type of information, to encourage or discourage migration, transmitted

Asante Sana