# Youth aspirations, perceptions of farming, and migration decisions

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**Abstract**

The study discusses the aspirations, life goals, and preferences of youth in rural sub-Saharan Africa using large scale SMS-based survey, and further investigates the causal effects of adolescent aspirations on migration decisions when youth in southwestern Ethiopia. The cross-country youth study shows that most rural youth in Africa would like to work in non-farm economic sectors. It also finds that above half of the rural youth are undecided about their migration aspirations, providing an opportunity for governments to influence the rural out-migration of youth. However, policymakers should be also aware that anti-poverty policy measures that simply improve the income of youth might have unpredictable and unintended consequences on the migration of rural youth. As a result, policy measures may have to also influence the perceptions of youth toward farming and rural non-farm sectors, and make rural areas more attractive to the youth. Taking southwestern Ethiopia as a case in point, the findings show that educational and occupational aspirations during adolescent exert differing effects on migration decisions at least after four to five years. That is, while those who aspired to attain more years of schooling are unlikely to out-migrate, their counterparts who aspired to have high-skilled occupations tend to out-migrate to cities four to five years later. The study concludes that out-migration of youth from rural areas and small towns may not be only due to push factors such as lack of farm land, but it could also be due to their aspirations to work in high-skilled jobs which are not often found in the origin rural areas. Thus, African countries should work to make rural areas and farming more attractive to the aspiring youth such as through improving access to technology to keep those who aspire to work in high-skilled non-farm jobs through developing infrastructure and providing support to rural non-farm sectors.

## 1 Introduction

### 1.1 Aspirations: Definitions and its formations

Aspirations are "an individual's desire to obtain a status object or goal such as a particular occupation or level of education" (MacBrayne, 1987, p. 135). Gorard et al. (2012, p. 6), on the other hand, also defined it as "[it] is what an individual hopes will happen in the future", whereas Kosec and Khan (2017) understood it as "the goals that people set and intend to achieve". The latter implies that aspirations involve some set of actions to achieve the goals. In this regard, Bernard and Tafesse (2014) characterize aspirations as (1) future-oriented, i.e. goals that could be achieved in the future, (2) motivators, i.e. aspirations are something that people are willing to invest resources to achieve, and (3) specific dimensions of well-being such as wealth and social statuses, but also a combination of two or more of these dimensions to attain a general life outcomes. This implies that aspirations are very important psychological factors which could affect current decisions on future-oriented and predict economic behaviors (Bernard & Taffesse, 2014; Camerer, Babcock, Loewenstein, & Thaler., 1997; Maertens, 2012). In this study, aspirations are defined as the education levels and the occupation types that the adolescent would like to have or attain when adults.

The literature also provides some explanations on how people form aspirations. Theoretically, it is assumed that people develop their aspirations through observations and comparisons such as with their neighbors and peers and by learning from 'relevant others' (Appadurai, 2004; Ray, 2006; Genicot and Ray, 2017). Relative positions compared to the 'relevant others' or reference groups can also influence people's aspirations (Fafchamps & Shilpi, 2008; Knight & Gunatilaka, 2012; Sakketa & Gerber, 2016), suggesting that aspirations can change through time and be influenced through public policies. Through an extensive literature review, Leavy and Smith (2010) also conclude that individuals form aspirations within the broader and changing societal context where environmental and socio-cultural conditions interplay.

Given the multi-dimensional nature of aspirations, empirical literature finds that several factors including parents' aspirations, expectations, and local contexts can affect children's or

adolescents' aspirations formation (Beaman, Duflo, Pande, & Topalova, 2012; Galab, Vennam, Komanduri, Benny, & Georgiadis, 2013; Tafere & Woldehanna, 2012). For instance, while Tafere and Woldehanna (2012) find that rural children and parents in Ethiopia aspire non-farming occupation to children when adults, in India it was found that private school enrolment of children and higher investment in education are strongly associated with parental aspirations (Galab et al., 2013). A randomized natural experimental study in India also reveals that adolescents' aspirations as well as their parents' aspirations can be also affected by local contexts such as the presence of role models (Beaman et al., 2012).

**1.2 Dimensions and measurements of aspirations**

A review of existing aspirations measurement techniques by Bernard and Tafesse (2014) shows that various measurements including depression scales and indicators of feelings about the future (Macours & Vakis, 2009), direct measures of aspirations, and locus of control have been used to measure aspirations. Among empirical studies, Beaman et al. (2012) measured parents' aspirations to girls using four future-oriented variables: The desired educational attainment, age of marriage, preferred occupation at the age of 25, and whether the parent wished for the child to become pradhan. In addition, the authors constructed standardized average indices of the first three variables through four indicators. As used by other studies, their approach is a direct measure of aspirations through questioning individuals about their aspirations in several dimensions. On the other hand, Macours and Vakis (2009) used empirically tested measure of depression, by asking respondents about the occurrence of 20 different moods during the past week and aggregates results following a predefined scale. The authors used aggregated indicator along with the sum of scores on separate positive and negative feelings-related questions and separate answers to questions relating to being cheerful and having strong positive expectations for the future. They also used future-oriented efforts to avoid the impact of future shocks. However, the inconsistent measures of aspirations could make comparisons of findings difficult, thus Bernard and Tafesse (2014) proposed a set of aspirations measurement approaches with four dimensions: Income, wealth, education, and social status and tested the validity of the instruments using a survey data. The authors suggest that while each of these

indicators can be used to study a specific aspect of aspirations, a composite aggregated index can also be constructed using individual-specific weighting (the importance attached to each dimension by the respondent) scheme.

Following Beaman et al. (2012) and Bernard and Taffesse (2014), the current study measures aspirations independently and constructed aggregated index using two dimensions: Education and occupations. However, although Bernard and Taffesse (2014) suggest the use of person-specific weighting scheme, although in their study the approach did not have significant effects, we did not have that leverage to use weighting as adolescents were not asked to assign weights to the constituencies of the aggregate aspirations index. More specifically, a total of 2109 adolescents were directly asked as "What is the highest grade you think you will complete?" and "What job do you think you will have when you are an adult?" to understand their educational and occupational aspirations. In addition, they were also asked several questions about their perceptions about the importance of education, vocational training, social networks, effort, luck and gender to become a farmer/ farm laborer, kiosk owner, office worker and a teacher. The study also uses adolescents' responses on what level of education they think is required to become a farm laborer, their estimated level of farmer's annual income, and whether they think that a farmer can support his/ her family using the farm income alone to construct adolescents' perceptions of farming.

**1.3 Determinants and effects of aspirations**

Identification of the causal effects of aspirations on various outcomes is limited in the literature. A prime study in this regard is conducted by Beaman et al. (2012). Based on a randomized natural experiment where some villages reserve seats for women in village council, they investigate the role model effects of this policy change on parental and adolescent girls' career and educational aspirations. Controlling for endogeneity of aspirations and educational outcomes, they find that compared to villages where there has never been a seat reservation, in villages where village councils reserve seat for women resulted in significant improvements in occupational and educational aspirations of parents and adolescent girls. The role model

effect has also significantly reduced the gender based education aspirations gap for parents and adolescents. Similarly, Pasquier-Doumer and Brandon (2015) also find that comparing children from similar socioeconomic status, those from indigenous communities do have similar aspiration levels as their peers from non-indigenous people. However, it was found that children from indigenous people tend to have lower aspirations to high status occupations compared to non-indigenous children.

In turn, aspirations could also have far reaching consequences on many life frontiers. Previous studies explored the extent to which various aspirations of parents, adolescents and children predict and explain long-term loans for productive activities (Bernard, Dercon, & Taffesse, 2012), expenditures on agricultural inputs, yields, and savings (Kosec, Hameed, & Hausladen, 2012), poverty (Dalton, Ghosal, & Mani, 2016; Macours & Vakis, 2014; Ray, 2006), inequality (Genicot & Ray, 2017; Kosec & Mo, 2017), enrolling children in private schools and child schooling (Bernard & Taffesse, 2014; Galab, Vennam, Komanduri, Benny, & Georgiadis, 2013), educational attainment (Beaman et al., 2012; Powers & Wojtkiewicz, 2004; Serneels & Dercon, 2014), occupations (Powers et al., 2010) and food security (Mekonnen & Gerber, 2017). The findings in general show that individuals' aspirations greatly affect their future-oriented decision making behaviors such as investments in schooling (own and children), using long-term loans and determine economic outcomes. This indicates that aspirations could be used as important entry points to help the poor break intergenerational poverty and ensure social mobility of the rural youth. Understood to many of these studies is also low aspirations resulted in little effort to change the status quo, and due to little investment in future-oriented activities, it may contribute to persistent and intergenerational transmission of poverty (Appadurai, 2004; Ray, 2006). On the contrary, those individuals with higher aspirations are likely to have the willingness and exert persistent efforts to change the challenges for a better future. In this regard, given the intrinsic advantages of the adolescent period in its potential to change future circumstances, understanding their aspirations formation and the consequences on economic decisions such as migration is relevant to effectively engage youth in productive economies, design supporting mechanisms to make agriculture more attractive to them, and

encourage employment in rural labor markets. However, it has to be also noted that gender and location may have overlapping effects in rural areas in that rural adolescents, mainly girls, are more likely to have narrow or wide aspirations gaps, leading to what is referred to as aspiration failure (Bernard, Dercon, & Taffesse, 2012), potentially limiting their abilities to aspire higher educational levels and to shift to non-farming occupations.

The paper is structured as follows. The subsequent subsections discuss the aspirations in relation to youth's migration decisions, perceptions of farming and outline the study objectives. Section 2 presents the conceptual framework of the study while the sampling, data sources and the estimation method are explained in section 3. The empirical results are presented and discussed in section 4. Section 5 closes the study with conclusions and policy implications.

### 1.4 Aspirations and youth migration decisions in rural Africa

Recent studies have been showing that the rural youth in Africa, due mainly to lack of access to farmland, are leaving agriculture (Ahaibwe, Mbowa, & Lwanga, 2013; Bezu & Holden, 2014; McMillan & Harttgen, 2014), but, still the majority of the youth in the continent resides in the rural areas and work in family farms (62%) and in household enterprises (22%) (Filmer & Fox, 2014). However, looking it at from a different position, an emerging literature also claim that African rural youth are not interested in farming at all due to reasons including the perceptions of farming life, hence abandon agriculture (Leavy & Hossain, 2014; Sumberg et al., 2017). For instance, it is argued that youth's participation in agriculture in rural sub-Saharan Africa is constrained by lack of access to productivity-boosting technologies and tools (AGRA, 2015). Consequently, studies propose that introduction of new technologies such as information and communications tools and innovations (FAO, 2017; FARA, 2017) could change the perceptions of rural youth to farming and the employment structure in rural areas. Modern technologies such as expansion in off-grid power which could support irrigation agriculture and access to farming equipments such as Tractors through alternative platforms may also transform farming

and the rural areas (Araba, 2018)[1]. Past studies on youth rural out-migration decisions also focus on labor market related drivers of migration including wage and job opportunities, and human capital (Blunch & Laderchi, 2015; de Brauw, 2015).

However, what is often less understood in the literature and has received less policy attention is how youth's general aspirations, a crucial internal behavioral component, could play a role in their decisions either to stay and work in rural areas or out-migrate to urban areas. Aspirations, which are malleable to policies (Beaman, Duflo, Pande, & Topalova, 2012; Bernard & Taffesse, 2014) may play crucial roles not only in understanding the needs, preferences and future-oriented economic decision making behavior of rural youth, but also to identify the fundamental bottlenecks to structural transformation in Africa at large. In line with this argument, Fox and Thomas (2016) point out that the aspirations formed during childhood and adolescent periods tend to have substantial effects in guiding youth's school-to-work transitions in Africa. This means that, in addition to the challenges in access to farm land (Bezu & Holden, 2014; Jayne, Chamberlin, & Headey, 2014), policy-making needs rigorous research evidence linking youth aspirations and their migration decisions in sub-Saharan Africa.

Accordingly, in this paper it is attempted to identify the effects of adolescents' educational and occupational aspirations on migration decisions later when youth. The study also identifies the suggestive mechanisms how these aspirations could affect migration decisions. Identifying the causal directions, however, is mired by endogeneity problem, due mainly to innate abilities. For instance, adolescents with better innate abilities such as ability to imagination and motivations may aspire to achieve higher level of education and work in better paying jobs now as adolescents and also likely migrate to urban areas, where skills have better returns, later during youth period. Accordingly, such positive relations should not be considered as causal effects before the effects of these innate abilities and motivations are properly controlled using appropriate econometric methods. After detailed discussion of the associations between

[1] Debisi Araba, the regional director for Africa at the International Center for Tropical Agriculture (CIAT), was interviewed on the effects of technologies on African agriculture and how technologies, through disruption opportunities, could revolutionize African agriculture. The interview is available on: https://www.forbes.com/sites/lorinfries/2018/08/26/the-future-will-surprise-us-technology-for-african-agriculture/#55e5c29f14f7

aspirations, expectations and perceptions of rural African youth to farming using a large scale SMS-based youth survey data from 21 sub-Saharan African countries, the study also explores the causal effects of aspirations on migration decisions after four to five years (panel data of youth) among youth in southwestern Ethiopia.

### 1.5 Migration aspirations and migration decisions

Individuals actually migrate after considerable time and resources have been spent to plan and executive the decisions to migrate. While theories are in their nascent stages, some empirical studies discuss how migration is initiated and experienced in relation to aspirations, a step back from a traditional approach to migration studies (Carling & Collins, 2018). The paper by Carling (2014) nicely differentiates between general aspirations, migration desires and migration aspirations. It claims that general aspirations serve as the bases for migration desires, which, in turn, can be described as migration aspirations —a strong belief about the desirability of migration for its intrinsic values or at least it is preferred to staying in the status quo. The author argues that when it comes to migration aspirations, the main driving factor is the desire to be in a specific place perhaps the mobility bestows the migrants an agency. On the other hand, Kandel and Massey (2002) discuss migration aspirations as a socially sanctioned behavior.

Unlike migration aspirations, related to migration possibilities (Carling & Collins, 2018), in this study, however, migration (the decisions to migrate) is conceptualized not for its intrinsic values, but as an instrument to achieve other objectives related to general aspirations of life (Carling, 2014). It hypothesizes that rural youth out-migration serves as a strategy to realize their earlier occupational and educational aspirations. Related to this notion, we find some empirical evidence on the relations between aspirations and migration decisions (Carling, 2014; Czaika & Vothknecht, 2012; Thorsen, 2007; Whitehead, Hashim, & Iversen, 2007). Thorsen (2007), for example, finds that rural adolescents in Burkina Faso form their aspirations of work and urban life through interactions with former migrants, by looking at the social status ascribed to these migrants in the society and their wealth, enticing them to engage in migration to fulfill their aspirations.

Accordingly, this study explores and provides evidence whether aspiring youths migrate in search of better returns for their skills and human capital or try to change their circumstances in rural areas. In relation to aspirations formation and migration decisions, it examines the role of various individual and household related factors. More importantly, the causal connection between occupational aspirations and migration decisions is yet another gray area in efforts to understand rural youths' development trajectories and the implications to rural areas. The study also sheds light on aspirations formations from a gender perspective. In a patriarchal society, for example, girls are often responsible to work on domestic chores and tend to leave school very early and get married before maturity. However, due to lack of data, the study does not differentiate between temporary, seasonal and permanent migration decisions or between short- and long-distance migrations.

### 1.6 Youth perceptions of farming

While aspirations are future-oriented behavioral factors potentially affecting youth's decisions either to stay or out-migrate from rural areas, as presented earlier, another surfacing narrative about African rural youth is that they generally have negative perceptions towards farming and farm life; becoming a major concern for policymakers, development agencies, and governments in sub-Sahara African countries (FAO, 2012, 2014; Leavy & Smith, 2010). A growing number of studies show that youth do not perceive agriculture as a rewarding or respected profession. In explaining this trend, it is argued that, in addition to economic reasons, in many parts of Africa, societal acceptance and culture, gender norms and social status ascribed to farmers (Boateng & Löwe, 2018; Kritzinger, 2002; Leavy & Smith, 2010; Perry, 2009) played crucial roles in youths perceptions of farming. Leavy and Smith (2010) also argue that youth aspirations could be influenced by the social and economic roles and accepted occupations for men and women as set by the society. For instance, in Ghana, women are strongly discouraged from taking up physically demanding jobs such as cocoa farming due to societal perceptions that it makes them too masculine and that if she does, she would not get a husband (Boateng and Löwe, 2018). In South Africa, due to low social status ascribed to farming children compared to their peers from

the urban areas, girls perceived farming negatively. Similarly, Ethiopian women are culturally discouraged from farming using plough as it involves lots of physical work, which is traditionally understood as men's job, although some attitudinal changes have been noted in recent times (Holden, Shiferaw, & Pender, 2001; Mulema & Damtew, 2016). Such cultural biases and societal perceptions hinder the technical supports and access to extension services, credit, inputs and the required policy attention that should have been given to women farmers, further limiting their potentials to escape out of poverty (Frank, 1999).

However, we also find counter arguments to the narrative that "agriculture is generally an unpleasant job and not interesting to the youth". Boateng and Löwe (2018) argue that it is the psychological stress due to significant amount of time and capital investment coupled with its uncertain returns that mainly influences youth's aspirations to agriculture. Consequently, the negative perceptions of farming among youth and to farm life in Africa may have also led many to migrate to urban areas in search of non-farm jobs (FAO, 2012, 2014; Munive, Wisner II, & Lakovits, 2006). As a result, understanding the factors associated with youth perceptions of farming in SSA is critical in order to effectively support the efforts aimed at making agriculture more attractive to the youth, remunerative, and technology oriented to change the perceptions from agriculture as antithesis to progress and arduous profession to a highly regarded career.

**The paper explores the following specific objectives:**

1. To describe the associations among youths' current occupations, occupational preferences, and migration aspirations using cross-country SMS-based survey,
2. To identify the predictors of migration aspirations including the role of family ties and life satisfaction using cross-country SMS-based survey,
3. To identify the factors associated with youth perceptions of farming in Ethiopia, and
4. To identify the formations and causal effects of occupational and educational aspirations on migration decisions among rural youth in Ethiopia.

## 2 Aspirations formation and migration decisions: A conceptual framework

The diagram below shows how various factors could affect adolescents' (aged 13-17 years) aspirations formation which, in turn, also affect migration decisions when youth (aged 17-21 years). Household characteristics, through resources and parental influence, are hypothesized to affect adolescents' aspirations formation. That is, adolescents' aspired occupational and the highest educational level could be highly influenced by parental wealth, head characteristics including gender, educational level and age. Equally relevant in aspirations formation are also adolescents' current education status, health, social networks, gender, and their participation in farming and non-farming jobs. Prior education levels could expand adolescents' aspirations windows (Ray, 2006)—to be able to aspire to attain more adult human capital and strive for better rewarding jobs. This in turn is expected to affect migration decisions when youth.

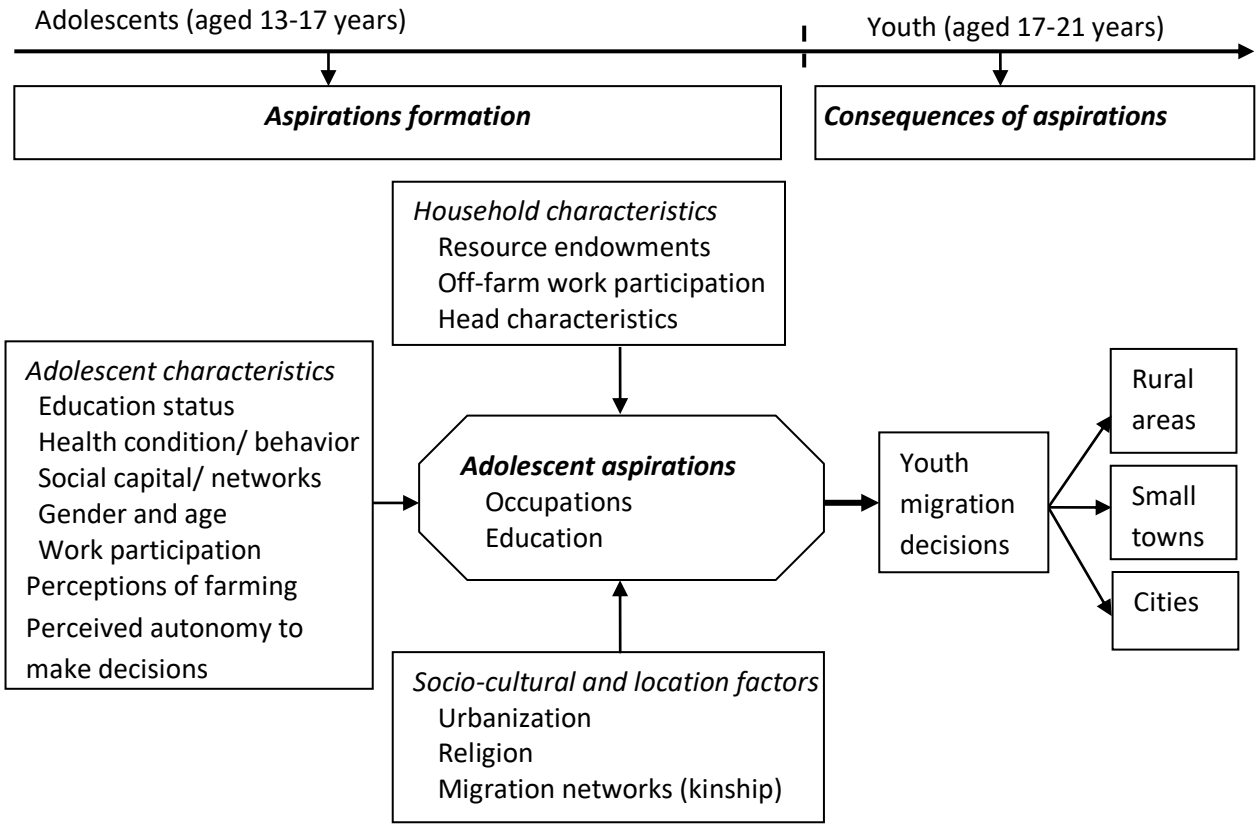


Figure 1. Aspirations formation and migration decisions, own conceptualization (2018)

Past studies also show that male and better educated (Blunch & Laderchi, 2015; de Brauw, 2015) individuals tend to migrate to urban areas, where skills are better rewarded (Stark, 2004) and educated labor enjoys preferential treatments (Fields, 1975). Educated adolescents may aspire to attain higher levels of schooling and better paying jobs (often non-farm). On the other hand, previous studies show that women tend to have lower aspirations than men in many important ways (Bernard & Taffesse, 2014; Bernard, Dercon, Orkin, & Taffesse, 2014); perhaps due to circumstances in their aspirations formation, which, in this study, is also further argued that this could also differently affect their migration decisions. In this study, it is also argued that limited life opportunities in rural areas, partly explained by negative perceptions of farming, vis-à-vis higher aspirations due to such as better education attainment, which signals aspiration failure, may also result in out-migration of the youth.

As aspirations tend to be formed against a broader, changing social context and wider changes in society (Leavy & Smith, 2010) adolescents' socio-cultural and location factors such as urbanization levels, religious affiliation, and individuals' linkages to urban areas through kinship may influence adolescents' aspirations formation in rural areas and their migration decisions. Leavy & Smith (2010) further outlined that social influences such as through religion could be stronger in rural areas, which may disproportionately affect aspirations formations of the rural adolescents than their counterparts in cities and towns, partly manifested by lower educational expectations among rural young people than those of their urban peers. Furthermore, Giuliani et al. (2017) find that one in every five rural youth (22 percent) think that their skills and knowledge are not good enough to jobs in urban areas. Such perception may potentially limit their occupational and educational aspirations and consequently their migration decisions.

However, in order to identify the causal effects of aspirations during adolescent period on migration decisions later when they become youth, one has to also address the endogeneity problem to test if the factors mentioned above indeed influence aspirations formation and consequently, aspirations (educational and occupational) affect migration decisions. This study used panel data to identify the causal effects of educational and occupational aspirations on migration decisions, controlling for the variables discussed above.

## 3 Methodology

### 3.1 Aspirations measurement

The study used two forms of aspirations independently, and following Beaman et al. (2012) and Bernard and Taffesse (2014), constructed an index aggregating the two dimensions together. The separate indicators (education and occupation) are drawn from questions asked directly to the youth (17-21 years) when they were adolescents (13-17 years). More specifically, these adolescents were asked the type of occupations they would like to have when adults and the highest educational level they would like to attain. Since the adolescents were not asked about their aspired income and asset they would like to achieve, these components were not included in the aspirations and index analyses. Thus, these two dimensions were combined to have an aggregated aspirations index, with equal weights[1]. The fact that other important aspects of aspirations were not included will be one of the limitations of this paper

In order to construct the aggregated aspirations index, first individuals' aspiration level on each dimension were normalized to make them comparable with other dimensions by subtracting the village average level where the adolescent lives (rural, small town, and city areas), and then divide this difference by village standard deviation. This gives us aspiration levels constituting zero, positive and negative values. The aspirations index is expressed as:

$$Aspiration\ level = \frac{1}{\mathrm{K}} \sum_{K=1}^{2} \left( \frac{\alpha_k^i - \mu_k^v}{\delta_k^v} \right)$$

where, $\alpha_k^i$ is the aspired outcome of individual i on dimension k (occupation or education), $\mu_k^v$ is the village average aspirations level for dimension k, and $\delta_k^v$ denotes the village standard deviation of aspirations for dimension k. K is the total number of aspirations dimensions considered to calculate the index, two in this case.

[1] The JLSHY survey did not ask adolescents to weight different dimension of the aspirations. So, the study assumes equal weights between the two aspirations dimensions.

### 3.2 Perceptions of farming

In 2005, adolescents in southwest Ethiopia were asked about their perceptions regarding the wellbeing and what is required to become a farmer/ farm worker, kiosk owner, primary school teacher, and office worker. Accordingly, the study uses Factor Analysis to create adolescents' perception index of farming and farmer's wellbeing using the following questions:

1) How much education do you think someone who is a farmer/farm worker needs in order to have this job?
2) How much you think a farmer/farm worker earns (answers adjusted to annual)?
3) If someone works as a farmer/farm worker only, do you think they earn enough to support him/ herself, spouse, and children?

**Note:** Higher values correspond to better perception of the adolescent towards farming, farm earnings and the wellbeing of being a farm worker.

In addition, adolescents' perceptions index regarding the pre-requisite to become a farmer/ farm worker has been constructed using the following questions:

1) How important is education to become a farmer/farm worker?
2) How important is vocational training to become a farmer/farm worker?
3) How important are connections through friends or school mates to become a farmer/farm worker?
4) How important are connections through relatives to become a farmer/farm worker?
5) How important is one's age to become a farmer/farm worker?
6) How important is it to speak Amharic to become a farmer/farm worker?
7) How important is ethnicity to become a farmer/farm worker?
8) How important is good luck to become a farmer/farm worker?
9) How important is your religion to become a farmer/farm worker?
10) How important is to be male to become a farmer/farm worker?
11) How important is to be female to become a farmer/farm worker?

**Note:** The aggregated index would show the importance of education, social networking, effort, and gender in farming or to become a farmer. Higher values correspond to higher regards to these factors to a farmer/farm worker.

### 3.3 Data and sampling

The study uses two different datasets. The first is a cross-country large scale SMS-based youth survey data[1] to understand youths' labor market participations in rural areas, their occupational preferences, life goals, and aspirations. This dataset is used to shed light on the associations between current and aspired (preferred) occupations, migration aspirations, and highlight the predictors of youth rural out-migration aspirations (possibilities to migrate) in rural Africa. The survey was administered to 10,000 youth (aged 18-35 years and distributed equally by gender) in rural regions of 21 sub-Saharan African countries[2] in 2017. It collected data regarding youth's life prospects, occupational preferences and migration aspirations[3], expectations, life optimism, and family ties. This discussion is followed by a causal analysis using Jimma Longitudinal Family Survey of Youth (JLFSY)[4], collected from southwestern Ethiopia to investigate the effects of aspirations during adolescent on migration (realized) decisions when youth, after 4-5 years. The survey is a representative of the regional city of Jimma (pop. 120,000) in Oromia region of Ethiopia, three nearby small towns (Yebu, Serbo, and Sheki), and nine rural areas adjacent to these small towns. The baseline surveys were conducted in 2005-2006 with randomly selected 3,695 households and 2,109 adolescents aged 13-17 years (2,084 successfully surveyed for the baseline study). Accordingly, the survey followed a sample of youth for seven years to track changes in their knowledge, attitudes, behavior and occurrence of key early life course events and transitions.

A wide-range of variables such as human capital formation, labor market outcomes (employment and earnings), social networks, participation in health interventions, and the processes of becoming an economically productive adult were collected. The second, third, and

[1] The data collection was commissioned by the German Federal Ministry of Economic Cooperation and Development, BMZ and conducted in 2017.
[2] The countries include Benin, Burundi, Cameroon, Ivory Coast (Cote d'Ivoire), DR Congo, Ethiopia, Ghana, Kenya, Liberia, Madagascar, Malawi, Mozambique, Nigeria, Rwanda, Senegal, Sierra Leone, South Africa, Tanzania, Uganda, Zambia, and Zimbabwe.
[3] The occupational distribution of surveyed youth includes: Students (40 per cent), self-employed/ petty trading (14.4 per cent), farming, both own and family farming, workers (16.2 per cent), employed youth (12.5 per cent), other jobs (4 per cent), and unemployed or no job (12.7 per cent).
[4] For more information about the survey: https://www.brown.edu/research/projects/jimma-longitudinal-family-survey-of-youth/population-surveys/jimma-longitudinal-family-survey-youth

fourth rounds of youth surveys were conducted in 2006-2007, 2009-2010 and 2012-2014, respectively. This study uses the first and third rounds of the surveys[1] to investigate the causal effects of adolescents' aspirations (observed in 2005-06) on migration decisions (status) in 2009-2010. The sample individuals were distributed as: 753 adolescents from Jimma city, 599 adolescents from small towns neighboring Jimma city, and 757 adolescents from rural areas adjacent to small towns, giving a comparable sizes according to the levels of urbanization. The study uses this variation in urbanization to disaggregate aspirations formation during teenage period and migration decisions when a young adult. The data have also been used to identify the correlates to adolescents' perceptions of farming according to their area of residence.

The households were selected using multi-stage stratification, cluster sampling in Jimma city and through stratification in the small towns and rural areas. In Jimma city, which is divided into three woredas, constituting a total of 21 urban kebeles (neighborhoods), two neighborhoods (clusters) were randomly selected from each woreda (strata) in the first-stage, resulting in a total of six sample neighborhoods. This was followed by a street-by-street and door-by-door enumeration of all households to construct sampling frames. The samples from neighborhoods within each woreda were evenly distributed which resulted in a self-weighting with equal probabilities of selection for all households and youth. Secondly, sample households in the small towns and rural areas were selected based on simple random sampling using the lists of households from local administrators as sampling frames. Unlike Jimma city, local population registrations in the small town and rural areas were up-to-date to be used as sampling frames.

A two-stage sampling procedure was used to select adolescents. Households were classified into urban (Jimma city), semi-urban (Serbo, Debo, and Yebbu towns) and nine rural kebeles or villages (three in the vicinity of each of the three small towns). At the first stage, households were randomly sampled with the sample size in each kebeles determined by the relative proportion of the study population in the kebeles and the overall target sample size. This result in a total of 1407, 1063, and 1230 sample households, before weighting, from Jimma city, small

[1] For more information about the study design: https://www.brown.edu/research/projects/jimma-longitudinal-family-survey-of-youth/jlfsy-study-design

towns, and rural villages, respectively. In the second stage, one adolescent (a boy or a girl) was randomly selected from each household using a Kish Table. In the households with only one adolescent aged 13-17 years at the time of the baseline household survey, the adolescent was automatically included in the adolescent sample.

**Follow-up surveys:** In the second-round of household survey, data were also collected on the migrants through following up after getting relevant information about their new locations and contact information of those who moved out subsequent to the first-round survey. Moreover, households who migrated within the study area were tracked by the interviewers to their new locations. During the second round survey, about 5% of households were lost-to-follow-up. On the other hand, in the subsequent survey information on current location, contact information, and expected returning time about adolescents who left the parent households was collected from the left-behind household members, mainly household head or spouse. Thus, adolescents who left the households were resurveyed through repeated revisits of the households and at their new location if they formed a family and live within the baseline study area. A total of 643 adolescents, 30.5%, out-migrated from the respective baseline areas in four to five years and identified as migrants in this study, regardless of migration destinations, reasons for migration, intended duration of migration, and future migration intentions. The study doesn't differentiate between these aspects due mainly to lack of data, and this remains to be one of its limitations.

### 3.4 Econometric model specification

#### The identification problem

In order to identify the casual effects of aspirations during adolescent on migration decisions when young adult, the endogeneity problem due to unobserved innate abilities and motivation pose identification challenges. Addressing this challenge, therefore, is required to establish the causal effects. Unlike most of related migration studies that use cross-sectional data, however, reverse causality will not be a problem, as aspirations and migration decisions are observed at different points in time—aspirations during adolescent period and migration decisions four to five years later. The main endogeneity problem, thus, comes from individuals innate abilities that persist overtime, affecting aspirations formation and migration decisions. In order to

overcome the problem and estimate consistent parameters, the study uses instrumental variables approach using 2-stage residual inclusion (2SRI) method (also known as control function estimator) (Hausman, 1978; Wooldridge, 2015). Terza *et al.* (2008) and Klungel *et al.* (2015) show that when the relationship between the outcome and the variables of interest is nonlinear, 2SRI method gives consistent estimates.

The structural equation that we would like to estimate is specified as:

$$Migration_{i.2009} = \beta_0 + \beta_1 X_{i.2005} + \beta_2 Aspirations_{i.2005} + \varepsilon_i^{2009} \quad (1)$$

However, since innate abilities may affect both aspirations formation and migration decisions, the outcome tends to be strongly correlated with the structural error term, composed of innate abilities and regression residual ($\varepsilon_i^{2009} = \gamma A_i + e_{i.2009}$), consequently the true causal relation cannot be identified. In order to address this estimation problem, the study uses instrumental variables approach, exogenous variables that affect education and occupational aspirations formation, independently during adolescent period, but do not directly affect migration decisions when youth, hence the structural error term is uncorrelated with the instrument.

Given an instrumental variable $Z_i$ that affect aspirations formation and other controls, $X_i$, the first-stage equation for different components of aspirations is written as:

$$Aspirations_{i.2005} = \varphi_0 + \varphi_1 X_{i.2005} + \varphi_2 Z_i + e_i^{2005} \quad (2)$$

where $Z_i$ are relevant, $Cov(Z_i, Aspirations_{i.2005}) \neq 0$ and exogenous, $Cov(Z_i, e_i^{2005}) = 0$.
In stage-two, the residuals estimated from equations (2) along with the endogenous variables are included and we estimate equation (1) in the following form:

$$Migration_{i.2009} = \alpha_0 + \alpha_1 X_{i.2005} + \beta_2 Aspirations_{i.2005} + \psi r + v_i^{2sri} \quad (3)$$

where $X_i$ are relevant variables that predict aspirations formation during adolescent, including individual, household, parent, and village related factors and *r* denotes residuals predicted from

first stage equations. Significant residuals indicate that the unobserved effects are controlled. The same procedure applies to estimate educational, occupational, and aggregated aspirations.

**Selection of instrumental variables**

In this study educational aspiration is defined as educational goals that the person sets for himself/herself. It serves as an important motivation and driver of other behaviors such as migration decisions (Fraser & Garg, 2011). On the other hand, occupational aspirations is job or occupational preferences one would like to have in the future or set of occupational roles activities (Hughes, 2011). The study uses adolescent's religious affiliation to instrument his/her educational and occupational aspirations. The later is also instrumented using a proxy variable to capture his/her autonomy of decisions to choose future occupations, that is, the response to "Could you have a job your parents didn't approve of?" is used as additional instrument to predict occupational aspirations of adolescents. Furthermore, both religious affiliation and adolescents' autonomy to choose occupations of their likes are used to instrument aggregated aspirations of adolescents. Next, the paper elaborates the validity of these instruments based on how they fulfill the fundamental conditions, that, the instrumental variables strongly predict the endogeneous variables (educational and occupational aspirations) and at the same time they can be excluded from the outcome (migration decisions) equations.

**Religious affiliation:** In sociological and psychological literature, we find strong evidence showing the critical role of religion on adolescent development, affecting life goals, adjustment, and coping with adversity (Saroglou, 2012). When individuals participate in religious activities they develop some qualities such as constructive attitudinal and behavioral outcomes (Smith, 2003), while religious affiliation tends to affect youths' educational expectations and achievements (Regnerus, 2000), serves as preventive measure from unwanted practices and behaviors, source of strength in the face of hardships, and increases education success (Byfield, 2008). Dumangane (2017) also finds that attending religious activities helps to develop values of patience, discipline and respect, all of which are crucial factors in aspiring higher education level and better paying occupations even if it takes lots of hard work and effort. Of course, religious affiliation can also inhibit one from working for worldly activities and achievements

such as aspiring and working for better secular education and better paying jobs. Darnell and Sherkat (1997) find that religious conservatism could result in lower educational aspirations.
In Ethiopia, religion has important place in peoples' aspirations formation. Ofcansky and Berry (1991) state that traditionally in Ethiopia while the most preferred occupations in government offices and military, clergy, and farming are dominated by Christians, Muslims gravitate to commerce and trade which are considered to be less important. Moreover, people working in artisans and craftsmen, who neither own farmland nor hold political office, receive low respect and unlikely to be taken up by dominant groups. The idea here is that when an adolescent grows up, his/her thoughts and aspirations would be greatly influenced by the practices and teachings of the specific religion practiced in the household. This argument rules out the possibility of parents following more than one major religion in a household in the study areas unlike in some other areas in Ethiopia. Explaining the mechanisms, Sikkink and Hill (2006) suggest that religion could affect individual's educational aspirations and achievement through adult role models, discipline, time substitution, and religious traditions.

**Perceived autonomy of adolescents to choose an occupation:** In addition to adolescents' religious affiliation to predict their occupational aspirations, the paper also used the perceived autonomy of adolescents to choose a job different from their parent's occupation to instrument occupational aspirations. In Ethiopia, where parents are uniquely positioned to greatly influence children's occupational aspirations and trajectories (Tafere, 2014), the perceived autonomy by adolescents to take up an occupation different from their parent's occupation could be a good proxy to predict adolescent's occupational aspirations independent of other influence. Studies show that career exploration and occupational aspirations of adolescents are influenced by parental authoritativeness, openness to adolescents' issues, values, and parents' occupations (Jodl, Michael, Malanchuk, Eccles, & Sameroff, 2001; Kracke, 2011; Ozdemir & Hacifazlioglu, 2008; Whiston & Keller, 2004). Adolescents' autonomy to choose the occupations different from their parents indicates that the influences of parental related factors on adolescents' occupational aspiration could be minimized. As a result, the occupational aspirations of adolescents are predicted using their perceived autonomy to choose a job.

In order to examine the relevance of the instruments, Table 1 presents the first stage regression results. It shows that religion strongly associates with educational, occupational and aggregated aspirations. Both instruments had a strong individual association with the three aspirations types [full length results are presented in Table 8]. Here, it is argued that the decisions to migrate or not in the long-term could be influenced by religious affiliation and perceived autonomy to choose a job only through effecting educational and occupational aspirations.

**Table 1:** First stage regression results on the validity of instruments

| | Educational aspirations | Occupational aspirations | Aggregated aspirations |
|---|---|---|---|
| Religion | | | |
| Orthodox | 0.136*** | -0.158*** | -0.0735*** |
| | (0.0494) | (0.0532) | (0.0273) |
| Others | 0.120 | -0.223** | -0.112** |
| | (0.0755) | (0.101) | (0.0514) |
| Autonomy to choose a job | | 0.105** | 0.0690*** |
| | | (0.0495) | (0.0254) |
| All other variables | YES | YES | TES |
| Observations | 2,084 | 2,084 | 2,084 |
| R-squared | 0.2326 | 0.0961 | 0.6167 |
| Overid test (P-value) | - | 0.5187 | 0.3076 |

Robust standard errors in parentheses. Significance levels: *** P<1%, ** P<5%, * P<10%

In the above table, since we used two instruments for occupational aspirations and aggregated aspirations index, following Wooldridge (2002), the additional instruments are tested if they are valid, that is, they are uncorrelated with the error term ($u_1$). The test procedure begins with the following equation of 2SLS:

$$\text{migration} = \mathbf{Z}\delta_1 + \mathbf{A}\alpha_1 + \mathbf{X}\beta_1 + u_1 \quad (4)$$

where Z is vector of instruments, A is aspirations (endogeneous variable), X is vector of all other control variables and $u_1$ is the error term. Under homoskedasticity, a test for validity of the

overidentification restrictions is obtained as N times $R^2_u$, given as $NR^2_u$, from the OLS regression of the predicted $u_1$ ($u_1$-hat) on Z. Where ($u_1$-hat) are the 2SLS (2SRI) residuals using all of the instruments Z and $R^2_u$ is the usual R-squared. Accordingly, the over-identification test for occupational aspirations statistic is 0. 4164 (0.0002*2082) (where 0.0002 is the R-squared when we regress predicted residuals ($u_1$-hat) from 2SRI on equation (3) and 2082 is the sample size) with its associated p-value of 0.5187, and the overidentification statistic for the aggregated aspirations index is 1.041 (0.0005*2082) with the p-value of 0.3076. This means that in both cases we fail to reject the null that the additional instruments are valid and exogenous.

## 4 Results and discussions

### 4.1 Youth occupational preferences

The survey of youth in rural regions of sub-Saharan Africa was composed of students (40.1%), farming (16.2%), self-employed/petty-trading (14.4%), employed workers (12.5%) and the rest were unemployed and working in other sectors. The gender disaggregated results also show that the current occupational distributions were similar between males and females.

Using this large scale survey of rural African youth, Table 2 cross-tabulates youth's current and aspired occupations. The results show that while communication transport, and services sectors and government employment have been identified as the major sectors that the rural youth aged 18-35 years would like to work, many of the youth, mainly those currently working in farming and self-employment also aspired to continue working in farming, food and fishery activities. More specifically, while a third of youth preferred working in communication and transport sector, the next majority, a quarter of rural surveyed youth preferred farming and government jobs each. From the descriptive results, it is noted that while the youth working in farming seems to have a positive attitude toward farming, the share of those who preferred farming as a preferred occupation shows that sizable share of youth still would like to work in the sector, which runs against the narrative that youth abandoning agriculture.

**Table 2**: Most preferred economic sector by the youth according to their current occupations.

| | Youth's preferred jobs | | | | |
|---|---|---|---|---|---|
| Current occupation | Agriculture and food | Communication and transport | Govern-ment | Manufacturing / craftsman | Mining |
| Employed worker | 21.7 | 32.35 | 30.26 | 9.93 | 5.76 |
| Farming | 40.26 | 24.85 | 19.79 | 9.56 | 5.55 |
| Self-employed/ Petty-trade | 28.0 | 32.78 | 19.27 | 12.68 | 7.28 |
| Other | 17.28 | 42.96 | 24.44 | 7.90 | 7.41 |
| No Job | 23.27 | 35.93 | 25.39 | 8.96 | 6.45 |
| Student | 19.51 | 36.22 | 29.41 | 8.88 | 5.99 |
| Average | 24.76 | 33.63 | 25.78 | 9.64 | 6.19 |

In this regard, youth were asked about the most desirable attributes of a job that they consider in their occupational choices. Interestingly, while factors such as better quality of life, ability to help others, experience matching, and normal working hours were identified by youths as less desirable job attributes, for about 38% of respondents the most desirable job attributes were good working conditions and wages. The results have been consistent by gender as well.

### 4.2 Youth occupational preferences and migration aspirations

Youth's motives and preferences such as the kind of economic sector they would like to work could be useful drivers of their migration decisions. While youth may develop such occupational preferences as a result of socio-economic and cultural factors these may also interplay to shape their aspirations to either stay in their current locations or out-migrate to areas where they can easily realize their dreams and aspirations. Figure 2 shows migration aspirations (intention to migrate and desired residential locations) of rural youth in five years time from 2017, presented according to their preferred economic sectors that they would like to work.

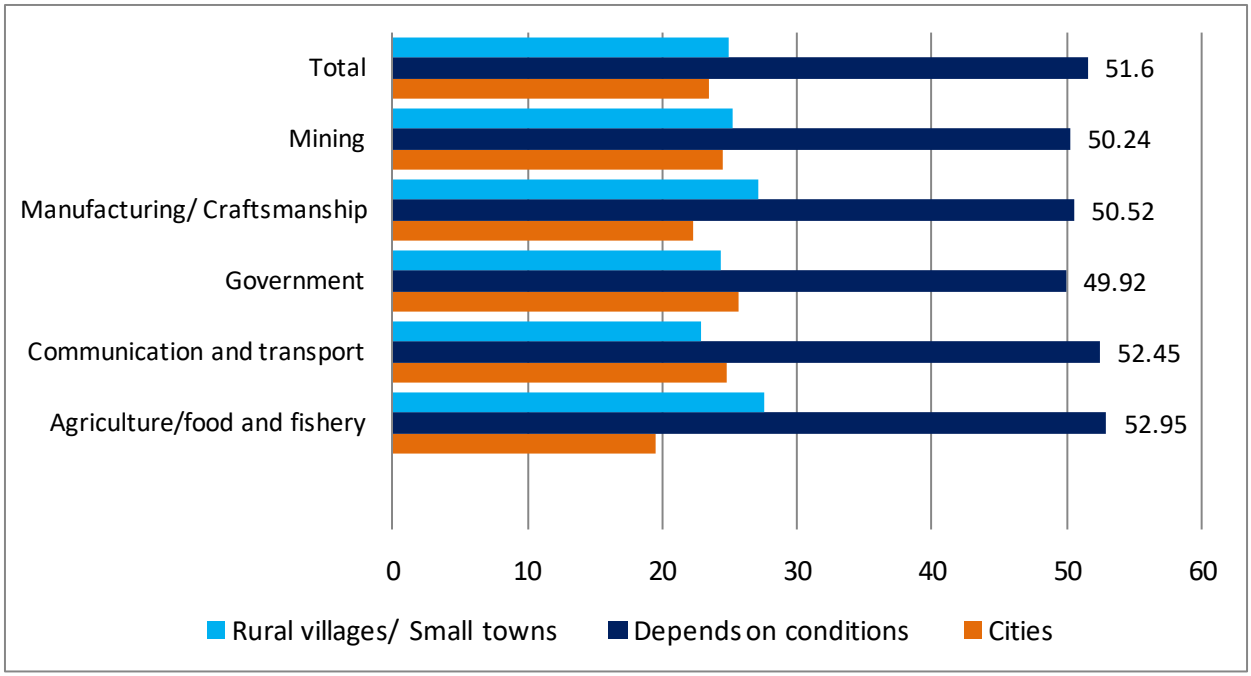


Figure 2: Youth migration aspirations by occupational preferences.

The results show that regardless of the sectors they would like to work, as many youth as those who aspire to out-migrate to cities in the next five years also intend to stay in the rural villages and small towns. Understandably, the intention to stay in the rural areas and small towns is slightly higher among those who would like to work in farming/food and fishery and manufacturing and craftsmanship jobs such as metal and wood works. On the contrary, perhaps as a big opportunity for policymakers to design intervention to influence rural out-migration of youth, mainly educated, slightly above half of the surveyed youth are undecided about their migration decisions in the next five years. They responded that their decisions either to stay in the rural areas and small towns or to migrate to cities depend on conditions. This means that improvements in rural infrastructure such as electricity and roads, and access to technologies and public services may be critical factors for these youth to influence their migration decisions. Possibly, while improvements in these conditions could help to retain rural youth, they may migrate to urban centers otherwise. This can have extensive consequences for origin areas and communities. While migrants tend to be better educated, which is an economically meaningful decision from individual perspective; this may impede the developments of rural (origin) areas and agriculture sector. Conversely, due to lower productivity and lack of innovation those who

stay behind may be trapped with chronic poverty and underdevelopment. The relation could be even more complicated if those who out-migrated to the cities fail to find better rewarding jobs in the urban areas. Therefore, it is highly important to explore the associations and causality between aspirations at one stage of life and later migration decisions.

Figure 3 also presents youth's current residential areas and aspired migration destinations in five years time. The findings according to their current residential areas are also consistent with the previous results, in that, about half of the rural youth's migration decisions in the coming five years time depend on conditions. This shows that no matter what type of sector youth preferred to work, the job attributes they consider in the occupational preferences, and their current residential locations based on urbanization level, future migration decisions depend on how governments and policymakers in sub-Saharan Africa understand the problems faced by rural youth and address these problems. Rural youth need better infrastructure, technologies, better paying jobs and ability to invest. In the next section, the study discusses youth related factors and national conditions that are associated with decisions to migrate to cities, to stay in rural areas and small towns, and predictors of undecided migration conditions.

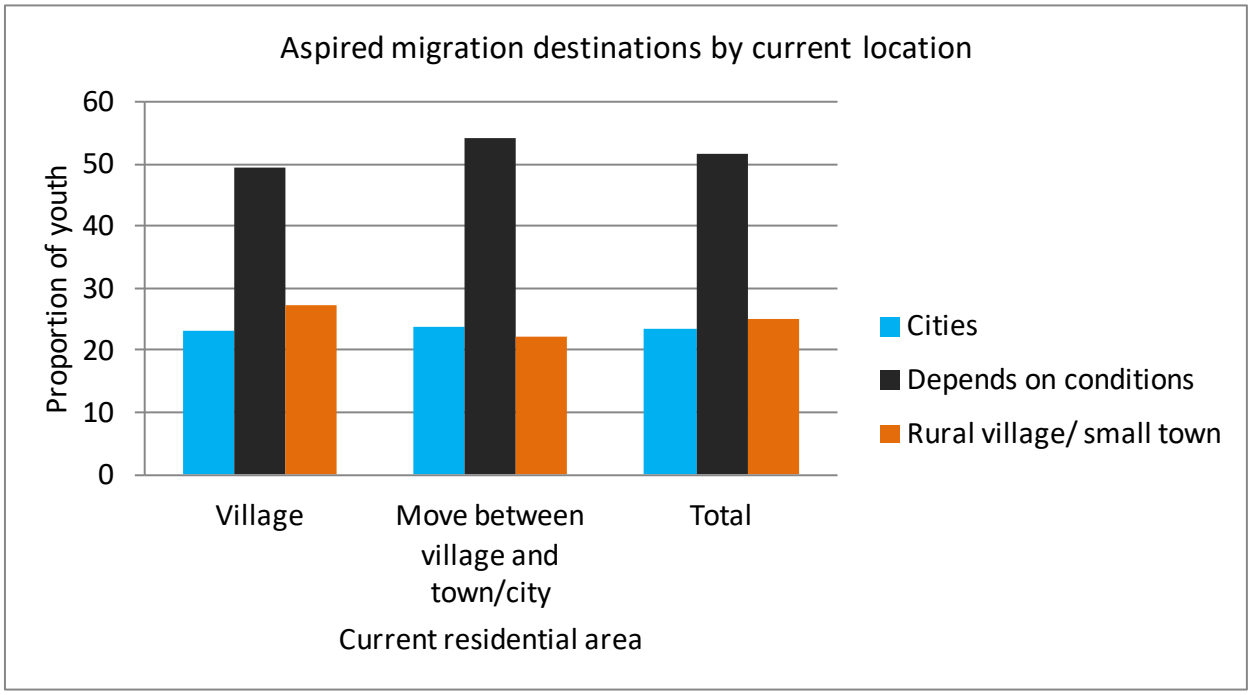


Figure 3: Migration aspirations of youth based on their current residential areas

### 4.3 Predictors of migration aspirations using cross-country large scale youth survey

#### 4.3.1 Who stays behind and who migrates

Below, the study presents a multinomial logit regression models to analyze the predictors of youth migration aspirations (intention to migrate) based on a large scale cross-country youth survey. The outcome variable has three parts: the aspiration to migrate to cities, staying in the rural villages and small towns, and being undecided about their intentions to migrate— their migration decisions will depend on conditions in five years time. The estimates use the later as a base outcome to study the relative risk ratios for the first two outcomes: Aspiring to migrate to cities and staying in rural and small towns, versus being undecided. While youth related factors constitute the explanatory variables, the models also include key variables to control national and rural conditions in the respective countries. Standard errors are clustered at the country level. A stringent assumption of multinomial logit model is that outcome categories for the model have the property of independence of irrelevant alternatives (IIA). This assumption states that the inclusion or exclusion of categories does not affect the relative risks associated with the regressors in the remaining categories. Under the IIA assumption, there should be no systematic change in the coefficients if we excluded one of the outcomes from the model (Hausman & McFadden, 1984). Accordingly, in all the husman tests, we find strong evidence that we cannot reject the null hypothesis that differences in coefficients are not systematic. This means that our model meets the assumption of no systematic change in the coefficients if a category is excluded. It should also be noted that the results must be interpreted as associations not causation due to a potential endogeneity arising from unobserved confounders such as youth's innate abilities and motivations that influence migration decisions and some of explanatory variables, obscuring the causal links between the left and right hand side variables.

Columns (1) and (2) show the predictors for migrating to cities and staying in rural areas versus 'being undecided' in five years time, before country-specific variables are controlled for. While occupational preferences have been strong predictors of the aspirations to migrate to cities (positively) and to some extent to stay in rural areas and small towns, the results show that compared to those who preferred to work in farming, food and fishery, those who would like to

work in communications, transportation, and service sectors, manufacturing, craftsmanship, and government jobs are more likely to aspire to migrating to cities than being undecided. Similarly, those who prefer working in communication, transport and Services are less likely to stay in rural areas and small towns compared to the undecided. Exponentiating the estimates, for instance, it shows that those who prefer working in communication, transport and service sectors have 1.335 times more relative risk of migrating to cities than the undecided youth. Moreover, moving from those who perceived that their income situations are 'insufficient' to those who think that it is 'not sufficient at all' the likelihoods of staying in rural areas reduces than being undecided whereas those who have better perceptions about current income may equally likely aspire to migrate to cities and staying in rural areas than being undecided. Interestingly, both high and low agricultural productivities compared to the average are also strongly associated with the decisions to aspire to migrate to cities and staying in rural areas than being undecided. Perhaps, while, for instance high agricultural productivity, through its income effect to finance migration expenses and the desire for urban life could increase the aspirations to move out to cities, an increase income through substitution effects could also encourage youth to shift to rural non-farm activities, hence youth prefer staying in rural areas. The results in column (1) and (2) are robust for controlling for country-specific variables.

**Table 3**: Predictors of the intention to migrate or stay in five years time–Multinomial logit model

| Variables | (1) Migration to Cities | (2) Staying in rural villages or small towns | (3) Migration to Cities | (4) Staying in rural villages or small towns |
|---|---|---|---|---|
| Youth age group | | | | |
| Age 25-35 years[1] | -0.170** | -0.0593 | -0.229*** | -0.0775 |
| | (0.0702) | (0.0667) | (0.0650) | (0.0736) |
| Youth is male | 0.109 | 0.112** | 0.117 | 0.112** |
| | (0.0743) | (0.0560) | (0.0766) | (0.0562) |
| Job preferences[2] | | | | |
| Communication, Transport and | 0.289*** | -0.150** | 0.285*** | -0.149** |
| Services | (0.0919) | (0.0686) | (0.0852) | (0.0692) |
| Government | 0.364*** | -0.0360 | 0.372*** | -0.0690 |
| | (0.0929) | (0.0774) | (0.0843) | (0.0742) |

[1] Age Group reference group: 18-24 years old,
[2] Job preference categorized reference group: Agriculture/Food and Fishing

| | | | | |
|---|---|---|---|---|
| Manufacturing/ Craftsmanship | 0.234*** | 0.0519 | 0.239** | 0.0729 |
| | (0.0900) | (0.0820) | (0.0972) | (0.0787) |
| Mining | 0.276 | -0.0259 | 0.239 | -0.0899 |
| | (0.182) | (0.120) | (0.147) | (0.108) |
| Prefers a job if it has good working condition. | 0.262 | -0.0879 | -0.0113 | -0.181 |
| | (0.327) | (0.153) | (0.264) | (0.152) |
| Prefers a job if it has good wage. | -0.117 | 0.115 | 0.0519 | 0.201 |
| | (0.325) | (0.144) | (0.265) | (0.122) |
| Perception to income situation[1] | | | | |
| Not sufficient at all | -0.0867 | -0.348*** | -0.126 | -0.362*** |
| | (0.0727) | (0.0486) | (0.0810) | (0.0640) |
| Sufficient | 0.708*** | 0.469*** | 0.655*** | 0.433*** |
| | (0.101) | (0.0651) | (0.0936) | (0.0679) |
| Sufficient but temporary shortages | 0.191** | 0.135* | 0.154** | 0.112 |
| | (0.0743) | (0.0792) | (0.0660) | (0.0783) |
| Family ties is important to me | 0.158* | -0.0842 | 0.103 | -0.101 |
| | (0.0833) | (0.117) | (0.0801) | (0.0968) |
| Agricultural Productivity[2] | | | | |
| High | 0.490*** | 0.437*** | 0.406*** | 0.397*** |
| | (0.0789) | (0.0778) | (0.0541) | (0.0758) |
| Very high | -0.0779 | -0.0559 | -0.137 | -0.0597 |
| | (0.115) | (0.0734) | (0.107) | (0.0757) |
| Low | 1.224*** | 0.481*** | 1.092*** | 0.412*** |
| | (0.104) | (0.116) | (0.118) | (0.108) |
| Very low | -0.122 | -0.0200 | -0.172 | -0.000464 |
| | (0.119) | (0.117) | (0.113) | (0.104) |
| Prefers farming if it uses technology. | 0.259** | 0.0543 | 0.240** | 0.0574 |
| | (0.122) | (0.0792) | (0.0976) | (0.0709) |
| Prefers farming if training is provided. | 0.0304 | 0.0489 | 0.0196 | 0.0278 |
| | (0.0757) | (0.0921) | (0.0698) | (0.0870) |
| Prefers farming if I get access to land. | 0.0536 | 0.123 | 0.0196 | 0.0953 |
| | (0.0733) | (0.0898) | (0.0670) | (0.0831) |
| Prefers farming if it pays well. | -0.0225 | -0.0956 | 0.0343 | -0.0702 |
| | (0.0929) | (0.111) | (0.0745) | (0.100) |
| Share of rural population with access to electricity. | | | 0.0463*** | 0.0105 |
| | | | (0.0153) | (0.00883) |
| Average annual precipitation (mm/ year) | | | 0.000444* | -3.15e-05 |
| | | | (0.000228) | (0.000143) |
| Annual GDP growth rate | | | -0.102*** | -0.0308 |
| | | | (0.0274) | (0.0240) |
| Mobile cellular subscriptions (per 100 people) | | | -0.0312*** | -0.00121 |
| | | | (0.00801) | (0.00410) |

[1] Income Situation reference group: Not sufficient

[2] Agricultural Productivity reference group: Average

| | | | | |
|---|---|---|---|---|
| Share of national population living below the poverty line ($1.90) | | | -0.0104 | 0.00630 |
| | | | (0.00662) | (0.00509) |
| Rural population growth rate | | | 0.193 | -0.0446 |
| | | | (0.223) | (0.205) |
| Constant | -1.613*** | -0.796*** | -0.733 | -0.869 |
| | (0.210) | (0.168) | (0.832) | (0.578) |
| Observations | 10,000 | 10,000 | 10,000 | 10,000 |

**Note**: Robust standard errors are in parenthesis and clustered at the country level. Reference outcome: Migration intention: Depends on conditions; Significance levels: *** p<0.01, ** p<0.05, * p<0.1

The cross-country youth survey provides evidence that while most rural youth aged 18-35 years aspired to work in non-farm economic sectors including communication, transport, and services and government jobs, mainly those who currently work in farming, food and self-employment also aspired to continue working in agriculture, food and fishery activities. Further, it is also revealed that while above half of the youth, regardless of their occupational aspirations, are undecided about their migration aspirations, the econometric results suggest that compared to those who preferred working in agriculture, food and fishery sectors, those who aspired to working in non-farm jobs such as communication, transport and services, government jobs, and manufacturing tend to aspire to leave rural villages and migrate to urban areas. This indicates that policy interventions to support rural non-farm sectors expansion could be critical in influencing the flight of educated youth out of rural areas where the efforts to reduce poverty, achieve food security, and ensure inclusive and sustainable developments are most likely be determined. However, the mixed evidence that those who perceive their current incomes are sufficient tend to stay in rural areas and also migrate to cities compared to youths with insufficient current income situation than being undecided about their future migration decisions suggest that anti-poverty policy measures that simply improve the income of youth might have unpredictable and unintended consequences on the migration of rural youth. While the later means that those who may leave rural areas are likely to be economically better-off compared to the left behind youth, similar youth could also be found in rural areas.

### 4.3.2 Aspirations to migration to cities

Considering only those who aspire to migrate to cities and staying in rural and small towns, that is, excluding the 'undecided'[1] youth about their future migration, Table 4 shows the probability of migration to cities in the long-term versus staying in rural areas and small towns. The results show that aspirations to migration to cities tends to decline with age, mainly when national conditions are included. It is found that compared to youth aged 18-24 years, those 25-35 years old youth have 9.07 % lower probability of the intention to migrate to cities in five years time than staying in rural areas or small towns. The figures increased to 9.95 % among males and while it is 8.93 for females, showing the associations are robust according to youth gender. Perhaps, when youth get older, they tend to have stronger family ties in the rural areas and less interested in leaving their communities. Furthermore, it was also found that compared to those who preferred working in agriculture, food and fishery sectors, those who would like to work in communication, transport and services, government jobs, manufacturing, and mining have the intention to migrate to cities than staying in rural areas and small towns. While this seems to be highly expected pattern, the results also signal that youth seem to perceive that those who would like to work in non-farm sectors have to migrate to cities. In addition, intention to migrate to cities than staying in rural areas and small towns have mixed relationship with satisfaction in current income situation which could also mean that those who may migrate are likely to be both economically well to do and poor youth. Partly corroborating this income argument, it is showed that moving from average to low agricultural productivity areas, youth tend to out-migrate to cities than staying in rural areas or small towns.

**Table 4**: Predictors of the intention to out-migrate to cities in five years time–Probit model

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| Variables | Pooled | Pooled | Females | Females | Males | Males |
| Youth age group | | | | | | |
| Age 25-35 years[a] | -0.0639 | -0.0896** | -0.0595 | -0.0887** | -0.0789 | -0.0994* |
| | (0.0399) | (0.0352) | (0.0478) | (0.0427) | (0.0627) | (0.0595) |
| Youth is male | -0.00365 | 0.00348 | | | | |
| | (0.0346) | (0.0357) | | | | |

[1] The Wald tests for combining alternatives (N=10000) suggests that no categories or responses could be combined. Thus, in order to identify the factors associated with the decisions to migrate to cities and stay in rural villages, we exclude the 'undecided' youth from the analysis.

| | | | | | | |
|---|---|---|---|---|---|---|
| Job preferences[b] | | | | | | |
| Communication, Transport | 0.280*** | 0.275*** | 0.242*** | 0.236*** | 0.310*** | 0.306*** |
| and Services | (0.0580) | (0.0537) | (0.0758) | (0.0733) | (0.0793) | (0.0725) |
| Government | 0.254*** | 0.281*** | 0.184** | 0.215*** | 0.329*** | 0.347*** |
| | (0.0605) | (0.0463) | (0.0931) | (0.0807) | (0.0831) | (0.0818) |
| Manufacturing/ | 0.122* | 0.117** | -0.122 | -0.113 | 0.327*** | 0.316*** |
| Craftsmanship | (0.0629) | (0.0584) | (0.100) | (0.109) | (0.124) | (0.111) |
| Mining | 0.193** | 0.200*** | 0.275** | 0.292*** | 0.142 | 0.145* |
| | (0.0771) | (0.0733) | (0.111) | (0.111) | (0.0934) | (0.0851) |
| Prefers a job if it has good | 0.185 | 0.0831 | 0.347 | 0.259 | 0.0141 | -0.103 |
| working condition. | (0.198) | (0.143) | (0.253) | (0.192) | (0.201) | (0.179) |
| Prefers a job if it has good | -0.107 | -0.0626 | -0.322 | -0.309* | 0.135 | 0.209 |
| wage. | (0.176) | (0.129) | (0.228) | (0.174) | (0.176) | (0.157) |
| Perception to income situation[c] | | | | | | |
| Not sufficient at all | 0.162*** | 0.145*** | 0.135* | 0.108 | 0.195*** | 0.184*** |
| | (0.0484) | (0.0454) | (0.0748) | (0.0725) | (0.0515) | (0.0483) |
| Sufficient | 0.147** | 0.136** | 0.147* | 0.131 | 0.168* | 0.157* |
| | (0.0662) | (0.0669) | (0.0783) | (0.0797) | (0.0891) | (0.0912) |
| Sufficient but temporary | 0.0355 | 0.0173 | 0.0190 | 0.00106 | 0.0704 | 0.0478 |
| shortages | (0.0354) | (0.0400) | (0.0550) | (0.0613) | (0.0496) | (0.0510) |
| Family ties is important to | 0.142*** | 0.105** | 0.177** | 0.143* | 0.113** | 0.0722 |
| me | (0.0532) | (0.0450) | (0.0858) | (0.0800) | (0.0464) | (0.0462) |
| Agricultural Productivity | | | | | | |
| High | 0.0362 | 0.00119 | 0.0478 | 0.0154 | 0.0306 | -0.00706 |
| | (0.0564) | (0.0535) | (0.0854) | (0.0839) | (0.0813) | (0.0780) |
| Very high | -0.0155 | -0.0622 | -0.0431 | -0.0763 | 0.0164 | -0.0441 |
| | (0.0611) | (0.0489) | (0.0823) | (0.0781) | (0.0884) | (0.0788) |
| Low | 0.469*** | 0.419*** | 0.369*** | 0.314*** | 0.575*** | 0.524*** |
| | (0.0970) | (0.0865) | (0.123) | (0.116) | (0.121) | (0.106) |
| Very low | -0.0617 | -0.121 | -0.0152 | -0.0627 | -0.100 | -0.167** |
| | (0.0900) | (0.0753) | (0.130) | (0.124) | (0.0954) | (0.0806) |
| Prefers farming if it uses | 0.126** | 0.118** | 0.0558 | 0.0546 | 0.190** | 0.177** |
| technology. | (0.0586) | (0.0502) | (0.0697) | (0.0551) | (0.0818) | (0.0815) |
| Prefers farming if training is | -0.00973 | -0.00783 | -0.125* | -0.125** | 0.0992 | 0.108 |
| provided. | (0.0462) | (0.0416) | (0.0648) | (0.0582) | (0.0853) | (0.0901) |
| Prefers farming if I get | -0.0441 | -0.0455 | -0.0228 | -0.0264 | -0.0701 | -0.0665 |
| access to land. | (0.0595) | (0.0495) | (0.0798) | (0.0619) | (0.0902) | (0.0909) |
| Prefers farming if it pays | 0.0395 | 0.0586 | -0.0745 | -0.0510 | 0.155** | 0.179** |
| well. | (0.0520) | (0.0472) | (0.0838) | (0.0767) | (0.0695) | (0.0763) |
| **National conditions** | | | | | | |
| Share of rural population | | 0.0226*** | | 0.0249*** | | 0.0208** |
| with access to electricity. | | (0.00824) | | (0.00665) | | (0.0102) |
| Average annual | | 0.000309*** | | 0.000363*** | | 0.000258** |
| precipitation (mm/ year) | | (9.09e-05) | | (8.02e-05) | | (0.000114) |
| Annual GDP growth rate | | -0.0447** | | -0.0487*** | | -0.0414* |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | (0.0194) | | (0.0158) | | (0.0241) |
| Mobile cellular subscriptions | | -0.0185*** | | -0.0175*** | | -0.0197*** |
| (per 100 people) | | (0.00411) | | (0.00357) | | (0.00518) |
| Share of national population | | -0.0105*** | | -0.0126*** | | -0.00835** |
| living below the poverty line ($1.90) | | (0.00272) | | (0.00196) | | (0.00380) |
| Rural population growth rate | | 0.148 | | 0.242** | | 0.0586 |
| | | (0.136) | | (0.109) | | (0.174) |
| Constant | -0.509*** | (0.136) | -0.398*** | -0.00299 | -0.639*** | 0.149 |
| | (0.106) | 0.0813 | (0.142) | (0.373) | (0.106) | (0.423) |
| Observations | 4,840 | 4,840 | 2,363 | 2,363 | 2,477 | 2,477 |

**Note**: Standard errors are in parenthesis and clustered at the country level.
Significance levels: *** p<0.01, ** p<0.05, * p<0.1

What is more, national level conditions also play useful roles in youth's decisions to migrate to cities or not. The results show that while a 1% increase in the share of rural population with access to electricity is associated with an increase in the sub-Saharan African rural youths migration aspirations to cities by about 2.26% (2.49% for females and 2.08% for males), on the contrary, a similar percent increase in national GDP and access to cellular mobile services are associated with a reduction in the probability of rural youth migrated to cities, increasing their intention to stay in rural areas and small towns. This suggests that access to technologies to rural youth might help them aspire to remain and work in rural areas. However, reduction in the share of national population living in poverty is a useful indicator of youth aspiring to migrate to urban areas and reducing their intention to stay behind.

### 4.4 Adolescents' aspirations to and perceptions of farming in southwestern Ethiopia

Using adolescents from different urbanization levels in southwestern Ethiopia as a case in point, this section examines the aspirations formation of youth during their adolescent period (aged 13-17 years) and their migration decisions after four to five years when they are 17-21-year-old youth. The survey, which includes adolescents residing in the rural villages, small towns, and Jimma city, also asks adolescents several questions to investigate their perceptions on farming and pre-requisites to become a farmer and farm laborer. Table 5 presents the characteristics of the sample youth, households, heads, and their distribution based on the urbanization levels.

### 4.4.1 Basic profiles of adolescents

The results show that about 51% of the surveyed adolescents are males and have attained about 5 years of schooling. With about 28.7% of work participation and 91% of adolescents attended schooling during the baseline survey, it is noted that school participation is higher in the survey areas compared to the rural average in Ethiopia. Furthermore, it is also found that one in every two adolescents is a member of clubs, associations, and groups where they may learn social skills, build networks, and form their aspirations on education and jobs later in life. In addition, about 16% of adolescents had adult relatives living in Addis Ababa, which may also influence their educational and occupational aspirations and migration decisions.

Household heads were on average 49 years of age, attained about 4 years of formal schooling, and about 82% of the households were headed by males. With the average household size of 7.5 persons, which is above the national average of less than five people, one in every five household members is an adolescent aged between 13 and 17 years.

**Table 5:** Basic characteristics of adolescents and household heads in 2005

| Variables | Obs. | Mean (Std. Dev.) | Min | Max |
|---|---|---|---|---|
| Adolescent is male | 2,109 | 0.509(0.500) | 0 | 1 |
| Number of grades the adolescent attained (years) | 2,084 | 5.161 (2.655) | 0 | 13 |
| Number of groups the adolescent belongs to | 2,109 | 0.496(0.695) | 0 | 2 |
| Adolescent currently works in a job | 2,084 | 0.287(0.452) | 0 | 1 |
| The adolescent has an adult relative in Addis Ababa | 2,109 | 0.161(0.368) | 0 | 1 |
| Age of the household head (years) | 2,109 | 49.404(12.303) | 16 | 98 |
| Household head is male | 2,109 | 0.821(0.384) | 0 | 1 |
| Years of schooling the household head completed | 2,109 | 3.991 (4.453) | 0 | 18 |
| Household size | 2,109 | 7.522(2.539) | 1 | 20 |
| Proportion of adolescents in the households | 2,109 | 0.228(0.105) | 0.056 | 1 |
| Out-migrated (left the village) after baseline survey | 2,107 | 0.3052(0.461) | 0 | 1 |
| Multiple response variables | | Categories | Freq. | % |
| Religion (Obs.: 2084) | | Muslim | 1268 | 60.84 |
| | | Orthodox | 690 | 33.11 |
| | | Others | 126 | 6.05 |
| Adolescents' age group (Obs.: 2109) | | 13-14 years | 938 | 44.48 |
| | | 15-17 years | 1171 | 55.52 |

| | | | |
|---|---|---|---|
| Urbanization level (Obs.: 2109) | City (Jimma) | 753 | 35.7 |
| | Small towns | 599 | 28.4 |
| | Rural areas | 757 | 35.89 |
| General reported health condition (Obs.: 2084) | Very good | 1693 | 81.24 |
| | Good | 252 | 12.09 |
| | Moderate or bad | 139 | 6.67 |
| Household head's marital status (Obs.: 2109) | Single, divorced | 428 | 20.29 |
| | Married/ monogamy | 1196 | 56.71 |
| | Married/ polygamy | 485 | 23.0 |

As indicated earlier in the data description section, adolescents were distributed proportionally in the rural areas (35.89%), small towns (28.4%) and Jimma city (35.7%) and about 61% and 33% were Muslims and Orthodox Christians, respectively. Moreover, while about 81% of adolescents rate their health as very good, 12% and about 7% reported that their general health conditions are good and moderate or bad, respectively. Here, it is argued that health conditions may significantly affect adolescents' perceptions to rural life and farming, their educational and occupational aspirations, and migration decisions later in life.

The table also shows the migration of adolescents after the baseline survey in 2005-2006. Every attempt was made to interview all those who moved within the study areas between survey rounds. As a result, excluding all refusals and deceased members, migrant adolescents were defined as those who were reported by the household as out-migrated or left the village after the baseline survey as of the 2008 household survey and those who were not found in the villages during the third round adolescent survey, conducted in 2009. Accordingly, a total of 643 adolescents, 30.5%, have out-migrated from the villages, small towns, and Jimma city in four to five years period. However, it has to be noted here that although the data did not explicitly capture the reasons to migration and migration destination, based on their background profile, migration due to schooling may have been the main reasons and accordingly adolescents who were residing in villages and small towns may have to migrate to Jimma and other cities to attend their schooling. As a result, although the evidence would have been of highly insightful, this study devotes on the migration decisions without further exploring the migration reasons and destinations.

### 4.4.2 Perceptions of farming

One of the most useful aspects in understanding rural occupational aspirations, life goals, and preferences and their efforts and investments toward attaining these outcomes is to explore their perceptions of such as farming and the requirements to become a farmer or farm laborer. In this study, adolescents' perceptions of farming has been explored involving (1) their understanding regarding what level of education is required to become a farmer/ farm laborer, the income that a farmer/farm worker might earn, and if adolescents think that a farmer/farm worker can sufficiently support own household; and (2) adolescents' perceptions regarding the pre-requisite to become a farmer/ farm worker which shows the importance of education, social networking, effort, and gender in farming or to become a farmer. In the index formation, higher values correspond to better perception of the adolescent towards farming, farm earnings and the wellbeing of being a farm worker, and higher regards adolescents give to education, social networking, effort, and gender in farming or to become a farmer.

In order to identify correlates to adolescents' farming perceptions (based on the components) and according to the level of urbanization (city, small towns and rural villages), the perceptions indices regressed on a set of adolescent, head and village related variables. Results presented in Table 6 shows that male adolescents compared to females have better perceptions of farming and attaches higher regards to education, social networking, effort and gender to become a farmer or work as farm laborer. The findings indicate that being male is associated with better perceptions on farming livelihood and wellbeing and about the pre-requisites to become a farmer by about 15.7% and 54.4%, respectively compared to females. The values are robust but vary in extent when samples are disaggregated according to urbanization levels. In this regard, interestingly, male adolescents residing in cities have much better perceptions of a farmer/farm worker's income, required education level, and ability of the farmer to support own household. However, the associations between perceptions of farming and gender become insignificant when gender is interacted with age of the adolescents.

**Table 6**: Correlates to adolescents' perceptions of farming by the level of urbanization, Southwestern Ethiopia

| | **Perception of farming livelihood and wellbeing** | | | | **Perceptions of pre-requisites to become a farmer** | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Variables | Pooled | City | Small towns | Villages | Pooled | City | Small towns | Villages |
| Gender and age interaction | | | | | | | | |
| Adolescent is male | 0.157*** | 0.303** | 0.172* | 0.0179 | 0.544*** | 0.299** | 0.753*** | 0.622*** |
| | (0.0603) | (0.124) | (0.102) | (0.0909) | (0.0642) | (0.129) | (0.116) | (0.0972) |
| Adolescent aged 15-17 years | 0.0315 | 0.182 | -0.0510 | -0.0232 | 0.0101 | -0.213* | 0.0452 | 0.167 |
| | (0.0630) | (0.123) | (0.114) | (0.0916) | (0.0642) | (0.115) | (0.122) | (0.102) |
| Adolescent is male and aged | 0.0230 | 0.0539 | -0.0165 | 0.00964 | 0.0180 | 0.272* | -0.0475 | -0.156 |
| 15-17 years | (0.0844) | (0.163) | (0.155) | (0.121) | (0.0844) | (0.161) | (0.152) | (0.133) |
| Highest grade completed | 0.0224** | 0.0164 | 0.0336 | 0.0178 | 0.000317 | -0.00110 | 0.0272 | 6.51e-05 |
| | (0.0110) | (0.0218) | (0.0217) | (0.0155) | (0.0115) | (0.0208) | (0.0238) | (0.0169) |
| Number of club membership | 0.0348 | 0.0497 | 0.0325 | 0.0354 | 0.0421 | 0.0382 | 0.00147 | 0.0382 |
| | (0.0343) | (0.0572) | (0.0622) | (0.0599) | (0.0311) | (0.0532) | (0.0539) | (0.0532) |
| Religion [Ref.: Muslim] | | | | | | | | |
| Orthodox | -0.0978* | -0.00903 | -0.0806 | -0.339*** | -0.000208 | 0.0609 | -0.0779 | 0.0560 |
| | (0.0537) | (0.0892) | (0.0862) | (0.0801) | (0.0530) | (0.0863) | (0.0786) | (0.117) |
| Other | -0.0284 | 0.169 | -0.136 | -0.297** | -0.120 | -0.0176 | -0.0817 | -0.520** |
| | (0.102) | (0.167) | (0.148) | (0.132) | (0.104) | (0.147) | (0.184) | (0.233) |
| Has autonomy to choose a job | -0.276*** | -0.155* | -0.375*** | -0.332*** | 0.126*** | 0.00846 | 0.246*** | 0.202*** |
| | (0.0504) | (0.0901) | (0.0988) | (0.0741) | (0.0474) | (0.0835) | (0.0915) | (0.0743) |
| Currently works in a job | 0.0941** | -0.00957 | 0.179** | 0.0693 | -0.147*** | -0.146 | -0.102 | -0.175** |
| | (0.0469) | (0.106) | (0.0869) | (0.0643) | (0.0487) | (0.107) | (0.0847) | (0.0728) |
| Adolescent's general health [Ref.: very good] | | | | | | | | |
| Good | 0.186*** | 0.255** | 0.222* | 0.0356 | -0.145** | -0.165 | -0.124 | -0.129 |
| | (0.0643) | (0.122) | (0.113) | (0.0964) | (0.0641) | (0.116) | (0.117) | (0.102) |
| Moderate or bad | 0.194** | 0.290* | 0.380* | -0.0656 | -0.220** | -0.417** | 0.0782 | -0.180 |
| | (0.0936) | (0.167) | (0.201) | (0.132) | (0.0860) | (0.175) | (0.126) | (0.118) |
| Parental wealth status [Ref.: 1st quartile] | | | | | | | | |
| 2nd quartile | -0.0455 | -0.0363 | -0.0636 | -0.0423 | 0.120** | 0.141 | 0.0190 | 0.186* |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (0.0608) | (0.112) | (0.107) | (0.0972) | (0.0597) | (0.110) | (0.105) | (0.0947) |
| 3rd quartile | -0.0177 | 0.0765 | 0.0323 | -0.159* | 0.0845 | 0.147 | -0.0294 | 0.110 |
| | (0.0651) | (0.125) | (0.122) | (0.0932) | (0.0640) | (0.120) | (0.114) | (0.0997) |
| 4th quartile | 0.00747 | 0.147 | -0.00644 | -0.0901 | 0.117* | 0.138 | 0.127 | 0.111 |
| | (0.0646) | (0.120) | (0.119) | (0.0948) | (0.0620) | (0.108) | (0.114) | (0.100) |
| Age of the head (years) | 0.000536 | 0.000893 | 0.00103 | -0.00273 | 0.00277 | 0.00215 | 0.00164 | 0.00313 |
| | (0.00204) | (0.00385) | (0.00378) | (0.00301) | (0.00198) | (0.00340) | (0.00371) | (0.00353) |
| Household head is male | -0.00300 | 0.148 | -0.123 | -0.254 | -0.247*** | -0.315** | -0.0487 | -0.188 |
| | (0.0956) | (0.139) | (0.185) | (0.206) | (0.0922) | (0.128) | (0.168) | (0.220) |
| Head's marital status [Ref.: Single] | | | | | | | | |
| Married, mono | -0.0114 | -0.103 | 0.0287 | 0.171 | 0.134 | 0.185 | -0.135 | 0.288 |
| | (0.0932) | (0.144) | (0.189) | (0.185) | (0.0870) | (0.124) | (0.164) | (0.194) |
| Married, poly | -0.176* | -0.255* | -0.183 | 0.0665 | 0.134 | 0.291** | -0.184 | 0.240 |
| | (0.0941) | (0.143) | (0.194) | (0.189) | (0.0945) | (0.138) | (0.181) | (0.210) |
| Head's completed schooling | 0.00237 | -0.00106 | 0.00273 | -0.0133 | 0.0112* | 0.0125 | 0.0133 | -0.00194 |
| (years) | (0.00677) | (0.0113) | (0.0109) | (0.0146) | (0.00655) | (0.01000) | (0.0112) | (0.0153) |
| Proportion of adolescents in the | -0.214 | -0.396 | -0.792** | 0.514 | 0.0428 | -0.116 | 0.386 | -0.0158 |
| households | (0.218) | (0.362) | (0.382) | (0.353) | (0.217) | (0.337) | (0.413) | (0.398) |
| Urbanization level [Ref.: Cities] | | | | | | | | |
| Small towns | -0.245*** | | | | -0.0843 | | | |
| | (0.0584) | | | | (0.0564) | | | |
| Rural villages | -0.394*** | | | | 0.0257 | | | |
| | (0.0725) | | | | (0.0715) | | | |
| Constant | 0.211 | -0.131 | 0.153 | 0.189 | -0.474*** | -0.195 | -0.798*** | -0.746*** |
| | (0.163) | (0.300) | (0.296) | (0.248) | (0.155) | (0.254) | (0.277) | (0.270) |
| Observations | 2,084 | 746 | 589 | 749 | 2,084 | 746 | 589 | 749 |
| R-squared | 0.082 | 0.062 | 0.096 | 0.071 | 0.091 | 0.076 | 0.150 | 0.120 |

Note: Robust standard errors in parentheses; Significance levels: *** p<0.01, ** p<0.05, * p<0.1

While educational attainment of adolescents for the pooled sample positively and significantly associated with perceptions on farm wellbeing, religion and adolescents' perceived autonomy in choosing an occupation, which might not be approved by parents, strongly correlate with both components of perceptions of farming. Accordingly, it was found that compared to Muslim adolescents, being an Orthodox Christian is associated with a reduction in perceptions of the wellbeing of a farm worker and the role of education, social networking, effort and gender by about 9.78% (pooled sample) and 33.9% (village adolescents), respectively. Furthermore, compared to those who believe that they cannot have an occupation that is not approved by their parents, those who believe that they have the autonomy and leverage to choose their own jobs is negatively associated with the wellbeing and livelihood of a farmer and positively with the role of education, social networking, effort and gender. Comparing responses to those who reported a better health condition, a similar pattern has also been noted with regard to the associations with adolescents' reported general health conditions.

However, parent wealth differentials , in general, seems to have insignificant associations with the perceived wellbeing and livelihood of farm laborer. However, compared to those from a lower wealth quartile, adolescents from the second quartile and fourth quartile give high regard to the role of education, social networking, effort and gender. Current labor market participation of adolescents is another important variable strongly associated with perceptions of farming livelihoods and wellbeing and pre-requisite to become a farmer. We find that being a working adolescent is associated with an increase in positive perceptions of farming livelihoods and wellbeing by 9.41% (pooled) and 17.9% (small town adolescents). On the contrary, we find that being a working adolescent is associated with a reduction in the roles of education, social networking, effort and gender to become a farmer by 14.7% (pooled) to 17.5% (village adolescents). The study also explored if perceptions of farming vary by adolescents' location. It was found that compared to adolescents residing in cities, being from nearby small towns and adjacent rural areas to the small towns are associated with reductions in perceptions to farming livelihood and wellbeing by about 24.5% and 39.4%, respectively. However, the study does not find evidence on a strong association between level of urbanization and adolescents' perceptions of the pre-requisites to become a farmer/ farm laborer.

### 4.4.3 Educational aspirations

Adolescents were asked "What is the highest grade you think you will complete?" in order to understand their educational aspirations to be achieved later in life. The responses to this direct question are reported using Table 7. The results show that while about 95% of adolescents would like to attain tenth grade and above levels of education, a minority (2.26%) aspired grades less than 9 years of schooling while 3.69% have no intention to attend schooling and complete some level of grades. This shows that, perhaps due to their current educational status (participation and attainment), adolescents seem to have higher education aspirations which could also be a good potential indicator of occupational conditions that they would like to have.

**Table 7:** Aspired educational levels of adolescents during baseline survey (2005)

| Aspired education levels | Pooled (n=2084) | Females (n=1028) | Males (n=1056) | Mean |
|---|---|---|---|---|
| | Percent | Percent | Percent | *t*-test |
| 0 years (no aspired schooling) | 3.69 | 3.79 | 3.6 | 0.785 |
| Less than 9 years | 2.26 | 1.95 | 2.56 | 0.363 |
| 10 to 12 years | 37.67 | 35.7 | 39.58 | 0.094* |
| Above 12 years of schooling | 56.38 | 58.56 | 54.26 | 0.03** |
| Years of schooling (mean) | 13.06 | 12.98 | 13.1 | 0.345 |

Significance levels: *** P<0.01, ** P<0.05, * P<0.1

Looking at the above results by gender, the study finds that there are no significant differences between females and males in their aspirations to education when it comes to aspiring below nine years of schooling. In contrast, we find that while more male adolescents than their female counterparts aspire to attain 10 to 12 years of schooling, relatively more females than males would like to attain above 12 years of education levels which includes joining university and college education. However, these differences disappear if we consider the average grade aspired by adolescents according to gender. In this regard, adolescents, regardless of gender, aspired to join university plus one year of education. The section below investigates the occupational aspirations, also disaggregated by adolescent gender.

### 4.4.4 Occupational aspirations

Unlike the findings from the large scale cross-country survey to youth aged 18-35 years,, as discussed in the earlier section, the current survey of adolescents from rural south-western Ethiopia has shown that only 2.16% of the respondents aspired working as farmers or farm laborers (skilled or commercial/unskilled). Instead, about 51% of the adolescents and youth would like to be Medical doctors later in life. For the fact that the respondents in rural Ethiopia were aged 13-17 years and more than 90% were attending schools during the baseline survey, it is highly likely that their occupational aspirations could be influenced by their peers and could be adjusted as they grow up. The next majority, 17.32%, also would like to be teachers (at different levels), 8.59% others and 6.24% work in non-farm jobs when adults.

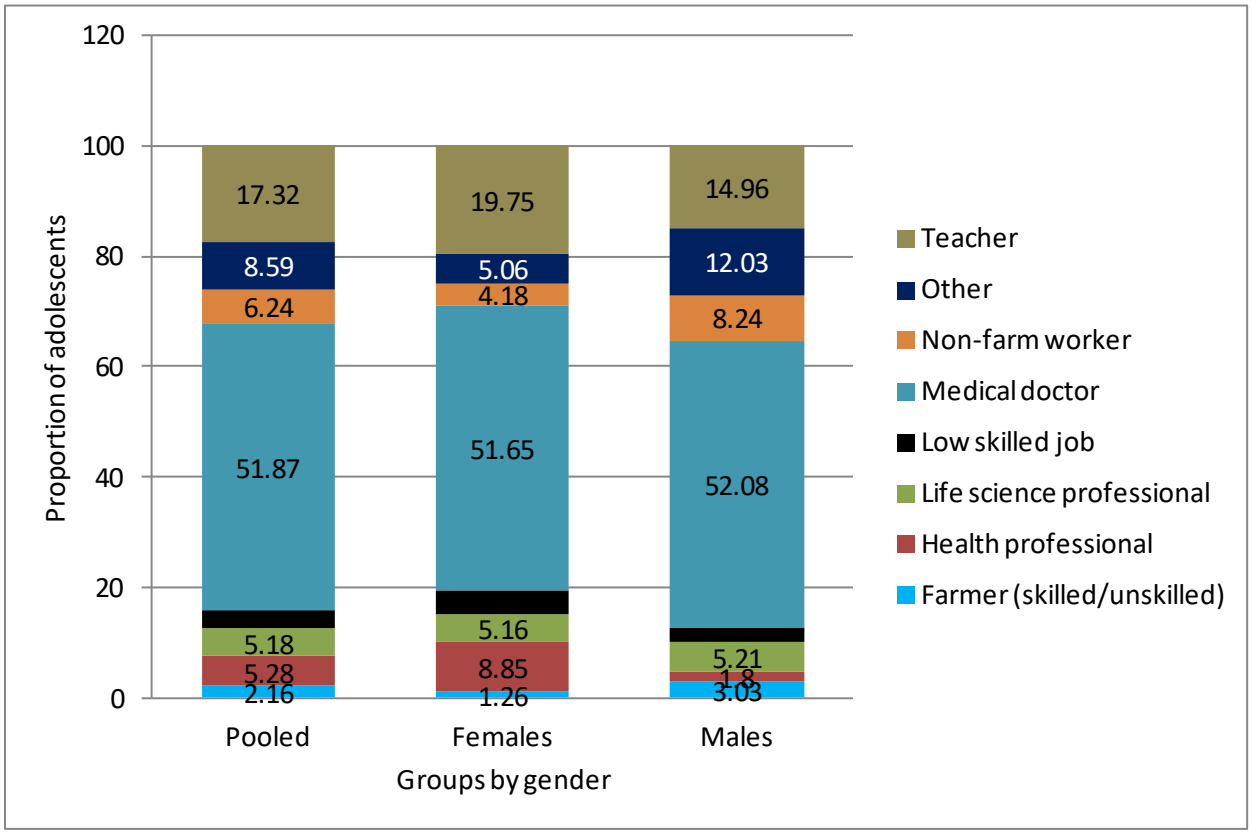


Figure 4: Youth occupational aspirations according to the gender of youth

Looking at it from a gender perspective, the study finds that consistent with the findings using pooled data, female adolescents aspired to be Medical doctors (51.65%), teachers (19.75%) and

health professional such as Nursing (8.85%). On the other hand, males aspired to be medical doctors (52.08%), teachers (14.96%) and other occupations such as Journalism and Musician (12.03%). This shows that while male and female adolescents would like to be Medical doctors and teachers alike, females tend to be health professionals and their male counter parts would like to pursue as Journalists and Musicians.

A related study by Tafere and Woldehanna (2012) using a Young Lives data finds that children keep changing their occupational aspirations over time mainly based on their educational achievements. In their study, while it was also found that farming has been identified by very few children as their aspired occupation, those who could not proceed in their schooling and failed to achieve their aspired educational levels tend to work in farming. This, therefore, suggests that aspirations studies among children and adolescents could become more robust through repeated observations. However, having very few educated adolescents aspired to working in farming; it has useful implications to achieving food security in rural areas of Africa. Studies that try to identify the processes of adolescents' aspirations formation should also unravel the causal effects of such aspirations on key outcomes such as the decision to migrate in the long-term. The section below also discusses the causality using the JLFSY dataset.

**4.5 Effects of aspirations on migration decisions: IV estimates**

The causality between aspirations formation during adolescent and migration decisions when youth could be biased due to the endogeneity problem as a result of unobserved or innate abilities that affect both variables. Individual specific innate abilities such as motivation, ability to aspire and see opportunities in migration and determination may affect both the educational and occupational aspirations formations and whether the adolescent stays or out-migrates later. In order to address this problem, the study uses instrumental variables (IVs) approach to use exogeneous variables to predict the aspirations formation and through which to identify the effects of these aspirations on migration decisions. In this regard, the IVs must be relevant to induce the changes in the educational and occupational aspirations and satisfy the exclusion restriction, i.e. not predictors of youth migration equations. Thus, the IVs should not have direct effects on migration decisions but only through affecting aspirations formation. Accordingly,

the study uses religious affiliation of adolescents to instrument their educational, occupational, and aggregated aspirations formations. In addition, adolescents' perceived autonomy to choose an occupation which may not be approved by their parents to instrument occupational and aggregate aspirations formation. The results are presented using Table 8 and discussed below.

***First-stage regression***

From the Two-stage residual inclusion (2SRI) estimators (Terza et al., 2008), in the first stage, endogenous variables (educational, occupational, and aggregated aspirations) were regressed on the instrumental variables and other relevant pre-migration factors. The first-stage results show that religion strongly predicts aspirations (educational, occupational, and aggregated) of adolescents. Compared to Muslim adolescents, being an Orthodox Christian is associated with a 13.6% higher level of educational aspirations, but 15.8% less likely to aspire to have high skilled occupations later in life. Using aggregated index (taking both components of the aspirations into account), it is also found that being an Orthodox Christian and following other beliefs and religions are associated with a 7.35% and 11.2% lower level of general aspirations. Moreover, results also indicate that adolescents who think they can have a job even if it is not approved by their parents, indictor of perceived autonomy to choose a job, is associated with a 6.9% higher level of general aspirations and a 10.5% higher probability of aspiring to high-skilled jobs. The residuals estimated from the first-stage results are also statistically significant in the second-stage equations, showing that the approaches significantly control the effects of unobserved and omitted variables in the outcome equations.

**Second stage estimation**

**Educational aspirations and migration decisions**

Second-stage of Model 1 regression results, using the pooled sample, present causal effects of educational aspirations formed during adolescents on migration decisions observed after four to five years. The findings suggest that a one more year of educational aspirations resulted in a reduction in migration decisions out from the respective origin areas in four to five years time by a factor of 37.1% (margins value). The results seem to be contrary to an expectation that

those who aspire higher educational levels tend to migrate. However, this study shows that during the 17-21 years period, most youth could still be completing their high schools and preparatory education which is more likely to be available in small towns and Jimma, resulting in those who aspire more years of schooling to remain in their villages during the follow up survey in order to attend their schooling. This also means that although the findings show deterrent effects of educational aspirations on migration decisions after four to five years, the causal direction may change when adolescents finish their pre-college education. Accordingly, it shows that an increase in the highest grade attained by one more year at baseline increases migration decisions later by about 5.1% (margins value).

Other important drivers of youth migration decisions above and beyond adolescent educational aspirations include gender of the adolescent (girls tend to out-migrate than boys), being a non-working adolescent, being from rural and small towns compared to those living in Jimma city, having a very good general (reported) health conditions compared to those who feel moderate or bad health conditions, having a married head, and high-skilled occupational aspirations. For instance, those who aspired to have higher skilled occupations later in life such as medical doctors likely to raise migration decisions later by a factor of 11.7% (margins value).

**Occupational aspirations and migration decisions**

The study also analyzed the causal effects of occupational aspirations on migration decisions, Model 2. Unlike educational aspirations, occupational aspirations during adolescent period increase the likelihood of migration when youth, after four to five years. It was found that high-skilled occupational aspirations resulted in a 22.8% increase in the probability of out-migrating from origin areas four to five years later. This finding suggests that out-migration of youth from rural areas and small towns may not be only due to push factors such as lack of farm land but it could also be due to their aspirations to work in high-skilled jobs which are not often found in rural areas and small towns. Accordingly, those remaining behind, on the contrary, could be either students, as indicted above, or those who have lower aspirations to high-skilled occupations due to various reasons.

**Table 8**: Effects of aspirations on migration decisions, all adolescents

| | Educational aspirations and migration decisions | | Occupational aspirations and migration decisions | | Aggregated aspirations and migration decisions | |
|---|---|---|---|---|---|---|
| | (Model 1) | | (Model 2) | | (Model 3) | |
| Variables | First stage | Second stage | First stage | Second stage | First stage | Second stage |
| Adolescent's gender and age interactions | | | | | | |
| Adolescent is male | 0.0160 | -0.566*** | 0.118* | -0.654*** | 0.0706** | -0.654*** |
| | (0.0606) | (0.0879) | (0.0638) | (0.0960) | (0.0325) | (0.0973) |
| Adolescent is aged 15-17 years | -0.279*** | 0.300* | 0.0507 | 0.544*** | 0.0269 | 0.547*** |
| | (0.0601) | (0.172) | (0.0606) | (0.0796) | (0.0312) | (0.0800) |
| Adolescent is male and aged 15-17 years | 0.107 | 0.111 | -0.224*** | 0.162 | -0.114*** | 0.144 |
| | (0.0786) | (0.130) | (0.0848) | (0.143) | (0.0435) | (0.142) |
| Number of groups the adolescent belongs to | 0.0443 | 0.0142 | 0.0999*** | -0.121** | 0.0479*** | -0.108** |
| | (0.0294) | (0.0519) | (0.0303) | (0.0540) | (0.0154) | (0.0525) |
| Adolescent currently works | -0.136*** | -0.217** | -0.168*** | 0.0666 | -0.103*** | 0.0735 |
| | (0.0448) | (0.103) | (0.0494) | (0.0851) | (0.0254) | (0.0911) |
| Urbanization level (Ref.: Cities) | | | | | | |
| Small/ secondary towns | 0.190*** | 0.260** | 0.0136 | 0.0436 | 0.0126 | 0.0378 |
| | (0.0553) | (0.102) | (0.0567) | (0.0802) | (0.0290) | (0.0811) |
| Rural villages | 0.755*** | 0.930** | 0.119 | 0.0430 | 0.0694* | 0.0471 |
| | (0.0811) | (0.364) | (0.0788) | (0.132) | (0.0413) | (0.134) |
| Adolescent's reported general health (Ref.: very good) | | | | | | |
| Good | -0.305*** | -0.287 | 0.0629 | 0.00505 | 0.00846 | 0.0397 |
| | (0.0594) | (0.185) | (0.0698) | (0.105) | (0.0351) | (0.103) |
| Moderate or bad | -0.349*** | -0.483** | -0.0780 | -0.0370 | -0.0351 | -0.0501 |
| | (0.0843) | (0.198) | (0.0902) | (0.122) | (0.0464) | (0.120) |
| Adolescent has an adult relative in Addis Ababa | 0.120** | 0.193* | -0.0527 | 0.0889 | -0.00810 | 0.0582 |
| | (0.0528) | (0.105) | (0.0637) | (0.0882) | (0.0324) | (0.0852) |

| | | | | | | |
|---|---|---|---|---|---|---|
| Wealth level of the parent (Ref.: 1st quartile) | | | | | | |
| 2nd quartile | -0.0244 | -0.150 | 0.107* | -0.210** | 0.0616* | -0.209** |
| | (0.0573) | (0.0954) | (0.0607) | (0.0981) | (0.0314) | (0.0999) |
| 3rd quartile | 0.0495 | 0.0529 | 0.0566 | -0.0530 | 0.0226 | -0.0394 |
| | (0.0568) | (0.103) | (0.0632) | (0.103) | (0.0323) | (0.103) |
| 4th quartile | 0.0736 | 0.186* | 0.0739 | 0.0404 | 0.0384 | 0.0476 |
| | (0.0574) | (0.107) | (0.0628) | (0.102) | (0.0319) | (0.102) |
| Age of the household head (years) | 0.00293 | -0.00327 | 0.00230 | -0.00843*** | 0.00183* | -0.00912*** |
| | (0.00189) | (0.00358) | (0.00189) | (0.00327) | (0.000995) | (0.00336) |
| Household head is male | -0.0719 | -0.243* | -0.00209 | -0.153 | 0.00311 | -0.154 |
| | (0.0902) | (0.138) | (0.0955) | (0.123) | (0.0506) | (0.122) |
| Head's marital status (Ref.: Single) | | | | | | |
| Married, mono | 0.174** | 0.279* | -0.0566 | 0.129 | -0.0287 | 0.125 |
| | (0.0863) | (0.149) | (0.0907) | (0.123) | (0.0480) | (0.123) |
| Married, poly | 0.139 | 0.401*** | -0.119 | 0.343*** | -0.0698 | 0.345*** |
| | (0.0895) | (0.140) | (0.0949) | (0.130) | (0.0497) | (0.131) |
| Head's education level attained (years) | 0.00623 | 0.00443 | 0.00167 | -0.00518 | 0.00257 | -0.00778 |
| | (0.00563) | (0.0106) | (0.00669) | (0.00903) | (0.00345) | (0.00900) |
| Adolescent aspires to high skilled occupation | 0.380*** | 0.370** | | | | |
| | (0.0431) | (0.187) | | | | |
| Highest grade attained by adolescent (years) | 0.161*** | 0.160* | | | | |
| | (0.0136) | (0.0829) | | | | |
| Gap between aspired and attained education levels in 2005 | | | 0.0609*** | -0.0648*** | 0.165*** | -0.227** |
| | | | (0.00586) | (0.0236) | (0.00345) | (0.110) |
| Adolescent's perception on pre-requites to become a farmer/ farm laborer | -0.0133 | -0.00858 | 0.0170 | -0.00852 | 0.0103 | -0.00932 |
| | (0.0208) | (0.0368) | (0.0230) | (0.0330) | (0.0119) | (0.0332) |
| Proportion of adolescents in the household | 0.345* | 0.421 | 0.305 | -0.210 | 0.222** | -0.273 |
| | (0.185) | (0.381) | (0.215) | (0.342) | (0.112) | (0.351) |
| Adolescent reads and writes Amharic | 0.0198 | 0.164 | 0.195*** | -0.0456 | 0.0871** | -0.0170 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | (0.0666) | (0.108) | (0.0662) | (0.123) | (0.0344) | (0.118) |
| Instrumental variables | | | | | | |
| Religion | | | | | | |
| Orthodox | 0.136*** | | -0.158*** | | -0.0735*** | |
| | (0.0494) | | (0.0532) | | (0.0273) | |
| Others | 0.120 | | -0.223** | | -0.112** | |
| | (0.0755) | | (0.101) | | (0.0514) | |
| Perceived autonomy to choose a job | | | 0.105** | | 0.0690*** | |
| | | | (0.0495) | | (0.0254) | |
| Educational aspirations | | -1.171** | | | | |
| | | (0.508) | | | | |
| Residuals of education aspirations | | 1.122** | | | | |
| | | (0.504) | | | | |
| Occupational aspirations | | | | 0.721** | | |
| | | | | (0.338) | | |
| Residuals of occupational aspirations | | | | -0.747** | | |
| | | | | (0.340) | | |
| Aggregated aspirations | | | | | | 1.246* |
| | | | | | | (0.658) |
| Residuals of aggregated aspirations | | | | | | -1.297** |
| | | | | | | (0.658) |
| Constant | -1.651*** | -2.007** | -0.387** | -0.0430 | -0.263*** | -0.00787 |
| | (0.176) | (0.812) | (0.157) | (0.256) | (0.0824) | (0.272) |
| Observations | 2,084 | 2,082 | 2,084 | 2,082 | 2,084 | 2,082 |
| R-squared/ Pseudo R-squared for Probit | 0.233 | 0.087 | 0.092 | 0.086 | 0.617 | 0.086 |
| F-test / Wald chi-squared for Probit | 18.23 | 244.14 | 10.47 | 212.86 | 117.76 | 212.41 |

Standard errors in parentheses, Significance levels: *** p<0.01, ** p<0.05, * p<0.1

It was also found that while boys are less likely to out-migrate than girls, adolescents between the ages of 15 and 17 years are more likely to migrate compared to their younger peers. Moreover, being a member of one more groups among adolescents resulted in, perhaps due to strong social networks in the origin areas, a reduction in migration decisions by about 3.8%. In addition, youth's migration decisions are also affected by the gaps between aspired level of education and the level of schooling adolescents have been attending. Accordingly, the results revealed that an increase in educational gap by one year, aspiring one year more of schooling compared to their current attainment, resulted in a reduction in migration decisions by about 2.1%. This is consistent with the findings from Model 1; wider schooling gap from the aspired educational attainment means lower probability of out-migration in the medium-term.

The above results indicate that adolescents' educational and occupational aspirations affect their migration decisions at least after four to five years (when youth) in opposite directions. It means that, keeping all other factors constant, while aspiring higher educational levels may keep adolescents in the respective places during the study periods, possibly in order to attend schooling, aspiring high-skilled occupations resulted in adolescents to out-migrate. However, the fact that in the long-term aspiring to high-skilled jobs and higher level of education could strongly correlate; both types of aspirations may affect migration decisions in a similar manner.

**Aggregated aspirations index and migration decisions**

Following similar econometric estimation technique, model 3 presents results on the causal effects of adolescents' aggregated aspirations index, constructed using educational and occupational aspirations, on their migration decisions four to five years later. Using their religious affiliation and perceived autonomy to choose occupations of their likes in the first-stage, it is found that a one percent increase in aggregated aspirations resulted in an increase in the probability of migration decisions by about 0.395% (margins value) when youth. In line with Ray's (2006) 'aspirations window', it seems that migration is one of the pathways through which aspiring individuals use to realize their desires, dreams, and life goals. In this regard, migration is not an outcome by itself; instead it could serve as a means to achieve their other aspirations such as attaining further education and getting high-skilled jobs somewhere else.

Consistent with the previous results, it is also found that females are more likely to out-migrate than their male counterparts, and adolescents aged 15-17 years likely to out-migrate than 13-14 years old adolescents. Moreover, it was found that adolescents who belong to many groups and associations in the origin areas and those with large gaps between aspired and attained education levels in 2005 tend to stay in their origin areas. The latter is due to what is known as aspirations failure (Ray, 2006). Lower aspirations, as discussed in Koseca and Mo (2017), is, thus, an important indicator of welfare, as implied in the current study through limited mobility and lower income. Adolescents who have higher aspirations, in general, and who aspired to have high-skilled occupations, in particular, set ambitious life goals; as a result, tend to out-migrate. A better knowledge in this regard is crucial to better understand the reasons for youth rural-outmigration in sub-Saharan Africa and to design youth policies, taking the important roles of migration in to consideration in realizing the aspirations of rural and small town youth.

**5 Robustness check**

Presuming nonlinear causal effects of aspirations on migration decisions, two-stage residual inclusion (2SRI) (also known as control function estimator) (Hausman, 1978; Wooldridge, 2015) approach is used to estimate consistent parameters. Terza *et al.* (2008) and Klungel *et al.* (2015) also show that when the relationship between the outcome and exposure variables is nonlinear, 2SRI method gives consistent estimates, hence they favor it over other alternative methods such as the two-stage least squares (2SLS) approach. However, traditionally, 2SLS has been applied for similar estimation problems; hence this study presents the results for 2SLS as a robustness check to 2SRI estimates. Unlike 2SRI, the 2SLS approach applies OLS in the second stage while the former is flexible to adopt appropriate methods such as bivariate models. In this regard, other alternative estimation methods such as fixed effects approach can't be used due to the time invariant nature of the main variable of interest, that is, aspirations.

The results presented in Table 9 show that the 2SRI results are robust to the model used. It shows that the 2SRI and 2SLS estimation strategies provide very similar results, showing that the relations established in Table 8 can be comfortably interpreted in causal terms.

**Table 9**: Robustness check using results from two-stage least squares (2SLS) approach

| | Educational aspirations and migration decisions | | | Occupational aspirations and migration decisions | | | Aggregated aspirations index and migration decisions | | |
|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Variables | **2SRI** – 1st stage | **2SRI** – 2nd stage | **2SLS** – 2nd stage | **2SRI** – 1st stage | **2SRI** – 2nd stage | **2SLS** – 2nd stage | **2SRI** – 1st stage | **2SRI** – 2nd stage | **2SLS** – 2nd stage |
| Religion | | | | | | | | | |
| Orthodox | 0.136*** | | | -0.158*** | | | -0.0735*** | | |
| | (0.0494) | | | (0.0532) | | | (0.0273) | | |
| Other | 0.120 | | | -0.223** | | | -0.112** | | |
| | (0.0755) | | | (0.101) | | | (0.0514) | | |
| Autonomy to choose a job | | | | 0.105** | | | 0.0690*** | | |
| | | | | (0.0495) | | | (0.0254) | | |
| Educational aspirations | | -0.371** | -0.366* | | | | | | |
| | | (0.161) | (0.197) | | | | | | |
| Occupational aspirations | | | | | 0.228** | 0.231* | | | |
| | | | | | (0.107) | (0.131) | | | |
| Aspirations index | | | | | | | | 0.395* | 0.399* |
| | | | | | | | | (0.209) | (0.239) |
| Other controls | YES | YES | YES | YES | YES | YES | YES | YES | YES |
| Observations | 2,082 | 2,084 | 2,082 | 2,082 | 2,084 | 2,082 | 2,082 | 2,084 | 2,082 |

Second stage values for 2SRI are marginal effects. Second stage results only are shown for 2SLS. Significance levels: ***p<0.01, **p<0.05, *p<0.1; Bootstrapped standard errors in parentheses.

## 6 Conclusions and policy implications

This study goes beyond the classical issues in migration studies such as explaining the drivers of migration (why people decide to migrate), why individuals decide/ choose to migrate to specific destinations, and effects of labor market factors (wage rate, labor supply and demand, and employment) on migration decisions. After discussing preferences, migrations intentions, and occupational aspirations of youth in rural sub-Saharan Africa using a large scale survey, it elaborates the youth perceptions of farming and examines the causal effects of aspirations during adolescents on migration decisions when youth in rural, semi-urban (small towns) and cities in southwestern Ethiopia using a longitudinal youth survey. The study is expected to contribute to emerging rising conceptualization of migration as an outcome of internal psychological factors in addition to external social, economic and demographic characteristics.

The cross-country youth survey provides several interesting and policy relevant evidence. While most youth in rural Africa aspired to work in non-farm economic sectors, above half of the youth are undecided about their migration aspirations in the next five years. In addition, it also shows that compared to those who preferred working in agriculture related activities; those who aspired to working in non-farm jobs aspire to leave rural villages and migrate to urban areas. This indicates that policy interventions to support rural non-farm sectors expansion could be critical in regulating the flight of educated youth out of rural areas. However, policymakers should be aware that anti-poverty policy measures that simply improve the income of youth might have unpredictable and unintended consequences on the migration of rural youth. As a result, policy measures may have to also influence the perceptions of youth toward farming and rural non-farm sectors, and make rural areas more attractive to the youth.

Coming to the causal effects of educational aspirations formed during adolescents on migration decisions observed later, it is found that a one more year of educational aspirations resulted in a reduction in out-migration decisions later by about 37.1%. It was argued that, perhaps, it might be that during the 17-21 years period, most youth could still be completing their high schools and preparatory education which is more likely to be available in the origins, resulting in those who aspire more years of schooling to be found in their villages during the follow up survey in order to attend their schooling. This means that the causal direction might change when adolescents complete their pre-college or pre-university education. The study also finds that occupational aspirations (high-skilled occupational aspirations) resulted in a 22.8% increase in the probability of out-migrating from origin areas after four to five years. From this, it is inferred that out-migration of youth from rural areas and small towns may not be only due to push factors such as lack of farm land but it could also be due to their aspirations to work in high-skilled jobs which are not often found in these areas. Accordingly, those remaining behind could be either students, as indicted above, or those who have lower aspirations to high-skilled occupations due to various reasons. The out-migration of aspiring and innovative youth from rural areas is a critical issue potentially undermining rural development, poverty reduction, and achieving food security in African rural areas. In this regard, African government should work to

make rural areas and farming more attractive to the aspiring youth such as through improving access to technology and keep those who aspire to working in high-skilled non-farm jobs through developing infrastructure and providing support to rural non-farm sectors.

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