Land Policy and the Youth 'bulge' in Ethiopia: How Social and Economic Transformations are Scrutinizing the Status quo

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ABSTRACT

This study examines the effect of land access on youth migration and employment decisions in Ethiopia using data from Living Standard Measurement Study (LSMS)- Ethiopian Socio-economic Survey (ESS) of 2013/14 and 2015/16. An econometrics analysis is done using ordinary least square and household fixed effect estimation methods. The findings show that youth land access negatively and significantly affects permanent migration and long-distance migration. Regarding employment, land access has a significant positive and negative effect on youth agricultural employment and non-agricultural employment, respectively. The effect of land access on migration differ across various individual and community level factors. Thus, a negative and significant effect of land access on permanent migration is observed among older youth (24-35 years old) and illiterate youth. Moreover, land access negatively and significantly determines permanent migration for the youth who resides in areas with relatively higher level of agricultural modernization. Similarly, land access negatively affects youth permanent and long-distance migration in areas with relatively higher level of urbanization.

Key words: Land Policy, youth, land access, livelihood, Ethiopia

1   INTRODUCTION

Creating productive employment opportunities for youths is the major concern for most developing countries in the world. The need for jobs is especially critical where the largest segment of the population is young and increasing number of this group seek for employment. Having a large and growing population of young people with little job creation in the formal sector, Sub-Saharan Africa (SSA) largely fits to this reality (Brooks et al. 2013) and Ethiopia can be taken as a show case of the situation.

The majority of youths in Ethiopia live in rural areas where farming is still the main livelihood of the people. However, it has been long since Ethiopia has been facing severe land scarcity in almost all parts of the country. Population densities have become very high and farm sizes have become very small. In a country where there are no land market and where there are no many large farms that can provide enough farm wage employment, access to farmland could be among the important factors that determine whether a rural youth can depend on agricultural livelihood or not, whether a rural youth would migrate or stay at home, and whether a rural youth would be employed or unemployed.

Given the scarcity of farm land the country is facing, it is not possible to solve the problem of access to farm land by making land accessible for all rural youth. Moreover, it does not mean that all would equally benefit from a better access to land. Depending on the situation they are in some would be better off by 'moving up' within agriculture while some would be better off by 'moving out' of agriculture. In other words, all the youth that tend to move out of agriculture are not in a uniform state of distress and desperation. Those who have better knowledge and experience of farming would move up if they get the opportunity that ease the scarcity of the land they are facing. In contrast, those who don't have the knowledge and experience of farming or those who are landless or those who don't have enough asset for farming operation would not move up even if they get the opportunity for a better access to land - rather they would be better off if they move out of agriculture even if there are not much pull factors. Thus, identifying the youth who have the potential to move up within agriculture and who would be better off by moving out of agriculture would have great policy relevance.

This paper hypothesizes that in the absence of vibrant labor-intensive non-agriculture sector, access to land is an important push-factor that drives youths in the rural agrarian society to look for non-agricultural livelihood options. In today's Ethiopian context, this seems to be true. It is well known that population growth puts pressure on land. There is legal prohibition in purchase, sale and mortgaging of land in the country. Similarly, there are restrictions in leasing land. And these render the rural youth to be underemployed and to look for non-agricultural livelihood strategies- which are also scarce in the today's Ethiopian context.

In Ethiopia, the empirical evidence on the drivers of migration and employment often neglects the role land access except studies done by Bezu and Holden (2014), Kosec et al (2017) and Ghebru (forthcoming). Kosec et al (2017) and Ghebru (forthcoming) adopted a methodology to assess the effect of land access on youth livelihood decisions which considers the various types of migration, characteristics of the youth, the effect of agricultural markets (input and output) development, land markets development, urbanization and population density in a given country. This approach helps to explain the link between land access and migration/employment decisions in a more conclusive way by incorporating the social and economic factors, which will also be used in this study.

This study uses Ethiopian Socioeconomic Survey (ESS) of Living Standard Measurement Study (LSMS) collected by Ethiopian Central Statistical Agency in collaboration with the World Bank in 2013/14 and 2015/16. The results from the econometrics analysis show that youth who have access to land are less likely to permanently migrate, and specifically to made long-distance migration. The incidence of being employed in the agricultural sector increases with youth land access. Whereas, employment in the non-agricultural sector is negatively correlated with youth land access. The results from a more disaggregated analysis reveals the effect of land access on permanent migration is negative and significant among older youth (24-35 years old) and illiterate youth. In addition, land access has a negative and significant effect on permanent migration for the youth who reside in areas with relatively higher level of agricultural modernization. Moreover, the impact of land access in reducing permanent migration and long-distance migration is strong in communities with relatively higher level of urbanization.

The rest of the paper is organized as follows. Section two reviews literatures related with the drives of migration and employment decisions, and the role of land access in the choice of livelihood strategies. Section three presents background information about land access, tenure security, migration and employment in Ethiopia. The fourth section discuss the data used and the methodology of the study. The fifth and sixth sections present a discussion of the results obtained from descriptive and econometric analysis, respectively. Finally, concluding remarks and recommendations are presented.

2   LITERATURE REVIEW

Rural families adopt various livelihood strategies in the process to sustain one's life or improve living standard (Ellis 1998). Different livelihood choices, agricultural employment, non- agricultural employment, education and migration could be driven by a set of pull and push factors (Reardon et al 2007; Ellis 1998). Pull factors are associated with expectation of higher return from certain activity such as: better opportunities for work and education or wage income differentials. Whereas, landlessness, market failures, erosion of assets (for example, land subdivision at inheritance), seasonality, risk, and disasters leading to livelihood collapse are identified as the major 'push' factors by several studies (Rigg 2006).

Household wealth is one the factors associated with individuals' livelihood decisions (Abramitzky et al 2013; McKenzie and Rapoport 2007). The effect of wealth on migration depends on the expected return of migration and cost of migration. McKenzie and Rapoport (2007) argues wealth facilitate migration in relation to the ability to cover cost of migration, in the presence of borrowing constraints. Whereas, individuals with lower wealth are also expected to migrate if cost of migration is minimum. On the other hand, the rich are more likely to migrate if the return from migration is higher than the return of staying in current location. Otherwise, enough wealth will reduce the chance of migration (Abramitzky et al 2013; McKenzie and Rapoport 2007). In their empirical analysis, Abramitzky et al (2013) found negative effect of household wealth on migration decision of children, while McKenzie and Rapoport (2007) found non-linear relationship between wealth and migration.

Employment in the non-farm sector in rural areas is influenced by the capacity of individual, household and the community with respect to the availability of physical, financial and human capital given the presence of credit constraints (Reardon 1997). Among other things, Bezu and Barret (2012)

found asset holding is positively related with households' engagement in high-return non-farm employment in rural Ethiopia.

In rural context, land is the major asset in which the livelihood of the household depends up on. Population growth in rural areas, increasing urban expansion and investment in land, foreign and national government higher demand for land are creating pressure of the fertile lands of many African countries. Moreover, the increasing in youth population joining the labor force creates pressure both on agriculture and non-agricultural sector. These conditions aggravate land scarcity which may result in migration from rural to rural areas looking for more abundant land and to urban areas through influencing the difference between the expected return to labor in agricultural and return from migration and non-farm employment (Jayne et al 2014). In Ethiopian, especially in the highland areas, diminishing land size and land scarcity are major challenges among the rural youth (Heady et al 2014).

Few studies are done which looked the linkage of land access with youth livelihood decisions in Ethiopia. Bezu and Holden (2014) found the choice of agricultural occupation erodes with decline in land access (proxied by farm size) in Southern Ethiopia. Kosec et al (2017) examined the nexus between land access, migration and employment decision by the youth by incorporating the effect of community level factors: presence of land market, proximity to urban center and soil quality in Amhara and Oromia regions of Ethiopia. They found that a strong correlation between land access (measured by expected land inheritance) and youth decision to permanently migrate, move from rural to urban areas and engage in non-agricultural occupation, in areas where the land market is less vibrant, located far to urban centers and have lower soil quality.

In addition to land access, land tenure security and modernization of the agricultural sector are also influencing factors for livelihood choice of the youth in rural areas. The effect of land tenure security on employment and migration decision could be positive or negative. Empirical findings show that secured land rights increased migration in China (Mullen et al 2011), whereas, insecure land rights encourage temporary migration (de la Rupelle et al 2009). On other hand, tenure security has strong effect on rural-urban migration in places where the land rental market is weak (Ma et al 2014). De Brauw and Muller (2012) found that household with better perceived land transferability rights are less likely to send out migrants in Ethiopia. Kassie et al (2017) also found perception of land tenure security by household positively affects the probability of participation in non-farm employment in in East Gojjam Zone, Amhara region in Ethiopia. Bezabih et al (2014) showed the impact of land tenure security on non-farm employment varies for different non-farm activities: households with land certificate, through positive effect on tenure security, are more likely to engaged in the non-farm sector which requires unskilled labor and less likely to work on others' farm.

Agricultural modernization is expressed in terms of change in farming techniques, use of improved crop seeds, chemical fertilizers and pesticides, linkage to the market, etc. Even though studies examined the causes of migration and employment decisions from the perspective of push and pull factors, the evidence on the effect of changes in agriculture on livelihood choice is rarely studies except Bhandari and Ghimire (2016) who looked the impact of rural agricultural change on individual out-migration in rural Nepal. This study will contribute to literature by examining the effect of land tenure security and modernization of agriculture on youth livelihood choice in Ethiopia, beyond land access, using country level representative data. The analysis will help to identify whether it is the land

shortage or the changes in agricultural sector that is pushing the youth to migrate to urban areas and to engage in non-agricultural activities, which will have useful implications for policy actions.

3 BACKGROUND AND CONTEXT

3.1 Land access

Land access and ownership in Ethiopia in the past century has passed through different systems. During the Imperial system, which ended in 1975, land mainly belongs to the upper class of the society, *Baleresit or Baleabat* who have control over the land and the right to distribute to peasants, *Chisegana,* in return for different kinds of payment[1]. After the removal of the Imperial system, the two consecutive regimes, the Marxist *Derg* and the current ruling party Ethiopian People's Democratic Revolutionary Front (EPDRF), followed state ownership of land (Ambaye 2012).

The Federal Democratic Republic of Ethiopia (FDRE) Rural Land Administration and Use Proclamation No. 456/2005 states any citizen above the age of 18, who want to engage in farming for living, have the right to use rural land[2]. In addition, it allows land acquisition through family donation, inheritance and given by competent authority, for members of peasant farmers, semi pastoralist and pastoralist. Rural land use rights have no time limit for peasant farmers, semi-pastoralist and pastoralist. Even though land sale is prohibited by law[3], access to land through lease and rent is applicable with certain restrictions on size and time, which is implemented according to the regional land laws. Regional governments have the duty to administer land and other natural resources under their domain to the benefit of the people. Even though land redistributions have been undertaken since 1991, the government make changes to reduce frequency of redistribution and limit land redistribution only to irrigated land[4].

Farm land is being scares due to increase in population density. The average land size covered by grain crops by a holder in 2010 E.C *meher* season is 0.989 ha (Tigray), 0.941 ha (Amhara), 0.866 ha (Oromia) and 0.396 ha (SNNP) regions (CSA 2018). With the above context, the only means that the youth in rural areas can get is through inheritance and restricted renting. Land shortage might lead the youth to migrate to urban areas or to look for non-agricultural employment. On the other hand, a land holder who left his/her land for a determined period[5] will lose use right of the land, and the land will be distributed to other (FDRE 2005). In Amhara and Tigray regions, permanent employment in non-agricultural work and earning of monthly income more than 1000 ETH also make land holders to lose their use rights, respectively (ANRS 2006; TNRS 2007). This discouraged migration and engagement in non-agricultural activities by rent one's land, and contribute to increase in population pressure in rural areas (Adal 2002).

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[1] In-kind payment based on agreed percent of the total produce.

[2] However, the regional land proclamations put restriction to get land free of charge by setting time of residence in the locality as a precondition to access land.

[3] Land markets have been in practice regardless of those legal sanctions. (Holden and Bezu 2016; Adal 2002)

[4] Tigray region restricted land redistribution (Adenew and Abdi 2005)

[5] The time limit is determined by regional governments. In Oromia, for two consecutive years for left or fallow land. In SNNP, three consecutive years for fallow land. In Amhara, five consecutive years for left land and three years for fallow rain-fed land and one year for irrigated land. In Tigray, more than two consecutive years for left land (ONRS 2007; ARNS 2006; SNNPRS 2007; TNRS 2007).

According to the 2003 FDRE rural development policy and strategies, the sustainable way of solving land access problem of the youth is the development of the industrial and other non-agricultural sector with a potential to create job opportunities for the youth. Consequently, the number of youth in the agricultural sector will be reduced from time to time which could minimize the land shortage in rural areas. And, the land which is accessed through inheritance will be enough for the youth who will choose to remain in the agricultural sector. However, in the short run land access problem of the youth could be handled by distributing land to the youth who can cultivate it by applying improved land use methods, by implementing voluntary land settlement programs to uncultivated areas and by using labor intensive technologies that could employ the landless youth.

In an effort to realize economic transformation, the Government of Ethiopia have been implementing a five years Growth and Transformation Plans (GTP) in two phases in the past eight years. In relation to youth involvement in agriculture, the Government set a strategy to provide all rounded support to educated youth to engage in agricultural investment to bring agricultural and rural transformation, together with other strategies, in the second Growth and Transformation Plan (GTP II). The implementation of this strategy involves provision of land for small and medium scale investments by regional governments. At the end of the plan year of GTP II, a total of 671.8 thousand hectares of land is expected to be transferred to investors in the agricultural sector.

3.2 Tenure Security

Even after the end of the feudal system, tenure insecurity continued to be a problem in rural areas. Frequent land redistributions, abuse of power by local officials and government land expropriation for various purpose have been a cause for tenure insecurity during Derg regime and current regime (Adal 2002). The Government of Ethiopia have taken measures to increase land tenure security of rural land holders. The rural land certification program has been undertaken in four regions, started by Tigray region in 1998 and Amhara, Oromia and SNNP regions started after 2002 (Adenew and Abdi 2005). Under the program, rural land holders are granted land title for their parcels with description of the size, purpose of the land, level of fertility and borders of the land. Hence the land certification has the objective of securing the right to get compensation in cases of expropriation or re-allocation, and used to resolve land disputes (FDRE 2005). In GTP II plan periods, the government planned to deliver land use certificates to 7.2 million male and female headed households which will cover 28.6 million farmlands in 359 *woredas*.

In recent years, the country is witnessing conflicts[6] among regions related with land ownership and use rights[7]. These conflicts will increase the magnitude of youth migration and create a great pressure on the rights of the youth to work in their land and to lead their life. Ghebru et al (2016) in a study using the Agricultural Growth Program (AGP) dataset covering 7,500 household in four regions[8], showed the likelihood of border dispute is 59 percent at household level, followed by perceived risk of private land dispute (45 percent) and perceived risk of government land expropriation (16 percent).

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[6] http://www.bbc.com/news/world-africa-36940906
[7] In 2017, hundreds of thousand individuals from Oromo ethnic group were expelled from Somali region. In February 2012 and March 2013, around 20,000 and 10,000 peasants were evicted from Gura Ferda locality in SNNP and Benishangul Gumz regions, respectively, because they were labeled as illegal settlers from Amhara region. In 2018, around 530 households of Amhara ethnic origin were similarly evicted from Benishangul Gumz.
[8] The AGP survey is conducted by International Food Policy Research Institute (IFPRI) and Central Statistical Agency (CSA) of Ethiopia in 2013 covering AGP households in Tigray, Amhara, Oromia and SNNP regions.

On the other hand, government programs related with the use of land have been also a source of discontent. For instance, following the public announcement of the Addis Ababa-Oromia region Integrated Master Plan, protest had broken-out in many places of Oromia region in opposition of the plan. The underline cause lays on the potential conflict of interest over the resources and power of Oromia region and the Capital. The plan is quoted to threaten land tenure security of farmers in the surrounding areas of Addis Ababa.

At Federal level, the FDRE Rural Land Administration and Use Proclamation (RLAUP) set the general principles to administer rural lands, which was revised in 2005. Thus, the regional governments are responsible to administer land under their Jurisdiction in line with the Federal proclamation. Among the nine regional states of Ethiopia, Tigray, Amhara, Oromia, SNNP, Benishagul Gumz and Afar adopted their own RLAUPs. Even though, regional governments are given the authority to administered land, in some regions (Afar and Somalie regions), the clan chiefs are in power to administer land in terms of allocating land for housing and grazing, enforcing rights and resolving disputes (Ambaye 2015). However, these types of customary land tenure systems are not incorporated in the legal system.

Urban land in Ethiopia is governed by Urban Lands Lease Holding Proclamation (ULLHP)[9]. Similar to the rural land, regional governments adopted their own ULLHP to administer urban lands. According to FDRE Urban Lands Lease Holding Proclamation No.721/2011, lease is the only means to access land in urban areas. Land lease right is transferred from the government to citizens through auction and allotment (land lease transfer without auction). This mode land transfer is criticized of being beneficial to the rich who could pay the highest bid price, and exclude the poor from accessing land (Ambaye 2015).

Even though there are RLAUP and ULLHP at federal and regional level, they focus mainly on land administration issues. At national level, there is no land use policy which guides land use planning at federal and regional level. In view of this, the GoE is making progress to formulate national land use policy and prepare national integrated land use plan (Gebeyehu et al 2017).

3.3 Migration and Employment

At country level the proportion of migrants out of the total population consists of 19.6, 17.8 and 15.1 percent in 1999, 2005 and 2013, respectively (CSA 1999, 2005, 2013). Rural- rural migration is the dominant type of migration followed by rural-urban migration (CSA 2013). In our data, rural-rural and rural-urban migration accounts 47.5 and 20.1 percent of the total migration figure, respectively. Migration for work, to join family, for marriage and for education are mentioned as the major reasons by migrants (CSA 2013; LSMS-ESS 2016). According to World Bank Ethiopian Urban Migration Study (2010), 43 percent of the migrants migrated to Addis Ababa to purse their education. On the other hand, poverty, land shortage and degradation, unemployment, drought, climate and environmental changes are factors that pushed individuals to migrate from rural areas (Zeleke et al 2008; Gebru and Beyene 2012; Atnafu et al 2014; Hunnes 2012; Morrissey 2008).

According to National Labor Force Survey of 2013, 81.6 and 55.5 percent of the total population aged 10 years and above is employed. In rural Ethiopia, 83.2 percent of the employed population is engaged in agricultural activities, and the majority 20 percent of the employed urban population is

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[9] The FDRE Constitution didn't state specifically about allocation of urban land

engaged in wholesale and retail trade (CSA 2013). Employment in the non-agricultural sector in rural areas at is low level and characterized mainly by low paying jobs with minimum skill requirements. Thus, the probability that the youth to be attracted by those kinds of employment is lower.

4 DATA AND METHOD

4.1 Data

The study is based on Living Standard Measurement Study-Ethiopian Socio-Economic Survey (ESS), panel dataset collected jointly by Central Statistical Agency (CSA) and the World Bank in three rounds. This study used the data from the second and third rounds collected in 2013/14 and 2015/16, respectively. The survey represents households from the nine regional states and two city administrations. ESS 2013/14 covers 5,262 households, while ESS 2015/16 revisited 4,954 households with 5.9 percent attrition.

The survey used two-stage probability sampling method. First, CSA Enumeration areas (EAs) were selected based on probability proportional to the size of total EAs in each region. Rural EAs were selected from Agricultural Sample Survey (AgSS) EAs. Quotas were used to determine the number of EAs in most populous regions (Oromia, Amhara, SNNP and Tigray) and Addis Ababa. The sample in the other regions, Afar Benshangul Gumuz, Dire Dawa, Gambella, Harari and Somalia, is not representative. However, estimates can be produced by taking the combination of other regions (CSA 2016). At the second stage, households were selected in each EAs. In rural areas, a total of 12 households were selected from each EAs, where 10 households were selected randomly from sample of 30 AgSS households and two were selected randomly from other non-agricultural households. In small and large towns, 12 and 15 households are selected randomly from the listing of each EA.

Household surveys employed similar survey instrument for the two rounds covering many aspects of household livelihoods and their environments, which among others include mode of land acquisition, access to land, land related decision-making practices, participation in non-farm enterprises, access to credit, etc. A community wide survey that brings a wealth of information on community assets, infrastructures, access to markets and price information was also administered to support the household level data.

4.2 Empirical Strategy

In this study, we examined the effect of land access on youth employment and migration decisions in Ethiopia. Hence, we estimated the following linear model.

$$Y_{ih} = \beta_0 + \beta_1 L_i + \mu X_i + \mu C_e + \alpha_j + \epsilon_i$$

Where Y_{ih} represents employment and migration status for youth i in household h. Employment outcomes include agricultural employment, non-agricultural employment and dual. Whereas, migration outcome is classified as permanent migration, temporary migration, rural to urban migration and long-distance migration. L_i denotes youth land access, X_i is a vector of individual level variables (gender, age, ownership of agricultural assets, credit access), C_e is a vector of community level variables, and α_j are household fixed effects. Due to the possible endogeneity between households' land endowment, wealth and income levels, and both employment and migration decisions of the youth, ordinary least square estimation could lead biased results. Hence, we run household fixed effect model to account for such potential endogeneity bias. Finally, we construct the model by taking the value of migration and employment outcomes in time t (2016) against the value of explanatory variables (including land access) in t-2 (2014).

$$Y_{iht} = \beta_0 + \beta_1 L_{it-2} + \mu X_{it-2} + \mu C_{et-2} + \beta_i L_{it-2} * C_{et-2} + \alpha_j + \epsilon_i$$

Where, β_i denotes the differential impact of land access with respect to the mediating factors which are discussed here under.

Variable Definition

This study follows the definition of Africa Union (AU) youth charter (2006), which define the youth as individuals between the age of 15 to 35 years old.

The dependent variables in our analysis, employment decisions (agriculture and non-agriculture employment and dual) and migration (permanent migration, temporary migration, rural to urban migration and long-distance migration) are defined as follows:

Youth employment decisions

Agriculture - dummy variables which takes the value one if the individual is primarily employed in the agricultural sector and not involved in non-agricultural activities, and 0 otherwise.

Non-agriculture - dummy variables which takes the value one if the individual is primarily employed in the non-agricultural sector and not involved in agricultural activities, and 0 otherwise.

Dual - dummy variables which takes the value one if the individual is primarily employed in agricultural sector and involved in non-agricultural activities as a secondary employment, or vice versa, and 0 otherwise.

Youth migration decision

Permanent migration - a dummy variable which takes the value one if an individual was a household member in 2013/14 but is no longer a member by 2015/16, and 0 otherwise. This definition excludes non-residents who left the household because of marriage.

Temporary migration - a dummy variable which takes the value one if a household member was absent for at least one month in the last 12 months before the interview period of the third-round survey (2015/16), and 0 otherwise.

Rural to urban migration - a dummy variable which takes the value one if an individual permanently migrant from rural area to urban area, and 0 otherwise.

Long distance migration- a dummy variable which takes the value one if an individual permanently migrant to other regions or out of country, and 0 otherwise.

The independent variable land access is defined as:

Land access - total farm size of parcels that an individual has decision making rights (to sell the land, use it as a collateral and manage land (made decision regarding crops to be planted, input use, and the timing of cropping activities on the field)) or ownership right.

Interactive variables

Differential analysis by gender- a dummy variable, one for male and zero for female.

Differential analysis by age- to examine the responsiveness of land access in predicting youth migration and employment decision by age group of the youth, we construct a dummy which classify youths as *older youth* for the youth above the median age of the youth in the sample (i.e 22 years old), and *younger youth* for the youth which are below the median age cutoff.

Differential analysis by level of education- a dummy variable, one for *literate youth* (who ever attended a formal education) and zero for *illiterate youth* (who never attended formal education).

Differential analysis by level of agricultural market development:

- *Input market (agricultural modernization)* - First we construct an index (out of seven) for households based on their utilization of modern agricultural methods (i.e use of irrigation, use of fertilizers (inorganic or organic), participation under the extension program, use of hired labor, use of crop damage preventions, use of improved seeds, production of vegetables or root crops). Then, enumeration areas (communities) are categorized with higher and lower level of agricultural modernization whether the mean index of agricultural modernization in each community is above or below the median community mean index of agricultural modernization, respectively.
- *Output market (agricultural commercialization)* - Enumeration areas (communities) are grouped as *high commercialized* or *low commercialized* whether the proportion of households who sell crops, fruits and vegetables in a given community is higher or lower than the median community proportion of households who are engaged in selling crops, fruits and vegetables, respectively.
- *Land market* - Enumeration areas (communities) are classified as having *active land market* or *inactive land market* whether the proportion of households who participate in the land market (purchase, rent or sharecropping) in each enumeration area is above or below the median community proportion of households who participate in land market, respectively.

Differential analysis by level of urbanization- Enumeration areas (communities) are classified as *more urbanized* or *less urbanized* by using a cutoff point based on the median proportion of households whose houses' roof is made of modern roofing materials[10].

Differential analysis by population density- Enumeration areas (communities) are group as *high density* (if population density is greater than 500 per square km, and *low density* (if population density is below 500 square km).

Differential analysis by level of land abundance- Enumeration areas (communities) are classified as *more land abundant* or *less land abundant* if mean farm size in a community is above or below the median community mean farm size, respectively.

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[10] A house roof made of corrugated iron sheet, concrete/cement, asbestos or bricks.

5 DESCRIPTIVE ANAYSIS

Table 5.1 outline the descriptive statistics for the two outcome variables: migration and employment, and land access indicators. Out of the youth between the age of 15 and 35 in the 2013/14, 13.7 percent permanently migrate in 2015/16. In terms of location, 33.6 and 23.4 percent of permanent migrants move to urban areas and other regions/countries, respectively. Whereas, 21.8 percent of permanent migrants migrated to look for work or land. Regarding employment, 61.4 percent of the youth are engaged in agricultural activates only, 5.6 percent are engaged in non-agricultural sector only, while 2.4 percent of the youth practice both agriculture and non-agricultural activities.

With respect to land access, 43.9 percent of the youth have access to land either as owner of a land or decision maker on the land. The average farm size which under youth control or ownership 0.434 hectare.

Table 5.1 Migration, employment, land access and tenure security outcomes

Variable	Obs	Mean	SD
Migration			
Permanent migrant	5,464	0.137	0.344
Temporary migrant	4426	0.046	0.210
Permanent migrant to urban areas	5,485	0.068	0.252
Long-distance permanent migrant	5,483	0.032	0.177
Occupation			
Agriculture	5,499	0.614	0.487
Non-agriculture	5,499	0.056	0.230
Dual	5,499	0.024	0.152
Land Access			
Have the right to sell land or use it as a collateral	5,522	0.292	0.455
Own land	5,522	0.095	0.293
Manage land	5,522	0.385	0.487
General land access	5,522	0.439	0.496
Total farm size under youth access (ha)	5,522	0.434	0.847

Source: Authors' calculations based on LSMS-ESS 2013/14 and 2015/16.

Table 5.2 presents individual characteristics of the youth (panel A) and household characteristics (panel B). Almost half of the youth are male (50.6 percent). The average age of the youth is 23.5 years. The majority, 49.7 percent of the youth have primary level education, whereas, 36.1 percent didn't attend formal education, and 46 percent of the youth are within marriage. On the other hand, 32.5 percent of the youth owns assets which are used for agricultural activities, and 8.7 percent of them have credit either from individuals or institutions in cash or inputs.

The youth belongs mainly to male headed households (78.3 percent), and the average age of heads' is around 44 years. Regarding housing conditions, 50.6 percent of the households have a house with modern roofing materials, but only 2.3 percent and 5.1 percent of the households have a house with improve wall and improved floor, respectively. The majority, 62.1 percent of the household heads have no any formal education, and are Orthodox Christians (43.4 percent), followed by Muslim (33.2 percent) and Protestant (20.1 percent).

Table 5.2 Individual and household characteristics

Variable	Obs	Mean	SD
Panel A: Individual level characteristics			
Male	5,522	0.489	0.500
Age	5,522	23.5	6.140
Education			
Primary	5,522	0.497	0.500
Secondary	5,522	0.107	0.309
Certificate/diploma	5,522	0.029	0.169
First degree and above	5,522	0.006	0.077
No education	5,522	0.361	0.480
Married	5,500	0.460	0.498
Own agricultural asset*	5,522	0.325	0.468
Have credit	5,522	0.087	0.282
Panel B: Household level characteristics			
Adult equivalent household size	3,116	4.255	1.844
Age of the head	3,116	44.05	14.49
Head is male	3,116	0.783	0.412
Housing Condition			
Modern roof**	3,115	0.506	0.500
Improved wall***	3,113	0.023	0.150
Improved floor****	3,115	0.051	0.220
Annual total consumption (in birr)	3,000	21517.08	15204.91
Head has no education	3,116	0.621	0.485
Head's religion			
Orthodox	3,114	0.434	0.496
Catholic	3,114	0.008	0.091
Protestant	3,114	0.201	0.401
Muslim	3,114	0.332	0.471
Traditional	3,114	0.009	0.093
Pagan	3,114	0.007	0.084
Wakefeta	3,114	0.007	0.086
Other religion	3,114	0.001	0.031

Source: Authors' calculations based on LSMS-ESS 2014 and 2016.
* Own either Sickle, Axe, Pick axe, Plough traditional, Plough modern, water pump; ** A roof made of corrugated iron sheet, concrete/cement, asbestos or bricks; *** A wall made of stone and cement, cement, blocks, bricks and steel; **** A floor made of wood planks, cement screed, plastic tiles, cement tiles and ceramic tiles/marble tiles.

Youth migration

Table 5.3 summarizes the mean comparison test of outcome variable (land access) by different migration status. Hence, the result shows that the proportion of youths who have access to land[11] and who are not permanent migrants is significantly higher (51.1 percent) as compared to the proportion of permanently migrated youths with access to land (22.4 percent). Similarly, youth access to land is also negatively associated with the two types of permanent migration: rural-urban migration and long-distance migration, and temporary migration.

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[11] Youth who have the right to sell land or use it as a collateral, have ownership right to land, or have the right to made decision regarding crops to be planted, input use, and the timing of cropping activities on the field.

Table 5.3 Mean comparison of land access and tenure security by migration status

| Outcome Variables | All | | Panel A: Permanent migration | | | |
| | | | No | | Yes | |
	Obs	Mean	Obs	Mean	Obs	Mean
Have the right to sell land or use it as a collateral	5,522	0.322	4716	0.365	748	0.069***
Owns land	5,522	0.113	4716	0.128	748	0.021***
Manage land	5,522	0.427	4716	0.465	748	0.209***
General land access	5,522	0.470	4716	0.511	748	0.224***
			Panel D: Temporary migration			
Have the right to sell land or use it as a collateral	5,522	0.322	4221	0.391	205	0.338
Owns land	5,522	0.113	4221	0.139	205	0.071**
Manage land	5,522	0.427	4221	0.489	205	0.428
General land access	5,522	0.470	4221	0.539	205	0.451*
			Panel E: Rural-urban migration			
Have the right to sell land or use it as a collateral	5,522	0.322	5110	0.342	375	0.034***
Owns land	5,522	0.113	5110	0.120	375	0.009***
Manage land	5,522	0.427	5110	0.447	375	0.149***
General land access	5,522	0.470	5110	0.491	375	0.160***
			Panel F: Long-distance migration			
Have the right to sell land or use it as a collateral	5,522	0.322	5306	0.329	177	0.065***
Owns land	5,522	0.113	5306	0.115	177	0.009***
Manage land	5,522	0.427	5306	0.436	177	0.148***
General land access	5,522	0.470	5306	0.479	177	0.165***

Source: Authors' calculations based on LSMS-ESS 2014 and 2016.
*** is <=1%, ** is 5% and * is 10% level of significance.

Youth Employment

Table 5.4 presents the mean comparison test of outcome variable (land access) by employment type (farm employment, non-farm employment and dual (farm and non-farm)). Accordingly, a significant higher proportion of youths who are engaged in farm activities have access to land (57.8 percent) as compared to youth who are not engaged in farm activities (23.8 percent). On the other hand, the proportion of youths with access to land is significantly lower for groups who are engaged in non-farm employment (21 percent) as compared to groups who are not engaged in non-farm employment (48.4 percent).

Table 5.4 Mean comparison of land access and tenure security by occupation type

| Outcome Variables | All | | Panel A: Farm employment | | | |
| | | | No | | Yes | |
	Obs	Mean	Obs	Mean	Obs	Mean
Have the right to sell land or use it as a collateral	5,522	0.322	2121	0.137	3378	0.408***
Owns land	5,522	0.113	2121	0.036	3378	0.148***
Manage land	5,522	0.427	2121	0.183	3378	0.541***
General land access	5,522	0.470	2121	0.238	3378	0.578***
			Panel B: Non-farm employment			
Have the right to sell land or use it as a collateral	5,522	0.322	5191	0.333	308	0.110***
Owns land	5,522	0.113	5191	0.117	308	0.036***
Manage land	5,522	0.427	5191	0.442	308	0.144***

General land access	5,522	0.470	5191	0.484	308	0.210***
			Panel C: Dual (farm and non-farm) employment			
Have the right to sell land or use it as a collateral	5,522	0.322	5369	0.324	130	0.312
Owns land	5,522	0.113	5369	0.113	130	0.130
Manage land	5,522	0.427	5369	0.426	130	0.522
General land access	5,522	0.470	5369	0.470	130	0.539

Source: Authors' calculations based on LSMS-ESS 2014 and 2016.

*** is <=1%, ** is 5% and * is 10% level of significance.

Figure 5.1 describes the various modes of land acquisition by household members across age groups. For the youth (15-35 years), borrowing (58.3 percent) and renting (50.1 percent) are the major means of land acquisition followed by inheritance. Adults between age of 36 to 55 years and above the age of 55 access land mainly through allocation by local leaders. Since, land redistribution is rarely practiced by local government in recent years, the youth relies on inheritance and rent/borrowing to access land.

Figure 5.1 Mode of land acquisition by age category
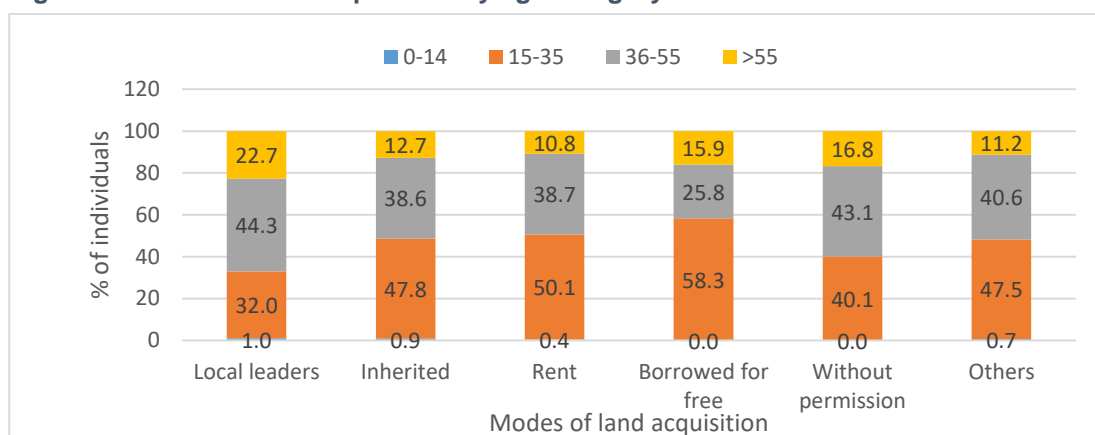
Source: Authors' calculations based on LSMS-ESS 2014.

6   ECONOMETRIC ANALYSIS

This section discusses the results from the regressions of the effect of land access on youth migration and employment decisions. The outcomes, migration and employment, are disaggregated based on type of migration and type of occupation, respectively. Hence, we tried to see the effect of land access on permanent migration, temporary migration, rural to urban migration and long-distance migration (Table 6.1). Similarly, the effect of land access is also assessed on farm employment, non-farm employment and dual (farm and non-farm employment) (Table 6.2). Further, differential effect of land access on youth migration and employment is also assessed across individual and community characteristics (Table 6.3- 6.5).

Table 6.1 presents the regression results of the effect of land access on youth migration, obtained from OLS estimation (panel I) and fixed effect estimation (panel 2). Youth land access has a negative and statistically significant effect on permanent migration. This result is found to be the same for both OLS and fixed effect estimates. The effect of land access on youth migration is further examined across the different types migration (temporary migration, rural to urban migration and long-distance). The result show that land access has a negative and significant effect in influencing long-distance migration. In similar studies, expected land inheritance is negatively correlated with migration to other *woredas* and urban areas in Ethiopia (Kosec et al 2017) and with long-distance

migration and migration to urban areas in Nigeria (Ghebru forthcoming). However, land access has no any significant effect in dictating youth temporary migration. Thus, land access plays a role in dictating migration decision of the youth when the opportunity cost of migration is relatively higher (in the case of permanent and long-distance migration) rather than temporary migration.

Table 6.1 Regression results of the effect of land access on youth migration outcome

Variables	Type of Migration			
	Permanent Migration	Temporary migration	Rural-urban migration	Long-distance migration
Panel I: OLS				
Land access	-0.016**	-0.002	-0.006	-0.004*
	(0.010)	0.000	(0.010)	0.000
Joint F-test[a]	8.58****	3.23****	6.72****	3.85****
Joint F-test[b]	4.89****	0.58	1.65	2.66***
Joint F-test[c]	3.56****	2.50***	3.74****	3.41****
Observations	5178	4197	5198	5196
R-squared	0.115	0.028	0.084	0.045
Prob>F/Chi2	0.0000	0.0000	0.0000	0.0000
Panel II: Fixed effect				
Land access	-0.011*	-0.002	-0.003	-0.002
	(0.010)	0.000	0.000	0.000
Joint F-test[a]	205.26****	84.81****	221.18****	106.58****
Joint F-test[b]	56.17****	8.26	12.09*	17.05**
Joint F-test[c]	19.91***	6.58	27.48****	31.89****
Observation	5178	4197	5198	5196
R-squared	0.10	0.036	0.079	0.04
Prob>F/Chi2	0.0000	0.0000	0.0000	0.0000
Number of households	2819	2566	2826	2825

Source: Authors' calculations based on LSMS-ESS 2014 and 2016.

Notes: *Land access* is defined as total farm size of parcels that the youth has decision making rights (to sell or use it as a collateral, or to manage) or ownership right. [a] Other individual characteristics; [b] Other household characteristics; [c] Other community characteristics

Figure in parenthesis are standard errors; **** significant at 0.1%; *** significant at 1%; ** significant at 5%; * significant at 10%.

Table 6.2 shows the regression results of the effect of land access on youth employment decisions, obtained from OLS estimation (panel I) and fixed effect estimation (panel 2). With respect to the impact of land access on employment, the regression result shows that increase in farm size under youth control/ownership increases the incidence of farm employment. On the other hand, the probability of being employed in non-farm sector significantly decline with having better access to land. Likewise, the likelihood of being employed both in the agricultural and non-agricultural sector is lower for the youth with better land access when household fixed effects are considered. Kosec et al (2017) in Ethiopia and Ghebru (forthcoming) in Nigeria also found a similar result regarding the effect on land access on agricultural and non-agricultural employment. In rural areas, the possibility that the youth to rely on agriculture for livelihood could be difficult with small and fragmented farm lands. On the other hand, the expansion of education and change in the attitude of the youth and their households regarding the benefits of education may result in the youth not to stay in the agricultural

sector (Tadele and Gella 2012). Thus, both shortage of land and change in preferences might lead the youth to look for non-agricultural jobs and to continue their studies.

Table 6.2 Regression results of the effect of land access on youth employment outcome

Variables	Type of Employment		
	Agriculture only	Non-agriculture only	Dual sector
Panel I: OLS			
Land access	0.041****	-0.009**	-0.004
	(0.010)	0.000	0.000
Joint F-test[a]	8.13****	8.26****	3.16****
Joint F-test[b]	3.48****	1.26	1.52
Joint F-test[c]	38.56****	2.72***	1.98**
Observations	5212	5212	5212
R-squared	0.209	0.153	0.054
Prob>F/Chi2	0.0000	0.0000	0.0000
Panel II: Fixed effect			
Land access	0.038****	-0.007*	-0.006**
	(0.010)	0.000	0.000
Joint F-test[a]	261.42****	430.20****	15.41****
Joint F-test[b]	48.59****	22.81***	3.44
Joint F-test[c]	409.38***	22.77***	13.53*
Observation	5212	5212	5212
R-squared	0.250	0.160	0.044
Prob>F/Chi2	0.0000	0.0000	0.0000
Number of households	2834	2834	2834

Source: Authors' calculations based on LSMS-ESS 2014 and 2016.

Notes: *Land access* is defined as total farm size of parcels that the youth has decision making rights (to sell or use it as a collateral, or to manage) or ownership right. [a] Other individual characteristics; [b] Other household characteristics; [c] Other community characteristics

Figure in parenthesis are standard errors; **** significant at 0.1%; *** significant at 1%; ** significant at 5%; * significant at 10%.

The impact of land access on youths' migration and employment decision is also assessed across age groups, gender and level of education as indicated in Table 6.3. As shown in panel A of table 6.3, permanent migration and rural to urban migration are negatively and significantly affected by land access among female youth as compared to male. Female youth in rural areas have limited access to land as compared to their male counterpart. Thus, better land access reduces migration significantly for those who were at a disadvantage in earlier periods. On the other hand, the influence of land access on employment decisions in the agriculture and non-agriculture sector remains the same regardless of gender. However, employment in dual sector (agriculture and non-agriculture) is negatively and significantly affected by land access in the case female youth.

Panel II shows the results of the effect of land access on migration and employment for younger youth vs older youth. Accordingly, the results reveal that the effect of land access on permanent migration is found to be negative and significant for older youth as compared to younger youth. The ability to make decision to migrate increases with one's age, thus youths between age of 22 to 35 might develop both mental and financial capabilities to leave their residence and try other livelihood options in other areas. However, the influence of land access in reducing long-distance migration is observed for

younger youth. Younger youths (in age range of 15-22) are more likely to attend higher education, which requires to move out of their region. This result is supported by another finding which shows a negative and significant effect of land access on long-distance migration for the literate youth.

With respect to employment decisions, like the effect of land access on permanent migration, the influence of land access in reducing the likelihood of employment in the non-agricultural sector is observed for the older youth. Nevertheless, land access affects agricultural employment positively and significantly for all youth irrespective of age group.

Table 6.3 Regression results of the effect of land access on migration and employment outcomes by gender, age and education level of the youth

Variables	Migration				Employment		
	Permanent Migration	Temporary migration	Rural-urban migration	Long-distance migration	Agriculture only	Non-agriculture only	Dual sector
Panel A: By gender of the youth							
Land access*female	-0.033****	-0.001	-0.016****	-0.005	0.046****	-0.008**	-0.007**
	(0.010)	0.000	0.000	0.000	(0.010)	0.000	0.000
Land access*male	0.000	-0.003	0.003	-0.003	0.036***	-0.010**	-0.002
	(0.010)	(0.010)	(0.010)	0.000	(0.010)	0.000	0.000
Observations	5178	4197	5198	5196	5212	5212	5212
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Panel B: By age of the youth							
Land access* (younger 15-22)	0.015	-0.008	-0.006	-0.010**	0.056**	0.000	-0.002
	(0.020)	(0.010)	(0.010)	(0.010)	(0.020)	(0.010)	(0.010)
Land access*(older, 22-35)	-0.024***	-0.001	-0.006	-0.002	0.037****	-0.011***	-0.005
	(0.010)	0.000	(0.010)	0.000	(0.010)	0.000	0.000
Observations	5178	4197	5198	5196	5212	5212	5212
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Panel C: By level of education							
Land access*illiterate	-0.017**	0.002	-0.004	-0.001	0.037***	-0.004	-0.004
	(0.010)	(0.010)	0.000	0.000	(0.010)	0.000	0.000
Land access*literate	-0.014	-0.006	-0.008	-0.006**	0.042****	-0.013***	-0.004
	(0.010)	0.000	(0.010)	0.000	(0.010)	(0.010)	0.000
Observations	5172	4195	5192	5190	5206	5206	5206
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Source: Authors' calculations based on LSMS-ESS 2014 and 2016.

Notes: *Land access* is defined as total farm size of parcels that the youth has decision making rights (to sell or use it as a collateral, or to manage) or ownership right.
Figure in parenthesis are standard errors; **** significant at 0.1%; *** significant at 1%; ** significant at 5%; * significant at 10%.

The differential effect of land access is analyzed across community level factors: land market vibrancy, level of agricultural modernization and commercialization, level of urbanization, population density and relative land abundance. Table 6.4 shows the differential impact of land access on youth migration and employment between the youth who live communities with high or low level land market vibrancy (panel A), high or low level agricultural modernization (panel B), and high or low level of agricultural commercialization (panel C).

Under panel A of table 6.4, the result indicates that a negative and significant effect of land access on permanent migration and rural-urban migration is observed for the youth who reside in areas where the land market participation is higher. The existence of better land rental market will create additional means for the youth to access land, hence leading to lower likelihood of migration.

Panel B of table 6.4 shows the results of the effect of land access on youth migration and employment interacted with level of agricultural modernization. Results indicate that permanent migration is negatively correlated with land access in areas where the use of modern agricultural inputs and method is higher. In addition, employment in the dual sector is more responsive to land access in negative direction in areas with higher level of agricultural modernization. Ghebru (forthcoming) also found similar findings on the effect of expected land inheritance on youth migration and employment in Nigeria. Thus, lower level of improvement in method of agricultural could be another factor which pushes out the youth from agriculture beside limited land access.

As shown in panel C of table 6.4, the effect of land access in reducing permanent migration and rural to urban migration is significant for the youth who reside in communities with lower level of agricultural commercialization. This could be due to, first, youth in relatively highly commercialized areas are expected to have better exposure to urban areas and access to market which could lower their chance of remaining in rural areas as compared to the youth who reside in areas with lower commercial linkage. Second, the rate at which the youth move from rural to urban areas could increase with increasing commercial activities in rural areas and business relationships.

Table 6.4 Regression results of the effect of land access on migration and employment outcomes by level of land market vibrancy and agricultural transformation

Variables	Migration				Employment		
	Permanent Migration	Temporary migration	Rural-urban migration	Long-distance migration	Agriculture only	Non-agriculture only	Dual sector
Panel A: By land market vibrancy							
Land access*low	0.000	0.004	0.005	-0.003	0.049**	-0.002	-0.012**
	(0.010)	(0.010)	(0.010)	0.000	(0.020)	(0.010)	(0.010)
Land access*high	-0.023**	-0.005	-0.011*	-0.004	0.037****	-0.012***	-0.001
	(0.010)	0.000	(0.010)	0.000	(0.010)	0.000	0.000
Observations	5178	4197	5198	5196	5212	5212	5212
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Panel B: By level of agricultural modernization							
Land access*low	-0.006	0.017	0.001	-0.006	0.097****	-0.012*	0.002
	(0.010)	(0.020)	(0.010)	(0.010)	(0.020)	(0.010)	0.000
Land access*high	-0.017**	-0.005	-0.007	-0.003	0.032***	-0.009**	-0.005*
	(0.010)	0.000	(0.010)	0.000	(0.010)	0.000	0.000
Observations	5178	4197	5198	5196	5212	5212	5212
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Panel C: By level of agricultural commercialization							
Land access*low	-0.043****	0.005	-0.021***	-0.002	0.109****	-0.025****	0.006
	(0.010)	(0.010)	(0.010)	0.000	(0.020)	(0.010)	(0.010)
Land access*high	-0.01	-0.004	-0.003	-0.004	0.026**	-0.005	-0.007**
	(0.010)	0.000	(0.010)	0.000	(0.010)	0.000	0.000
Observations	5178	4197	5198	5196	5212	5212	5212

| Prob > F | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

Source: Authors' calculations based on LSMS-ESS 2014 and 2016.

Notes: *Land access* is defined as total farm size of parcels that the youth has decision making rights (to sell or use it as a collateral, or to manage) or ownership right.

Figure in parenthesis are standard errors; **** significant at 0.1%; *** significant at 1%; ** significant at 5%; * significant at 10%.

Table 6.5 presents the differential impact of land access on youth migration and employment by classifying communities depending on the level of urbanization (panel A), population density (panel B), and relative land abundance (panel C). The result reveals land access has a negative and significant effect on permanent migration and rural to urban migration among the youth who reside in communities which are relatively close to urban areas. Access to farm land is more scares in areas which are close to urban areas relative to remote areas. Thus, land access determines youth migration decision strongly for the youth who lives in close to urban areas as compared to youths who reside far from urban areas. However, the role of land access in affecting employment choice is the same regardless of the level of urbanization.

Table 6.5 Regression results of the effect of land access on migration and employment outcomes by level of urbanization, population density and relative land abundance

Variables	Migration				Employment		
	Permanent Migration	Temporary migration	Rural-urban migration	Long-distance migration	Agriculture only	Non-agriculture only	Dual sector
Panel A: By level of urbanization							
Land access*low	-0.011	-0.008	-0.002	0.001	0.038****	-0.008**	-0.003
	(0.010)	(0.010)	(0.010)	0.000	(0.010)	0.000	0.000
Land access*high	-0.025**	0.01	-0.013	-0.012**	0.046***	-0.011**	-0.007
	(0.010)	(0.010)	(0.010)	0.000	(0.020)	(0.010)	(0.010)
Observations	5178	4197	5198	5196	5212	5212	5212
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Panel B: By population density							
Land access*low	-0.017**	-0.002	-0.008	-0.004	0.047****	-0.010***	-0.006*
	(0.010)	0.000	0.000	0.000	(0.010)	0.000	0.000
Land access*high	-0.001	0.002	0.011	-0.007	-0.02	-0.004	0.011
	(0.020)	(0.010)	(0.020)	0.000	(0.030)	(0.010)	(0.010)
Observations	5178	4197	5198	5196	5212	5212	5212
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Panel C: By relative land abundance							
Land access*low	0.012	-0.011	0.018	-0.021**	0.188****	-0.017**	-0.01
	(0.020)	(0.010)	(0.020)	(0.010)	(0.030)	(0.010)	(0.010)
Land access*high	-0.018**	-0.001	-0.008	-0.003	0.030***	-0.008**	-0.004
	(0.010)	0.000	(0.010)	0.000	(0.010)	0.000	0.000
Observations	5178	4197	5198	5196	5212	5212	5212
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Source: Authors' calculations based on LSMS-ESS 2014 and 2016.

Notes: *Land access* is defined as total farm size of parcels that the youth has decision making rights (to sell or use it as a collateral, or to manage) or ownership right.

Figure in parenthesis are standard errors; **** significant at 0.1%; *** significant at 1%; ** significant at 5%; * significant at 10%.

7   CONCLUSION AND RECOMMENDATIONS

Increasing youth population and diminishing land size is a challenge for a country like Ethiopia in which 80 percent of the population is in rural areas. The flow of youth from rural to urban areas is increasing for different reasons such as job search, education, marriage, etc. This study tries to examine whether access to land is a push factors in youth migration and employment decisions. The empirical analysis is based on data from Living Standard Measurement Study (LSMS)-Ethiopian Socioeconomic Survey (ESS) of 2013/14 and 2015/16 by employing ordinary least square and household fixed effect estimations.

According to the empirical finding, land access has negative and significant effect on permanent migration in general, and on long-distance migration among the categories of permanent migration. Youth engagement in agricultural employment is positively affected by having access to land, whereas, employment in the non-agricultural sector is negatively correlated with land access. According to the results from a more disaggregated analysis, a negative and significant effect of land access on permanent migration is observed among older youth (24-35 years old) and illiterate youth. In addition, the effect of land access in reducing permanent migration is responsive for the youth who reside in areas with relatively higher level of agricultural modernization. Moreover, the impact of land access in reducing permanent migration and long-distance migration is strong in communities with relatively higher level of urbanization.

Broadly, the geographic, economic and social characteristics vary among regions of Ethiopia. In addition, the type of land access problems facing the youth are also different across regions. Regional government are responsible for land administration and use in their respective region. For instance, in Tigray region, the regional government provide land for youth groups to be engaged in land rehabilitation and environmental protection activities, with the objective of creating sustainable livelihoods for landless youth (Holden and Tilahun 2018). Similar approach could be implemented by other regions considering the interests and skills of the youth, and the specific characteristics of the communities. Since these approaches requires financial resources, due attention should also be given to strengthen the capacity of micro-finance institutions and saving and credit associations to provide finance for the youth groups.

The effect of land access on migration and employment outcomes varies based on community level factors; vibrancy of land markets, urbanization, level of agricultural modernization and commercialization. Land rental markets will be important means for land-poor households including the rural youth to get land and exploit the potential in the agricultural sector. The current rural land administration and use proclamations of regional governments put restrictions in land rental. Basically, restrictions are justified to protect the rights of smallholders and prevent land concertation by the rich. Since demographic, economic and social conditions change over time, regional governments should undertake a comprehensive study to act in accordance with emerging situations. In addition to policy measures which helps to improve land access to the rural youth, due attention should also be given to the development of modern farming methods and agricultural markets.

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