



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

# WHAT PUSH MIGRANTS OUT OF THEIR RURAL AREAS? EMPIRICAL EVIDENCES FROM SUB-SAHARAN AFRICA

Louise Lantz T.<sup>a</sup>, Arbolino R.<sup>a</sup>, Caracciolo F.<sup>b</sup>, Cembalo L.<sup>b</sup>

<sup>a</sup>Department of Human and Social Science, University “L’Orientale”, Naples, ITA

<sup>b</sup>Department of Agricultural Sciences, AgEcon and Policy Group, University of Naples Federico II, ITA

*please send correspondence to: Tiffany Louise Lantz tllantz@unior.it*

## Abstract

The uncertainty and the generic nature of the migration determinants, combined with the subsequent lack of specific policies implemented to improve the economic conditions of the developing or underdeveloped countries, has generated the need to study these causes in detail. We use nationally representative data from Ethiopia’s 2015/16 Socioeconomic Survey (ESS) to examine the socio-economic determinants of migration of this specific sub-Saharan country. By performing a logistic regression we drive the migration decision at household level. We also consider some of the observable trends on migration flows from this area of the world. Empirical results lend credence to the fact that in Ethiopia the decision to migrate is family based and that the probability to have a migrant in the household depends on households size as well as on some residence region.

*Keywords:* determinants of migration; Ethiopia; push and pull drivers; households; sub-Saharan Africa

## 1. Introduction

In recent years, we are witnessing a large-scale migration (Castles and Miller, 2012) and the trend is increasing: according to data from United Nation (2016), international migrants worldwide were about 244 million in 2015 and an increasing concern is taking place. There are many reasons behind such a concern. In economic terms, the matter of flows resolves in long run when migration tends to an equilibrium throughout labor/wage market, both in developed and developing regions (Roy, 1951; Sjaastad, 1962; Borjas, 1987). This has happened in the past when the prospect of a better standard of living created by the possibility of finding a job has encouraged, for instance, Italian migrants to move to Germany or the United States.

Today, however, the arrival of mass influxes of out-migrants in the European Union reduces the adsorbing capacity of the host countries, generating social tension or racist explosion. Indeed, contemporary society has to deal with specific problems since the migration is not a temporary phenomenon: social inclusion and the difficulty in entering the labor market are the major challenges. If it were possible acting on the root-causes of migration, thus mitigating the existing discrepancies between countries, immigration flows from those underdeveloped could be decreased also promoting development. Therefore, the knowledge of the main drivers allows defining suitable policies in order to reach a manageable flow of migration in social and economic terms.

The evolution and the transformation over time of migration flows have generated several theoretical approaches that try to frame the determinants of that phenomenon (Black, 2001; Koubi et al., 2012; Beine, 2015; Neumann et al., 2015). Among the several models available, the most often used one is that combines push and pull factors (Lee, 1966). Push factors are meant to explain the decision to emigrate such as underdevelopment, unemployment, lack of economic opportunities and/or political and religious persecution. Pull factors concern the attractiveness of destination countries such as labor demand, availability of land, political freedom, democracy and modern societies (Dorigo and Tobler, 1983; Zimmermann, 1994; Scalera, 2009; Massey et al., 1998).

There is now a large body of literature that investigates the causes of migration from developing countries underlying the role of political factors or the income differences (Baizán and González-Ferrer, 2016; Kuschminder and Siegel, 2016; Tsegai, 2017) or even the relationship between climatic factors and migration choice (Barrios et al., 2006; Hassani-Mahmooei and Parris, 2012; Ariti et al., 2015; Beine, 2015). Despite the growing number of studies, however, the underlying causes of migration such as the agro-economic determinants, have never been systematically investigated.

Thus, current paper aims to identify both the socio-economic and agro-economic determinants of migration from sub-Saharan geographic area, intentionally without considering those causes that refer to factors like wars, conflicts or famine.

To this end, a specific sub-Saharan country was selected, namely Ethiopia. The choice of Ethiopia is motivated by its representativeness within the sub-Saharan area and for the significant changes that have interested climate, environmental and socio-political aspects. Indeed, Ethiopia sharing its borders with the Horn of Africa states, is at the center of a complex system of regional and international migratory flows. There are several factors that feed internal and external migration from the country (Fransen and Kuschminder, 2009): the strong demographic push, the political instability, the growth of ethnic or religious conflicts, the economic crises and environmental disruption (Corti, 2005; Negussie et al., 2011).

We use the multi-topic panel household level data from the Ethiopia Socioeconomic Survey (ESS), which includes a rich set of variables. As a result, our study is a first attempt to investigate the reasons behind the migration decision with a national coverage data also considering that the determinants may also be affected by a diverse social status.

The determinants of migration decisions were analyzed in a logistic regression.

After the introduction, the study reviews the existing literature that has considered Ethiopian migratory determinants. Then, we provide a description of the dataset with the descriptive statistics. Finally, we discuss the main findings of the logit model.

## **2. Previous studies**

Migration is a common phenomenon in Ethiopia. Conversely there is not many studies providing a complete insight when it comes to considering the determinants in depth. Indeed, since studies have considered Ethiopian migratory determinants, these are focused on specific areas of the country and only a small number of these have considered the international level. Furthermore, available empirical studies on Ethiopian flows do not account for certain common trends which are instead underlying migration phenomenon in the African continent (Adepoju, 2000; Castels e Miller, 2012; Deotti e Estruch, 2016). Indeed, to our knowledge, Ethiopia also experiences globalization of flows, migration as a family decision and mobility in response to limited land availability.

According to Meze-Hausken (2000), political, economic or ethnic conditions should not be neglected when analyzing the impact of climatic change on migration. In his work he analyzes the vulnerability of families to climate change, demonstrating that individuals are strongly resistant to climatic forces. Similarly, Morrissey (2013) examines the relationship between climatic factors and migration choice considering, instead, the role of the perceptions of migration.

Other studies have been dedicated to specific causes such as drought or population growth. Planel (2007) argues that in rural areas overpopulation has become an unsustainable situation that has led to the lack of fertile soils and, consequently, migration. In contrast, Urgesa and colleagues (2016) argue that the changes of soils are not related to the population growth but rather to the use of land. According to Ezra (2001), out-migration is a function of individual, family and community characteristics. In his work, however, he considers only the drought prone regions of rural Ethiopia. Similarly, Gray and Mueller (2012) consider the role of drought in rural Ethiopia, arguing that drought has important consequences for population mobility in this area. Following Morrissey (2013) and Bezu (2014) instead, the lack of access to land is almost the major driver that pushes migrants out of their rural areas. In fact, many young people in the rural areas are currently without land and with no means of acquiring it in the future (Morrissey, 2013), meaning that a growing youth population in these areas poses a challenge in terms of access to land and to a livelihood (Bezu, 2014).

A recent work of Tegegne (2016), examines household's choice of migration and underlying determinants in different locational contexts. Referring to this study we enlarge the research scope to include all the rural and non-rural areas of the country.

#### **4. Data and methodology**

Our analysis was carried out using the Ethiopia Socioeconomic Survey (ESS) datasets. It is a collaborative project between the Central Statistics Agency of Ethiopia (CSA) and the World Bank Living Standards Measurement Study – Integrated Surveys of Agriculture (LSMS-ISA) project. There were three waves of data collection: 2011-2012, 2013-2014 and 2015-2016, giving a total of 14,185 households. Every survey consisted of five questionnaires: the household data (organized in 24 data files), the community data (organized in 14 data files) and the agriculture data in three folders (post-planting, post-harvest and livestock). Specifically, data related to 2015-2016 were used to conduct our study.

As known in literature, studies on the causes of migration flows may be carried out looking at the household level (Gray and Mueller, 2012; Ariti et al., 2015; Tegegne, 2016), or at the individual level (Meze-Hausken, 2000; Morrissey, 2013; Bezu, 2014). To conduct our study, we used the data related to 2015-2016, first detecting the household data files, on the grounds that our model will have as dependent variable those families that register at least one migrant. Therefore, the construction of this variable cannot avoid the precise definition of our unit of investigation, that is the migrant itself.

There was a long debate around the definition of what a migrant is because of its specificity and with regard to the most appropriate methodology to follow in order to best detect the human mobility (Bonifazi and Strozza, 2006). According to the UN Refugee Agency (UNHCR), there is no internationally agreed definition of the term migrant. Generally speaking, the UN argues that the term migrant can be understood as “any person who lives temporarily or permanently in a country where he or she was not born, and has acquired some significant social ties to this country”. However, from an analytical point of view there is a precise document that has become the basis for

the detection of migration both in terms of flows and in terms of migrant stock. We will therefore refer to the Recommendations on Statistics of International Migration (UN, 1998) which establishes the definition of an international migrant as the one who changes his country of habitual residence and introduces the time variable to distinguish long-term migrations (displacement of at least 12 months) and short-term migration (shifting from more than 3 to less than 12 months).

It is therefore particularly appropriate using such a complex database to go through the reasons behind migration, a multidimensional phenomenon that cannot be identified by using only one variable. To this extent, the household data files were merged. The whole dataset, which is nationally representative, has a sample size of 4,954 households. The number of final observation considered in the analysis after the data cleaning procedure is 27,543 individuals and 4,946 households. Below a brief description of the sample is provided comparing households with and without migrants. The descriptive statistics for the two subsamples of migrant household and non-migrant household are shown in Table 1.

*Table 1. Descriptive statistics*

Variable	Mean	Std.dev	Min	Max	Mean	Std.dev	Min	Max
	Non migrant households (2,807)				Migrant households (2,139)			
age_head	3.881	1.112	2	6	4.329	1.118	2	6
age_head2	16.299	9.404	4	36	19.986	9.689	4	36
level_edu	0.810	0.749	0	4	0.502	0.422	0	2.8
gender_head	0.299	0.458	0	1	0.317	0.465	0	1
gender	0.532	0.248	0	1	0.519	0.185	0	1
age	25.517	13.348	7.8	98	25.624	7.666	10.1	74
age2	829.218	1095.708	61.4	9604	715.310	470.598	101.4	5476
small rural	0.610	0.488	0	1	0.726	0.446	0	1
urban	0.306	0.461	0	1	0.185	0.388	0	1
Tigray	0.128	0.334	0	1	0.105	0.306	0	1
Afar	0.030	0.169	0	1	0.028	0.164	0	1
Amhara	0.182	0.386	0	1	0.231	0.422	0	1
Oromia	0.192	0.394	0	1	0.208	0.406	0	1
Somalie	0.056	0.229	0	1	0.049	0.216	0	1
B_Gumuz	0.020	0.141	0	1	0.032	0.175	0	1
SNNP	0.243	0.429	0	1	0.204	0.403	0	1
Gambelia	0.020	0.139	0	1	0.028	0.164	0	1
Harari	0.037	0.190	0	1	0.026	0.160	0	1
A_Ababa	0.053	0.224	0	1	0.046	0.210	0	1
Diredawa	0.040	0.195	0	1	0.044	0.205	0	1
size	4.752	2.429	1	16	6.625	2.584	1	18
marital_stat	0.407	0.278	0	1	0.401	0.166	0	0.88
level_edu_d	0.854	1.100	0	4	0.639	0.970	0	4
employed	0.106	0.233	0	1	0.045	0.114	0	0.67
private_ow	0.722	0.448	0	1	0.840	0.367	0	1
free_rent	0.065	0.246	0	1	0.044	0.205	0	1
rented	0.206	0.405	0	1	0.111	0.314	0	1
other_type_h	0.007	0.082	0	1	0.006	0.075	0	1

Table 1 reveals that the medium size of households is higher in families with one or more migrants and it also shows that there are more males household head than females in both groups. On

average, the age of household members is around 25 years in both groups. With regards to household heads, class 39-51 is the most represented in the migrant group, while the most represented group within the non-migrants is 26-38. In both groups the majority of heads have never attended school while among those educated, a low educational level is the most common. In both groups the household heads are not employed, even though the mean is slightly lower in migrant group. The greater part of non-migrant households lives in Southern Nations, Nationalities and Peoples Region (SNNP), whereas, as for the migrant households group, the majority lives in Amhara.

## 5. Model specification

Consistent with the aim of the study, we drive the migration decision at household level, by performing a logistic regression. The logit model is given by:

$$P_i = \Pr(Y_i = 1) = \frac{e^{x_i'\beta}}{1 + e^{x_i'\beta}}$$

Considering a sample of  $n$  households indexed by  $i$ , the outcome  $\{Y_i\}$  of whether at least one household member is migrated or not is a qualitative random variable taking two levels: 0, 1: 1 if household has at least one migrant and 0 if there are no migrants in the household.  $\Pr(Y_i)$  identifies the probability to observe a migrated member within the  $i$ -th household.  $\mathbf{x}$  is a set of  $k$  household characteristics influencing the probability to observe a migrated member within the household while  $\beta$  includes the respective parameters to be estimated.

$\mathbf{x}$  include explanatory variables related to household members and, consistent with the specific literature, others concerning household heads, such as age, gender and educational level. Moreover, to assess the incidence of the ethnicity we include the region of residence (Tab. 2).

## 6. Results

Results of the logit model are presented in Table 3. The likelihood to have at least one migrant in the household is positively related with household's size, gender (female) of the household head, educational level of the household head, household members age, household members marital status. It is negatively associated with the age and educational level of the household head, frequency of female members within the household and among the residence region, Afar, Somalie, SNNP, Harari.

Consistent with our expectations, the probability of migrating rises with the increase in family size. The probability to have at least one migrant member in the household grows with the increasing age of the household members, but decreases with increase of the household head's age. If in the family there are more females than males the likelihood to have a migrant decreases while if there are more female household heads, that likelihood increases. As for the educational level, when the household heads have a better education, the members are more likely to migrate. Instead, when the medium educational level of the family is high, household members tend to migrate less.

Residence zones seems to play no significant role in the migratory decision. As for the residence regions, only a few of them showed significant impact on migration, even with a negative sign. Indeed, households who live in Afar, Somalie, SNNP and in Harari are less likely to migrate.

Table 2. List of variables and their description

Variables	Description
Migr_household (dependent variable)	1 if household has at least one migrant, 0 otherwise
age_head	Class of household heads age
age_head2	Household heads age squared
level_edu	Educational level of individuals
gender_head	1 if female head, 0 if male head
gender	1 if female, 0 if male
age	Age of individuals
age2	Age squared
small rural	1 if individual lives in rural zone; 0 otherwise
urban	1 if individual lives in urban zone; 0 otherwise
Tigray	1 if residence is in Tigray; 0 otherwise
Afar	1 if residence is in Afar; 0 otherwise
Amhara	1 if residence is in Amhara; 0 otherwise
Oromia	1 if residence is in Oromia; 0 otherwise
Somalie	1 if residence is in Somalie; 0 otherwise
B_Gumuz	1 if residence is in Benshagul Gumuz; 0 otherwise
SNNP	1 if residence is in Southern Nations, Nationalities and Peoples Region; 0 otherwise
Gambelia	1 if residence is in Gambelia; 0 otherwise
Harari	1 if residence is in Harari; 0 otherwise
A_Ababa	1 if residence is in Addis Ababa; 0 otherwise
size	Household size
marital_stat	1 if married; 0 otherwise
level_edu_head	Class of household heads educational level
employed	1 if employed; 0 not employed
private_ow	1 if private house; 0 otherwise
free_rent	1 if free of rent house; 0 otherwise
rented	1 if rented house; 0 otherwise

Table 3. Model results

Variables	Coeff	t-stat	p-value
gender_head	1,553	13,47	0,000
age_head	-0,213	-3,90	0,000
level_edu_head	1,152	17,71	0,000
gender	-0,510	-2,62	0,009
age	0,519	20,88	0,000
age2	-0,007	-17,97	0,000
level_edu	-3,058	-21,89	0,000
size	0,559	22,94	0,000
marital_stat	0,664	2,99	0,003
Afar	-0,630	-2,19	0,029
Somalie	-0,982	-4,10	0,000
SNNP	-0,463	-2,38	0,017
Harari	-0,647	-2,31	0,021
_cons	-9,872	-15,05	0,000

Only variables statistically significant are reported

## 7. Discussions and conclusions

This work examined the main determinants that push migrants out of Ethiopia. It is a first attempt to investigate the socio-economic and agro-economic determinants with a national coverage data also considering the common observable migratory trends in sub-Saharan Africa.

The decision to migrate from this area has been explained from many scholars as the results of push and pull factors (Adepoju, 2000; Uchegara, 2015; Deotti e Estruch, 2016). Indeed, since Ethiopia has experienced a strong demographic push, our findings reveal that individuals are more likely to migrate when the households size increase. Such a result, in line with Adepoju (2000), can lead us to argue that migration is a family matter when it becomes part of a family strategy made to support the household income.

Our findings also suggest that female's participation in migratory flows is less than male's. In fact, with more females members, the likelihood to migrate decreases. At the same time, if there are more female household heads, this likelihood increases, probably reflecting the importance of women in family management. This seems to contrast with what previous studies have argued for the sub-Saharan Africa, that is the growing participation of women in migratory flows (Corti, 2005; Agadjanian, 2008; Castels e Miller, 2012). Therefore, staying with our results, the role of women is more important when it comes to taking the migratory decision.

In general, the variables concerning the household heads are the ones that most affect migration. Finally, since we know that Ethiopia is going through a period of ethnic conflicts, we tried to assess the incidence of the ethnicity on the mobility discovering that living in regions that are currently politically unstable, such as Oromia, is not a fundamental driver that pushes migrants.

Further researches are needed on this field to better address the heterogeneity of the population and to determine, in deeper details, the reasons behind the decision to migrate. Additional researches could also take into account variables related to agro-environmental conditions of communities that would contribute to understand the root-causes of migration from this country.

## References

- Adepoju, A. (2000). Issues and recent trends in international migration in sub-saharan Africa. *International social science journal*, 52, 383-394.
- Agadjanian, V. (2008). Research on international migration within sub-saharan Africa: foci, approaches, and challenges. *The sociological quarterly*, 49, 407-421.
- Ariti, A. T., van Vliet, J., & Verburg, P. H. (2015). Land-use and land-cover changes in the Central Rift Valley of Ethiopia: Assessment of perception and adaptation of stakeholders. *Applied Geography*, 65, 28-37.
- Baizán, P., & González-Ferrer, A. (2016). What drives Senegalese migration to Europe? The role of economic restructuring, labor demand, and the multiplier effect of networks. *Demographic Research*, 35, 339.
- Barrios, S., Bertinelli, L., & Strobl, E. (2006). Climatic change and rural–urban migration: The case of sub-Saharan Africa. *Journal of Urban Economics*, 60(3), 357-371.
- Beine, M., & Parsons, C. (2015). Climatic factors as determinants of international migration. *The Scandinavian Journal of Economics*, 117(2), 723-767.
- Black, R. (2001). Environmental refugees: myth or reality? (Vol. 34, p. 13). Geneva: UNHCR.
- Borjas, G. (1987), Self-Selection and the Earnings of Migrants, *American Economic Review*, 77, 531–553.



- Castles, S., & Miller, M. J. (2012). *L'era delle migrazioni. Popoli in movimento nel mondo contemporaneo*. Bologna: Odoya.
- Corti, P. (2005). *Storia delle migrazioni internazionali*. Roma, Bari: GLF. Editori Laterza.
- Deotti, L., & Estruch, E. (2016). *Addressing rural youth migration at its root causes: a conceptual framework*. Roma: FAO.
- Dorigo, G., & Tobler, W. (1983). Push-Pull migration laws. *Annals of the association of american geographers*, 73 (1), 1-17.
- Fransen, S., & Kushminder, K. (2009). Migration in Ethiopia: history, currents trends and future prospects. *Migration and development country profiles*. Maastricht Graduate School of Governance.
- Hassani-Mahmooei, B., & Parris, B. W. (2012). Climate change and internal migration patterns in Bangladesh: an agent-based model. *Environment and Development Economics*, 17(06), 763-780.
- Koubi, V., Spilker, G., Schaffer, L. M., & Bernauer, T. (2012). Environmental degradation and migration. *Available at SSRN 2107133*.
- Kuschminder, K., & Siegel, M. (2016). Determinants of diaspora policy engagement of Ethiopians in the Netherlands. *African and Black Diaspora: An International Journal*, 9(2), 184-199.
- Lee, E. S. (1966). A theory of migration. *Demography*, 3(1), 47-57.
- Massey, D. S., Arango, J., Hugo, G., & Taylor, J. E. (1998). *Worlds in Motion: understanding international migration at the end of millennium*. Oxford: Clarendon Press.
- Meze-Hausken, E. (2000). Migration caused by climate change: how vulnerable are people in dryland areas?. *Mitigation and Adaptation Strategies for Global Change*, 5(4), 379-406.
- Morrissey, J. W. (2013). Understanding the relationship between environmental change and migration: The development of an effects framework based on the case of northern Ethiopia. *Global environmental change*, 23(6), 1501-1510.
- Negussie, Y. Z., Urbaniak, M., & Zalewski, M. (2011). Ecohydrology for a sustainable future in Africa – the cases of Ethiopia, Kenya and Tanzania. *Ecohydrology & hydrobiology*, 11, 223-230.
- Neumann, K., & Hilderink, H. (2015). Opportunities and challenges for investigating the environment-migration nexus. *Human Ecology*, 43(2), 309-322.
- Roy, A. D. (1951). Some Thoughts on the Distribution of Earnings, *Oxford Economic Papers* 3, 135–146.
- Planel, S. (2007, August). Densité, pauvreté et politique. Une approche du surpeuplement rural en Éthiopie. In *Annales de géographie* (No. 4, pp. 418-439). Armand Colin.
- Scalera, D. (2009). Culture gathering. The migration networks. *Revista interdisciplinar da mobilidade humana*, 17.
- Sjaastad, L. A. (1962). The costs and returns of human migration. In *Regional Economics* (pp. 115-133). Palgrave Macmillan UK.
- Tsegai, D. (2007). Migration as a household decision: What are the roles of income differences? Insights from the Volta Basin of Ghana. *The European journal of development research*, 19(2), 305-326.
- Uchegara, K. (2015). Sub-saharan african countries and migration to Europe: exploring the motivations, effects and solutions. *Informatol*, 49, 79-85.
- United Nations. (1998). Recommendations on statistics of international migration. Revision 1. *Statistical Paper*, Series M, 58, Rev. 1, United Nations, New York.

- United Nations. (2016). *International Migration Flows to and from Selected Countries: The 2015 Revision*. Department of Economic and Social Affairs, Population Division.
- Urgesa, A. A., Abegaz, A., Bahir, A. L., & Antille, D. L. (2016). Population growth and other factors affecting land-use and land-cover changes in north-eastern Wollega, Ethiopia. *Tropical Agriculture*, 93(4), 298-311.
- Zimmermann, K. F. (1994). European migration: push and pull. *The world bank economic review*, 8 (1), 312-342.