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# Dynamics and determinants of rural-urban migration in Southern Ethiopia

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**This study examined the central characteristics of migrants and determinants of rural-urban migration in Southern Ethiopia based on snow ball sampling and a survey of 665 sample migrants using descriptive and econometric analysis. The results of this study showed that 76.2% of the migrants left their home at age ranges between 15 and 25 years. Similarly, it was found that 48% of the migrants were attending junior education level, while 28 and 13% of the migrants were attending secondary and primary education levels, respectively. Moreover, 80% of migrants in the study area were not married as at the time of their migration. In addition, the study found that the main reasons for rural-urban migration in the study areas were better jobs opportunities in the urban areas (44%), rural poverty (26%), search for further education (10%), starting new business (8%), to be free from restrictive culture (8%) and better urban services (4%). The regression analysis of the Probit model indicated that age, years of schooling, relatives at receiving areas, monthly income at sending areas and family size significantly affect rural-urban migration. Policies aimed at reducing rural-urban migration should focus on creating viable farm and non-farm activities for rural unbanked youth.**

**Key words:** Rural-urban migration, push and pull factors, probit model, Ethiopia.

## INTRODUCTION

According to UNDESA (2015), the number of international migrants reached 244 million in 2015. But the same report revealed that a considerably higher number of migrants, about 740 million, are engaged in intra migration (moved within their countries), mainly from rural to urban areas or from one rural area to another. Moreover, the Department for International Development of the United Kingdom Government (DFID) estimated that

in sub-Saharan Africa (SSA) about 50 to 80% of each rural household has at least one migrant member (DFID, 2004). In some rural areas of developing countries, remittance from rural-urban migrants has overtaken agriculture as the main source of income for rural households (UNDP, 2009; Faye, 2012).

Today, almost half of the world's population lives in cities and the number of people living in urban areas

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has risen steadily by around 1 million people every year (Bahns, 2005). According to a report from the United Nations Population Division (2003), the urban population is estimated to grow at 1.8% per annum, while total population rate is projected to be 1% annually. This would result in an urban population of 5 billion people (61%) by 2030. The rural population on the other hand is expected to decrease from 3.3 to 3.2 billion people between the year 2003 and 2030.

Many developing countries in the world are currently experiencing an unprecedented rate of urbanization. It is also clear that, unlike the experience of currently developed countries, the process of urbanization presently taking place in developing countries is not in consonance with rapid industrialization. Rather, it is the consequence of growing population pressure on land in the rural areas (Kasahun, 2000). In line with this, Todaro (1976) reported that the major sources of the growth of urban population in developing countries will not only be natural population increase but also the continuing migration of rural people to the urban centres.

According to UN Report on Demography (2003), migration is a spatial mobility of people by changing their usual place of residence to another destination. Migration may involve either crossing boundaries of countries which in this regard is termed as international migration or movement within the country's boundary (internal migration). Internal migration consists of rural-rural, rural-urban, urban-urban, and urban-rural migration and the concern of this paper is rural-urban migration among the different internal migration types.

All types of internal migration are common in Ethiopia. Among them, rural-rural migration takes the lion share of internal migration in both 1999 and 2007 national household survey. The next highest is rural-urban migration which accounts for 24.8 and 32.5% of the overall migrants in the year 1999 and 2007, respectively. Among the different forms of internal migrations, the most threat to the economy for the less developing countries comes from rural-urban migration, because migration is undertaken from the place where job creation is easy (agriculture) to others where job creation is difficult (industry and service sectors). Furthermore, the burden of rural-urban migration is more severe in less developing countries since migration rates are beyond job creation in the cities (Shamdin, 2005).

The total population of Ethiopia was 22.45 million in 1961 where only 2.39 million lived in urban areas, while the remaining 20.05 million lived in country sides. However, the total population of Ethiopia became 35 million (30.77 million rural and 4.23 million urban) in 1980 and 81.91 million in 2011 (68.66 million in rural and 13.25 million in urban). That means, between 1981 and 2011, the urban population of Ethiopia increased by 203%, while the rural population increased by 117% (Central Statistical Authority (CSA), 2013). This rapid increase in urban population relative to rural population is due to the

fact that rural-urban migration has depopulating effects on rural areas and increases the growth rate of urban population.

As far as rural-urban migration is concerned, problems related with it are the rate, concentration and composition of the migrants (Beylee et al., 1996). With regard to the rate, in the year 1994 to 2007 in Ethiopia, the average annual increase in the rate of rural-urban migration was 5.68% whereas for the same period, the migration increase rate for Southern Nations Nationalities People Regional (SNNPR) state was equal to 7.28% which is higher than the national average. This high rate of rural-urban migration depletes the educated labor force of the rural areas in addition to the problem it creates in urban areas such as increased crime, unemployment, cost of provision of public goods and demand for housing. The 2005 labor force survey of Ethiopia vividly indicated that unemployment within the migrants was 38.28% but for the same period unemployment for the non-migrants is equal to 22.2%. This directly signals that the miseries of unemployment are stronger on migrants than the non-migrants.

CSA (2007) report indicated that from the overall rural-urban migrants, those below the age of 17 accounts for nearly 32.2% of the migrants. Since these migrants have to avail themselves in the labor market to get income for survival, the rural-urban migration trends are neatly contributing to the exploitation of child labor (Kobzar et al., 2015; Potts, 2013a; De Brauw et al., 2013a; Gibson and Gurmu, 2012; Morrissey, 2011; FAO, 2016a, b).

Although understanding the determinants of migration from rural to urban area is indispensable for policy formulation, researches in the area are few. The study conducted by Montira (2010), Birhanu (2017), Arzaghi and Rupasingha (2013), Omonigho (2013), Zainab (2004), Feleke (2005), and Tumba (2015a) found that individual-level characteristics such as gender, age, and years of schooling and household characteristic such as family size are the determinants of migration decisions. Moreover, Srinath (2010) and World Bank (2008) assessed the relative significance of push or pull factors in explaining the rural-urban migrations.

In recent years, the rate of rural-urban migration has become alarming as more people drift into the urban centres from the rural areas. It is against this backdrop that the present study examined the central characteristics of rural-urban migrants and the determinants of rural-urban migration in Southern Ethiopia using descriptive and micro econometric modeling.

In line with the aforementioned general objective, the present study was specifically devoted to describe the socio-economic characteristics of rural-urban migrants, identify the various economic activities of rural-urban migrants at receiving areas, and assess the determinants of rural-urban migration in the study areas using the Probit model.

## RESEARCH METHODOLOGY

### Description of the study areas

SNNPR is located in the Southern and Southwestern part of Ethiopia. Astronomically, it roughly lies between 4°.43 and 8°.58 north latitude and 34°.88 and 39°.14 east longitude. It is bordered with Kenya in south, the South Sudan in southwest, Gambella region in northwest and surrounded by Oromia region in northwest, north and east directions. According to CSA (2013), the total population of the region was 17,403,000 and only 14.7% of the population in the region lives in urban areas. Compared to other regions in Ethiopia, SNNPR is the least urbanized region in Ethiopia.

The total area of the region is estimated to be 109,015 km<sup>2</sup> which constitutes 10% of the total areas of the country. The average population density of the region is 154 persons/km<sup>2</sup> which makes the region one of the most populous parts of the country (CSA, 2013). Among all Ethiopian regions, southern region is known for its ethnic and cultural diversity. Out of the country's 85 ethnic groups, about 56 ethnic groups live in South Ethiopian region. It is due to this fact that the region is commonly referred to as a "mosaic of peoples". These varied ethnic groups are classified into the Omotic, Cushetic, Nilo-Sahara and Semitic super language families, among which Omotic and Cushetic are the most populous and diversified ones with the largest area coverage in the region, respectively. Based on ethnic and linguistic identities, the region is at present divided into 15 zones sub-divided into 131 Woredas, 4 special Woredas and 22 town administrations. According to CSA (2013) report, there are 334 urban and 3,678 rural kebeles in the region.

The amount, duration and intensity of rainfall in the region vary considerably. It generally decreases from west and northwest to south-eastward. The main dry season is shorter in Southern Ethiopia conversely the main rainy season is larger in west and south west. For the last three decades, the mean annual rainfall of the region ranges from the lowest, about 400 mm to over 2200 mm, according to CSA (2013) report. The mean annual minimum temperature of the region varies from 10.5 to 11.7°C in the extreme highlands, while the mean annual maximum temperature of the region ranges from 30.0 to 32.6°C in the lowland part of the region. The region has very diverse agro ecological zones ranging from hot arid and semi-arid climate in the southern most parts (57.4%) to a tropical humid type in the high lands of the north and northwest (8.6%) and intermediate between these extremes; the climate is defined to be tropical sub-humid type (34%) of the region that is moderately suitable for settlement and crop production.

According to CSA (2013) report, SNNPR state is known by its coffee production which represents about 44.2% of the total production in Ethiopia. Farmers in the region had an estimated total of 7,938,490 head of cattle (20.5% of Ethiopia's total cattle), 3,270,200 sheep (18.8%), 2,289,970 goats (17.6%), 298,720 horses (19.7%), 63,460 mule (43.1%), 278,440 asses (11.1%), 6,586,140 poultry (21.3%), and 726,960 beehives (16.7%). Among this total population of the region, 2,075,332 were migrants (14% of the total population). The rural-urban migrants in the region in 1994 was 281,686 while this figure increased to 702,880 in 2007 and further increased to 913,477 in 2013 according to CSA data. Moreover, from the total migrants in the region in 2007, rural-urban migrants accounts for 34% of the total migrants.

### Sampling techniques and sample size

There are 15 zones in SNNPR state and from these migration data for four cities in the region, namely, South Omo, Sheka, Daworo, and Siltie could not be obtained. Similarly, no population data was gotten for two zones, Kefa and Benji Magi. Therefore, the selection of the sample cities was restricted to nine zonal cities depending on

the proportion of rural-urban migrants. The total population and the rural-urban migrants in SNNPR state were 17,403,000 and 913,477, respectively according to CSA (2013). Accordingly, depending on the proportion of migrants in each zonal city, four zonal cities were selected as a sample for the present study and the total number of rural-urban migrants from the four selected sample zonal cities is 137645. The present study depends on the sample determination method used by Srinath (2010) to determine the sample size for this study. Accordingly, a total sample size of 665 rural-urban migrants was selected from the four zonal cities. According to Srinath (2010), a sample size for the primary survey for migration is given by:

$$n = \frac{P}{Q} X \frac{1}{e^2}$$

The proportion of rural-urban migrants in each town is given by 'P' which can be used to obtain sample size directly. If P is the proportion of rural-urban migrants, Q=1-P gives the proportion of non-migrants in each town.

For this study, the probability of committing type I error is set at 10%. Based on the formula, the sample size for each sample town is determined as shown in Table 1. There are 11 Kebeles in Arba Minch City and depending on the proportion of rural-urban migrants in each kebele, four kebeles were selected for this study, namely, Woha Minch, Menaharia, Woze and Doysa kebele. Hawassa city, the capital city of SNNPR state, has 32 kebeles and purposively depending on concentration of rural-urban migrants, 5 kebeles, namely, Chefe Cote Jebisa, Gemeto Gale, Dame, Hixata and Giwia were included in this study. Similarly, there are 11 kebeles in Woliata Soddo city and purposively four kebeles, namely, Wado, Gido, and Selam and Gebeya were selected for this study. But there are only 8 kebeles in Hosiana city and 3 kebeles namely, Shitduna, Jalo Narmo and Bobicho were selected purposively depending on the concentration of rural-urban migrants.

Finally, while collecting data, snow ball sampling method was used to obtain sample migrants from each kebele. In this method, an actual snowball growth was thought of, and the initial participant will lead to the next participant and accumulating more along the way through ways of networking of which more participants would be appropriate for the study. Snowball samples are particularly useful in hard-to-track populations, in populations of interests such as truants, drug users and migrants.

### Specification of probit model

The human capital theory predicts that individuals move or migrate from sending area to receiving area so as to maximize their life time money. That means, they make a cost benefit analysis and decide to migrate if their expected discounted net-benefit from migration is positive. Thus, a rational individual would migrate if the present value of the expected income gain exceeds the cost of relocation. That means, an individual will migrate if the discounted net benefit from migration,  $V(0)$ , is positive.

$$V(0) = \sum_{t=0}^n [P(t)Yu(t) - Yr(t)] e^{-it} dt - C(0) \quad (1)$$

However, the New Economics of Labor Migration (NELM) shifts the decision unit from the individual to the family. Moreover, for social capital theory, migration is caused by social networks between the place of origin and the destination. So, the theoretical frame work for the present study uses the basic Todaro migration equation which can be written as:

**Table 1.** Sample zonal cities and sample size determination from each sample city.

Sample city	Rural-urban migrants	Proportion of migrants (P)	Proportion of non-migrants (Q)	P/Q	$\left(\frac{P}{Q} \times \frac{1}{s^2}\right)$
Hosiana	23953	0.6	0.4	1.5	150
Hawasa	63175	0.683	0.315	2.15	215
Sodo	24874	0.60	0.40	1.5	150
A/ Minch	25643	0.6	0.4	1.51	150
Total sample size from the four sample zonal cities			665		

Source: CSA (2013).

$$m = F\left(\frac{Eu}{Lu}, W, Z\right) \quad (2)$$

Therefore, according to Equation 2, the revised Todaro (1969) migration model, rural-urban migration, depends on income differential between the receiving and sending areas ( $W$ ), urban job opportunities ( $\frac{Eu}{Lu}$ ), other factors such as social networks, family size, etc. This means, Equation 2 is the amalgamation of the human capital theory, the New Economics Labor Migration theory and the social capital theory of migrations.

To separate the purely push from the purely pull factors, the present study generates the dependent variable  $Y_i$  for each individual migrant, where  $Y_i = (\text{Number of pull reasons for migration chosen}) / (\text{Total number of reasons for migration chosen})$ . Hence, the variable  $Y_i$  varies from 0 to 1, with the value 0 indicating that the individual's reasons for migration are only push in nature and with the value 1 referring to only pull factors. Finally, in order to understand the factors which determine the extent of push versus pull factors in migration, the present study used the Probit regression model where the dependent variable is dichotomous which assumes value of 1 if  $Y_i \geq 0.5$  and 0 if  $Y_i < 0.5$ . Thus, an explicit migration model which helps in the present study to assess the determinants of rural-urban migration in the study areas is specified as follows:

$$M = \beta_0 + \beta_1AGE + \beta_2SEX + \beta_3Y_{UR} + \beta_4MRST + \beta_5EDUC + \beta_6DSKM + \beta_7LS + \beta_8RLU + \beta_9FS + \beta_{10}INFR + U_i \quad (3)$$

where AGE, SEX, YR, MRST, EDUC, DSKM, LS, RLU, FS and INFR refer to age at migration, sex of migrant, urban-rural monthly income differential in birr, marital status of migrant, years of schooling at migration, distance from sending areas in kilometers, land size of migrant's family, relative at receiving areas, family size of migrant's family and access to information at sending areas, respectively.

The dependent variable ( $M$ ) is binary which takes 1 for migrants mainly who migrated due to pull factors and 0 for migrants who migrated mainly due to push factors. The human capital theory predicts that education affects migration positively, but education might also increase earning at home. Thus, it is not clear a priori whether it will increase or decrease migration. Therefore, the sign of the coefficient of education is indeterminate. Age, distance from sending areas, marital status (1 for married and 0 for unmarried) and land size of migrants' family are expected to affect rural-urban migration negatively. Similarly, the coefficient of sex (1 for male and 0 for female) is expected to affect rural-urban migration negatively, because females are generally less mobile than their male counterparts.

According to the New Economics of Labor Migration theory, family size of migrant's family affects migration positively and therefore the coefficient of family size is expected to have negative sign. A dummy variable showing whether someone has a relative at the destination is included as a proxy for household level network. Having a member of the household in receiving areas will increase the probability of rural-urban migration. Finally, data collected from primary sources using structured questionnaires were analyzed using descriptive statistics and Probit regression via some statistical softwares like SPSS and Stata.

## RESULTS AND DISCUSSION

In this section, both descriptive and Probit results are presented and discussed. The descriptive analysis employs the tools such as measures of central tendency, dispersion, percentage, graphics and frequency distribution. Econometric analysis was used to identify relevant socio-economic and institutional factors that cause rural-urban migration in the study area. So, this part of the study was devoted to answering the basic objectives of the study using both descriptive and Probit data analyses.

### Socioeconomic characteristics of sample migrants

As presented in Table 2, the ages of the majority of the rural-urban migrants in the study area were between 15 and 25 years. That means, about 212 (32%) of them left their homes when their age range was between 15 and 18 years, while 172 (26%) of the migrants left home when their age range was between 19 and 21 years. As shown in Table 2, most 384 (58%) of the rural-urban migrants left home when their age range was between 15 and 21 years. The results of this study is also in line with economic theory which predicts that most migrants in developing countries leave home between the ages of 13 and 17 (Thorsen, 2012). Moreover, this result is also in agreement with the study conducted in Ethiopia by Kelil(2015) who found that majority of migrants were among the age group of 16 to 18 years. This implies that rural-urban migration is age selective and the propensity for rural out migration decreases with age in country side

**Table 2.** Age, marital status and education background of rural urban migrants.

Age distribution of migrants			Educational background of migrants		
Age of migrants	Number of migrants	Percentage	Level of education	Number of migrants	Percentage
Less than 11	8	1	Illiterate	24	4
11 - 14	72	11	1 - 4	84	13
15 -18	212	32	5 - 8	322	48
19 - 21	172	26	9 - 10	188	28
21 - 25	123	18	11 - 12	26	4
Greater than 25	78	12	13 - 16	21	3
Total	-	665	100	665	100
Marital status	Single	Married	Divorced	Widowed	Total
Migrants	558	90	12	5	665
Percentage	84	13	2	1	100

Source: Field Survey (2016).

(Awumbila et al., 2015; Msigwa and Mbongo, 2013; UNICEF, 2014; International Labor Organization (ILO), 2014; Charles-Edwards, 2014; Nauman et al., 2015; Cortina et al., 2104; Ginsburg et al., 2014).

This implies that agricultural production in particular and rural economy in general has been losing productive labor forces and this may in turn affect the production and productivity of agricultural sector unless government takes corrective measures to reverse the current wave of youth rural-urban migration. It is important to create attractive and innovative job opportunities in country sides for youth, landless and disadvantaged groups of communities.

As revealed in Table 2, 322 (48%) of the rural-urban migrants attained their junior education level (5-8), while 188 (28%) and 84 (13%) of them were attending secondary (9-10) and primary education (1-4), respectively. But, only 24 (4%) of the migrants did not attend school before migration. This implies that more educated and young individuals are more likely to out migrate from the country sides in the study areas. Thus, the rate of rural-urban migration is higher for young and relatively more educated persons in the study areas. This result is in line with the findings of Henok (2017), Akhter and Bauer (2014), Ferrone and Giannelli (2015), Herrera and Sahn (2013), Osawe (2013), Gray and Mueller (2012), Ferrone and Giannelli, (2105), Tigau et al. (2015), Kusumawardhani (2012), and Bhagat (2014).

As also presented in Table 2, majority 558 (84%) of the migrants in the study areas were unmarried and 90 (13%) and 12 (2%) of them were married and separated from their partners as of the time of their migration, respectively. This may be due to the fact that at the time of their migration, the ages of most of the migrants 292 (44%) were less than 18 years and this may further imply that single individuals are more mobile than married ones in the study areas. Therefore, marital status of an individual affects the probability of his/her out migration

since unmarried persons have lesser responsibility compared to the married ones. So, being unmarried increases the probability of rural out migration in the study areas and this result is in agreement with the study conducted by Kebede (1994).

Therefore individuals who are young, educated and unmarried tend to be more mobile; they seek works that match their age, higher skills and experiences and which pay return on education costs incurred. Besides, out of the total sampled rural-urban migrants, 213 (32%) were female migrants while the remaining 452 (68%) were male migrants as can be seen from Table 4 and this result is in line with the study conducted by Tumbe (2015b). As can be seen from the results in Table 3, the average age of rural-urban migrants is 19.87 which coincide with the age of high school completion for students; the mean years of schooling of the rural-urban migrants was 7.37 years.

The mean years of male and female migrants in the study areas were closely related and the difference is statistically insignificant. The data also revealed that females move shorter distances than their male counterpart in the study areas. The mean distances travelled by male and female in kilometers, as evidenced from Table 3, were 80.50 and 63.08 and the difference is also statistically significant at 5% level of significance.

These findings are also in line with the Ravenstein's laws of migration which states that females appear to pre-dominate among short distance migration which means females are more migratory than males within the place of their birth, but males more frequently venture beyond.

#### **Distance from urban areas and decision to migrate of rural-urban migrants**

This study also found that most of the rural-urban

**Table 3.** Mean difference test for some continuous variables categorized by gender.

Variable	Mean		Mean difference	Total mean	t-value	P-value	
	Male	Female					
Age at migration	20.01	19.54	0.4822	19.87	1.126	0.1302	
Distance (km)	80.50	63.08	17.43	74.92	2.031	0.0213	
Income	1863.2	1463.1	400.1	1734.9	2.572	0.0052	
Education at migration	7.32	7.46	-0.1486	7.37	-0.584	0.7202	
Experiences	2.826	2.390	0.4355	2.6867	3.5	0.0002	
Working hours	10.249	10.389	-0.1407	10.294	-0.719	0.7641	
Food expenditure	710.55	498.66	211.893	648.51	5.70	0.000	
Remittance	50.377	32.854	17.522	44.764	2.237	0.0128	
Savings	305.7	187.56	118.142	266.97	2.515	0.0065	
<b>Years of migration</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
Male migrants (452)	7	43	79	86	100	75	62
Female migrants (213)	1	22	16	38	51	60	25
Total migrants (665)	8	65	95	124	151	135	87

Source: Field Survey (2016).

**Table 4.** The distribution of the causes of rural-urban migration in the study areas

Causes of migration	Arba Minch		W/Soddo		Hosiana		Hawasa		Total
	Number	%	Number	%	Number	%	Number	%	
Better jobs	98	65	43	29	63	42	91	42	295
Poverty	18	12	69	46	44	29	45	21	176
Join relatives	2	1	0	0	0	0	1	0	3
Education	11	7	13	9	11	7	26	12	61
Urban services	0	0	9	6	2	1	9	4	20
Start business	12	8	6	4	18	12	16	7	52
Culture	7	5	9	6	10	7	27	13	53
Others	2	1	1	1	2	1	0	0	5
Total	150	100	150	100	150	100	215	100	665

Source: Field Survey (2016).

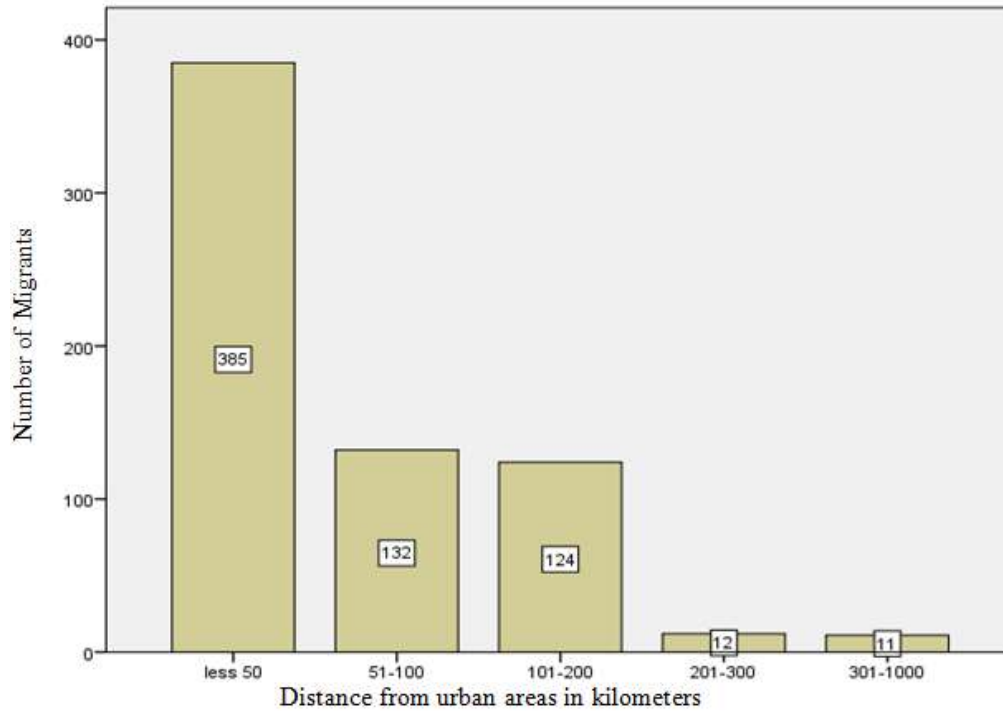
migrants came from nearby woreda, kebeles and villages in the study areas. So, distance from sending areas increases the cost of rural-urban migration and may reduce the wave migration. As evidenced from Figure 1, 385 rural-urban migrants came from a radius of 50 km around their destination (zonal cities) but the number of migrant decreases as distance from sending areas increases with only about 132 and 124 rural-urban migrants coming from distances of 51-100 and 101-200 km, respectively in the study areas.

By implication, rural-urban migration is negatively related with distance and this finding is in line with the study conducted by Lu and Qin (2014). As revealed in Table 3, it seems that rural-urban migration increases with the passage of time in the study areas. The rural-urban migrants in 2016 was 87 and this is due to the fact

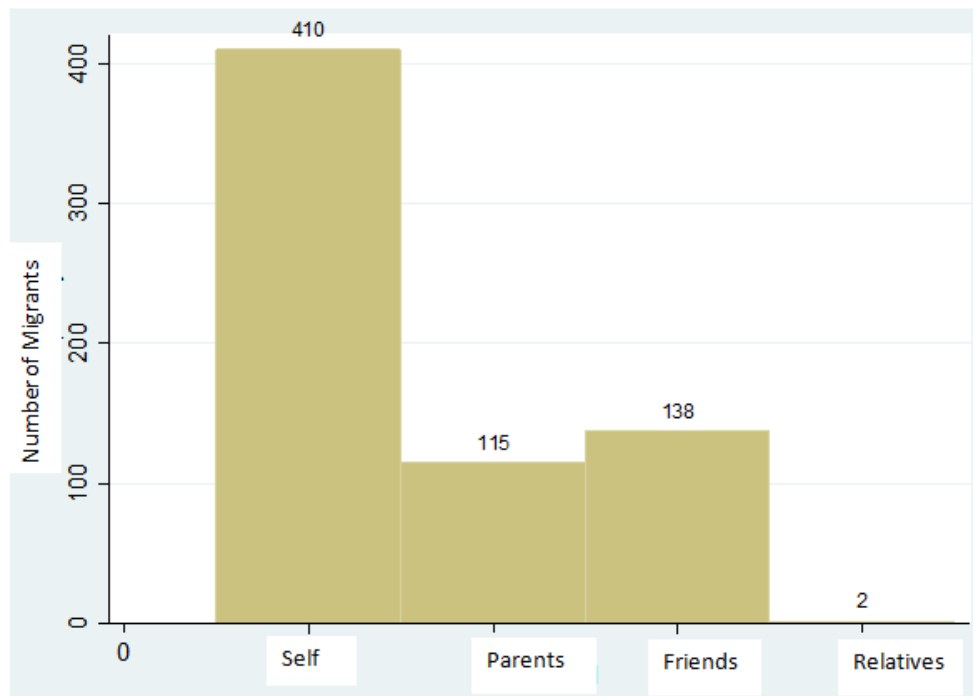
that, in this period only six months were covered by the survey since the data were collected in this period.

According to the Harris Todaro rural-urban migration theory, the causes for rural-urban migration are economic factor and the decisions to out migrate from rural areas are made by considering the cost and benefits of migration at individuals' level. But, according to the New Economics Labor Migration (NELM) theory, people act collectively not only to maximize income, but also to minimize risks and the constraints created by a variety of market failures, including lack of credit, insurance, and labor markets (Stark, 1991).

Moreover, social capital theory or network theory insists that relatives or friends at receiving areas increase the rate of rural-urban migration by decreasing the cost of migration, providing more information and increasing the



**Figure 1.** The distribution of the number of rural-urban migrants by distances they traveled.



**Figure 2.** The Distribution of rural-urban migrants by the decisions to migrate.

benefits of rural-urban migration. Figure 2 revealed the relative importance of the various theories of migration in explaining the migration phenomenon in the study area.

As witnessed from Figure 2, the rural-urban migration in the study areas are more explained by Harris Todaro rural-urban migration theory as 410 (62%) of the migrants

reported that they migrated from rural areas by their own decisions. Besides, 138 (21%) and 115 (17%) of the total migrants in the study areas reported that they migrated from their place of origin by the decisions of friends and parents, respectively. Thus, the decisions to out migrate from country side in the study areas are primarily made by individual migrants, while the roles of parents in inducing rural out migration of family members are still higher than that of friends and relatives. This finding is also in agreement with the results obtained by Gerritsen et al. (2013), Habtamu (2015), and Young (2013).

### Causes of rural to urban migration in the study areas

At the time of data collection, migrants were provided with open ended questions that contain statements on the reasons why they left their place of origin. In response to this question, migrants identified some reasons which they assumed are responsible for rural out migration in the study areas. As evidenced in Table 4, 295 (44%) of the rural-urban migrants in the study areas reported that better jobs opportunities at the urban areas was the first reason for their leaving their places of origin, while 176 (26%) of them reported rural poverty (lack of farm land, crop failure, large family size, lack of employment) as the reason for leaving their homelands. Similarly, from the total sample of 665 rural-urban migrants in the study areas, 61, 53, 52 and 20 rural-urban migrants identified better education services at urban areas, free from cultural restriction, start new business at receiving areas and better urban infrastructure as the reasons for their rural out migration.

The lives and livelihoods of majority (80%) of the population of Ethiopia were married with agricultural production as the sole business and this sector does not provide satisfactory employment opportunities in the rural economy for adult, young, adolescent and children due to the fact that the sector was highly characterized by land degradation, deforestation, backward farming activities, land fragmentation due to population pressure, natural calamities, etc. But in receiving areas, urban centers, there is a relatively greater concentration of job opportunities due to the expansion of the construction sectors, informal business, establishment of few industries and some infrastructural investments. So, the rural people come to the cities in search of employment. As can be seen in Table 4, about 295 (44%) respondents consider the search for better jobs as the first reason of rural out migration.

Lack of job opportunity is much related with poverty. If a person has a job, he may get income and thus, he will pay for food, shelter and cloth. But Ethiopia is the second populous country in Africa with the majority of the population living in rural areas. So, population pressure is one of the major problems of Ethiopia. In rural areas, there are many families with large family members. It

becomes difficult to provide those additional family members with food and shelter. Hence because of large number of family members, many people migrate to cities and live separately.

Rapid population growth and the prevailing inheritance law are also creating wide landlessness in rural areas. Therefore, landless people migrate to cities in search of employment and this result is in line with the study conducted by Akram (2015), WFP (2015), Berhanu (2012), Gray and Mueller (2012), De Brauw et al. (2013a) and Patra (2013). As shown in Table 4, the main reason for rural out migration in Woliata Soddo town is the push factor in sending areas, poverty (46%) followed by search for better jobs opportunity (29%) in receiving areas. This may be due to the fact that from the 15 zones in SNNPRS, Woliata Soddo zone is known by high population density, low agricultural productivity, large family size, and greater rural poverty. But rural-urban migrants in Arba Minch, Hosiana and Hawasa cities were pulled towards receiving areas by better job opportunities relative to rural areas, relatives at urban areas, better education facilities, urban services and the existence of informal sectors to start new business in urban centers. In other words, the causes of rural-urban migration in the study areas are mainly economic factors and this is in line with the Harris Todaro model of rural -urban migration. The non-economic factors which include joining relatives at urban areas, free from cultural restrictions and obligations in sending areas and urban services or facilities are less important in inducing rural-urban migration in the study areas as confirmed in Table 4.

### Economic activities of migrants at sending and receiving areas

Economic theory predicts that, pre-migration occupation is one factor inducing rural-urban migration. Rural farmers may out migrate as a result of shortage or lack of farm land, crop failure as well as the need for other better opportunities in receiving areas, while students may out migrate from their homeland as a result of school dropout, failing national examination and lack of employment opportunities. The result in Table 5 shows that, the main occupations of rural-urban migrants at sending areas are students 385 (59%), farm workers 210 (32%), unemployed 57 (7%) and housewife 15 (2%). This implies that the main sources of rural-urban migrants are school drop outs in rural areas, no agricultural lands, unemployed youth and households with large family members. A study conducted by Mutandwa et al. (2011) in Rwanda demonstrates that unemployed and underemployed people are significantly more likely to migrate than employed ones.

The chance of getting jobs in receiving areas by itself depends on the level of education and age of the



**Table 5.** The occupation of rural urban migrants at sending and receiving areas.

Occupation at receiving areas			Occupation at sending areas		
Occupation	Number of migrants	%	Occupation	Migrants	%
Construction workers	155	23	Students	385	59
Shoe shining	98	15	-	-	-
Coffee vending	66	10	-	-	-
Hotels and Café waiters	98	15			
Retailer trade	92	14	Farm Workers	210	32
Beauty salon	22	3.3			
Barber	18	2.7			
Students	9	1	-	-	-
Lottery sellers	10	2			
Metal and wood work	28	4	Unemployed	57	7
Office workers	12	2			
Unemployed	12	2	-	-	-
House workers	10	2			
Daily laborers/porters	29	4	House Wife	15	2
Others	6	1			
Total	665	100	Total	665	100

Source: Field Survey (2016).

migrants, existence of relatives at urban areas, years of stay at urban areas and particular skill of migrants. Those migrants with longer stay in urban area (experience), relatives in receiving areas and longer years of schooling have greater chance of getting urban jobs as predicted by migration theory. In other words, new arrived migrants, migrants with no relatives and migrants with lower years of schooling have lesser chance of getting urban jobs and they mostly engage in other activities such as coffee vending, shoe shining, daily laborers, lottery selling, etc.

The major occupation of the migrants at receiving areas, as indicated in Table 5, are construction workers (23%), hotel and café waiters (14%), shoe shining (15%), coffee vending (15%), beauty salon (3.3%), and male barber (2.7%).

Therefore, it seems that the rural-urban migrants are engaging mostly in service sectors in the study areas and the finding is in agreement with the study conducted by Bezu and Holden (2104) and Potts (2013b).

### Regression results of the probit model

Different literatures about the determinants of rural-urban migration state that attributes like age, sex, educational level, family size, and urban-rural income differential determine the migration decision of an individual at sending areas (Linger, 2008). The econometric model regressed the push versus pull factors as being dependent on various demographic and economic characteristics as presented in Table 6. The dependent variable is dichotomous which assumes value of one for

migrant whose migration decision was made mainly and purely due to pull factors and value of zero for migrant whose migration decision was made mainly and purely due to push factors as explained in the methodological part of this paper.

As evidenced from Table 6, the explanatory variables are age, gender, years of schooling, gender, marital status of migrants at sending areas, distance from sending area, existence of relatives at receiving areas, urban-rural monthly income differential, family and land sizes of the parents of migrants and access to information about receiving areas. According to the result of this study, the less educated are more likely to be pushed out of rural areas, whereas the better educated would be pulled towards urban areas and this is significant at 10% level of significance.

The coefficient of gender is negative and statistically insignificant in affecting rural-urban migration, the push versus pull factors. Though statistically insignificant, this implies that male migrants are more likely to be pulled either by marriage, by the attraction of job opportunities, or higher expected income in urban areas, while women are more likely to be pushed out of the rural area, may be due to the non-availability of jobs, family size or lack of adequate income. As can be seen from Table 6, the coefficient of years of schooling is positive and statistically significant at 10% level. This is in line with the prediction of economic theories and it shows that more educated migrants are more likely to be pulled toward urban areas due to its networks, access to information, income earning opportunities, and availability of jobs. In other words, the less educated individuals are more likely

**Table 6.** The coefficients and marginal effects of probit regression.

Explanatory variable	Coefficients of probit model	Marginal effect after probit	Z-value	P-value
Age at migration	-0.0216	-0.0081	-1.83	0.068 <sup>*2</sup>
Sex of the migrants	-0.1014	-0.0383	-0.93	0.353
Years of schooling at migration	0.0284	0.0107	1.69	0.092 <sup>*</sup>
Marital status	-0.0408	-0.0153	-0.31	0.755
Distance from sending areas	0.0040	0.00015	0.80	0.421
Relatives at receiving areas	0.1801	0.0682	1.65	0.098 <sup>*</sup>
Difference between $Y_U$ and $Y_R$ <sup>3</sup>	0.0010	0.00004	2.68	0.007 <sup>**</sup>
Family size	-0.0401	-0.0151	-1.81	0.071 <sup>**</sup>
Land size	-0.0796	-0.02992	-1.02	0.308
Access to information	-0.1155	-0.04287	-0.90	0.366
Constant	0.5328			
-	Variance inflating factor =1.13, Pseudo $R^2$ =0.330, LR Chi-square (10)=29.49, Prob> $\chi^2$ =0.0010			

<sup>2</sup>In regression analysis, \*, \*\* and \*\*\* refer to the variable is statistically significant at 10, 5 and 1% level of significance, respectively. <sup>3</sup>In this model,  $Y_U$  and  $Y_R$  refer to monthly income of migrants at urban and rural areas in Ethiopian Birr, respectively. Source: Field Survey (2016).

to be pushed out of the rural areas. Therefore, education is one of the relevant factors in accounting for rural-urban migration in the study areas. Regarding the coefficient of family size of the parents of the migrants, there is negative and statistically significant relationship between family size and the dependent variable, the pull versus push factors. That means, higher family size in rural areas induces rural out migration due to push factors or large family size induces push out of the rural area, as predicted by economic theory, holding other things constant.

The members of large family size can be pushed out of rural areas due to the lack of adequate income caused by the non-availability of non-agricultural jobs. Larger households are more likely to resort to migration. As the size of the family increases, its per capita income decreases and family members may migrate to seek work elsewhere. According to Thorat et al. (2011), an increase of one unit in family size produces an increase of 8.7% in the probability of migrating. In addition, study conducted by Agesa and Kim (2001) in Kenya revealed that households with large family sizes or numerous dependents are more likely to consider rural urban migration as alternative livelihood strategies.

Similarly, the surveys conducted in Ghana, Burkina Faso, Senegal and Nigeria under the African Migration Project found that the larger the household, the greater the probability that a household member emigrates (Ratha, 2011). The urban-rural monthly income differential positively and statistically significantly affects rural-urban migration, the pull versus push factors at 1% level of significance, and this study is also in agreement with Harris-Todaro model of rural-urban migration.

According to this theory, rural-urban migration is mainly due to the urban rural wage differentials and it predicts

that lower rural wage relative to urban wage induces rural out migration. In line with network theory of rural-urban migration, the coefficient of relatives at receiving areas is positive and statistically significant at 10% level of significance. It implies that, rural dwellers with relatives in receiving area are more likely to be pulled towards urban centers, while those rural dwellers with no relatives in urban areas are more likely to be pushed towards urban center and it is also in line with the study conducted by Dolfin and Genicot (2010) and Angelucci et al. (2009).

Table 6 shows that the coefficient of distance from sending area is negatively related with the dependent variable, pull versus push factors. This implies that as distance from sending area decreases, migrants are more likely to be pulled towards urban areas, while migrants from remote rural areas are pushed from rural areas. This finding is in agreement with Ravenstein (1885) basic laws of rural-urban migration. The explanatory variables in the Probit model are also tested for existence of multicollinearity and the variance inflating factor is found to be 1.3, which implies that there is no problem of multicollinearity between explanatory variables. The overall test of significance using LR Chi square test revealed that, all explanatory variables jointly statistically significantly affect rural to urban migration at 1% level of significance. Finally, the pseudo  $R^2$  of the Probit regression is 33% and it is not uncommon to see lower multiple coefficient of determination in binary regression.

## CONCLUSION AND POLICY IMPLICATIONS

Like other developing countries, the rapid growth of rural-urban migration has been a common phenomenon in Ethiopia, and rural-urban migration is the most crucial

component of internal migration. The current rapid increases in the urban population relative to rural population is due to the fact that rural-urban migration has depopulating effects on rural areas and increases the growth rate of urban population.

According to the results of this study, rural urban migration in the study areas was age, education and marital status selective. Meaning most of the rural urban migrants in the study areas were younger, educated and unmarried. Most of the rural urban migrants left their home when their age ranges between 15 and 25 years. Similarly, about half of the rural-urban migrants in the study areas were attending their junior education at time of migration. Besides, more than 80% of the sampled rural-urban migrants in the study areas were unmarried at the time of migration. Therefore, more educated, unmarried and young people are more likely to leave country sides.

The main reasons for rural-urban migration in the study areas are better jobs opportunities at urban areas, rural poverty, search for further education, to start business, to be free from restrictive culture, urban services, etc. So, the causes for rural-urban migration in the study areas are mainly economic factors and this is in line with the Harris Todaro model of rural-urban migration.

The present study also revealed that, females move shorter distances than their male counterpart in the study areas and this is also in line with the Ravenstein's laws of migration which state that females appear to predominate among short distance migration. The result of this study also witnessed that, rural-urban migration in the study areas are more explained by Harris Todaro rural-urban migration theory as about 410 (62%) of the migrants reported that they migrated from rural areas by their own decisions. This implies that, the decision to out migrate from sending areas is mainly made at individual level, while the roles of parents in inducing rural out migration of family members are still higher than that of friends and relatives.

Regarding the economic activities of rural-urban migrants at receiving areas, the study showed that the major occupations of the migrants at receiving areas are construction workers, hotel and café waiters, shoe shining, coffee vending, beauty salon, and male barber. Therefore, this study indicated that most of the rural-urban migrants in the study areas are engaging in service or informal sectors. Finally, the regression result of the Probit model revealed that age, years of schooling, existence of relatives at receiving areas, distance from sending areas, level of monthly income at sending areas and family sizes of the parents of migrants statistically significantly affect the rural-urban migration in the study areas, the push versus pull factors.

The root causes of rural out migration of people can be addressed by offering more and better on-farm and off-farm employment opportunities at country side. Then, the resulting reduction of rural poverty and improvement of food security may contribute to lesser rural-urban

migration pressures in the study areas. Thus, agriculture and rural development programs should explicitly target rural youth to create viable on-farm and off-farm employment opportunities, which are productive, decent and in line with youth aspirations. Therefore, the expansion and development of small scale irrigation projects in migration-prone rural areas are vital in boosting agricultural productivity and production and can reduce wave of rural-urban migration. In addition, support to rural micro and small enterprises (MSEs), access land, availability of relevant education, better access to roads, provisions of credit to rural unbanked youth and linking farmers to markets can help reduce the wave of rural-urban migration.

## CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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