Graduate Unemployment and Its Duration: Evidence from Selected Cities of Oromia National Regional State

Dessalegn Shamebo [1], Meshesha Zewdie[2]

Abstract

Generally, it is believed that higher education lowers the risk of unemployment. However, in developing countries including Ethiopia despite the expansion of higher education graduate unemployment has become a concern. It is threatening the stability and peace of the counties. Accordingly, the study had an objective of identifying determinants of graduate unemployment and its duration based on data collected from 600 graduates in selected towns of Oromia National Regional State. To analyze the data, logistic regression and Weibull regression were employed. The result from the logistic regression model identified that level of education, specialization, place of residence (town), and year of graduation significantly affect the employability of graduates. The findings from the Weibull regression for survival analysis also showed that level of education, specialization, year of graduation, and place of residence were important in determining the duration of graduate unemployment. The result further revealed that graduates of engineering had 33.5% less hazard rate compared to graduates of natural science. Similarly, the hazard rate of level I graduates was higher than that of the other levels of graduates. These results imply the need for considering employability when opening a program and inclusion of entrepreneurship in the curriculum to make graduates innovative and forward looking.

Key words: Graduate Unemployment, duration of unemployment, logit model, Weibull regression.

[1]Assnt. Prof, Ethiopian Civil Service University Department of Development Economics
Email: dessalegn4@yahoo.com
[2]Lecturer, Ethiopian Civil Service University Department of Development Economics Email: mesheshazewde@gmail.com

JADS VOL 7, No. 2, Dec. 2020 Issue DOI: https://doi.org/10.56302/jads.v7i2.3109

Introduction

In recent years the government of Ethiopia has given due emphasis to higher education expansion to foster the development of the country (Broussard & Tekleselassie, 2012; Haile, 2003). It has expanded vocational and higher education training schools and universities. For example, it expanded the number of government universities that were two in 1996 to fifty in 2017. It has gone to the extent of letting the private sector to provide higher education. This coupled with expansion of private higher education is increasing the number of graduates year after year. For example, in 2015/16 there were 268,840 new graduates (MoE, 2016). However, this rapid expansion of higher education entirely focuses on the supply side without considering the demand side of the labor market. If there are no sufficient job opportunities for the growing graduates, erosion of confidence and motivation of the graduates is inevitable. Thus, if this situation is overlooked by the concerned body graduate unemployment may have a series of economic and social repercussion.

Graduate unemployment is a serious concern in developing counties on a number of grounds. First, countries already spend huge amount of resources on the graduates. This may turn out to be a lost investment, if ultimately the graduate is unemployed. Second, failing to address it may result in a serious social, economic, and political problems in the society. Being graduate but unemployed means a bad start in one's life. It leaves a scar that has a potential to have a destructive short-term and long-term impacts on the graduate (Haile, 2003; O'Higgins, 2001). Unemployment affects not only a person's economic wellbeing but also social and political participation and the economic inequality in the society at large. For instance, violence, dependence on

family, low self-esteem, poor social adaptation, depression and loss of confidence are some of the results of unemployment (Kabaklarli, Er, & Bulus, 2011). It may lead to poor mental health, corruption, drug addiction, crimes, and suicide in a society (Nazir,etal., 2009). It entails negative costs to the graduates, parents and to the public at large (Guarcello & Rosati, 2007; Haile, 2003). Third, if unemployment is prolonged it depreciates the skill and knowledge gained through education.

If graduate unemployment is not addressed, the graduates will remain as a risk factor for social and political instability in the country. Most of the unemployed graduates in urban areas of Ethiopia are first-time job seekers, and the average duration of unemployment period is more than a year (Serneels, 2007). In Ethiopia, the Oromia national regional state in particular, shares this problem of graduate unemployment. In recent years it has become common to see uprisings and social upheaval in the region. Among others graduate unemployment is the main cause of this uprising. In this research an effort has been made to identify the factors that lead to graduate unemployment and its duration in the region.

The paper is organized into six sections. Section two deals with problem statement. Section three describes the methodology used. The fourth section presents the result of the study. Section five discusses the results. The final section presents the conclusion.

Problem statement

For long there has been a strong belief that employability increases as the level of education increases (Becker, 2009; Schultz, 1960). This human capital theory views that investments in training and education by an individual determines a chance of getting employment after school (Becker, 2009; Berntson, Sverke, & Marklund, 2006). However, nowadays this theory is criticized because of high rate of graduate unemployment because this human capital theory was developed in a period of full employment during which individuals were certain about their employment after education. The possibilities of securing employment through education are hardly realizable and many young people remain home for an uncertain and a long period of time without getting jobs of their desire after a long-term schooling (Jeffrey, 2009). As a result in a number of developing countries including Ethiopian graduates are facing unemployment risk. Thus the problem has shifted from lack of skilled man power to graduates unemployment.

Massification of higher education and insufficient creation of adequate jobs are among the main causes of the rise in the unemployment rate of graduates (Jamoussi, Said, & Gassab, 2014). There is huge number of graduates entering in the labor market. However, the economy has no sufficient capacity to create job for the flocking graduates. There is also a poor return on investment in education in many developing countries because of various factors such as poor economic base which does not open a wider chance to the growing army of graduates, bad governance, the low standard of education, the training capacity, and unattractive economic policies that do not encourage individuals and firms to invest in training (Middleton, Adrian, & Arvil, 1993).As a result a number of graduates remain unemployed for long period of time. Again this prolonged unemployment is resulting depreciation and deterioration of the skills and knowledge individuals acquired through education (Gassab & Jamoussi, 2011).

Factors affecting graduate unemployment can be viewed from microeconomic and macroeconomic perspectives. The microeconomic level drivers of graduate unemployment among others include demographic characteristics of the graduates including sex, age, education level, and

individual location. For example, some studies have observed higher unemployment rates among individuals with at least a secondary school education, relative to the less educated, in developing countries (Aryeetey, Baah-Boateng, & Ackah, 2014; Baah-Boateng, 2014). Family background has also been observed as a determinant of graduate unemployment. Essentially, the education status or occupation of family members in the labor market can affect an individual's employment prospects, because of the professional networks that may arise from the jobs and acquaintances of family members (Zhang & Zhao, 2011). Graduate unemployment can also be explained from macroeconomic perspective, that is, the overall characteristics of the labor market in terms of the interaction between demand for and supply of graduates. The demand side refers to the ability of the economy to create jobs for various skill categories as per the requirement of the economy and the supply side refers labor force or skilled graduates. The tendency for most advertised jobs to require substantial work experience implies that most young graduate people are locked up in an 'experience trap' through limited opportunities for work experience.

So far there have been various studies focusing on unemployment in Ethiopia. Most of the studies focused on determinants of general youth unemployment (Broussard &Tekleselassie, 2012; Muhdin, 2016; Nganwa, Assefa, & Mbaka, 2015). They gave less attention to the determinants of graduate unemployment and its duration. Graduates employment is a challenging policy area for developing countries and little empirical evidence is available to inform policy makers. Therefore, this research fills this gap and provides empirical evidence to policy makers. This is helpful to evaluate the contribution of higher education training programs in addressing unemployment in the country. This may provide a new perspective for policy makers to unmask the effect of the current education system on employment in the country.

Therefore, this study was carried out to analyze determinants of graduate unemployment and its duration in selected towns of Oromia National Regional State. The emphasis was given to urban centers because like any other developing countries urban centers in Ethiopia are challenged by high rate of unemployment. This high rate of unemployment further is exacerbated by high rate of rural-to-urban migration. In Ethiopia, after completing a college or university education, rural graduates moves to urban centers to look for jobs that match their skills. This makes urban centers to have the high rate of graduate unemployment (Srinivasan, 2014). Thus, sample of graduates from private and government owned institutions from 2011/12 to2016/17and first-time job seekers were selected. Accordingly, this research was carried out to address the following twofold research questions: What are the major determinants of graduate unemployment in Oromia National Regional State? What are the factors that determine duration of graduate unemployment in Oromia National Regional State?

Materials and Methods

Introduction

Graduate in this study refers to individual who has academic certificate from TVETs, colleges, and universities of government or private institutions. Graduate unemployment refers to unemployment among graduates because of lack of the necessary qualification, field of study, high expectations, job search, and work experience (Oluwajodu, Blaauw, Greyling, & Kleynhans, 2015). In this particular study graduate unemployed refers to those individuals who were first time job seekers, looking for a job but unable to find a job after graduation.

Types and Source of Data

To achieve the objectives of the study primary data was used. The primary data was collected from graduates living in selected towns of Oromia region. The data was collected from those graduated between 2011/12 and 2016/17. These graduates could be employed or unemployed.

Sampling Techniques & Sample Size

Graduates may involve in both formal and informal sectors. They often concentrate in urban centers as they are the main areas of jobs for the majority of the graduates. In this particular study major urban centers particularly Sululta, Burayou, Sebeta, Bishoftu, and Adama were taken. From each urban center three sample kebeles were selected randomly. Again each kebele was classified into localities from which sample households and then graduates were selected randomly after getting the list of households.

To determine the sample size the following formula was used as the population size (N) or the total number of graduates from 2011/12 to 2016/17 (2004 to 2009E.C) was not exactly known and not exhaustively recorded. To determine the sample size we used Saunders etal. (2009) formula as follows:

$$n = \frac{z^2 * p\,(1-p)}{e^2} = = (1.96^2) * 0.25/.0016 = 600$$

Where:

n= the resulting sample size

z = the standard normal distribution of variable at specified confidence interval

p= the proportion of ; the variable in the studied population

e=margin of error

Therefore, taking the assumption that = 0.5 for unknown population, the usual z= 1.96, and the wanted margin of error e=0.04 (4%), the total number of sampled graduates were 600.

Data Collection Tools

Primary data was collected using structured questionnaire from 600 graduates. The questionnaire once designed was pre-tested and qualified further based on the responses. The questionnaire contained a range of information about individual graduate, family background, discipline, and labor market experience. Then training was given to the data collectors and the data was collected with the close supervision of principal researchers.

Methods Of Data Analysis

To realize the objectives of the study appropriate descriptive and econometric analysis were employed. As descriptive analysis mean, percentage, and standard deviation were used. As econometric analysis techniques both binary logistic regression and Weibull regression were used.

Econometrics Analysis

To identify the determinants of graduate unemployment a logit model was used. This model was preferred because the dependent variable is dichotomous (Gujarati, 2004). In this study the dependent variable, unemployment status, takes a value of '1" if the graduate was employed, and "0" otherwise was used. The logit model is mathematically formulated as follows:

$P_i = E(Y = 1|X_i) = \frac{1}{1+e^{-Z_i}}$ 3.1

Where, $Z_i = \beta_0 + \beta_i X_i$

Thus, the probability that a given graduate is employed is given by:

$P_i = \frac{1}{1+e^{-Z_i}} = \frac{e^{Z_i}}{1+e^{Z_i}}$ 3.2

The probability that a given graduate is unemployed is given by:

$1 - P_i = \frac{1}{1+e^{Z_i}}$ 3.3

The ratio of the probability that a graduate is employed to the probability that the graduate is unemployed (the odds ratio) is given by:

$\frac{P_i}{1-P_i} = \frac{\frac{e^{Z_i}}{1+e^{Z_i}}}{\frac{1}{1+e^{Z_i}}} = e^{Z_i}$ 3.4

Changing both sides to the natural logarithms we can form linear equation, like

$L_i = \ln\left(\frac{P_i}{1-P_i}\right) = Z_i = \beta_0 + \beta_i X_i$ 3.5

Where,

Li =is the log of the odds ratio, which is linear in parameters.

P_i= is the probability that i^{th} graduate is employed

$1 - P_i$= is the probability that the i^{th} graduate is unemployed

Zi=is a function of n explanatory variables (Xi), expressed as:

$Z_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_n X_n$ 3.6

β_0=is an intercept, and $\beta_1, \beta_2 \ldots \beta_n$, are the slopes of the function

X_n= is the vector of explanatory variables

The logistic regression model can be expressed including to disturbance term as:

$L_i = Z_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_n X_n + U_i$ 3.7

Then, using maximum likelihood estimation, equation 3.7 was estimated. The estimated coefficients were transformed into marginal effects and interpretation was made. After identifying determinants of graduate unemployment, we tried to identify factors that determine the duration (spell) of unemployment. It is often common to see a period of time spent in a given state before transition to another state, such as duration unemployed or alive or without health insurance. In such cases the question how long it takes until the state changes is apposite. In dealing with such questions it is common to use survival analysis. One of the advantages of using survival analysis compared to OLS is that it takes into account censoring. In this study the questions were what is the expected duration of time until a graduate employed? There are three types of survival models depending on the hazard function, namely parametric, semi-parametric, and non-parametric models. In this study both parametric and non-parametric models were used. Here Kaplan-Meier and Weibull models were used as non-parametric and parametric models, respectively. The Kaplan-Meier non-parametric estimator of survival model is defined by

$$S(t) = \left(\prod_{j \backslash tj \le t}\right) \frac{rj - dj}{rj}$$

Where, dj number of spells ending at time tj, rj is the number of spells at risk at time tj (Greene, 2003). This estimator can be interpreted as survival probability at time tj. Together with Kaplan-Meier non-parametric estimator of survival we also used Weibull parametric regression model in identifying the determinants of duration of unemployment among graduates.

The baseline hazard function is $\lambda_0(t) = \lambda p t^{p-1}$ gives the Weibull proportional hazards model $h_i(t) = \lambda p t^{p-1} \cdot \exp(x_i \beta)$, where p is known as the shape parameter. In the Weibull model, the shape of the base line hazard function, pt^{p-1}, is shifted by proportionality factor $\lambda \exp(x_i \beta)$. The hazard is monotonically increasing for $p > 1$, showing increasing duration dependency, and monotonically decreasing for $p < 1$, showing decreasing duration dependency. The hazard function, $h(t) = \frac{f(t)}{s(t)}$, can be used to derive the probability density function, $f(t)$, and the survival function, $s(t)$, of the Weibull model, and the likelihood function with right censoring is

$L = \prod_{i=1}^{n} f(t_i)^{\delta_i} s_i(t_i)$

Then standard maximum likelihood estimation was used to obtain estimates of the parameters p and β.

Results and Discussion

Socio-Demographic Characteristics of the Respondents

The data was collected from the five Cities of Oromia Region. Accordingly, 105 (17.5%), 115 (19.17%), 140 (23.33%), 117 (19.5%), and 123 (20.5%) of the samples were collected from Adama, Bishoftu, Sebeta, Sululta, and Burayou, respectively. Hereunder the descriptive results are presented in Table 4.1. The result shows 27% of the respondents were female graduates. The vast majority (63.17%) of them were single. The respondents had various levels of education ranging from level I up to bachelor degree. About 35.83% of them had TVET level of education while 59.83% had bachelor level of education. They were derived from various specializations. The result displays33.5%, 34.43%, and 32.17% of the graduates had specialization in natural science, social science, and engineering, respectively. The proportion is more or less the same. The respondents were also derived from graduates of different years between 2011/12 and 2016/17.

Furthermore, the result depicts 68.17% of the respondents were born in rural areas. The majority of the graduates were living by themselves (44.33%) followed by those living with family (39%). The average age of the graduates was 25.59 years. This implies most of the graduates were young.

Employment Characteristics of the Respondents

The survey result displays 65.17% of the graduates were employed while the rest

Table 1: Characteristics of the Respondents

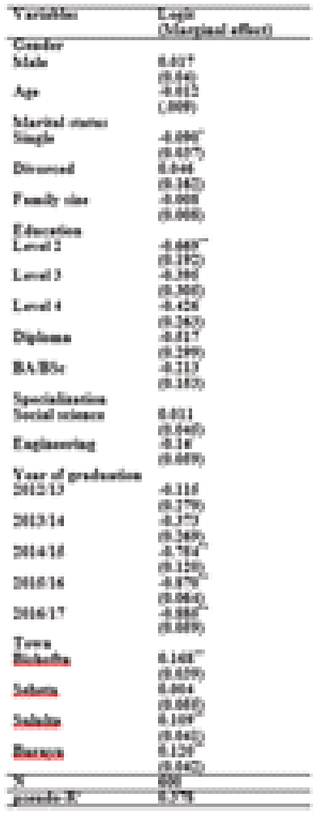
Variables		F.	%
Sex	Male	438	73
	Female	162	27
Marital status	Married	215	35.8
	Single	379	63.17
	Divorced	6	1
Place of resident	Adama	105	17.5
	Bishoftu	115	19.17
	Sebeta	140	23.33
	Sululta	117	19.5
	Burayu	123	20.5
Education level	Level I	9	1.5
	Level II	29	4.83
	Level III	42	7
	Level IV	135	22.5
	Diploma	26	4.33
	BSc/BA	359	59.83
Specialization	Natural science	201	33.5
	Socialscience	206	34.43
	Engineering	193	32.17
Year of graduation	2011/12	100	16.67
	2012/13	60	10
	2013/14	60	10
	2014/2015	94	15.67
	2015/2016	129	21.5
	2016/17	157	26.17

34.83% were unemployed. Among the employed graduates 34.67% waited more than a year to be employed. Again among those employed, 11.08%, 52.58%, and 36.34% were working in private organizations, government organizations, and their own business. Among those unemployed 43.54%, 16.75%, and 16.75%reported high number of graduates, lack of work experience, and waiting for government jobs as a cause their unemployment, respectively. In an effort to understand to what extent the graduates are working in their area of specialization or not they were asked what they were doing. However, only 43.73% of the graduates were working in their area of specialization. The rest, 56.27%, were working outside their area of specialization. Many of the graduates were working outside of their specialization because there was no enough job opportunity in their area of specialization (75.58%) or were not interested to work in their area of specialization (18%). Even 6.45% of the graduates reported they were working until they get work in their area of specialization.

Determinants of Graduate Unemployment

It is known that an interplay of several factors that determine employability of an individual in the labor market. In understanding the determinants of graduate's employment logit model was used. Table 4.2 displays the results in marginal effects.

Table 2: Determinants of Graduate Employment



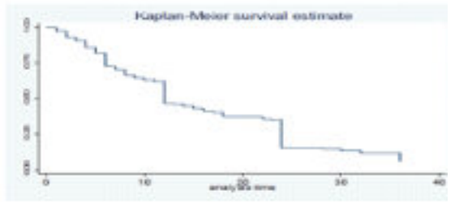
- Standard error in parenthesis and * p < 0.05, ** p < 0.01
- Notes: the column is from logit estimation. The R-square is a pseudo-R^2.
- The dependent variable is employment; 1=employed 0=unemployed
- The reference category for the variable marital status is married; the reference category for the education is Level I; the reference category for the variable specialization is natural science; the reference category for years of graduation variable is 2011/12; and the reference category for the variable town is Adama.

The result shows compared to married graduates, single graduates were less likely to be employed by 9% and this is statistically significant at 5%. The result displays consistently that compared to graduates of level I education, other levels of graduates were less likely to be employed regardless the level of education. For example, compared to those graduates of level I, graduates of level II were less likely to be employed by about 66.9% and this result is significant at 1%. The result from estimation further revealed that there was variation in employability by specialization. Compared to natural science graduates, engineering graduates were less likely to be employed by about 14% and this is statistically significant at 5%. Year of graduation was also found to be important factor behind employability. The result shows consistently those recent graduates were less likely to be employed compared to graduates of 2011/12. Unemployment of graduates was related to spatial. The estimation result depicts graduates living in Adama were less likely to be employed compared to graduates living in other towns. For example, a graduate living in Bishoftu was 16.8% more likely to be employed compared to a graduate living in Adama City.

Determinants of Unemployment Spell

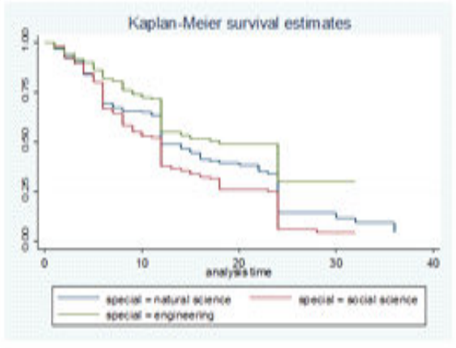
To identify the determinants of unemployment spell duration models were used. First, using the Kaplan–Meier estimator, which is widely used non-parametric estimator, survival function was estimated. The result in Figure 1 shows until the 12th month the survival function declines relatively at higher rate (a higher probability being employed). Then after the survival function declines slowly.

Figure 1: Kaplan-Meier Survival Curve for Duration of Unemployment.



The result in Figure 2 shows the survival function based on specialization of graduates. Among the three specializations, engineering graduates had a higher survival rate of unemployment. This means regardless of the number of periods elapsed after graduation; surviving unemployment was higher for engineering graduates. The test result consistently also depicted there was significant difference (p=0.000) in survival rate of unemployment based on specialization.

Figure 2: Kaplan-Meier Survival Curve for Unemployment by Specialization



Finally, to identify determinants of duration of unemployment Weibull regression was run and the results are presented in Table 3.

Table 3: Determinants of Duration of Unemployment Using Weibull Regression

Variables	Hazard rate
Sex	
Male	1.111
	0.135
Age	0.957
	0.029
Marital status	
Single	0.763**
	0.088
Divorced	0.951
	0.450
Family size	0.981
	0.025
Education level	
Level 2	0.632
	0.233
Level 3	0.861
	0.351
Level 4	0.613
	0.232
Diploma	0.739
	0.318
BA/BSc	0.907
	0.338
Specialization	
Social science	1.064
	0.133
Engineering	0.665***
	0.103
Year of graduation	
2012/13	1.085
	0.182
2013/14	0.865
	0.153
2014/15	0.502***
	0.088
2015/16	0.422***
	0.075
2016/17	0.953
	0.182
Town	
Bishoftu	1.869***
	0.317
Sebeta	1.196
	0.209
Sululta	1.345*
	0.244
Burayu	1.197
	0.214
Constant	0.042***
/ln_p	0.364***
	.0418
P	1.44
	0.060
1/p	0.695
	.029
N	600
pseudo-R^2	0.375

- Standard error in parenthesis and * p < 0.05, ** p < 0.01
- Notes: the column is from Weibull estimation. The R-square is a pseudo-R^2.
- The dependent variables is the spell of unemployment;
- The reference category for the variable marital status is married; the reference category for the education is Level I; the reference category for the variable specialization is natural science; the reference category for years of graduation variable is 2011/12; and the reference category for the variable town is Adama.

The result displays single graduates had 23.7% less hazard rate compared to married graduates and this is statistically significant at 1%. The result consistently revealed that the hazard rate of those with level I level of education was higher than that of any other level of education but it is not significant. However, it depicts there was significant difference in hazard rate among specializations. For example, graduates of engineering had 33.5% less hazard rate compared to graduates of natural science. The hazard rate was low for graduates of 2013/14, 2014/15, 2015/16, and 2016/17 compared to graduates of 2011/12. For example, the hazard rate of graduates of 2015/16 is less by about 57.8% compared to graduates of 2011/12. The result is significant at 1% level. Finally, the result shows there is variation in hazard rate by the town where the graduate resides. For example, the result shows compared to Adama, the hazard rate of Bishoftu town is higher by about 86.9%. This result is significant at 1% level of significance.

Discussion

The result revealed that among the employed graduates, 34.67% waited more than a year to be employed. This clearly indicates the issue of graduate unemployment is a real problem that requires a series concern. Even among those employed more than half were working in government organizations. This implies government remained the major employer of graduates and the private sector is yet is not in a position to providing employment to the extent it is expected. Among the main factors, new entrants (graduates) into the labor market and lack of work experience were the main concerns of graduates in the unemployment pool. More than half (56.27%) of working graduates were working outside of their area of specialization implying there is a mismatch in the labor market. The result displayed employability of graduate results from an interplay of a number of factors. It consistently depicted that compared to graduates of level I education, other levels of graduates were less likely to be employed regardless the level of education.

This is consistent with various findings in developing countries (Aryeetey, Baah-Boateng, & Ackah, 2014; Baah-Boateng, 2014). This indicates the economy is not in a position to creating enough job opportunities for higher level of education. Interestingly, the analysis also depicted variation in employability by specialization. Compared to natural science graduates, engineering graduates were less likely to be employed. This might arised because the manufacturing sector is underdeveloped to absorb the growing graduates of engineering. This evidence suggests the need for revisiting the current curriculum and aligns it to the demand in the labor market. The result further indicated spatial differences in employability of graduates. For example, a graduate living in Bishoftu was 16.8% more likely to be employed compared to graduate living in Adama. This reflects spatial nature of graduate unemployment.

The present study further examined the determinants of the duration of unemployment. The result revealed up until the 12th month after graduation the survival function declined relatively at higher rate (a higher probability being employed). This seems to indicate that if graduates are not employed in the first twelve months that come after graduation, they are more likely to remain in the unemployment pool. This problem was more pronounced among graduates of engineering. The possible explanation for this may be lack of competency the graduates may have or lack of demand in the labor market for graduates like engineering. Similarly the result indicated spatial variation in the duration of unemployment.

Conclusion

The objective of this study was to examine the determinants of graduate unemployment and its duration based on data obtained from selected Cities of Oromia region. To achieve this objective data was collected from 5 towns of Oromia, namely Adama, Bishoftu, Sebeta, Sululta, and Burayou. The finding clearly indicated graduate unemployment is a series concern in the region. The problem is reflected in the length of unemployment and working out of the profession. Interestingly, the result obtained revealed employability declines as the level of education increases. This implies the economy is not yet in a position to absorb highly qualified graduates. Especially graduates in engineering were more likely to be unemployed and stay longer period of time in the unemployment pool. This implies the economy particularly the industrial sector is not in a position to provide employment opportunities for graduates of engineering. This suggests the need for evaluating the universities program and makes it responsive to the labor market demand. Also it is important to revisit the seventy-thirty education policy of program. The result further suggests the need for inclusion of entrepreneurship in the curriculum to enhance employability of graduates in addition to functional skills/ knowledge to make them innovative and forward thinkers. Furthermore, need to give emphasis to sectors that absorb the growing graduates through making the existing policies suitable for the development of businesses.

Acknowledgments

The authors would like to acknowledge Ethiopian Civil Service University for the administrative and financial support for this research.

References

Aryeetey, E., Baah-Boateng, W., & Ackah, C. (Eds.). (2014). *Ghana Country Study*.

Baah-Boateng, W. (2014). Youth Employment Challenges in Africa: Policy options and agenda for future research.

Becker, G. (2009). Human capital: A theoretical and empirical analysis, with special reference to education: University of Chicago Press.

Berntson, E., Sverke, M., & Marklund, S. (2006). Predicting perceived employability:

human capital or labour market opportunities? *Economic and Industrial Democracy, 27*(2), 223-244.

Broussard, N., & Tekleselassie, T. (2012). *Youth Unemployment: Ethiopia Country Study*. International Growth Centre.

Gassab, M., & Jamoussi, H. (2011). Determinants of Graduate Unemployment in Tunisia.

Guarcello, L., & Rosati, F. (2007). *Child Labor and Youth Employment: Ethiopia Country Study.* The World Bank. New York.

Haile, G. (2003). The incidence of youth unemployment in urban Ethiopia.

Jamoussi, H., Said, F., & Gassab, M. (2014). Spatial determinants of the unemployement of grdaduates: the tunisian experience. *International Journal of Human Resource Management and Research, 4*(5), 1-18.

Jeffrey, C. (2009). Fixing Futures: Educated Unemployment through a North Indian Lens. *Comparative Studies in Society and History, 51*(01), 181-211.

Kabaklarli, E., Er, H., & Bulus, A. (2011). Economic Determinants of Turkish Youth Unemployment Problem: Co-Integration Analysis.

Keynes, J. (1936). The General Theory of Employment, Interest and Money. London: Macmillan.

Mains, D. (2012). Hope is cut: Youth, unemployment, and the future in urban Ethiopia. Philadelphia: Temple University Press.

Middleton, J., Adrian, Z., & Arvil, V. (1993). *Skills for productivity: vocational education and training in developing countries*. New York: World Bank/ Oxford University Press.

MoE. (2016). *Education Statistics Annual Abstract*. Retrieved from Addis Ababa, Ethiopia:

Muhdin, M. (2016). Determinants of Youth Unemployment in Urban Areas of Ethiopia. *International Journal of Scientific and Research Publications, 6*(5), 2250-3153.

Nazir, F., Cheema, M., Zafar, M., & Batool, Z. (2009). Socio-Economic Impacts of Unemployment in Urban Faisalabad, Pakistan.

Nganwa, P., Assefa, D., & Mbaka, P. (2015). The Nature and Determinants of Urban Youth Unemployment in Ethiopia. *Public Policy and Administration Research*.

O'Higgins, N. (2001). *Youth unemployment and employment policy. A global perspective.* . International Labour Organization. Geneva.

Oluwajodu, F., Blaauw, D., Greyling, L., & Kleynhans, E. (2015). Graduate unemployment in South Africa: perspectives from the banking sector: original research. *South Africa Journal of Human Resource Management*.

Saunders, M., Lewis, P.& Thornhill, A. (2009) Research methods for business students, *Harlow, Pearson Education.*

Schultz, T. (1960). Capital formation by education. *Journal of political economy, 68*(6), 571-583.

Serneels, P. (2007). The nature of unemployment among young men in urban Ethiopia. *Review of Development Economics, 11*(1), 170-186.

Shackleton, J. (1985). Is the labor market inflexible? . *Royal Bank of Scotland Review, 147*, 27-41.

Srinivasan, D. (2014). A studies on entrepreneurial attitudes among unemployed graduates in Ethiopia (with special reference to Kacabira Wereda, SNNPR, Ethiopia). *International Refereed Multidisciplinary Journal of Contemporary Research*.

Zhang, J., & Zhao, Z. (2011). Social-family network and self-employment: Evidence from temporary rural-urban migrants in China.