

## **Determinants of Women Unemployment: Evidence from southern Region of Ethiopia (Case of Wolaita Sodo Town)**

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### **Abstract**

*Unemployment is one of the major problems of many countries in the world however; the impact and intensity of unemployment are different among men's and women's. The main objective of this study is to identify and examine the determinants of women unemployment in wolaita sodo, southern region of Ethiopia. To achieve the specified objective, primary data was collected from 398 sample women and Binary-logit model was employed to analyze the collected data. While age, marital status, education, migration and media-exposure are identified as negative and significant determinants of women unemployment, children <5 year old and family income affected women unemployment positively and significantly. Hence, together with promoting education for all women; efforts should be made to reduce women unemployment level by facilitating entrepreneurial trainings especially for those who are youth and less educated women.*

**Keywords:** Binary logit, Unemployment, Wolaita sodo, Ethiopia, Women

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Date of Submission: 26-07-2020

Date of Acceptance: 09-08-2020

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### **I. Introduction**

Unemployment is one of the major problems of many countries in the world. However, the impact and intensity of unemployment are different among men's and women's. Therefore, women unemployment gets a growing concern of the world. As Aynalem and Mulugeta, 2018 state the International Labor Organization (ILO) 1992's definition of unemployment is the situation of being out of work or need a job and continuously searching for it in the last four weeks or unemployed (age 16 or above) but available to join work in the next two weeks. People who voluntarily do not want to work, full time students, retired people and children are not included in unemployed category. In short, unemployment means the state when people who are willing and able to do a job but fail to get the desired job.

People in the world who are being unemployed in various reasons, and among many reasons female socio-economic factors have significant impact than that of males. Even women also suffer in low quality, underemployed; working long hours for low wages, engaged in dangerous work or receive only short term and/or low-skill informal employment arrangements in comparison to men (CBO, 2018).

As Abebe, 2012 points the 2011 World Bank and The Economist report, Ethiopia is one of poor agrarian countries with per capita income of USD350. However, the country has been achieving a promising economic growth. And the country had the 5th fastest growing economy in the world during the periods 2001-2010 at an average annual GDP growth rate of 8.4%. Despite such improvements, unemployment is high and is one of the socio economic problems in the country. The general unemployment rate was 20.5% in 2009. It was higher for females at 29.9% compared to males and the unemployment rate for men has reduced by 12% in 2004 compared to its level in 1994 and by 2.1% for the female category.

According to ADB, 2013 enabling women for work is a necessity especially inclusion of women in decision making at all levels including the household, local communities, national parliaments and for other posts. Creating empowered women in every direction is not only a priority goal in itself but an essential human right, already recognized as such in undertakings and commitments by government. It is recognized also because it has instrumental value and is a condition for society to benefit from the increased contribution of women to socio-economic development.

In Ethiopia because of cultural bias, un-participatory policies and lack of awareness, many women continued to be burdened with back-breaking domestic chores and heavy agricultural activities for long periods of time in the past. Women in Ethiopia have not been exposed to the economic opportunities that would enable them participate in alternative income-generating activities. Hence, according to 2019's Plan and Economic Commission Report indicates that Ethiopia loosed around 111 billion birr per year, because of low participation of women's especially in the income generating activities.

A high level of unemployment indicates the failure of a country's economy to use its labor resources effectively (Amanuel, 2016). In Ethiopia in 2005, the women unemployment rate was 7.8% compared to 2.5%

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for men. The urban women unemployment rate was 43.7% compared to 29.4% for urban male (*Gizachew Gobebo et al, 2017*) and as Peace Nganwa et al in 2015 explain the 2009's CSA report, youth female unemployment rate was around 34% and 26% for males. According to the results, unemployment is more of a problem of women than that of men. Therefore, if this trend persists, it will have considerable effects on human capital, as well as on the country's economic potential. Additionally, persistent unemployment not only affects the status of a nation in comparison to other nations, but it also leads to cruel home country problems. Long-term unemployment always results in creating financial hardships, poverty, homelessness, crime, frustration and many other problems like breakdown and family tension, social isolation, loss of confidence and self-esteem. All these lead to the erosion of a healthy society (Aynalem & Mulugeta, 2018).

According to EEA, 2007 women's improvement in the labor market participation could be attributed to several factors, including improved access to education and training, favorable labor market legislation and reduced gender discrimination, improved access to birth control facilities and improved division of labor in the family.

Based on Wolaita city Administration Finance and Economy office report (2015), the city has big problem related with women unemployment (60%). The unemployment rate also further fueled by high rate of rural-urban migration and low educational status of women compared to their male counterparts to get formal employment opportunities.

Therefore, the goal of this research is to identify major possible factors associated with women unemployment in the study area. And the researcher needs to investigate the major root causes that affect women labor force participation in Wolaita sodo town, Ethiopia? Accordingly, this study intended to create awareness for governmental and non-governmental organizations to take intervention measures and set appropriate plans to improve the existing level of women unemployment.

## II. Definition Of Terms

### *Unemployment or Women Unemployment:*

According to ILO contexts unemployment is persons who are not currently in the labour market or a women without paid employment or self-employment work during the reference period, but a women do not actively seeking work because they view job opportunities as limited, or because they have restricted labor mobility, or face discrimination, or structural, social or cultural barriers <https://www.ilo.org/ilostat-files/Documents/description>

### *Migrant and Non-Migrant:*

This study considers the 2013's Ethiopian labor force survey definition which is organized by CSA. A person who was born in a town and has been continuously residing there is considered as a non-migrant. However, a person who was born in another town or any rural part of the country is considered as a migrant. Also, a person who was born in the survey town but at one time or another resided in a different town or rural area and returned to the town is considered as a migrant (return migrant). And exceptional cases are treated by according to the agency's definition.

## III. Methodology

### *A. Data source and sampling technique*

For the purpose of attaining objectives primary data was collected from selected respondent in the study area through structured questionnaire. This study is conducted at individual level. The required number of sample drawn from the total number of economically active women from randomly selected four kebeles, the study used a sample size determination formula given by yemane (1967).

$$n = \frac{N}{1 + N(e^2)}$$

Where  $n$  is the representative sample size  $N$  is the total economically active women in the study area. And based on 2018 CSA projection which is found to be the total of 100,182 and  $e$  is the desired level of precision. For a 95% confidence level, the researchers have selected the sample:

$$n = \frac{100,182}{1 + 100,182(0.05^2)} = 398$$

Besides, the researcher applied proportional sampling technique and has selected Kidane mhiret (100), Gido (80), Gola (99) and Qera (119). Then in order to select a sample of women from each kebele simple random sampling technique was used.

**B. Methods of data analysis**

Chi-square statistics, frequency, percentage, graph and table analysis was used to select demographic and socio-economic characteristics of the women and to see a measure of association between dependent variable and independent variables at 95% confidence level.

Basically, binary logistic regression analysis was used in order to identify the major determinants of women unemployment in the study area.

**Binary Logistic Regression Analysis**

Logistic regression is used in a wide range of applications leading to categorical dependent data analysis (Agresti, 2002). A binary logistic regression is a special type of logistic regression model which is used to describe the relationship between one or more independent variables and a binary outcome variable that has only two possible values.

The response variable in this study is dichotomous which is Bernoulli random variable with two possible values,  $y_i = 1$  with probability of unemployed  $P_i = P(y_i = 1|X_i)$  and  $y_i = 0$  with probability of employed,  $1 - P_i = 1 - P(y_i = 1|X_i)$ .

The logistic model is defined as follows. Let  $n \times 1$   $Y$  be a dichotomous outcome random variable as explained above and let  $X$  ( $n \times (k+1)$ ) denote the collection of  $k$ -predictor variables.

$$X = \begin{pmatrix} 1 & X_{11} & X_{12} & \dots & X_{1k} \\ 1 & X_{21} & X_{22} & \dots & X_{2k} \\ \dots & \dots & \dots & \dots & \dots \\ 1 & X_{n1} & X_{n2} & \dots & X_{nk} \end{pmatrix} = \begin{bmatrix} X_1 \\ X_2 \\ \dots \\ X_n \end{bmatrix}$$

$$\text{logit}[P_i] = \log\left(\frac{P_i}{1 - P_i}\right) = \sum_{j=1}^k \beta_j X_{ij}, i = 1, 2, \dots, n; j = 0, 1, \dots, k \text{ where } x_{i0} = (1, 1, \dots, 1)^T$$

The parameter  $\beta_j$  refers to the effect of  $X_j$  on the log odds that  $Y = 1$ , controlling the other  $X$ 's in the model. Where,  $X$  is called regression matrix, and without the loading column of 1's, is termed as predictor data matrix. Then, the conditional probability that the  $i^{\text{th}}$  individual is unemployed given the vector of predictor variables  $X_i$  is denoted by  $P_i = P(y_i = 1|X_i)$ . The expression  $P_i$  in logistic regression model can be expressed in the form of:

$$P_i = P(Y_i = 1|X_i) = \frac{e^{x_i\beta}}{1 + e^{x_i\beta}} \text{ where } i = 1, 2, \dots, n$$

Where  $P(y_i = 1|X_i)$  is the probability of  $i^{\text{th}}$  individual is unemployed given her individual characteristics  $x_i$ , and  $\beta = (\beta_0, \beta_1, \dots, \beta_k)^T$  is a vector of unknown coefficients with dimension of  $(k + 1) \times 1$ .

However, the relationship between the probabilities of  $i^{\text{th}}$  individual is unemployed and her characteristics are nonlinear. In order to make meaningful interpretation, it should be written as a linear combination of predictors. This is computed using the logit transformation which is given by:

Consider the logistic model  $P(y_i = 1|X_i) = \frac{e^{x_i\beta}}{1 + e^{x_i\beta}}$ . Since the observed values of  $Y$  ( $Y_i, i = 1, 2 \dots n$ ) are independently distributed as Bernoulli random variables, the maximum likelihood function of  $y$  is the joint density function given by:

The most commonly used method of estimating the parameters of a logistic regression model is the method of Maximum Likelihood (ML) instead of Ordinary Least Squares (OLS) method

$$L(\beta/Y) = \prod_{i=1}^n P(Y_i = 1|X_{i1}, \dots, X_{ik}) = \prod_{i=1}^n \left(\frac{e^{x_i\beta}}{1 + e^{x_i\beta}}\right)^{y_i} \left(\frac{1}{1 + e^{x_i\beta}}\right)^{1-y_i}$$

The maximum likelihood estimates of the parameters  $\beta$  are obtained by maximizing the log-likelihood function which is given by:

$$L(\beta/Y) = \sum_{i=1}^n \left\{ y_i \log \left[ \frac{e^{x_i\beta}}{1 + e^{x_i\beta}} \right] + (1 - y_i) \log \left[ \frac{1}{1 + e^{x_i\beta}} \right] \right\}$$

The maximum likelihood estimate of the parameter is found by the derivation of the log likelihood function with respect to each  $\beta$ 's and set each equation to zero which is given as:

$$\frac{d \log L(\beta/y)}{d \beta_j} = 0, j = 1, 2, \dots, k$$

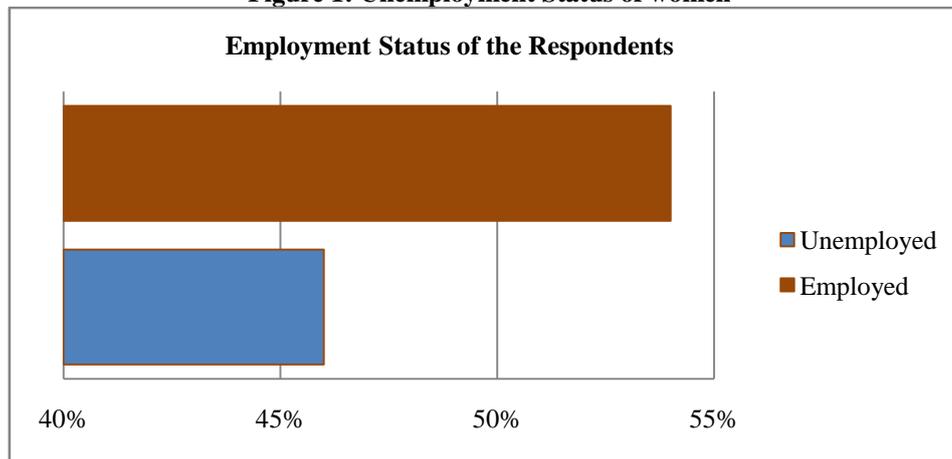
#### IV. Results And Discussion

##### *Unemployment Status of women in the study area*

Based on the collected data individual women are categorized into employed and unemployed. Accordingly, it is found that 182(46%) out of the total respondents were unemployed whereas 216(54 %) of them were employed.

In addition, out of the total employed women 114(52%) of the respondents have seasonal/occasional type of employment and the rest 102(47%) of the respondents have permanent type of employment.

**Figure 1: Unemployment Status of women**



*Source: Field survey data computation, 2019*

##### *Demographic and Socio-Economic Characteristics of Respondents*

From the understated table chi-square values show that all categorical variables considered in women unemployment indicates that is significant differences in both categories. Age status of women in the study area is one of the factors of women unemployment. Out of sample survey 270(68%) of women are between the age of 15-44 from out of 142(53%) women are unemployed.

The survey result indicated that out of 398 sampled women majority of them 247(62%) are married and 151(38%) women are unmarried and divorced

Women education is one of the factors that affect the employment status of women in the study area. As the survey result shows that only 67(17%) of the respondents completed more than secondary school level and among them 54(81%) are employed. But majority 331(83%) of women are secondary and below secondary school level and out of them 162(49%) are employed. So, according to the result more of educated women are employed than that of who have lesser educational status.

Out of the surveyed data 193(48%) of women have no under five years old children and among them 61% of respondents are employed. On the other hand 205(52%) of the respondents have under five year children and out of them 39% of respondents have their own job. The result indicates that more proportion of women who have no kids (< 5 year old) have their own job with compared to those women who have kids in their home.

Based on the surveyed data out of the total respondents 186(47%) of them are migrants and among them 110(60%) women are unemployed and 212(53%) are non-migrants 72(33%) of the respondents are unemployed. Which is more proportion of the non- migrants are employed.

39% of women have no experience of attending any means of mass-medias; on the other hand 35% and 26%, of them are occasionally and usually attending the mass-medias respectively. Averagely 73% of mass-media attendant are employed.

**Table 1: Demographic and Socio-Economic Characteristics of Respondents**

Variables	Response	Total (N=398)	Unemployed (N=182)	Employed (N=216)	Chi-Square	P-Value
		Freq(%)	Freq (%)	Freq(%)		
Age	15-24 =1	64(16%)	45(25%)	19(9%)	40.2906	.000
	25-34 =2	80(20%)	43(24%)	37(17%)		
	35-44 =3	126(32%)	54(29%)	72(33%)		
	≥45=4	128(32%)	40(22%)	88(41%)		
Marital Status	Unmarried = 0	112(28%)	65(36%)	47(22%)	39.3104	.000
	Married = 1	247(62%)	108(59%)	139(64%)		
	Divorced = 2	39(10%)	9(5%)	30(14%)		
Women Education	Illiterate = 0	83(16%)	58(32%)	25(11%)	82.1241	.000
	Primary =1	110(30%)	63(35%)	47(22%)		
	Secondary =2	138(37%)	48(26%)	90(42%)		
	>Secondary =3	67(17%)	13(7%)	54(25%)		
No of Children < 5 year Old	No Children=0	193(48%)	60(33%)	132(61%)	58.0615	.000
	1 or more=1	205(52%)	122(67%)	84 (39%)		
Migration Status	Migrant =0	186(47%)	110(60%)	76(35%)	26.2871	.000
	Non-Migrant = 1	212(53%)	72(40%)	140(65%)		
Exposure to Mass-Media	No Exposure=0	157(39%)	116(64%)	41(19%)	93.8757	.000
	Occasionally = 1	138(35%)	50(27%)	88(41%)		
	Usually = 2	103(26%)	16(9%)	87(40%)		

Source: STATA outcome of field survey data, 2019

**Determinants of women unemployment in the study area**

Binary logit model was selected to identify the determinants of women unemployment in the study area. The -2 log likelihood is 187.352 and 398 observations in the data set were used in the analysis. The model is with cox & snell R<sup>2</sup> and 0.797 Nagelkerke R<sup>2</sup>. Based on the result on the table all the sign of the result is as the researcher expects except the marital status of women and more than 85% of the explanatory variables have significant effect on women unemployment in the study area.

As the regression result shows that, women unemployment in the study area is significantly determined by age of women, marital status, women education, family income, having <5 year old children and women exposure to mass-media.

As shown the result in the Table 2 which is interpreted in terms of odds ratio. while the result of odds ratios which is greater than 1 indicate that the event is more likely to happen in a given category than in the reference category, while the odds ratios is equal to 1 indicate the event is exactly as likely to happen in the two categories and while the odds ratios ratio result is less than 1 which indicates that the event is less likely to happen in the given category than in the reference category.

Based on the result shows that women whose age was between 35 and 44 years were 0.100 times less likely to be unemployed than those women whose age was between 15 and 24 years.

This implying that especially young women whose age between 15-24 were more likely to be unemployed than the aged women in the study area. This result is similar with Gizachew.G *et al*, 2017 which were young women become more likely to be unemployed than older women.

Married women were 0.461 times less likely to be unemployed than single women. Divorced women were 0.026 times less likely to be unemployed than unmarried women. The result implies that married women less affected by unemployment problem in the study area. This result is unmatched with Mesfin.M, 2012, where married women were about 51.9% more likely to be unemployed than other women.

Women whose educational status was primary and secondary were 0.009 and 0.001 times less likely to be unemployed than that of the Illiterates respectively. This implies educated women less affected by the problem of unemployment than that of the Illiterates women. The effect of education has similar impact on women unemployment with Gizachew's *et al*, 2017 research, which a woman who had no education is most affected by unemployment.

Women who have greater family income 1.000 times more likely to be unemployed. This implies greater income earner of women family more likely affected by the problem of unemployment.

Women who has under 5 year old children were 2.849 times more likely to be unemployed than that of women who has no under 5 year children. The result indicates that a woman who has under 5 year old children were a great cause of unemployment in the study area.

Non Migrant women were 0.222 times less likely to be unemployment than that of the migrants. This implies migrant women more affected by the problem of unemployment than the non-migrant.

Women who have an occasional and a usual exposure to mass –media 0.155 and 0.258 times less likely to be unemployed than that of women who have no any exposure to mass-media respectively. The result shows that those women who have no any exposure to mass- media more likely affected by the problem of unemployment than that of women who have an exposure to the mass-medias.

**Table 2: Binary logistic regression result**

	B	S.E.	Wald	df	Sig.	Exp(B)	95.0% C.I.for EXP(B)	
							Lower	Upper
<b>Age(Rf) (15-24)</b>			7.718	3	.052			
25-34	-.266	.622	.182	1	.669	.767	.227	2.594
34-44	-1.257	.533	5.557	1	.018	.285	.100	.809
≥45	-2.122	1.512	1.971	1	.160	.120	.006	2.318
<b>MARSTA Unmarried(Rf)</b>			8.915	2	.012			
Married	-.774	.446	3.004	1	.083	.461	.192	1.106
Divorced	-3.647	1.329	7.532	1	.006	.026	.002	.353
<b>EDUC Illiterate(Rf)</b>			42.738	3	.000			
Primary	-4.706	1.256	14.049	1	.000	.009	.001	.106
Secondary	-6.669	1.262	27.909	1	.000	.001	.000	.015
>Secondary	-27.399	3.895E3	.000	1	.994	.000	.000	.
FAMINC	.000	.000	9.020	1	.003	1.000	1.000	1.001
<b>CILD&lt;5yrs No children(Rf)</b>	1.047	.506	4.278	1	.039	2.849	1.056	7.684
<b>MIGSTAT Migrant(Rf)</b>	-.726	.396	3.357	1	.067	.484	.222	1.052
<b>MEDEXPO No exposure(Rf)</b>			13.587	2	.001			
Occasionally	-1.865	.509	13.413	1	.000	.155	.057	.420
Usually	-1.356	.649	4.371	1	.037	.258	.072	.919
Constant	8.594	1.676	26.290	1	.000	5.399E3		

## V. Conclusion And Policy Recommendations

### Conclusion

The basic objective of this study was in order to investigate the main determinants of women unemployment in the study area. The chi-square test and binary logistic regression result shows that most of demographic and socio-economic factors of women have a significant effect on women unemployment. According to the chi-square result the variables age, marital status, education, no of children < 5year old, migration and exposure to mass-media were significantly affect women unemployment at 1%. And the binary-logistic regression result reviled that education and family income have negative and positive significant effect on women unemployment at 1% respectively, marital status, no of children < 5year old variables have positive and exposure to mass-media negative and significant effect on women unemployment at 5% and age and migration have negative and significant effect on the problem at 10%.

## Recommendations

The age of women in the study area significantly determines the women unemployment. Youth women are more affected by the problem of unemployment than the elders. So, the government and other stakeholders should give special attention to minimize youth women unemployment.

Educated women are less likely unemployed than that of uneducated women in the study area. Education policies and strategies should give special attention for women education. In addition the government and other non-governmental organizations should facilitate entrepreneurial trainings for those who are less educated women.

Women those who have less than five years old children are more likely to be unemployed than that of women those who have no children below 5 year. This indicates that women are being busy in taking care of their children in their home. Hence, especially husbands should also share their burden. And in addition the government should arrange flexible working time options for workers like other developed countries.

Migrant women are more likely to be unemployed than non- migrant women. So, efforts should be made to minimize migration by creating reward able work environment especially in rural areas.

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